

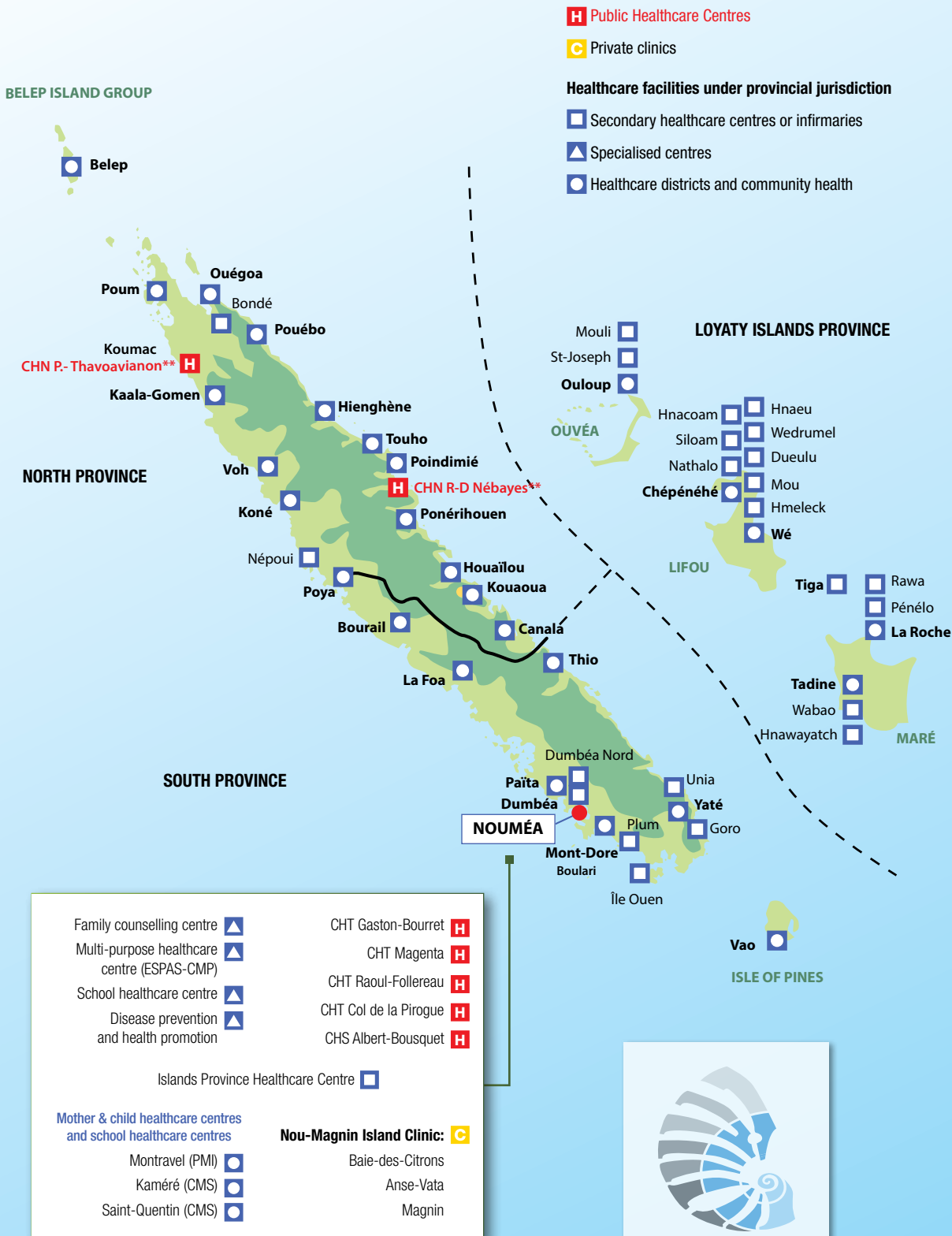


# Health situation

in New Caledonia

## Overview 2015

# Key healthcare facilities in New Caledonia\*



\* Healthcare facilities and staff available to the New Caledonian population are detailed in Chapter II: Healthcare departments

\*\* The Koumac and Poindimié CHN (North Province Hospital Centres) have a medical-psychological branch attached to CHS Albert-Bousquet (Specialised Hospital Centre)  
Mother & child centre in Poindimié and Koumac





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## DEMOGRAPHIC CHARACTERISTICS

Since 1989, there has been a steady fall in the proportion of young people compared to older age groups. According to 2014 census figures, the under 20 age group has decreased in size and represents 32% of the population; the 60 plus age group has almost doubled (12%). Declining fertility rates and rising life expectancy are the key reasons for this population ageing.

The demographics of New Caledonia and its three Provinces are summarised in the table below:

	Population	Growth rate (1)	Live births	Birth rate (2)	Fertility rate (3)	Infant mortality (4)	Number of deaths	Crude mortality rate (5)	Life expectancy at birth (6) Man / Woman
New Caledonia	268,767	11.9	4,389	17	2.2	3.9	1,465	5.1	74/80.4
Loyalty Islands Province	18,297	10.8	331	19	2.9	3	87	8.1	77.6/73.5
North Province	50,487	11.7	829	17.7	2.3	3.6	225	6	79.7/75.4
South Province	199,983	12	3,218	16.6	2.2	4	1,152	4.6	80.7/77.9
France (2014)*	64.204		798,948	12	2	3.7	594,000	9	79/85.1
French Polynesia (2013)	272,800	9.1	3,888	14.3	1.8	7.5	1,394	5.1	74.4/78.1
Australia (2013)*	23.795	1.2	287,194	12.9	1.8	3	142,639	6.5	82.07
New Zealand (2013)*	4.595	1.9	55,102	12.6	1.9	4.7	27,491	6.8	80.9

\* In millions.

Sources: ISEE (2014 population census, 2012 demographic rates) ISEE - INSEE - World Population Prospects (2015)

- 1 Rate of natural increase: difference between crude birth and mortality rates, per 1,000 population.
- 2 Birth rate: annual number of live births during the year per 1,000 population at midyear.
- 3 Total fertility rate: average number of children that would be born to a woman over her lifetime if the exact current age-specific fertility rates do not change.
- 4 Infant mortality rate: number of deaths of infants under one year old in a given year per 1,000 live births in the same year.
- 5 Crude mortality rate: total number of deaths during the year per 1,000 population at midyear.
- 6 Life expectancy at birth is defined as the number of years a newborn infant could expect to live if prevailing patterns of age-specific mortality rates at the time of birth stay the same throughout the infant's life.

## MEDICAL CAUSES OF PERINATAL MORTALITY

67 deaths as per defined criteria ( $\geq 22$  weeks of pregnancy or  $\geq 500$  gr) were recorded in 2015 (32 deaths during the late foetal period, 17 deaths during the perinatal period and 18 medical terminations of pregnancy).

As regards neonatal deaths (excluding MTP) in 2015:

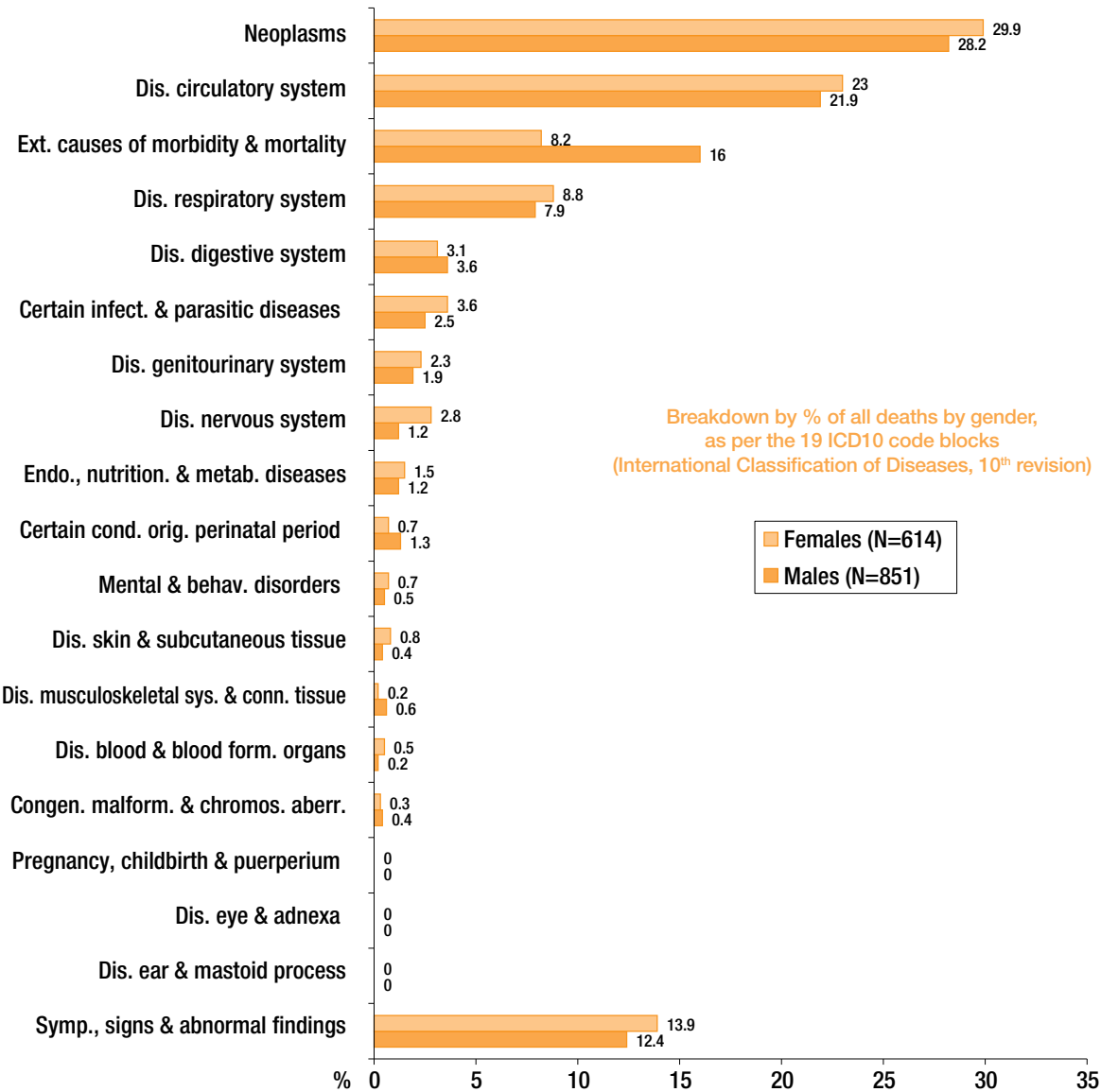
- intrauterine hypoxia and/or birth asphyxia was the main cause of death -18.2% of cases;
- respiratory distress syndrome was the second cause - 13.6% of cases.

In 9.1% of cases, the cause of death related to the mother (maternal disorders or pregnancy complication).

The most common grounds for medical terminations of pregnancy (MTP) concerned congenital abnormalities (nervous system: 27.7 %, chromosomal aberrations: 22.2% and other congenital abnormalities: 16.6 %).

# MEDICAL CAUSES OF MORTALITY

In 2015, 1,465 deaths were recorded in New Caledonia over the year (851 males, 614 females). The two leading causes of death, all ages, both sexes, were tumours (28.9%) and diseases of the circulatory system (22.4%). External causes of morbidity and mortality (including transport accidents, accidental injuries, self-inflicted injuries, etc.) were in 3rd place (12.7%). Road traffic accidents were the leading cause of death in this category (26.3%). Death due to self-inflicted injuries accounted for 19.9% of deaths in this category and was higher among males (3.5 times higher).





## INFECTIOUS DISEASES

### Notifiable diseases (excl. cancers, see specific chapter)

In 2015, 643 notifications of diseases were recorded. The following table shows a breakdown by disease of these notifications:

Notifiable Diseases	2010	2011	2012	2013	2014	2015
Amebiasis	1	0	0	0	0	0
Chikungunya		33	0	31	41	24
Pertussis (whooping cough)	3	2	6	3	9	0
Venereal warts	30	1	6	0	13	1
Dengue fever	122	15	718	10,522	310	26
Diphtheria	1	0	6	0	0	0
Encephalitis	0	0	0	0	0	0
Typhoid and paratyphoid fever	0	2	1	0	0	0
Hepatitis B	5	6	5	16	8	11
Hepatitis C	0	1	0	0	1	6
Leprosy	8	10	5	8	1	8
Leptospirosis	52	138	75	70	20	56
Epidemic meningitis	10	10	5	8	9	1
Malaria	8	5	2	2	0	0
Active rheumatic fever	137	86	ND	ND	ND	150
Measles	0	0	0	0	0	1
HIV associated syndromes	14	18	26	15	20	18
Syphilis	38	49	66	145	100	133
Tetanus	0	0	0	0	0	0
Food poisoning (outbreaks)	11	28	13	17	27	15
Tuberculosis (excluding LTBI)	59	77	49	46	30	56
Vibrio vulnificus	0	1	2	0	1	1
Zika virus				18	1395	137

In 2015, 150 new cases of ARF, 133 cases of syphilis, 56 cases of tuberculosis and 56 cases of leptospirosis were recorded.

### Sexually transmitted infections

#### Syndromic Surveillance

942 symptoms were reported in 2015 - 308 males and 634 females. Similar to last year, the most common symptoms were urethral discharge in males (54.9% of syndromes) and vaginal discharge in females (65%), reflecting the marked prevalence of gonorrhea, chlamydia and trichomonas infections.

#### Notifiable disease reports

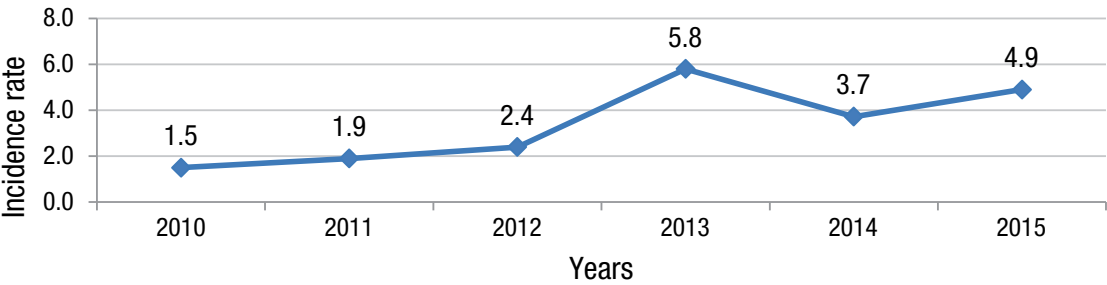
Reports concerned: hepatitis C, hepatitis B, syphilis, venereal warts (HPV) and HIV (see table above). Syphilis and HIV were the main subject of doctors' reports.

### Syphilis

133 new cases were reported in 2015 (54 males, 75 females and 4 unspecified). It should be noted that these figures include cases where syphilis is active and where sores are healing.



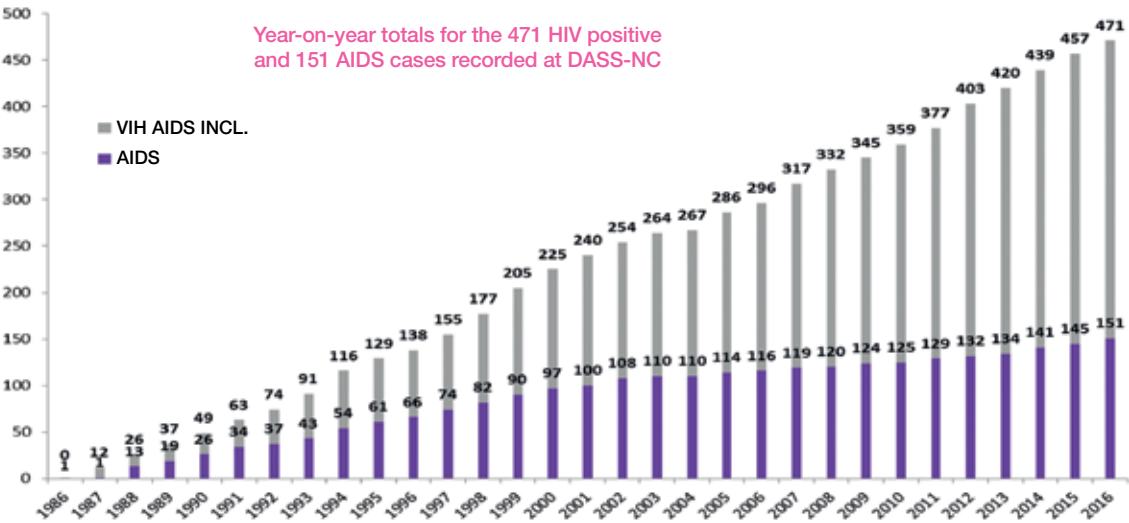
Annual trends in incidence rate (per 10,000 pop.) of notifiable disease reports of syphilis (all clinical forms) in New Caledonia from 2010 to 2015.



HIV-AIDS

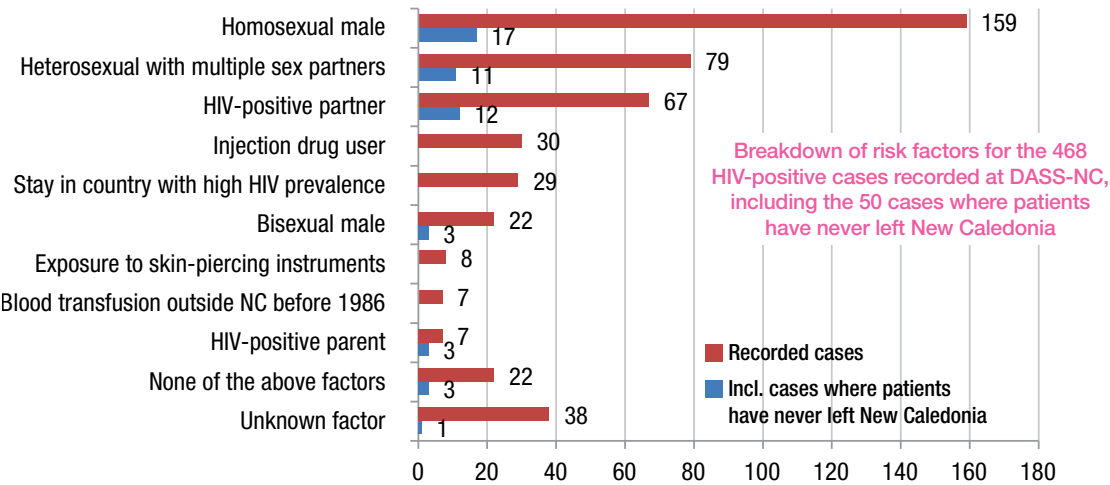
18 new cases of HIV were recorded in 2015 (19 in 2014). This brings the total number of cases recorded since 1986 to 471. Breakdown is 350 males (74.3%), 117 females (24.8%) and 4 gender unspecified (0.8%). Out of these 471 recorded cases, 143 (30%) were cases of asymptomatic HIV infection and 151 (32%) cases of AIDS.

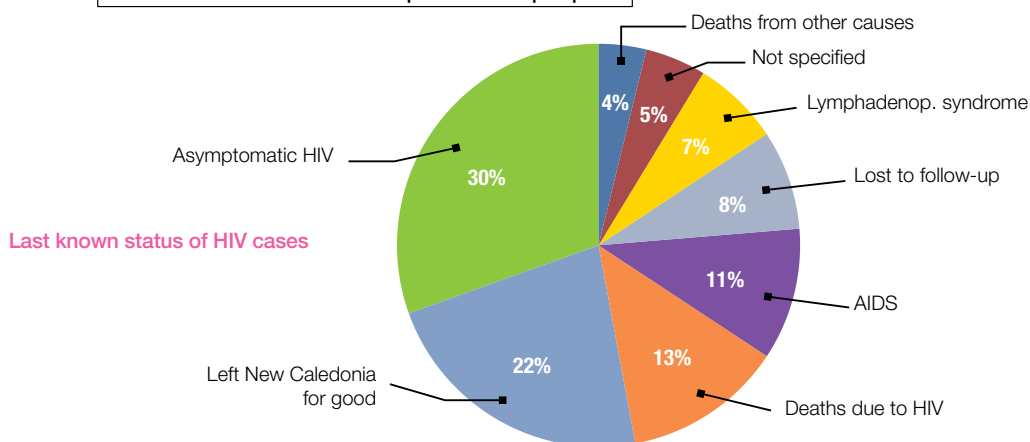
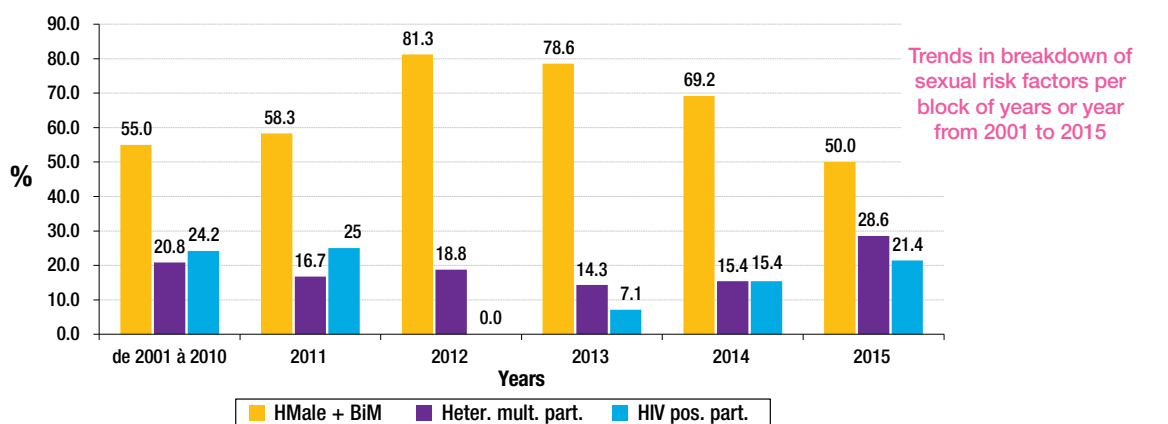
At the time of reporting, the 30 to 39 age group was on average the most affected. The average age of detection for all cases was 37 years (33.5 years for females, 38.2 years for males).



HIV risk factors

80% of HIV cases involving known risk factors (468/471) occur through sexual transmission.





### Free and anonymous HIV testing

The 2015 analysis confirms findings from previous years, to wit: the main source for data used (67%) is the Noumea ESPAS CMP (DPASS South Multi-purpose Healthcare Centre).

Since 2005, there has been a sharp drop in the number of health professionals approved for free and anonymous HIV testing, down from 117 (80 doctors and 37 midwives) in 2005 to 38 (19 doctors and 19 midwives) in 2015.

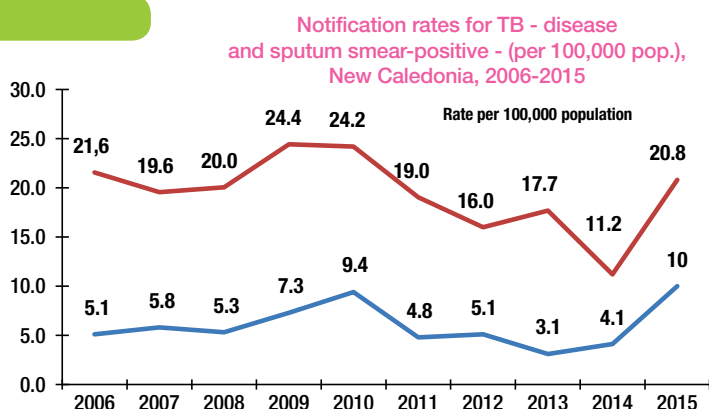
The 2015 analysis of 1,522 strictly anonymous questionnaires forwarded to the DASS-NC Public Health Department shows an 11.2% decrease, compared to 2014, in the number of test records received.

- The under 40 age group accounts for 87% of people taking tests (63%: 10 to 29 years and 24%: 30 to 39 years).
- Europeans represented 11.5% and Melanesians 16.3% of individuals tested.
- “Risk behaviors” were given as a reason in 44% of cases, far ahead of “starting a relationship” (19.4%).
- “Pregnancy” was given as a reason for testing in 8.2% of cases (13.3% of women taking a pregnancy-related test and 2.4% of spouses or partners).

We should note that 84 people (5.5%) requested testing following a condom break.

### Tuberculosis

56 new cases of tuberculosis were reported in 2015 (30 in 2014), including 44 cases of pulmonary tuberculosis (17 in 2014), a form of tuberculosis which can lead to lasting effects. 27 cases of sputum smear-positive TB (10 in 2014) & 26 pulmonary TB cases were recorded. It should be noted that the incidence of TB notifications in France was 7.5 per 100,000 population in 2015.





Patient characteristics

According to the review of the 583 tuberculosis cases reported since 2004, 72% of cases concern pulmonary TB. All municipalities are affected by the disease, but cases are more frequent in Belep, Ponérihouen, Hienghène, Houaïlou and Kaala-Gomen, where incidence rates are higher than in other areas. In 71% of cases, clinical signs and symptoms are the basis for diagnosis. 8.4% of new cases in 2015 were relapses.

Treatment

WHO considers a treatment program successful if the cure rate (sputum smears negative 2 and 5 months after the start of treatment) is above 85%. A 25% cure rate for sputum smear-positive patients was noted in 2014.

Acute rheumatic fever (ARF)

ARF can result from an autoimmune inflammatory process linked to a throat infection caused by a bacterium called group A beta-hemolytic streptococcus (GABHS). It is common in children, but very late onset cases have been noted in New Caledonia (patients aged 35).

The Pacific is one of world’s regions most affected by ARF, with the highest incidence and the second highest prevalence.

A country is considered as being “at risk” when:

- there is an incidence of over 30 per 100,000 population among 5-14 year olds;
- a prevalence of over 2 per 1,000 population.

With this in view, a patient monitoring register was set up in 1999 and comprises 1,314 recorded cases, including 151 cases diagnosed in 2015.

The estimated incidence rate for the population aged 5-15 in New Caledonia is 137 per 100,000 children.

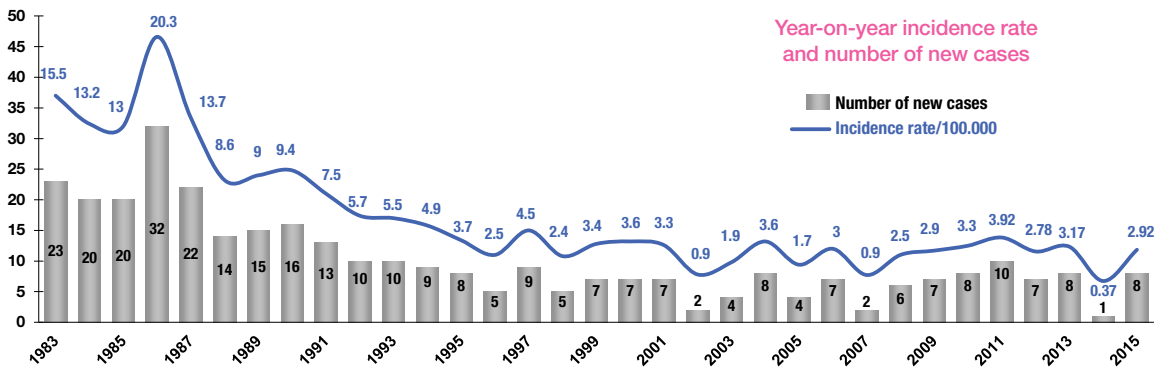
The rate of prevalence in New Caledonia is estimated at 1.58 per 1,000 population.

For the Year 5 (CM1) school-age population in 2015, data analysis showed a chronic rheumatic heart disease (RHD)/ARF incidence rate of 556/100,000, an RHD/ARF prevalence rate of 8/1,000 and an RHD prevalence rate of 6/1,000.

Leprosy

Leprosy (Hansen’s disease) is a chronic infectious disease caused by an acid-fast bacillus (*Mycobacterium leprae*) and spread by direct, long-term, intimate contact.

With 8 new cases in 2015, incidence was 2.92 per 100,000 population, half of cases being multibacillary and the other half paucibacillary. 8 patients were receiving MDT (multidrug therapy), representing a prevalence of 0.29 per 10,000 population.

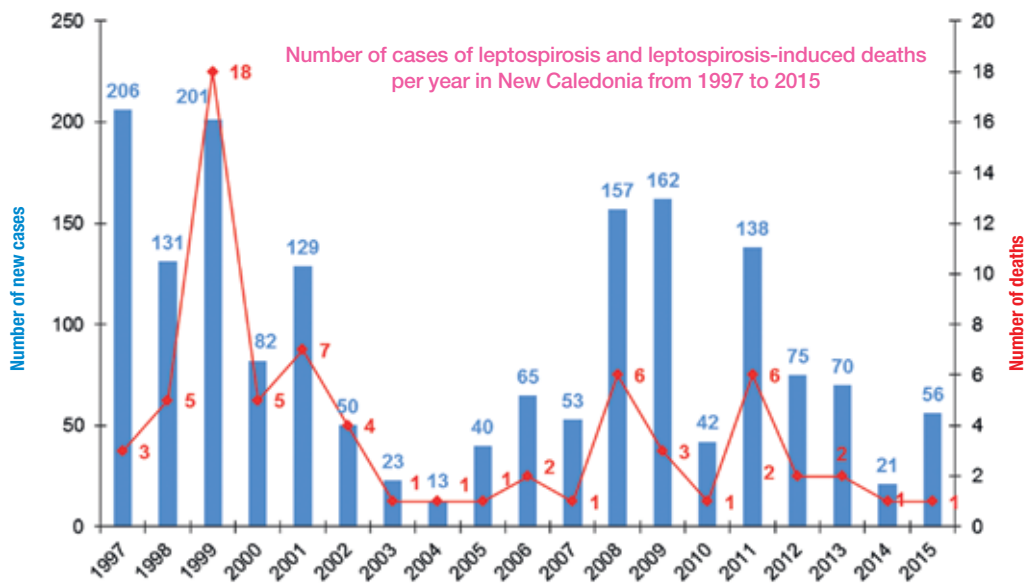


The leprosy register extends over 33 years, from 1983 to 2015, and comprises 332 records; the figures show:

- higher numbers of cases in males: 219 male, 111 female patients and 2 non-gender specific cases;
- an ethnic disparity, with a higher number of cases amongst the Melanesian community (280 cases) than amongst other communities (European: 30 cases; other: 20 cases; unspecified: 2 cases).

## Leptospirosis

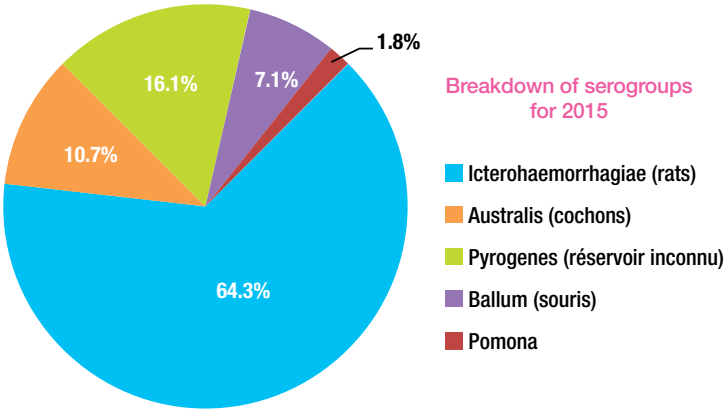
In New Caledonia, leptospirosis is an endemic disease with epidemic bursts linked to weather conditions. In 2015, 56 cases - including 1 death - were reported: 36 males (64.2%) and 20 females (35.7%), average age being about 30. Most leptospirosis positive cases occurred during the first six months of the year.



A review of cases over the last 5 years shows geographical disparities, with a higher average incidence in the northeast (from Canala to Ouégoa).

### The main serogroups identified between 2010 and 2015 are:

- *Icterohaemorrhagiae*,
- *Pyrogenes*,
- *Ballum*.

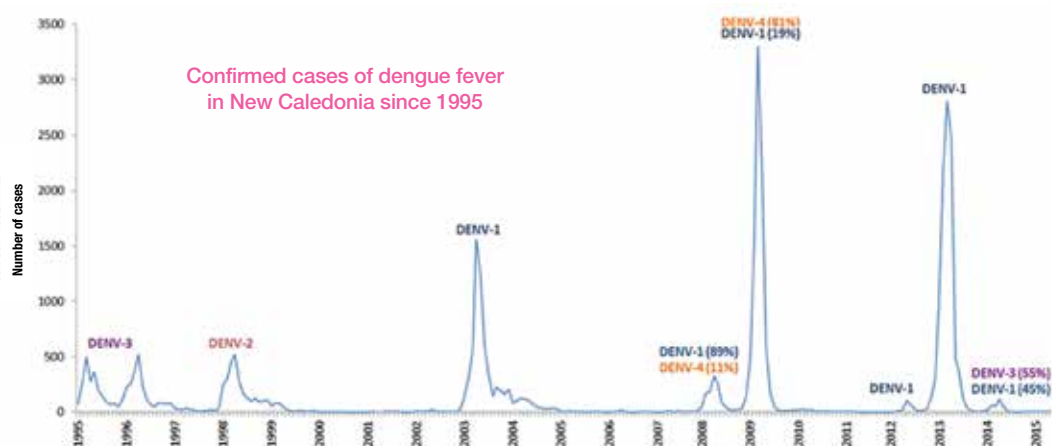


## Arbovirus infections

Arbovirus infections are notifiable diseases. They are viral infections transmitted by bloodsucking arthropod vectors (arthropod-borne viruses). The three main arbovirus infections occurring in New Caledonia are: dengue fever, chikungunya and Zika virus, transmitted to humans via the *Aedes aegypti* mosquito.

### Dengue fever

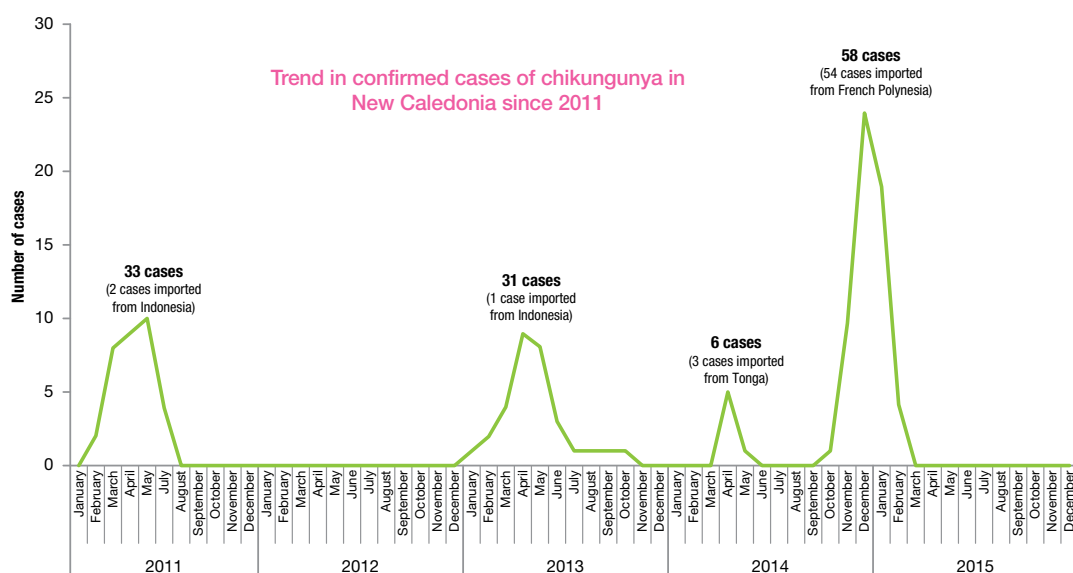
There are four distinct dengue serotypes (DENV-1 to DENV-4). There is no cross-immunity between strains. A single person can therefore contract dengue 4 times. In 2015, 26 cases were recorded by the DASS and biologically confirmed by the IPNC. In recent years (since 2000), the dominant dengue serotype has been DENV-1. A single outbreak of DENV-4 occurred in 2009. The DENV-2 serotype was reported once only, in 1998, and therefore represents a major health risk for New Caledonians never exposed to the virus ("immunologically naive").



## Chikungunya

In 2015, 23 cases were recorded by the DASS and biologically confirmed by the IPNC.

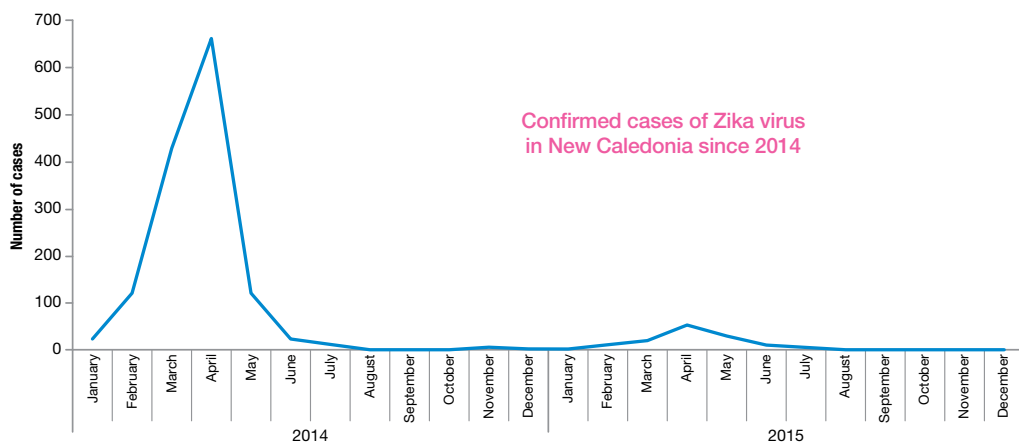
New Caledonia remains at high risk of a chikungunya outbreak in future years given the current context in the Pacific Region (American Samoa and Samoa), the fact that the vector (*Aedes aegypti*) is present in New Caledonia and that the population is immunologically naïve to chikungunya.



## Zika virus

In 2015, Brazil was hit by a serious outbreak of Zika virus, with microcephaly birth defects reported in children born to mothers with ZIKV infection during pregnancy.

The same year, the DASS recorded 137 cases in New Caledonia, biologically confirmed by the IPNC (compared to 1,392 cases in 2014).



## DISEASES UNDER SURVEILLANCE

A system of weekly disease reports based on “aggregated data” has been introduced in Provincial public health facilities.

In theory, reports are provided by the 2 general hospitals in the North, by the 26 community healthcare districts in the Islands, North and South Provinces, by the mother and child healthcare centres and the Noumea multi-purpose healthcare centre. The 2015 data shown below was provided by the South Province.

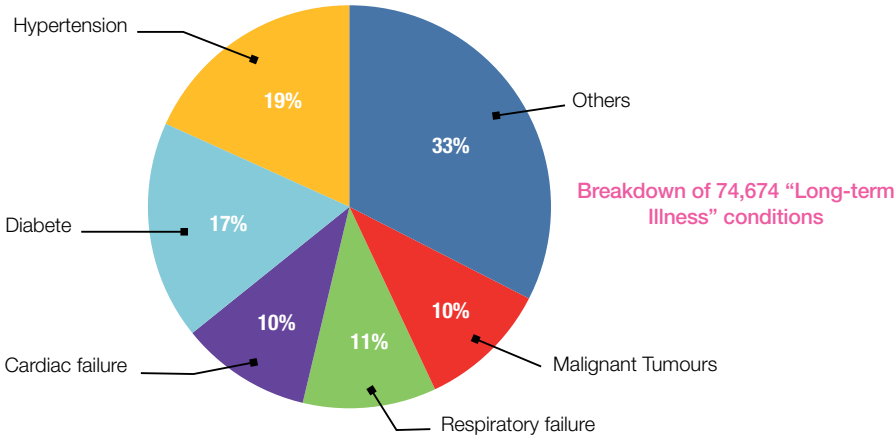
No. of cases per disease	2005	2010	2011	2012	2013	2014	2015
Acute conjunctivitis	224	103	128	64	65	62	42
Otitis	628	242	236	153	182	165	182
Acute respiratory infection	3 261	885	757	671	802	595	505
Pneumonia	30	422	476	297	215	251	-
Influenza	254	316	144	148	86	185	91
Non-typhoidal salmonella disease	0	16	34	52	0	0	-
Shigellosis	0	18	38	13	0	0	-
Other protozoal intestinal diseases	2	0	0	0	7	0	-
Diarrhoea	276	204	250	214	113	102	96
Acute viral hepatitis other than types B and C	787	3	1	0	0	0	-
Non-infectious meningitis	0	0	2	5	0	2	0
Ciguatera poisoning	25	2	6	14	5	1	-

## CHRONIC DISEASES

Treatment for most chronic diseases is provided under the CAFAT “long-term illness” healthcare scheme which covers all insured persons and their dependants.

In 2015, 47,217 patients received treatment under the long-term illness scheme, involving 74,674 chronic diseases (a patient may suffer from multiple chronic conditions).

A breakdown of the major chronic diseases covered under the scheme in New Caledonia is shown below:



Cancers

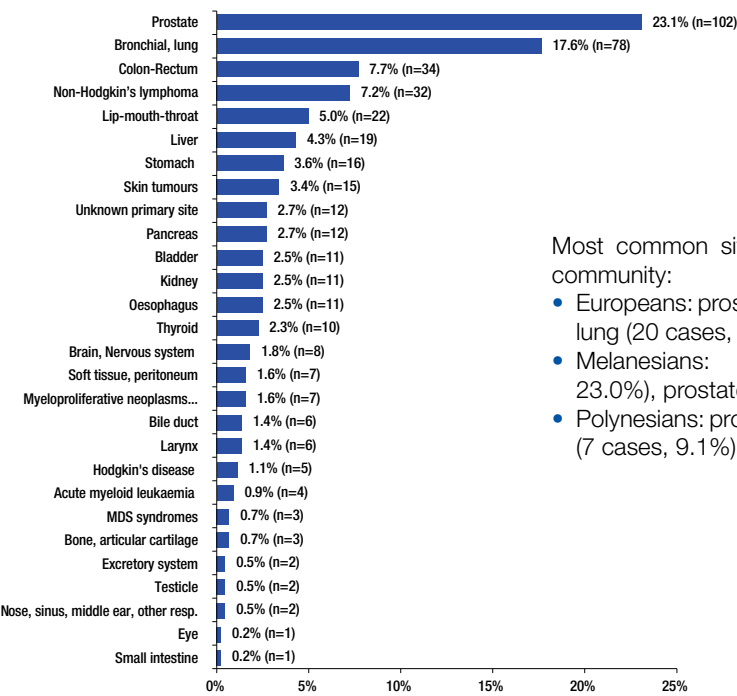
The results shown below refer to cancers detected in 2013 (record as of 31 December 2015); only invasive tumours excluding skin tumours, apart from melanoma, are included.

In 2013, 852 new invasive tumours were recorded: 442 in males and 410 in females, i.e. a sex ratio of 1.1 compared to 1.02 for the total population (ISEE 2013).

Average age was 61.7 years (median age 63) with 72.3% of patients aged from 50 to 79 compared to 21% for the total population.

The two diagrams below provide a breakdown by gender for these tumours:

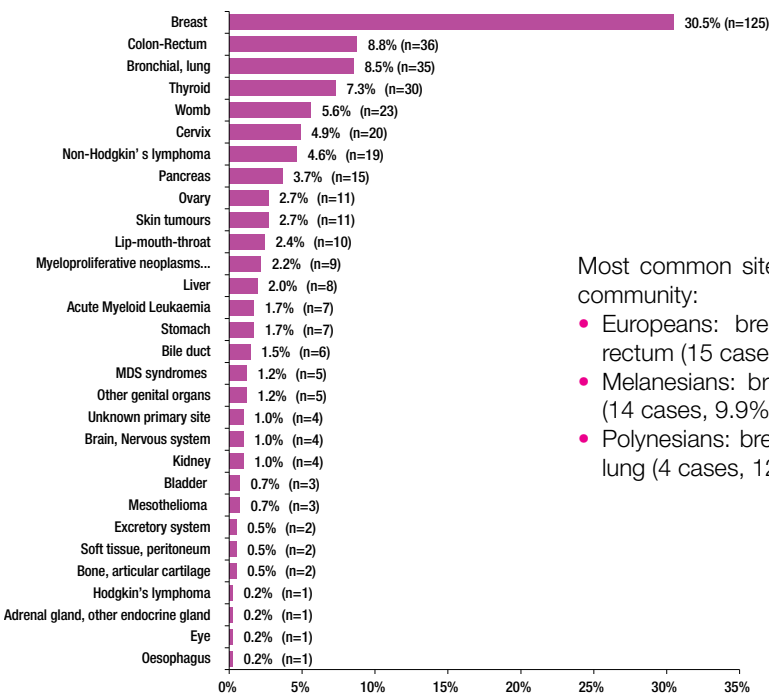
Breakdown by topography - males



Most common sites of origin in males by ethnic community:

- Europeans: prostate (48 cases, 30.6%), bronchial-lung (20 cases, 12.7%);
- Melanesians: bronchial-lung (29 cases, 23.0%), prostate (26 cases, 20.6%);
- Polynesians: prostate (12 cases, 32.4%), stomach (7 cases, 9.1%).

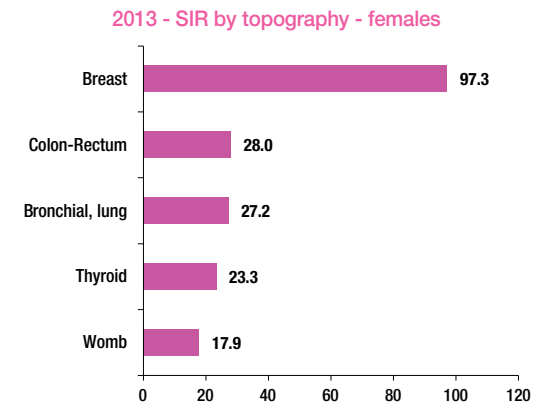
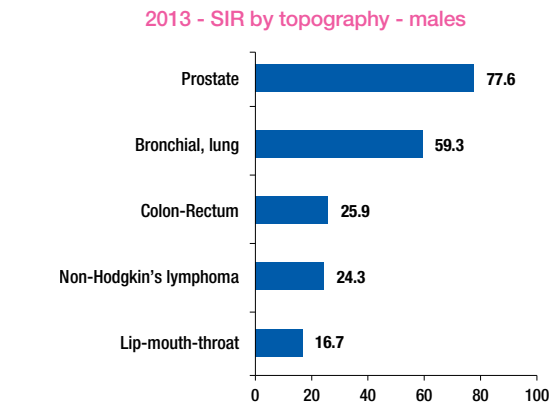
Breakdown by topography - females



Most common sites of origin in females by ethnic community:

- Europeans: breast (25 cases, 31.3%), colon-rectum (15 cases, 18.8%);
- Melanesians: breast (31 cases, 21.8%), thyroid (14 cases, 9.9%);
- Polynesians: breast (9 cases, 28.1%), bronchial-lung (4 cases, 12.5%).

International comparisons can be made using Standardized Incidence Ratios (SID), computed on the basis of the standard world population as reference, adjusted to take into account differences like age-specific rates for the populations being compared.



The overall incidence of cancers in New Caledonia in 2013 was lower than in France, Australia and New Zealand, for both males and females.

### Chronic kidney disease

Chronic kidney disease (CKD) is a progressive loss in the filtration, excretion and endocrine secretion functions of the renal parenchyma, the result of irreversible sclerotic lesions.

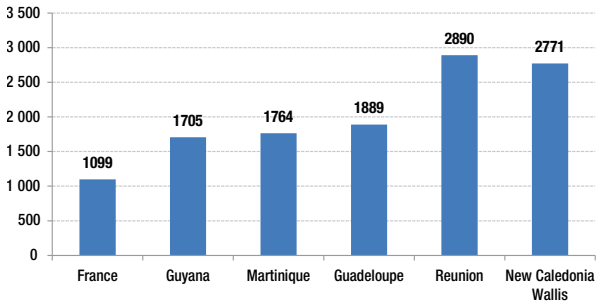
In 2015, 513 people (278 males and 235 females) were treated for CKD, a prevalence of 1,909 per million population (pmp).

With 94 new patients in 2015, the incidence rate was 335 per million population (163 pmp in France in 2014).

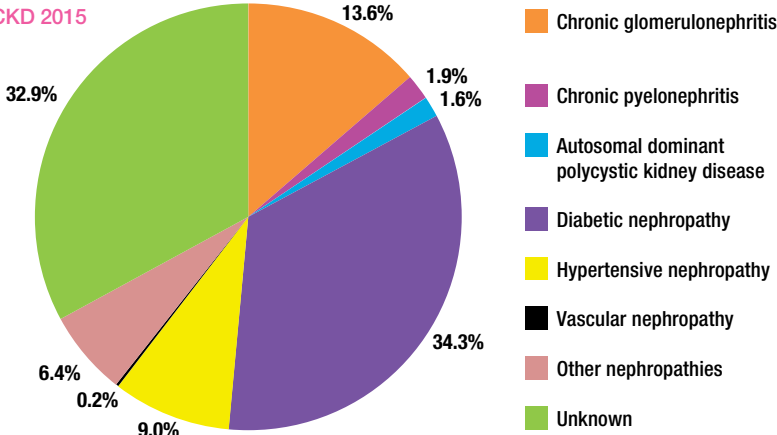
Type 2 diabetes and chronic glomerulonephritis remain the two leading causes of chronic kidney disease in New Caledonia.

These two conditions account for half of new patients receiving treatment, as shown in the figure below.

Prevalence rate (pmp) for France & French Overseas Departments 2012/NC 2015 age-standardized per the French population



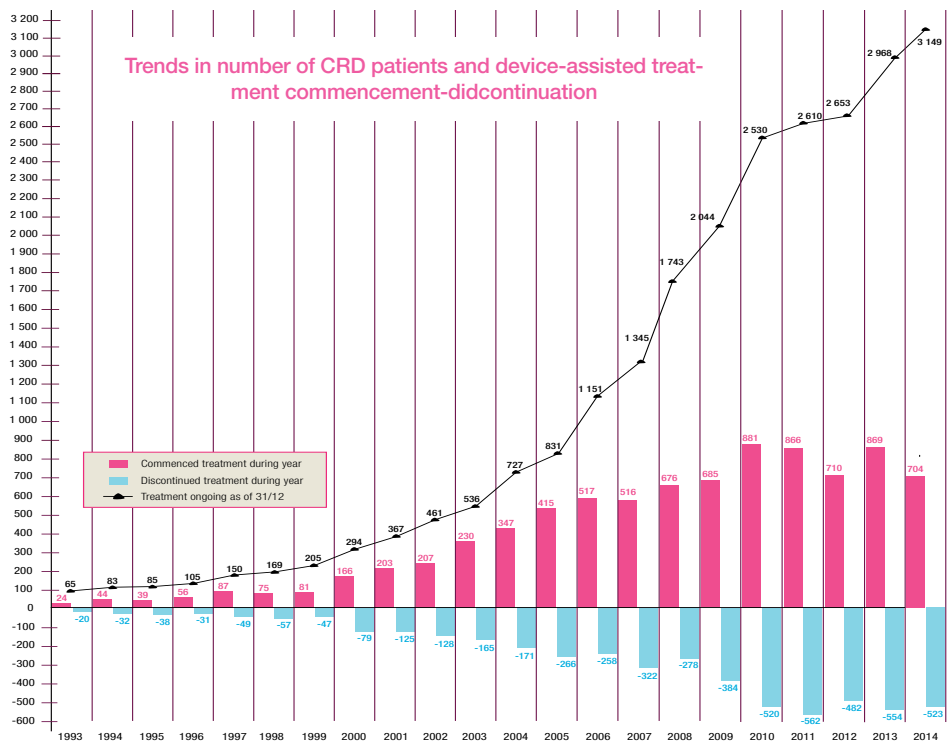
Causes of CKD 2015





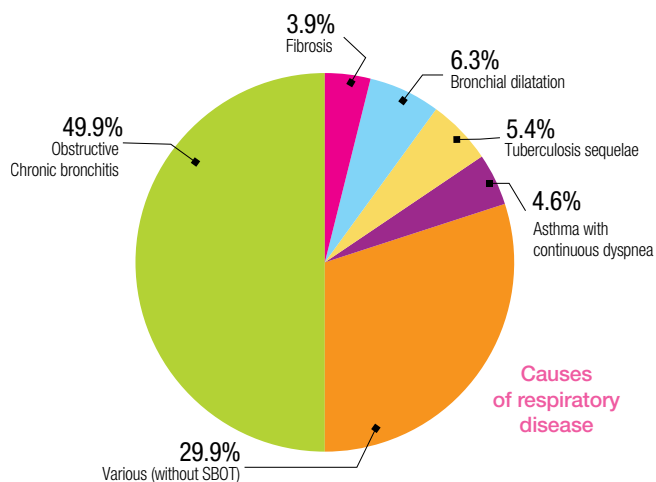
## Chronic respiratory disease

Depending on their specific condition, patients can be offered various therapeutic alternatives to relieve respiratory failure: short-burst oxygen therapy (SBOT) or long-term oxygen therapy (LTOT), ventilator support, tracheotomy, aerosol therapy, continuous positive airway pressure. The number of patients on device-assisted treatment has shown exponential growth since 2000, with the introduction of SBOT.



### Leading possible causes of respiratory disease:

- obstructive: chronic obstructive pulmonary disease (COPD) in 75% of cases, emphysema, cystic fibrosis, asthma, and also obstructive sleep apnea syndrome;
- restrictive: diseases affecting lung tissue, destruction of lung tissue, neuromuscular diseases, sequelae of a pleural disorder, obesity...



## MENTAL DISORDERS

### Healthcare coverage - conditions

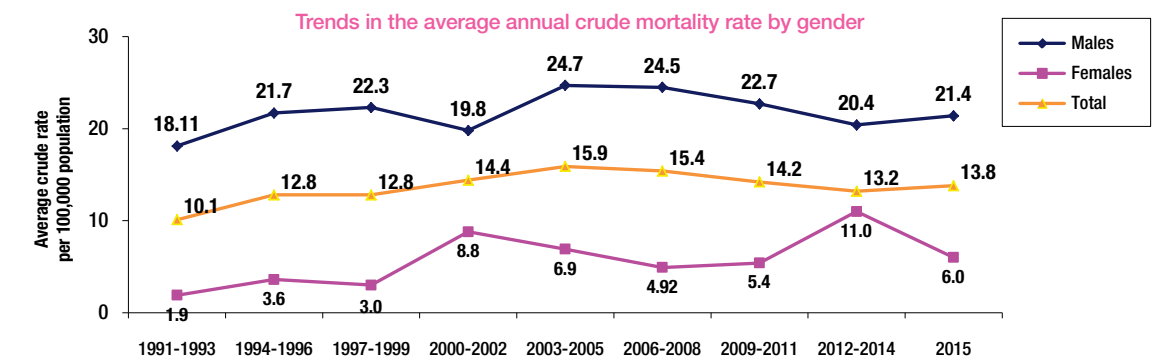
Patients can receive private sector treatment from specialists in private practice (psychiatrists, psychologists) or treatment under the public healthcare system.

Public mental healthcare services are structured as follows:

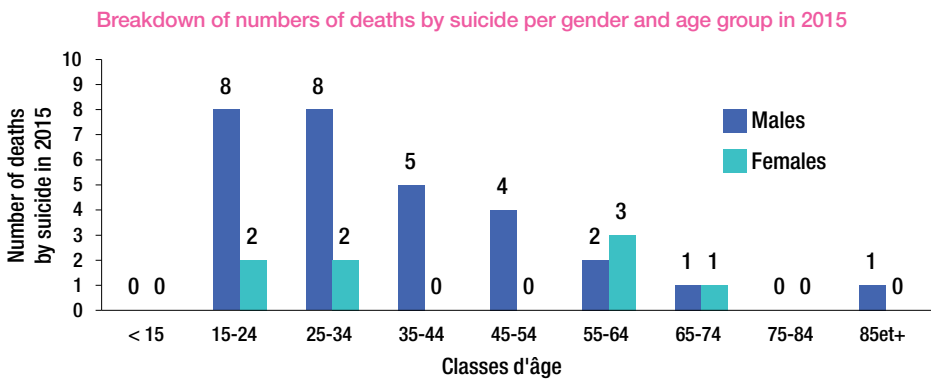
- general psychiatry department;
- child and adolescent psychiatry department;
- clinical geriatrics centre.

Suicide: one aspect of mental illness

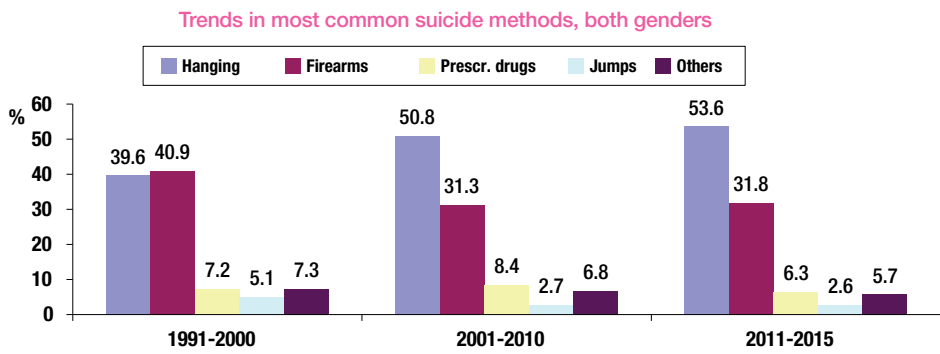
In 2015, 37 deaths by suicide were recorded, accounting for 2.5% of all deaths and 53.7% of all deaths from violence, representing a crude mortality rate of 21.4 per 100,000 males and 6.0 per 100,000 females, and a standardized rate of 19.8 per 100,000 males and 5.8 per 100,000 females.



The average annual crude rate has trended downwards since the peak rate recorded from 2003 to 2005. Female suicides peaked twice: from 2000 to 2002 and again from 2012 to 2014. In 2015, male suicides accounted for 78.4% of all suicides, i.e. 3.5 times more male suicides. Age varied from 18 years for the 2 youngest suicides to 88 years for the oldest suicide. If we look at numbers of suicides by age group, the highest suicide rate in 2015, as in 2014, was among people aged 15 to 34, accounting for 54.1% of suicides. There were few suicides among senior citizens aged 65 and over, 2 males and 1 female.



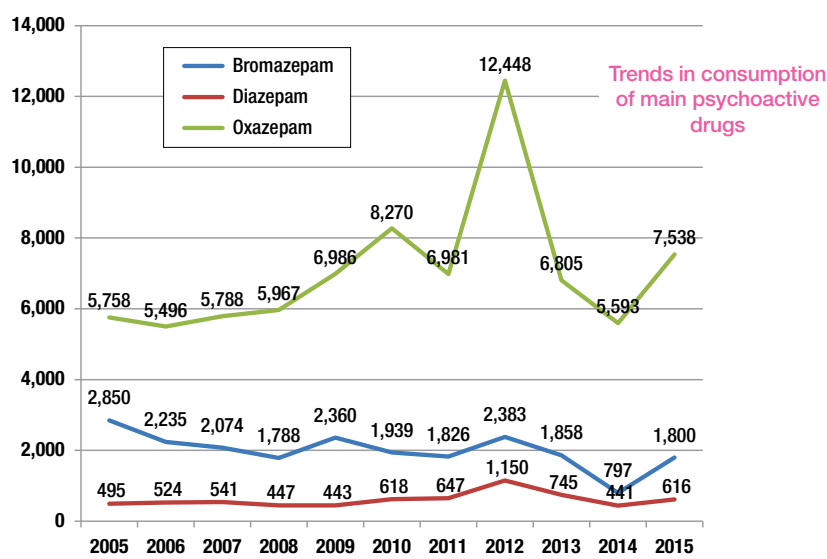
Hanging was the most common suicide method in 2015, for both genders, accounting for 48.6% of suicides. In line with the 1991-2015 period, there was a marked increase in the proportion of suicides by hanging compared to suicides by firearms and other methods of suicide.



There would appear to be less cause for concern regarding deaths by suicide in New Caledonia than in European countries, and suicide is certainly responsible for fewer deaths than road traffic accidents; nevertheless, suicide remains a key cause of death, particularly among young males, and could be preventable.

Psychoactive drug consumption

All psychoactive drugs for human use brought into the country from France are recorded by DASS-NC.



SOCIAL ISSUES

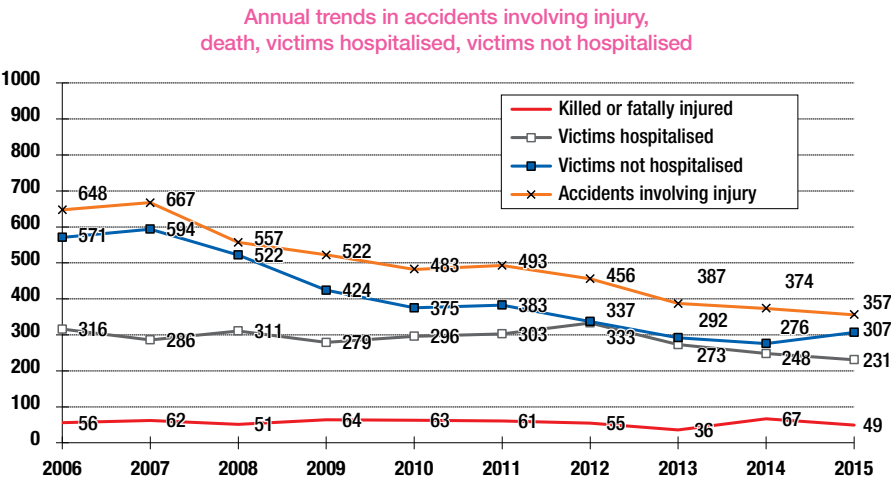
Road traffic accidents

In 2015, 357 accidents involving injuries were recorded for the whole of New Caledonia, with 538 people injured and 49 fatalities (i.e. 26.9% less than 2014). This figure was lower than the average of 57 fatalities per year recorded for the previous 9 years (2006-2014). The number of people injured continued to fall.

The two main factors in fatal accidents were:

- inappropriate or excessive speed in 20 accidents out of 39 (51.3%);
- driving under the influence of alcohol and/or drugs in 26 accidents out of 43 (60.5%), including: 13 accidents due to alcohol alone, 10 accidents due to a mix of alcohol and cannabis, and 3 accidents due to cannabis alone.

In comparative terms, New Caledonia has a crude rate of 182.3 deaths per 1 million population (2014 census), a rate 3.4 times higher than France where the rate is 53 deaths per 1 million population (ONISR 2015).



Occupational healthcare system

Three departments are responsible for workplace health checkups in New Caledonia

1 – Service médical interentreprises du travail - Occupational Corporate Healthcare Department (SMIT)

In 2015, the SMIT carried out 25,603 checkups (32,389 in 2014), with responsibility for monitoring 79,469 employees working for 12,156 businesses.  
10,241 scheduled checkups and 15,362 unscheduled checkups were carried out.

2 – Département médical de la Société Le Nickel (SLN) - Le Nickel Occupational Healthcare Department

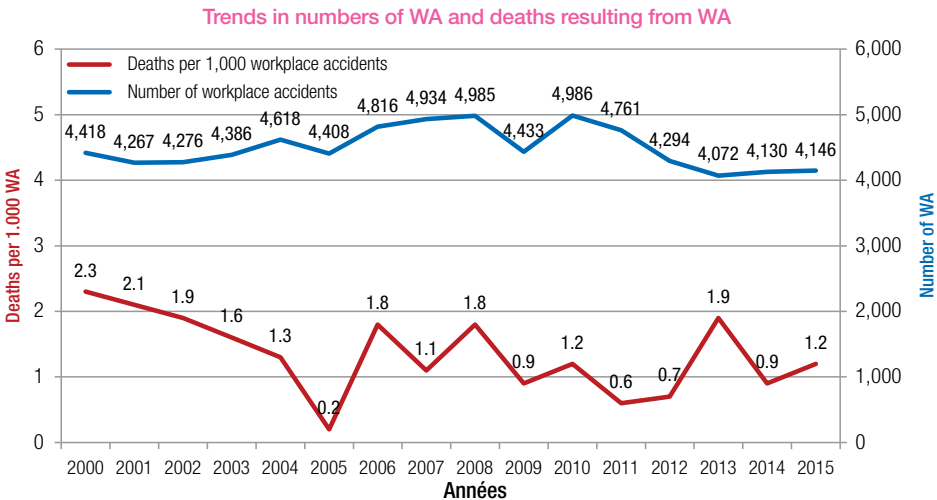
A total of 2,607 checkups were carried out, including 1,925 scheduled checkups and 682 recruitment, workplace accident and return-to-work checkups. 9,890 follow-up checkups were performed. The Healthcare Department ensured follow-up for 2,416 employees working in 6 sites.

3 – CHT Occupational Health Department

The Department is responsible for monitoring around 3,000 people working at the CHT (government employees and contract staff) and the Pasteur Institute, and carried out 1,902 checkups in 2015.

Workplace accidents

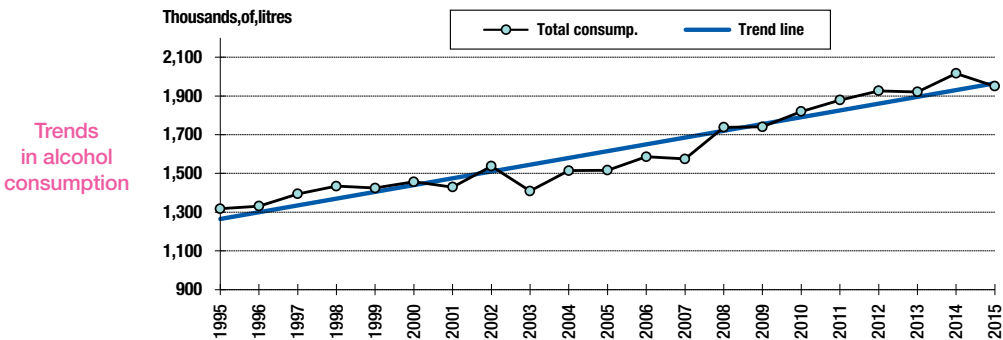
Based on CAFAT data: 4,146 workplace accidents were recorded in 2015, a slight increase of 0.4% compared to 2014. 201 commuting accidents involving sick leave, (-6% compared to 2014) and 102 occupational diseases (-1% compared to 2014) were recorded. There was an increase in paid sick leave days (208,596) compared to 2014 (+ 9.6%).  
The number of fatalities since 2004 was relatively low, varying between 1 to 10 deaths per year. As shown in the diagram below, the rate was 0.2 to 2.3 deaths per 1,000 workplace accidents (WA).



Addictions: alcohol, tobacco, drugs

Alcohol

1,950,172 LPA (litres of pure alcohol) were consumed in New Caledonia in 2015, down by -3,3% compared to 2014.



Beer consumption accounted for 42.4 % of total alcohol consumption in 2015. Consumption remained fairly stable compared to 2014.

Wine consumption fell (-7.5%) compared to 2014. In 2015, wine accounted for 33.8% of total consumption.

Spirits accounted for 23.3% of total consumption, a slight decrease of -1.8% compared to 2014.

Adverse effects of alcoholism

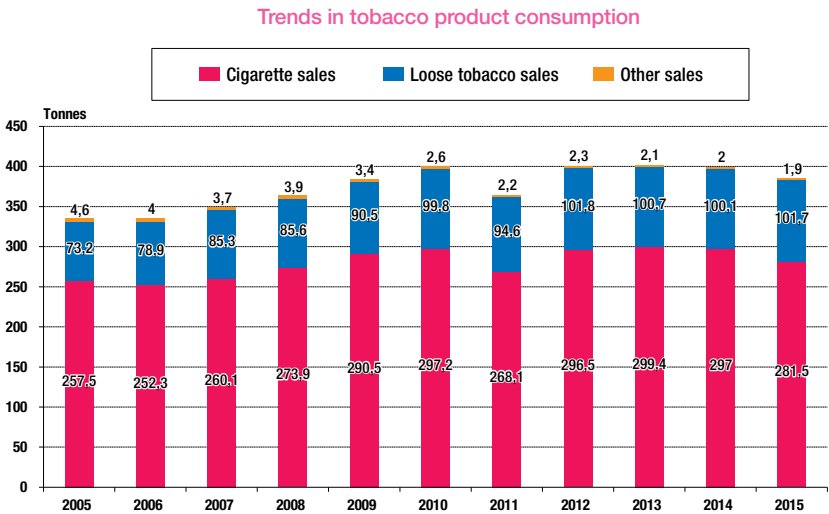
In New Caledonia, the adverse effects of alcohol consumption, and particularly alcohol abuse, are more commonly social or, in health terms, linked to trauma or chronic conditions.

**Mortality:** Based on medical death certificates in 2015, alcohol abuse would appear to be the sole or main cause of 39 deaths, accounting for 2.6% of the total number of deaths, i.e. an annual crude rate of 19 deaths per 100,000 population. Thus, between 1991 and 2015, 840 deaths were wholly or very largely alcohol-related. Extended estimate: this figure is based, as with morbidity, on computing the fraction of deaths attributable to alcohol where death was due to a specified number of primary causes. These fractions were set out in research published in 1985 (J.P. Pignon, C. Hill). For the period from 1991 to 2015, alcohol was judged to be the cause of 3,034 deaths in New Caledonia. The figure drawn from the restricted estimate is multiplied by 3.6.

Tabacco

Total tobacco sales in 2015 were 385.2 tonnes, down by 3,5% compared to 2014.

Estimated daily tobacco consumption, all tobacco products included, by adults aged 15 and over, was 5.14 grams per adult per day (1 cigarette = 1 cigar = 1 gram (Seita agreement)).



Adverse effects of smoking

**Morbidity:** The main smoking-related diseases are respiratory cancers (lung and bronchial, larynx...), together, in some instances, with respiratory diseases where patients receive home ventilator or oxygen therapy treatment. Based on New Caledonia cancer registry data, 153 new respiratory cancer cases were recorded in 2013 (including 113 cases of lung cancer). These types of cancer mainly affect males.

**Mortality:** The number of tobacco-related deaths is computed by multiplying the total number of deaths due to a given cause by tobacco-related risks, as assessed by a cohort study conducted by the American Cancer Society. Applying the risk coefficient to each tobacco-related disease produces a figure of 3,054 male deaths and 396 female deaths attributable to tobacco, i.e. 11% of deaths during the 1991-2015 period, which would give an average crude rate of deaths attributable to tobacco of 52.4 for 100,000 population.

In France, an estimate of the annual number of deaths attributed to smoking, factoring in the main tobacco-related cancers (lung, head and neck, etc.), respiratory diseases (including chronic obstructive bronchitis) and cardiovascular diseases was conducted for 2004. Results indicated that around 73,000 deaths could be attributed to smoking, including 59,000 males.

## Narcotic drugs

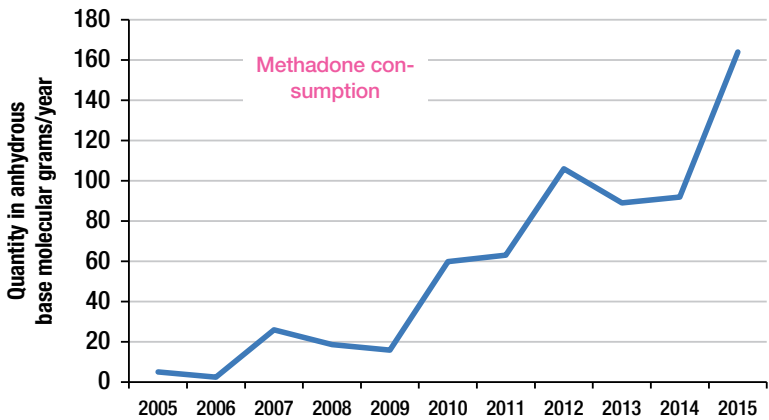
Data is drawn from drug seizures carried out by police, gendarmerie and customs services and reported annually to the Pharmaceutical Inspectorate. Cannabis is by far the most common substance consumed in New Caledonia.

Seizures mainly concern cannabis plants. One plant is considered equivalent to 200 g of cannabis. Viewed in terms of the size of New Caledonia's population, these seizures suggest the existence of a real cannabis drug trade.

Seizures (en g)	2010	2011	2012	2013	2014	2015
Cannabis	5,389,723	217,707	437,883	315,864	231,318	92,131
Cannabis resin	71	1,300	234	137	139	93
Cocaine	1	3	1981	34	21	103
Heroin	0	0	0	0	0	0
LSD	0,04,g	0	0	15	475	69
Ecstasy - MDMA	0	1	12	0	36	2
Methamphetamine	0	1	0	534	0	0
Synthetic cannabinoids			34	0	0	0
NPS	0	0	0	534 (4MEC)	30	0

### To be noted:

- since 2013, biak (kratom or *Mitragyna speciosa*) has been listed as a narcotic drug in New Caledonia. The main psychoactive components in the leaves are opiates: mitragynine and 7-hydroxymitragynine, far more powerful than morphine;
- the consumption (or, to be more precise, pharmaceutical distribution for medical use) of methadone (used to treat opiate withdrawal symptoms) is steadily growing; this is linked to improved patient care & follow-up following the opening of an addiction treatment centre.





# POPULATION-BASED APPROACH

## Females

According to 2014 census figures, the female population totals 133,225, with 53.1% aged between 15 and 49 and considered to be of child-bearing age.

### Cervical cancer screening

The cervical cancer incidence rate in New Caledonia is two to three times higher than in France and Australia, making New Caledonian women a population at risk.

Cervical cancer is the 6th most common form of cancer in women. 20 invasive cancers were detected in 2013. 8 of these 20 women patients died from their cancer in 2015.

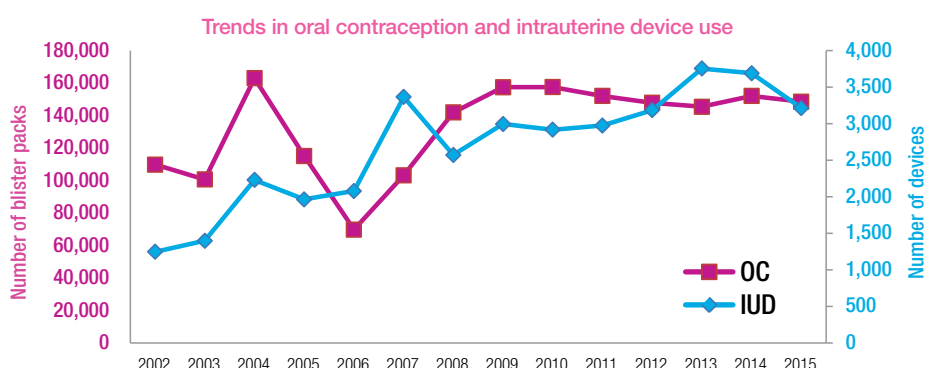
The private anatomical pathology and cytopathology laboratory carried out analyses of 13,881 smears in 2015, with 17.6% carried out as part of a screening campaign. In all, 865 smear test results were abnormal, i.e. 6.2% of all smears (5.5% in 2014).

### Breast cancer screening

In 2015, the screening unit (ASS-NC) sent 27,317 (+26%) invitations or reminders (21,749 in 2014) to women aged 50 to 74. Nine screening sessions were held. A total of 518 mammograms were carried out, compared to 472 in 2014. The participation rate was 50.1% over the course of the 2013-2015 screening campaign.

### Contraception

In 2015, an estimated minimum of 36,850 women/year were using contraception (oral contraceptive pills, intrauterine devices (IUD) and injectable contraceptives), which would represent 52% of women of child-bearing age in New Caledonia.



### Pregnancies and births

New Caledonia is in line with the national average; in France the average number of C-Sections rose continuously until 2007 to reach the rate of 21% of deliveries.

	2014			2015		
	Public sector	Private sector	Total	Public sector	Private sector	Total
Number of births	2,694	1,731	4,425	2,508	1,715	4,223
No. of C-Sections	492	397	889	429	427	856
% of C-Sections / deliveries	18.3%	23.0%	20.1	17.1%	24.9%	20.3

Source: Réseau Périnatal de Nouvelle-Calédonie (S. Camuzeaux)

### Maternal deaths

No maternal deaths were recorded in 2015, i.e. maternal death occurring during pregnancy, childbirth or within 42 days of termination of pregnancy (WHO definition). No deaths have occurred since 2013, i.e. a total of 27 over the past 25 years. For the 1991-2015 period, the average rate was therefore 26 deaths per 100,000 live births.

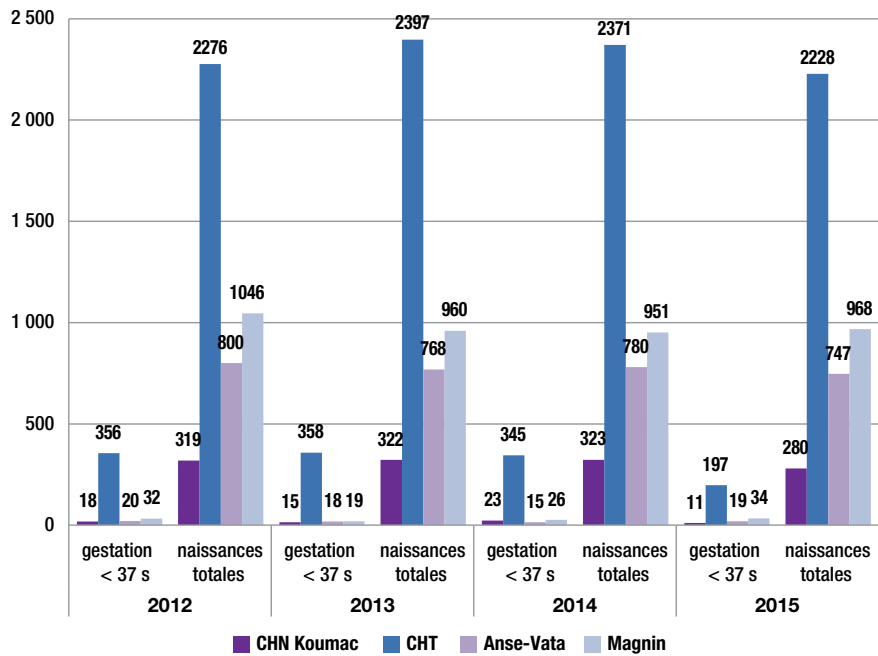
Preterm births

4,223 preterm births were recorded in 2015, including 46 stillbirths. French law defines preterm birth as any birth occurring before 37 weeks but after more than 22 weeks of pregnancy and/or with a birthweight of 500 g (WHO does not include a birthweight factor). Very preterm births are babies born between 22 and 31-32 weeks of pregnancy, regardless of birthweight. 348 (compared to 383 in 2014) babies (8.33% of live births) were born weighing ≤ 2,500 g in New Caledonia's hospital maternity departments and clinics. 361 babies were born at under 37 weeks (8.52% of live births) as follows:

Weeks of pregnancy	CHT Magenta	CHN Koumac	Clinique Anse-Vata	Clinique Magnin	Total
<22 W	1	-	-	-	1
Between 22 and 28 WP + 6 days	42	2	2	2	48
Between 29 and 34 WP + 6 days	106	3	1	-	110
Between 35 and 36 WP + 6 days	148	6	16	32	202
> 37 WP	1,931	269	728	934	3,862
Total	2,228	280	747	968	4,223

Source: Réseau Périnatal de Nouvelle-Calédonie (S. Camuzeaux)

Trends in preterm births and total births by year

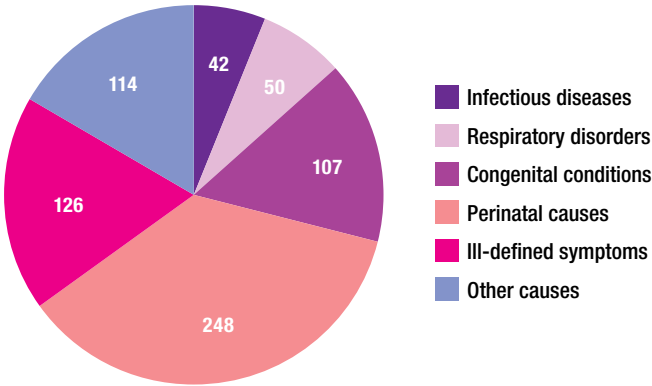


Source: Réseau Périnatal de Nouvelle-Calédonie (S. Camuzeaux)

### Causes of infant mortality

In 2015, 25 deaths of children aged under a year were recorded, i.e. a total of 687 deaths from 1991 to 2015.

Main causes of infant mortality



### Young children

#### Child monitoring-related preventive initiatives in Provincial facilities

Ensuring that childhood immunisation is up-to-date and, if necessary, vaccinating children is a preventive healthcare priority.

3,913 children were immunised with vaccines supplied DPASS South at the Noumea Child Welfare Department (24,1% fewer than 2014) under an agreement between the DPASS South pharmacy and the social welfare agencies (medical aid and CAFAT).

#### Regular school checkups

Medical check-ups are mandatory in certain grades throughout the educational system; checkups ensure immunisation is tracked and help to detect chronic disorders and monitor dental health. In 2015:

- 12,116 primary school children received checkups in the South Province. 534 checkups were carried out at the University of New Caledonia and 100 vaccinations requested (compared to 474 checkups and 74 vaccination requests in 2014);
- 3,451 children received checkups in the North Province;
- No data is available for the Loyalty Islands Province.

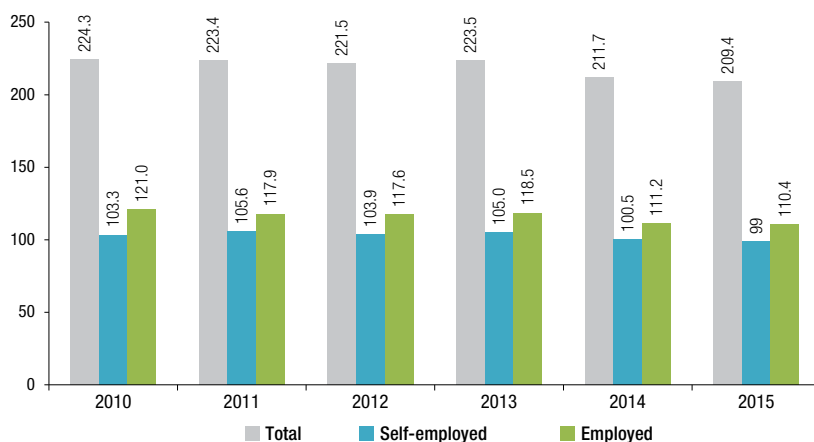
# HEALTHCARE ORGANISATION

## Demographics - healthcare professionals

### Doctors

There were 644 practising doctors in 2015 (42.5% self-employed and 57.5% employed), an increase of 0.8% compared to 2014. However, density is falling: 209.4 physicians per 100,000 population (573 in 2015).

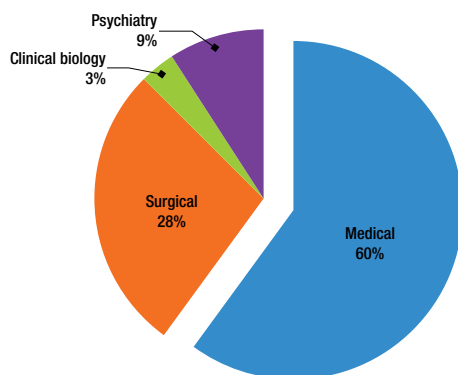
Trend in numbers of doctors (per 100,000 population) - self-employed/employed



### Density varies between Provinces:

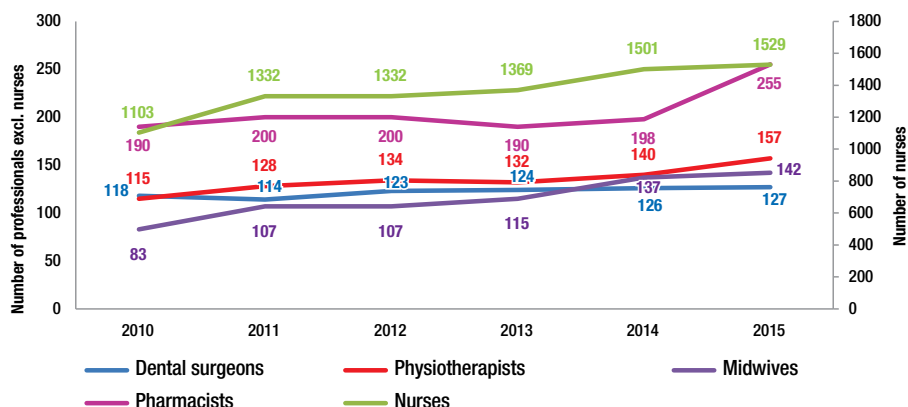
	2010	2011	2012	2013	2014	2015
Loyalty Islands Province	104.7	100.6	99.0	104.0	98.4	87.3
North Province	122.8	137.8	133.5	146.8	136.0	123.5
South Province	258.2	256.8	254.9	248.3	241.3	246.0
New Caledonia	222.9	223.8	221.5	220.4	211.7	209.4

Breakdown of specialist physicians (curative care) per main areas of specialisation



### Other healthcare professionals

Trends in the number of dental surgeons, pharmacists, physiotherapists, midwives and nurses are shown in the following diagram:



In-patient beds and day care beds

Breakdown of in-patient beds and day care beds per site in New Caledonia (IP: in-patient care – DC: day care)

	CHT		CHN Koumac		CHN Poindimié		Clinics		CHS		TOTAL	
	HC	HJ	HC	HJ	HC	HJ	HC	HJ	HC	HJ	HC	HJ
Medicine	214	18	17	0	14	0	50	6	0	0	295	24
Surgery	133	8	13	0	0	0	67	32	0	0	213	40
Gynaecology Obstetrics	47	2	9	0	0	0	33	3	0	0	89	5
Intensive care	39	0	0	0	0	0	0	0	0	0	39	0
Follow-up care	35	0	0	0	14	0	0	0	20	0	69	0
Functional rehabilitation physiotherapy	50	15	0	0	14	0	0	0	0	0	64	15
Adult psychiatry	0	0	0	0	0	0	0	0	111	58	111	58
Child & adolescent psychiatry	0	0	0	0	0	0	0	0	0	25	0	25
Geriatrics	13	0	0	0	0	0	0	0	54	0	67	0
TOTAL	531	43	39	0	42	0	150	41	185	83	947	167

Parastatal bodies

La Mutuelle du Nickel

This comprises:

- the Doniambo healthcare centre in Noumea, which has 2 ophthalmologists, 3 dentists (2 full time and 1 part time) and 1 general practitioner;
- two eye care centres, one in the Latin Quarter and the other in Doniambo, with 3 dispensing opticians;
- two dental surgeries, located in Thio and Kouaoua. A single dentist covers both centres.

On average:

12,500 ophthalmology patient visits and 12,000 dental patient visits per year.

La Mutuelle des fonctionnaires (govt. employee insurance scheme)

Available medical staff:

- in Noumea: 1 doctor, 6 dentists, 2 physiotherapists, 2 pharmacists;
- in Boulari (Mont-Dore): 1 doctor, 2 dentists;
- in Bourail: 1 dentist;
- in Pouembout: 1 dentist, 1 pharmacist.

Over 3,000 dental patients were seen by all 4 centres and 8,000 medical patients were seen in Noumea and Boulari.

CAFAT (New Caledonia social security system)

Two healthcare centres in Noumea, one in Receiving and one in Rivière Salée. Medical staff includes:

- 17 doctors including 10 GPs;
- 4 dental surgeons;
- 2 radiologists (part-time);
- 2 visiting specialist physicians;
- 1 pharmacist-biologist
- 3 nurses.

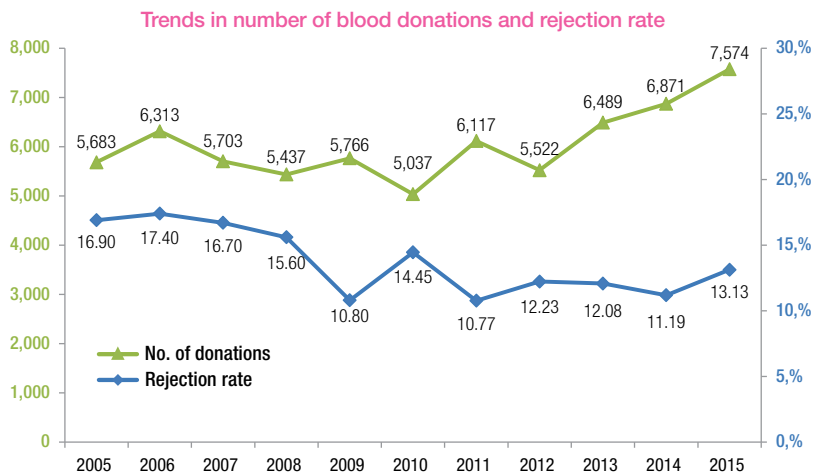
Accident & Emergency

In 2015, the two A&E units, Gaston-Bourret and Magenta, recorded: 47,661 arrivals (46,359 in 2014), representing a 2.8% rise in numbers.

24% of arrivals led to hospital admissions: 75% at Gaston Bourret and 25% at Magenta. In 2015, 2,026 SMUR ambulance call-outs were triggered: 1,136 primary care transport calls and 890 secondary care transport calls.

Blood transfusion

The number of blood donations has increased steadily since 2012, from 5,522 in 2012 to 7,574 in 2015. Based on WHO (World Health Organisation) standards, this number is satisfactory.



Clinical biology

There is a public hospital biochemistry and haemostasis laboratory at Gaston-Bourret National Hospital Centre and a laboratory at Paula-Thavoavianon Hospital Centre in Koumac.

The Institut Pasteur focuses primarily on serology, haematology and microbiology.

The CAFAT Community Healthcare Centre clinical laboratory is located in Receiving. The laboratory performs chemical pathology, haematology and microbiology tests.

There are fourteen government approved private clinical laboratories, eight in Noumea, one in Dumbea, two in Mont-Dore, one in Koné, one in Païta and one in Bourail.

Medical imaging

The Noumea National Hospital Centre Radiology Unit is divided into two departments: the facility in avenue Paul-Doumer has housed the CT scanner and MRI unit since November 2005, and the Magenta annex facility focuses primarily on radiology and ultrasound examinations for women and children. It should be noted that under an agreement between the public and private sectors, private sector patients have access to the CHT CT scanner and MRI unit.

The P.-Thavoavianon and D.-Nebayes Provincial Hospital Centres have radiology units, as does the CAFAT Community Healthcare Centre.

There are seven private radiology clinics.

Pharmacies

There are 66 approved pharmacies open to the public: 63 private pharmacies and 3 mutualist pharmacies. The 66 pharmacies are located by area as follows:

- in Noumea: 24 pharmacies, including 2 mutualist pharmacies;
- 17 pharmacies in the other Greater Noumea municipalities;
- 21 pharmacies, including 1 mutualist pharmacy outside Greater Noumea;
- 4 pharmacies in the Loyalty Islands.

Two dispensing physicians practise in the Isle of Pines.

Pharmacy within healthcare facility

12 authorised internal pharmacies are located in the following facilities: Azur santé, La Cordyline, ATIR NC, CHT Gaston-Bourret, CHS Albert-Bousquet, CHN, Clinique Magnin, Clinique de la Baie-des-Citrons, Islands Province, North Province, South Province, Vavouto Healthcare Centre (KNS).

Pharmacy: wholesale distribution

There are 6 pharmaceutical companies, the two main ones being general wholesale distributors: UNIPHARMA and the Groupement de Pharmaciens de Nouvelle-Calédonie (GPNC).

Prescription drug outlets

There are 3 in-store prescription drug outlets: 1 in Ouaco and 2 in Pouébo.





## ENVIRONMENTAL HEALTH

The DASS-NC Public Health Department is tasked with designing and implementing preventive and curative initiatives to protect human health from environmental and lifestyle-related hazards.

### Drinking water

New Caledonia's government, provinces and municipalities share responsibility for drinking water. The Health and Social Services Directorate (DASS) advises municipalities on the implementation of water safety plans (WSP). The DASS Health & Environment Office has been guiding and supporting municipalities in drawing up their WPS since 2008.

To date, 25 municipalities have their own WPS: La Foa, Sarraméa, Moindou, Farino, Thio, Bourail, Boulouparis, Noumea, Dumbea, Mont-Dore, Païta, Poya, Poum, Hienghène, Poindimié, Touho, Ouégoa, Voh-Koné-Pouembout, Ponérihouen, Koumac, Ouvéa, Lifou and Maré.

The Syndicat Intercommunal du Grand Nouméa (Greater Noumea Intermunicipal Union - SIGN) also has its own WSP.

### Recreational waters

Initiatives spearheaded by DASS-NC aim to protect bathers from exposure in the event of a real or potential water pollution incident.

In 2015, there were:

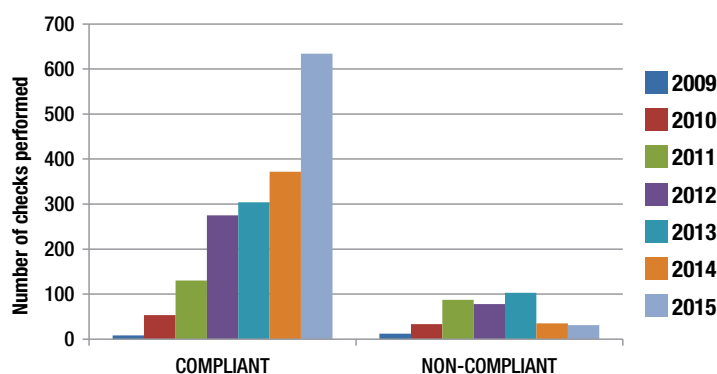
- 65 sampling sites for the monitoring of seawater bathing areas: 44 sites outside Noumea (located in 23 municipalities) and 21 sites in Noumea, monitored monthly during the bathing season from 1<sup>st</sup> December to 30 April;

Water quality at the 66 monitoring sites	Insufficient samples	Poor quality	Satisfactory quality	Good quality	High quality
Number	9	8	6	12	30
%	14 %	12,5 %	9 %	18,5 %	46 %

- around 100 pools (swimming pools and spas) monitored regularly throughout the year, both for the quality of facilities and the bacteriological and physicochemical quality of water.

The number of bacteriological compliances for the 2 bacteriological parameters indicative of health risk over the last 6 years of monitoring increased significantly in 2015 (see diagram below).

Trends in numbers of compliant and non-compliant test results per year



### Air

The New Caledonia Air Quality Monitoring Association (Scal-Air: <http://www.scalair.nc>) took on the task of monitoring air quality in New Caledonia and of providing information and raising public awareness about air quality. The network comprises 4 fixed monitoring stations in Noumea and a mobile station. Four pollutants are monitored continuously: SO<sub>2</sub>, NO<sub>2</sub>, PM<sub>10</sub> and O<sub>3</sub>.

In 2015, all pollutants measured and all monitoring sites were broadly in compliance with European annual air quality and annual value limit objectives. However, value limits and thresholds based on short periods (hourly or daily) were exceeded in some neighbourhoods of the city. Industrial emissions were the main source of pollution measured in Noumea. Pollution incidents were episodic, i.e. for short periods and very localised. Pollution showed medium to high concentrations of sulphur dioxide (SO2) and PM10 particulate matter. The drop in the number of short-term exceedances of threshold and limit values recorded since 2014 was confirmed in 2015. Noteworthy: a study of the relationship between air quality and public health in the Noumea urban area was published online in 2015. The study, funded by the Government of New Caledonia and directed by the DASS, took three years to complete.

### Infectious waste

There are three types of infectious waste: hazardous health-care waste (sharps...), body parts and toxic and chemical waste. All producers are responsible for disposal of their own waste. The 10 largest producers account for over 93% of waste production.

In 2015 :

- 476 tons of infectious waste were collected/processed by the relevant sector;
- 65.2% were produced by hospitals and clinics (including 51% by the CHT).

### Environmental asbestos

The presence and health impacts of environmental asbestos in New Caledonia is now a proven and well established fact. There is a Government of New Caledonia program, ongoing for three years (2012-2015), for the implementation of remediation work per municipality at sites with the highest hazard levels. In 2015, more than 5 municipalities were committed to this program funded by the Government of New Caledonia and directed by the DASS. The municipalities concerned were Poindimié, Touho, Pouébo, Kaala-Gomen and Ouégoa.

### Vector control

#### Principle

Principle  
Vector control is the only effective means of preventing and controlling the spread of arbovirus infection outbreaks. It involves eradicating arbovirus vector mosquitoes, *Aedes aegypti* (eggs, larvae, nymphs, adults), and ensuring people are protected from bites (repellents, etc.).

#### Implementation

When a case of arbovirus infection is confirmed, the municipal officers responsible for vector control ensure that the public is informed, carry out house-to-house searches to destroy larval habitats, together with perifocal space spraying or fogging (using adulticide insecticides) in a 100 metre minimum perimeter around the site. In Noumea, malathion spraying was carried out using vehicle-mounted equipment prior to 17 July 2015. However, following a WHO recommendation, use of malathion was temporarily suspended. Since then, the Noumea city authorities have used only deltamethrin for fogging. In other municipalities, only deltamethrin is used for fogging.

#### Training courses

In 2015, DASS-NC held 3 vector control training courses to provide municipal officers assigned to vector control with a broader knowledge of the epidemiology of leptospirosis and arbovirus infections and entomology, and better skills in communication and the implementation of insecticide fogging procedures. 18 municipalities took part in the training courses.

#### Monitoring

Monitoring carried out via the “Réseau de Surveillance Entomologique” (Entomological Monitoring Network - RSE), set up jointly by DASS-NC, the IPNC and the Noumea, Dumbéa and Mont-Dore municipal authorities, showed that entomological indicators remained at fairly moderate levels in 2015.

#### Research

In 2015, a study was launched by DASS-NC in partnership with the Noumea city authorities as part of an initiative to develop alternative means of *Aedes aegypti* vector control. The study aimed to assess the effectiveness of spraying procedure using larvicide with Bti (*Bacillus thuringiensis israelensis*) as the active ingredient. This insecticide, only toxic to some larvae of Diptera, has very little adverse effect on humans and the environment.

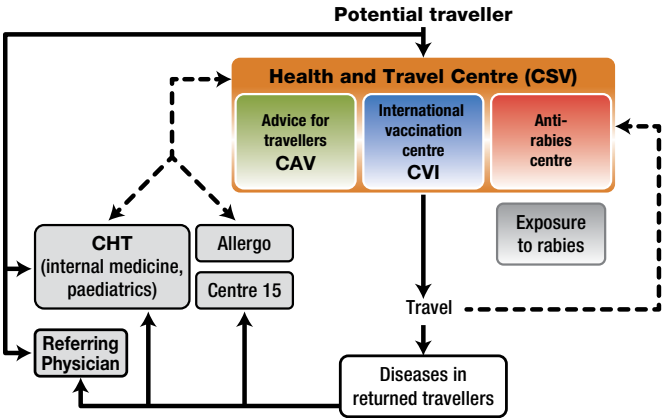
# HEALTH AND TRAVEL CENTRE (CSV)

The DASS-NC Centre Santé et Voyage (Health and Travel Centre - CSV) opened in February 2013, following the decision by the New Caledonia Pasteur Institute (IPNC) to halt their yellow fever vaccination program.

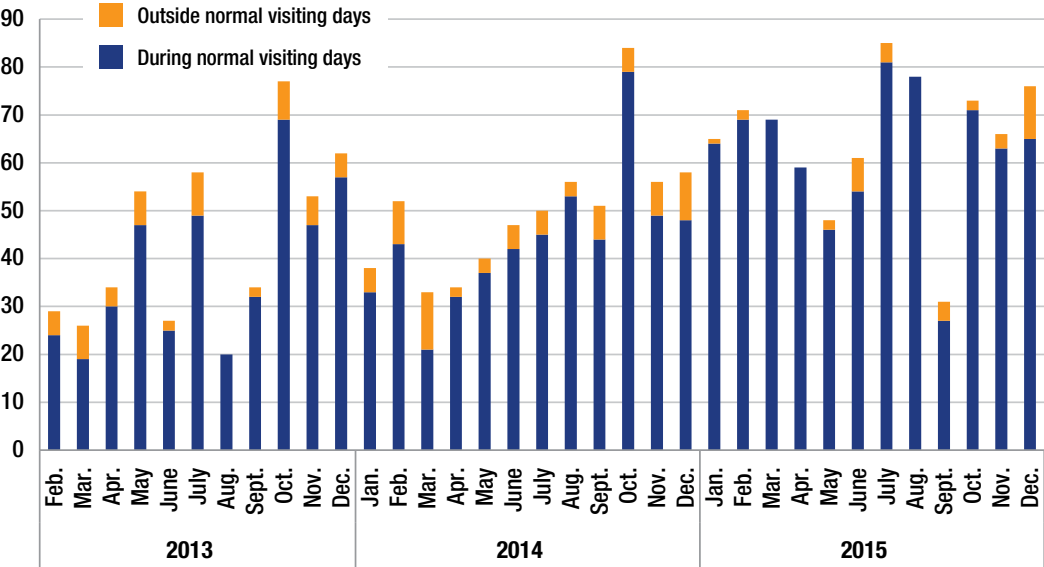
### CSV functions:

- international vaccinations;
- advice for travellers;
- rabies vaccination;
- encouraging partners to give advice to travellers (healthcare and travel professionals).

In 2015, there were 782 visits to the CSV, involving 504 patients. 974 vaccinations were administered. Regarding rabies, 5 post-exposure prophylaxis treatments were administered.



CSV: number of visits per month  
(as of 31/12/2015)





## INTRODUCTION

### Definition

The standard approach to healthcare cost is based on two aggregate factors:

- **total consumption of healthcare services:** corresponds to all in-patient and out-patient care provided by hospitals, self-employed professionals, healthcare districts and Provincial healthcare centres and social welfare agencies. Plus, in addition to services, consumption of prescription drugs and other medical goods (visual aids, prostheses, minor medical devices and bandages);
- **current healthcare expenditure:** daily sickness benefits, research, training of healthcare professionals, healthcare management costs and public prevention spending (health information and education campaigns).

## COST OF HEALTHCARE

### Trend from 2010 to 2015

Between 2010 and 2015, total healthcare consumption increased by 22.8% and current healthcare expenditure by 18.6%.

Financial year	Total healthcare consumption in thousands of XPF	% N-1	Current healthcare expenditure	% N-1
2010	75,362,897	8.20 %	87,186,032	7.10 %
2011	78,924,709	4.73 %	87,163,496	6.06 %
2012	82,501,882	4.53 %	91,803,002	5.32 %
2013	83,615,899	1.35 %	93,496,519,	1.84 %
2014	86,750,696	3.75 %	97,028,995	3.78 %
2015	92,544,186	6.68 %	103,407,181	6.57 %

### Comparison

By using standardized aggregates, comparisons can be drawn with France by indicating:

- **Total healthcare consumption or current healthcare expenditure per capita (in XPF);**

Year	2010	2011	2012	2013	2014	2015
<b>Total healthcare consumption per capita in New Caledonia</b>	303,882	312,367	322,707	321,600	322,773	344,030
<b>In France</b>	321,956	329,594	341,099	347,580	352,088	352,088
<b>Current healthcare expenditure per capita in New Caledonia</b>	331,395	345,033	345,033	359,602	361,015	384,413
<b>In France</b>	426,143	432,117	438,249	444,197	465,393	465,393

- **current healthcare expenditure as a share of GDP (in %).**

Year	2010	2011	2012	2013	2014	2015
<b>Current healthcare expenditure as a share of GDP in NC</b>	10.10 %	10.38 %	10.70 %	10.55 %	10.80 %	10.81 %
<b>In France</b>	12.10 %	12 %	12 %	11.70 %	12 %	12 %

With a current healthcare expenditure totalling 12% of GDP, New Caledonia ranks among the average for developed countries.



A close-up photograph of a person's face, partially visible on the right side of the frame. The person has dark skin and is wearing a blue garment. In the foreground, there is a wooden staff or pole with intricate traditional patterns painted on it in red, blue, and white. The background is a solid orange color.

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