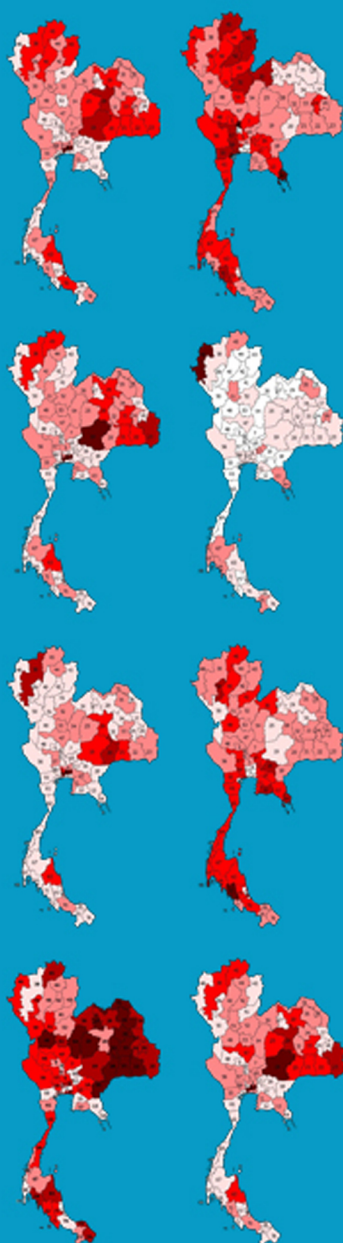
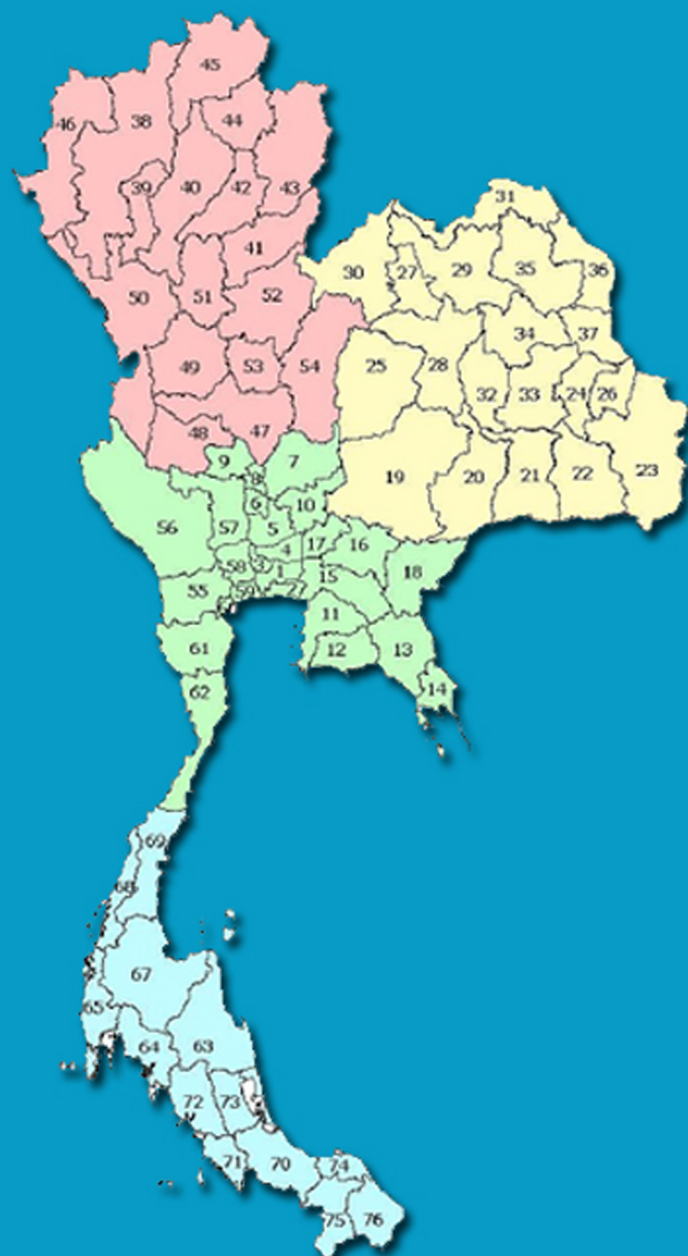




MAHIDOL
UNIVERSITY
Wisdom of the Land

THE
ROCKEFELLER
FOUNDATION

The Thai Health Atlas: 2010



Simon baker
Kriengsak Rojnkuressatien
Suporn jaratsit

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The Thai Health Atlas: 2010 hopefully will be the first of a series of health atlases showing the health of Thai people. The creation of this atlas was possible due to generous support from both the Rockefeller Foundation and the Institute for Population and Social Research, Mahidol University.

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The Thai Health Atlas: 2010

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Introduction

The 2010 Thai Health Atlas is hopefully the first of a series of atlases portraying the health of Thais. The idea of the atlas is to allow comparisons to be made between different provinces in terms of health indicators.

Each health indicator is mapped and then additional information is provided, including the names of the five top and five bottom performing provinces for that indicator. It is hoped that providing this information will enable discussions to take place on why the differences exist and what can be done to improve the provinces which are performing poorly.

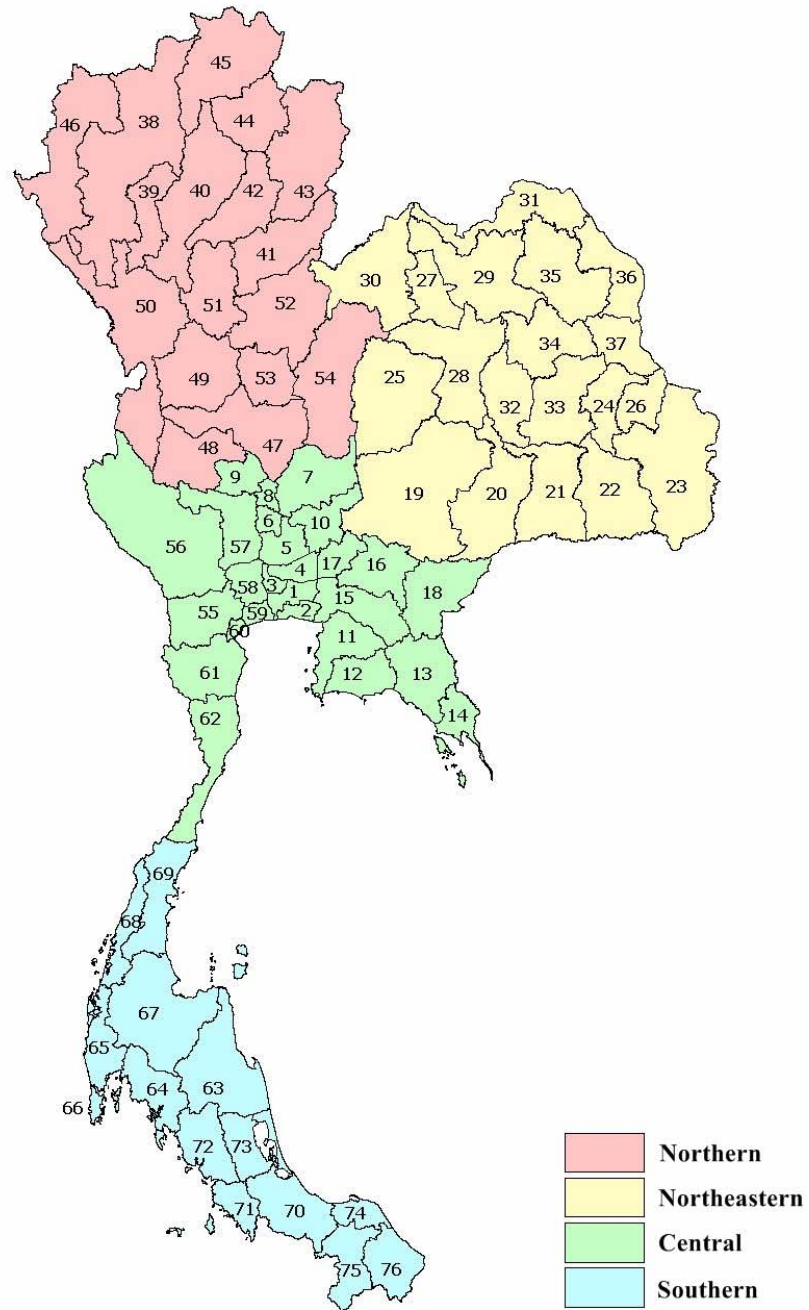
It must be stressed that each map provides a snapshot of what has taken place in the year the data was collected. How accurate that snapshot is, depends on how accurately data was collected in each of the 76 provinces. Some maps may show that a particular province has a bigger health problem than other provinces, but in reality this may not be the case; it maybe that the province collects data better than the other province. Taking suicide as an example, if provincial authorities collecting data on this topic do not record accurately how many deaths take place then their province will appear as not having a problem though this would not be the case. The problem would exist, but authorities would not have the information to solve the problem.

As there are always problems in collecting data, caution must be taken in reviewing the maps. Where possible the authors have tried make interpretations for the readers, but still in many cases there will be special events which will help explain the health problems being portrayed in the maps. Hopefully, discussions about the maps will enable a greater understanding of the health differences between Thailand's provinces.

This year's atlas has five sections:

1. Background socio-economic data
2. Quality of health services
3. Social behaviours and health
4. Diseases
5. Disabilities

The four regions of Thailand and the numbering system used for the atlas

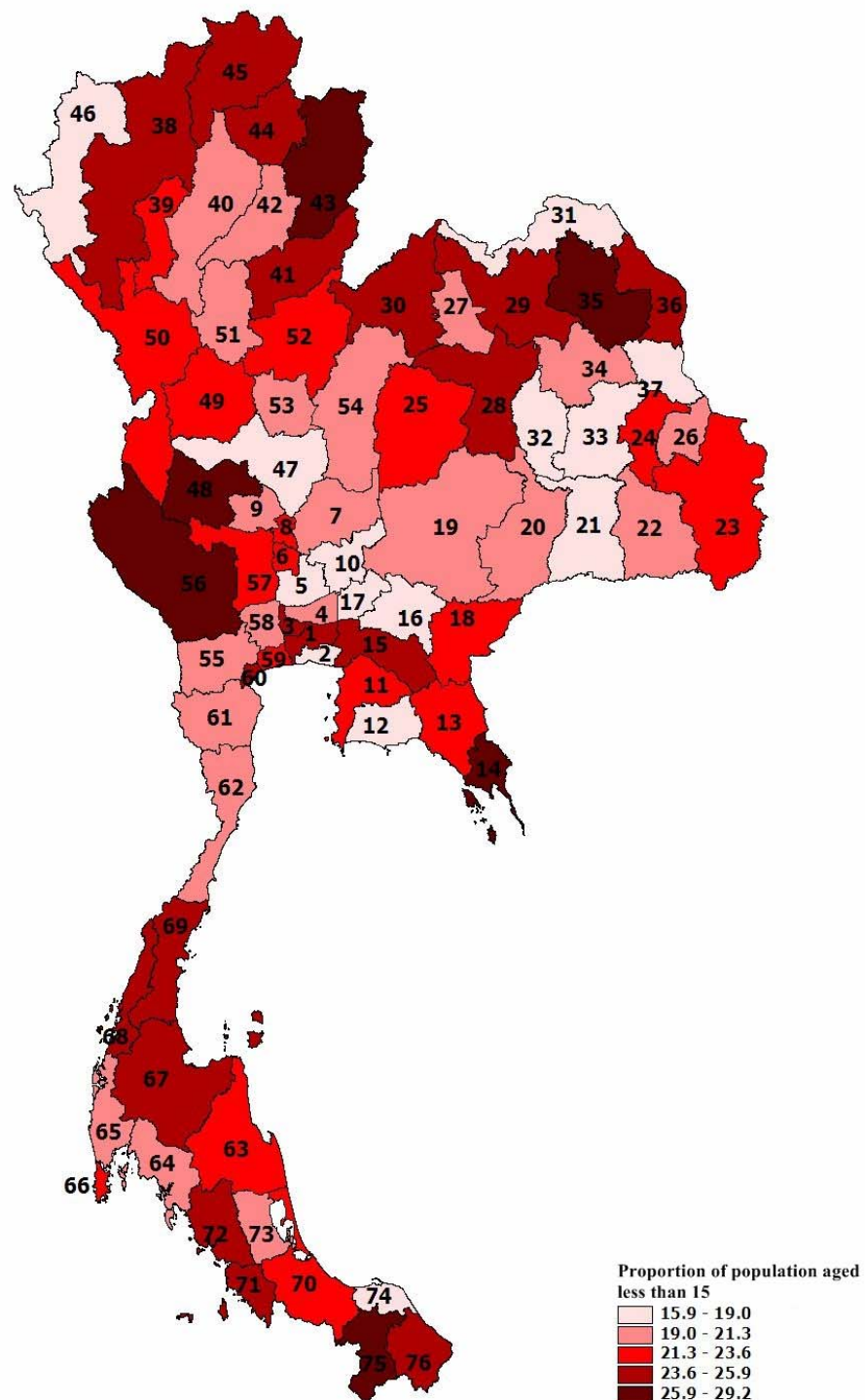


The numbering system used for the atlas

No.	Province	No.	Province
1	Bangkok	39	Lamphun
2	Samut Prakan	40	Lampang
3	Nonthaburi	41	Uttaradit
4	Pathum Thani	42	Phrae
5	Ayutthaya	43	Nan
6	Ang Thong	44	Phayao
7	Lop Buri	45	Chiang Rai
8	Sing Buri	46	Mae Hong Son
9	Chai Nat	47	Nakhon Sawan
10	Saraburi	48	Uthai Thani
11	Chon Buri	49	Kamphaeng Phet
12	Rayong	50	Tak
13	Chanthaburi	51	Sukhothai
14	Trat	52	Phitsanulok
15	Chachoengsao	53	Phichit
16	Prachin Buri	54	Phetchabun
17	Nakhon Nayok	55	Ratchaburi
18	Sa Keaw	56	Kanchanaburi
19	Nakhon Ratchasima	57	Suphan Buri
20	Buri Ram	58	Nakhon Pathom
21	Surin	59	Samut Sakhon
22	Si Sa Ket	60	Samut Songkhram
23	Ubon Ratchathani	61	Phetchaburi
24	Yasothon	62	Prachuap Khiri Khan
25	Chaiyaphum	63	Nakhon Si Thammarat
26	Amnat Chareon	64	Krabi
27	Nong Bue Lumphu	65	Phangnga
28	Khon Kaen	66	Phuket
29	Udon Thani	67	Surat Thani
30	Loei	68	Ranong
31	Nong Khai	69	Chumphon
32	Maha Sarakham	70	Songkhla
33	Roi Et	71	Satun
34	Kalasin	72	Trang
35	Sakon Nakhon	73	Phatthalung
36	Nakhon Phanom	74	Pattani
37	Mukdahan	75	Yala
38	Chiang Mai	76	Narathiwat

Background

Proportion of population aged less than 15



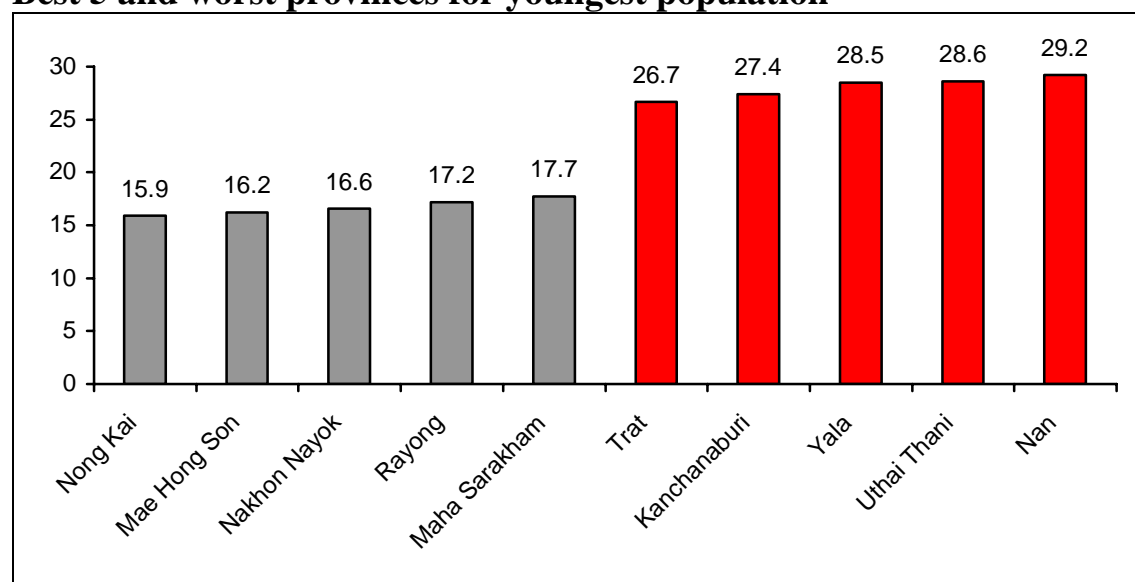
From the 1970s onwards Thailand has experienced rapid fertility decline. In 1970 the proportion of the population under 15 was close to 50% by 2010 the figure was only around 21%

The 5 provinces with the lowest proportion of their population aged less than 15 are Nong Kai, Mae Hong Son, Nakhon Nayok, Rayong and Maha Sarakham. In Nong Kai only 16% of the population is aged less than 15.

The 5 provinces with the highest proportion of their population aged less than 15 are Trat, Kanchanaburi, Yala, Uthai Thani and Nan. In Nan nearly 30% of the population is aged less than 15.

The difference between the lowest and highest provinces is nearly 2 times.

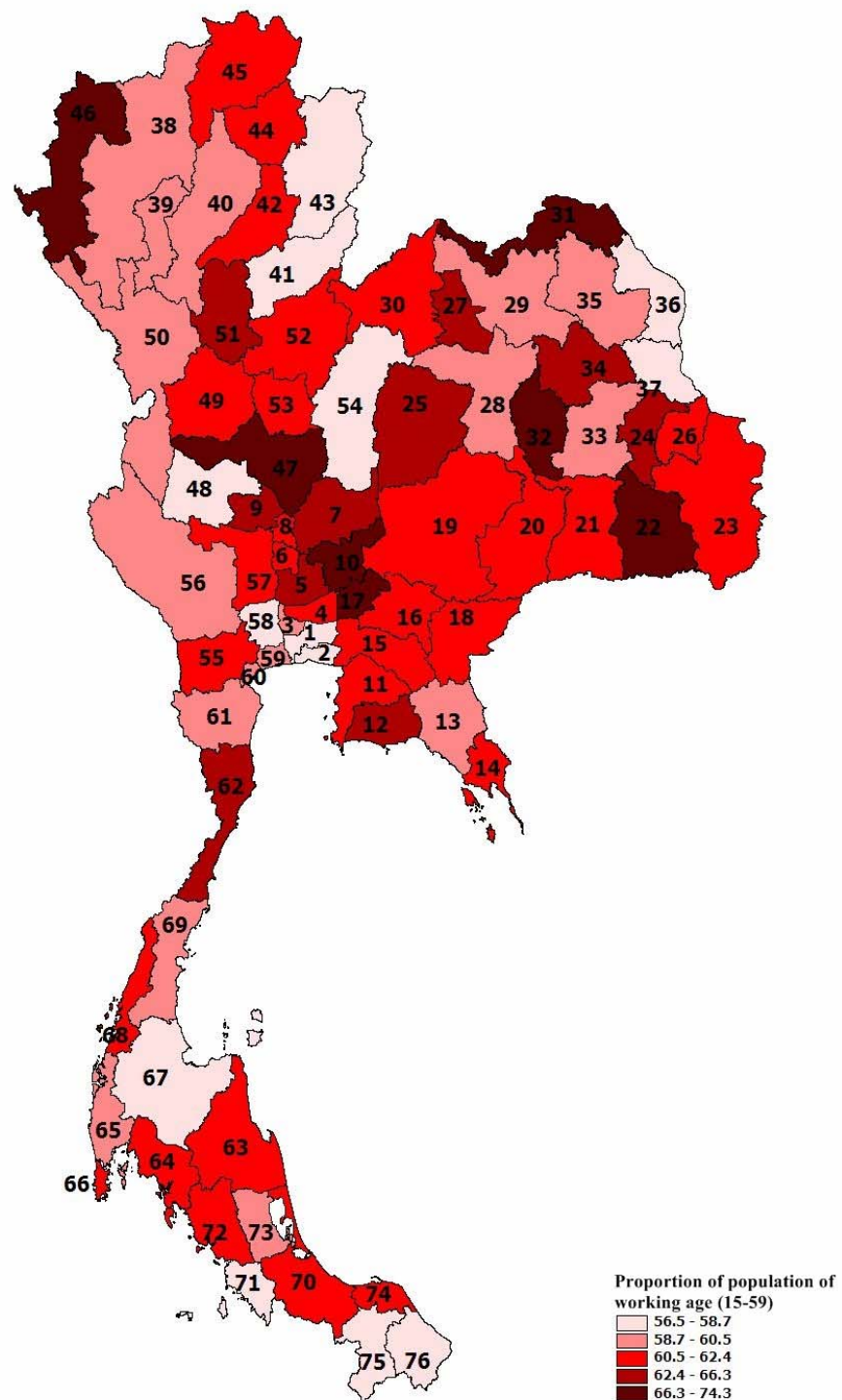
Best 5 and worst provinces for youngest population



Source:

<http://www.ipsr.mahidol.ac.th/ipsr/AllAboutPopulation.aspx?content=AllAboutPopulation/Thailand>

Proportion of population of working age (15-59)



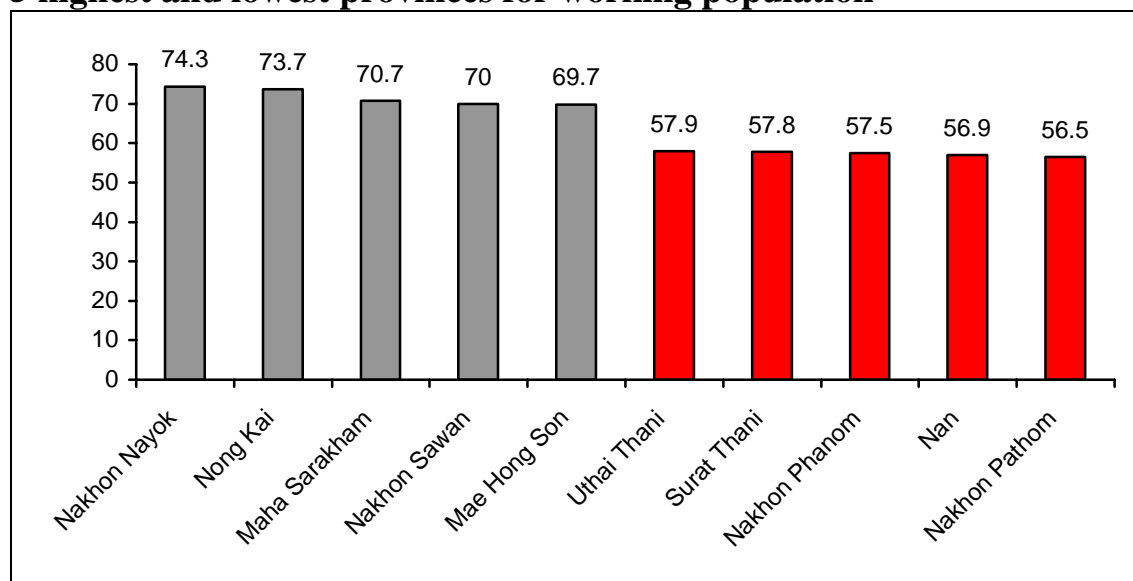
The greater proportion of a population in the working age (15-59) the greater opportunity that population has for economic growth – there are fewer young people to educate and fewer old people to look after. It is estimated that Thailand's working age peaked in 2009 at 67.8%. It is likely from now on the proportion in this age will decline.

Although the proportion of the working age has peaked at 67.8% for Thailand as a whole, a number of provinces have levels higher than this. The 5 provinces with the highest proportion of working age people are Nakhon Nayok, Nong Khai, Maha Sarakham, Nakhon Sawan and Mae Hong Son. Close to 75% of Nakhon Nayok's population are aged between 15 and 59.

The 5 provinces with the lowest proportion of working age are Uthai Thani, Surat Thani, Nakhon Phanom, Nan and Nakhon Pathom. Uthai Thani with the lowest proportion of working age people has 56.5% of their population in this age group.

The difference between the highest and lowest provinces is 1.3 times.

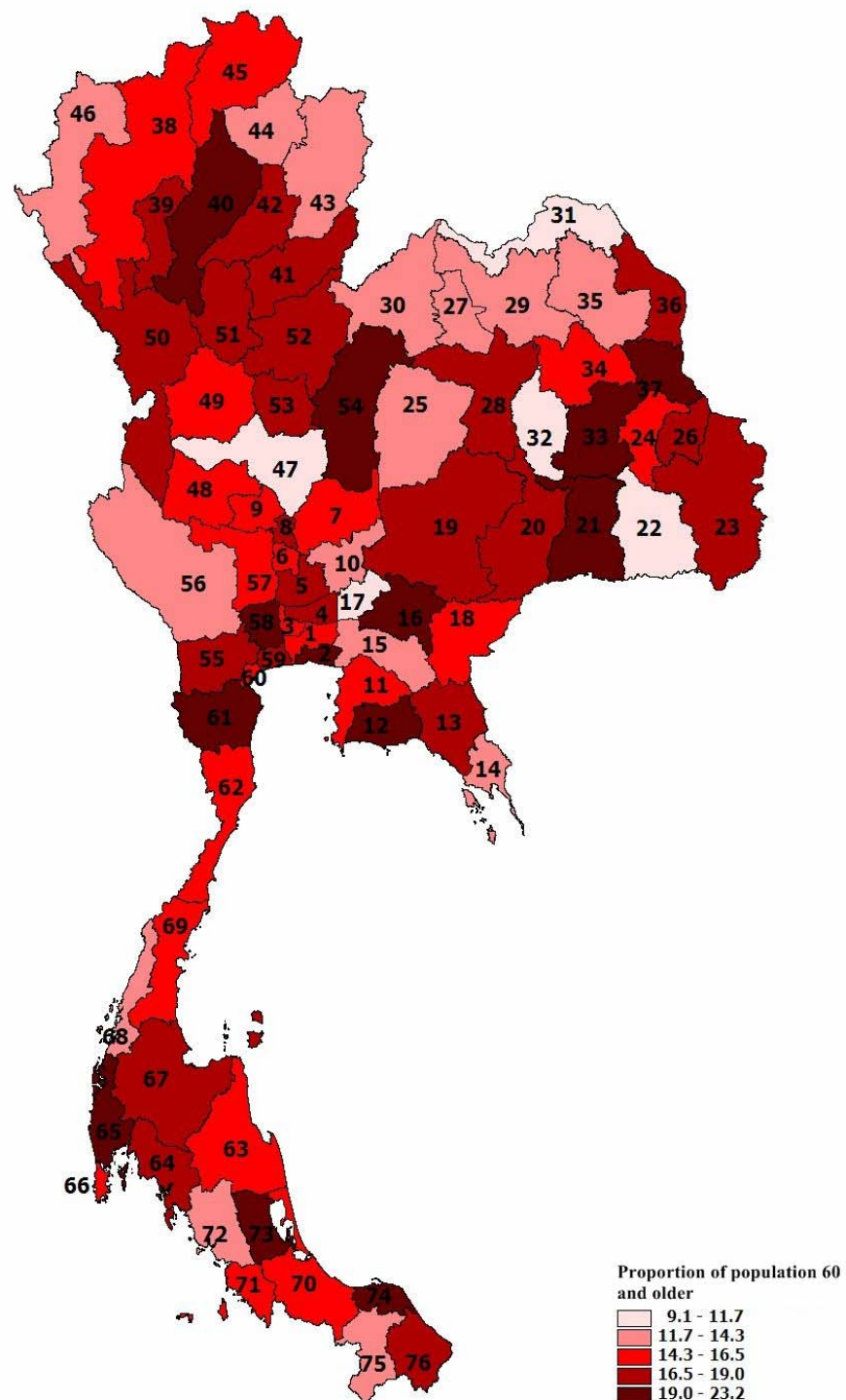
5 highest and lowest provinces for working population



Source

1. <http://www.informaworld.com/smpp/content~content=a727239124>
2. <http://www.ipsr.mahidol.ac.th/ipsr/AllAboutPopulation.aspx?content=AllAboutPopulation/Thailand>

Proportion of population 60 and older



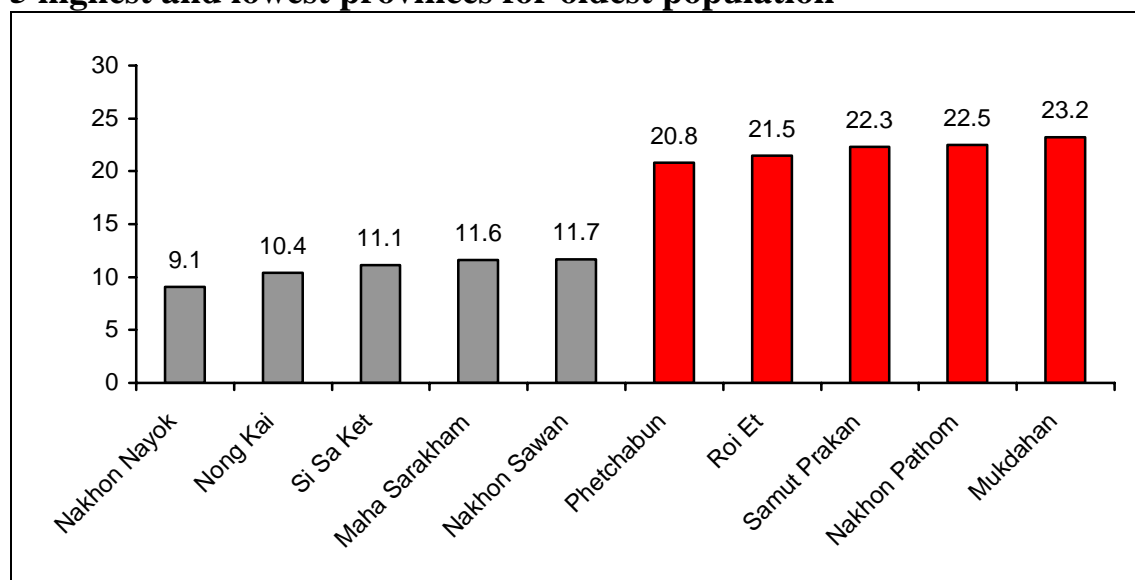
Thailand's population is ageing. The proportion of the population aged 60 or older was 5.4% in 1980, 7.2% in 1990 and 11% in 2006. It is estimated that the percentage of aged population will be nearly 16% in 2020.

The 5 provinces with the smallest proportion of the population aged 60 and older are Nakhon Nayok, Nong Kai, Si Sa Ket, Maha Sarakham and Nakhon Sawan. Nakhon Nayok has 9.1% of its population aged 60 or older.

The 5 oldest provinces are Phetchabun, Roi Et, Samut Prakan, Nakhon Pathom and Mukdahan. In Mukdahan 23% of the province's population is 60 years or older.

The difference between the provinces with the highest and lowest proportion of old people is 2.5 times.

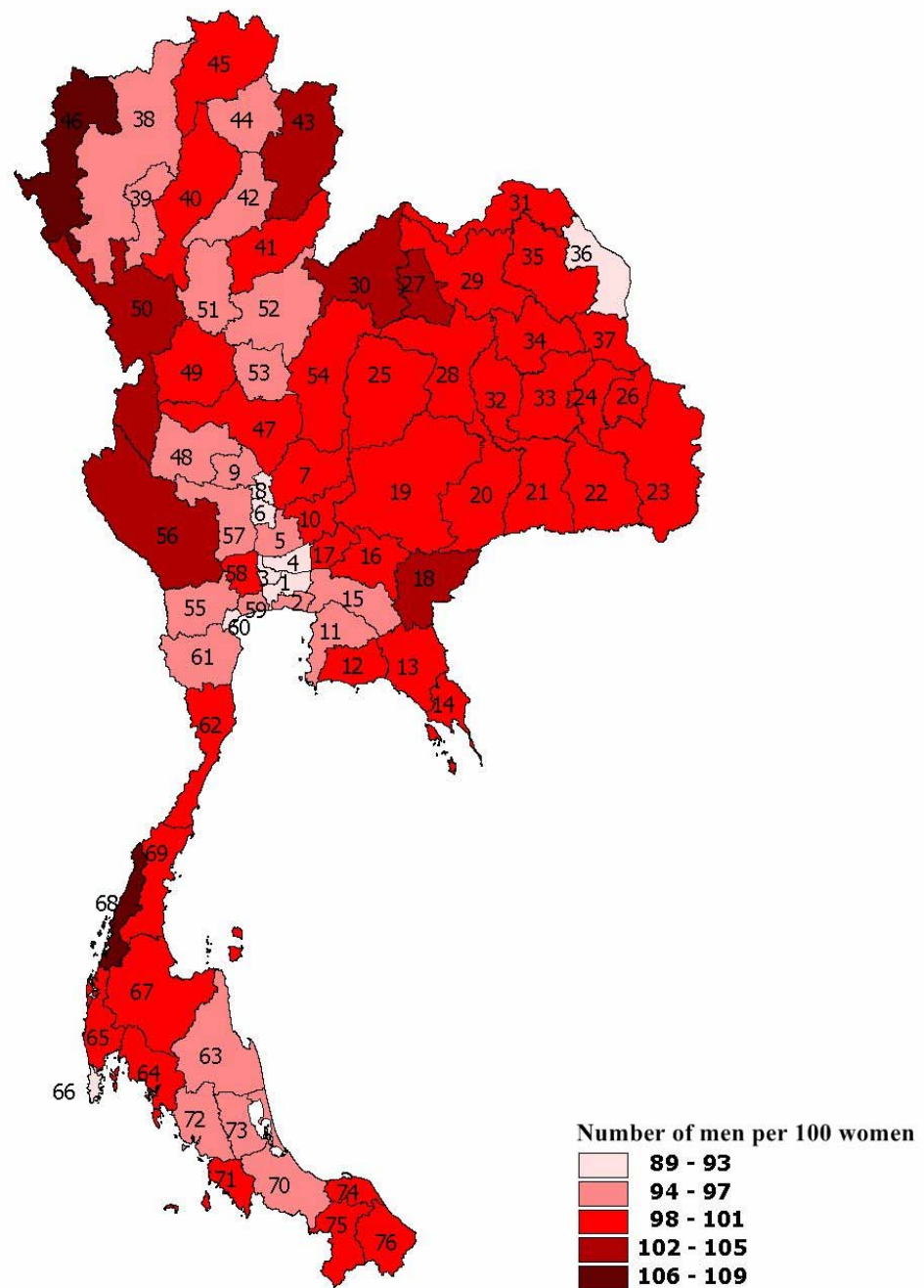
5 highest and lowest provinces for oldest population



Source:

1. http://www.searo.who.int/en/Section313/Section1525_10862.htm
2. <http://www.ipsr.mahidol.ac.th/ipsr/AllAboutPopulation.aspx?content=AllAboutPopulation/Thailand>

Sex ratio



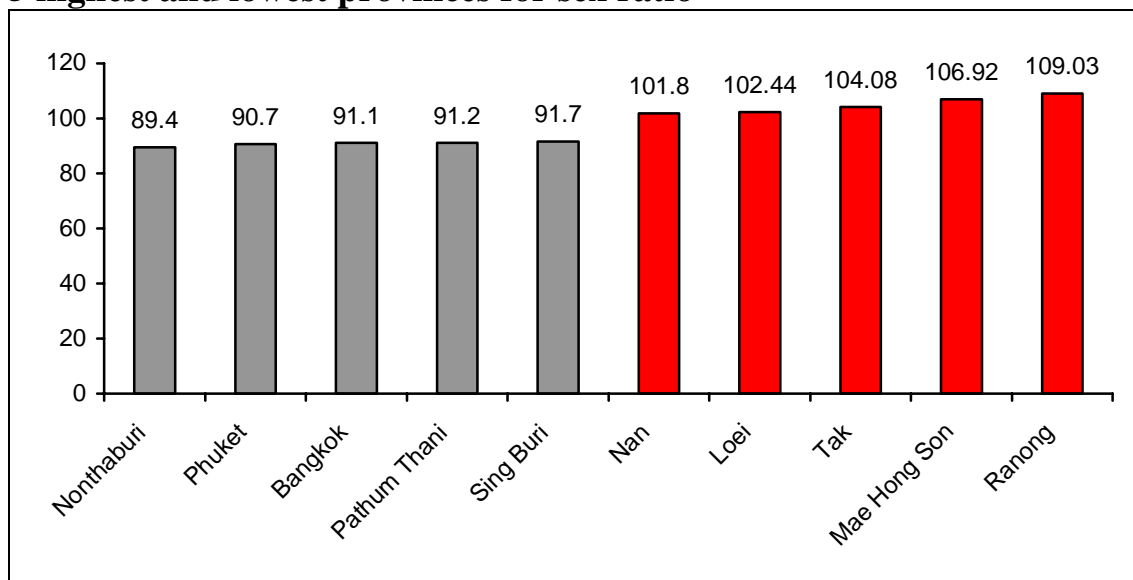
The sex ratio is a comparison of the number of men and women. Thailand's sex ratio is 97.3. That is for every 100 women there are on average 97.3 men.

The five provinces with the highest proportion of women compared to men are Nonthaburi, Phuket, Bangkok, Pathum Thani and Sing Buri. For every 100 women in Nonthaburi there are only around 90 men. The other 4 provinces have around 91 men for every 100 women.

The five provinces with the lowest proportions of women compared to men are Nan, Loei, Tak, Mae Hong Son and Ranong. Ranong has 109 men for every 100 women.

The difference between the provinces with the highest and lowest sex ratios is 1.2 times.

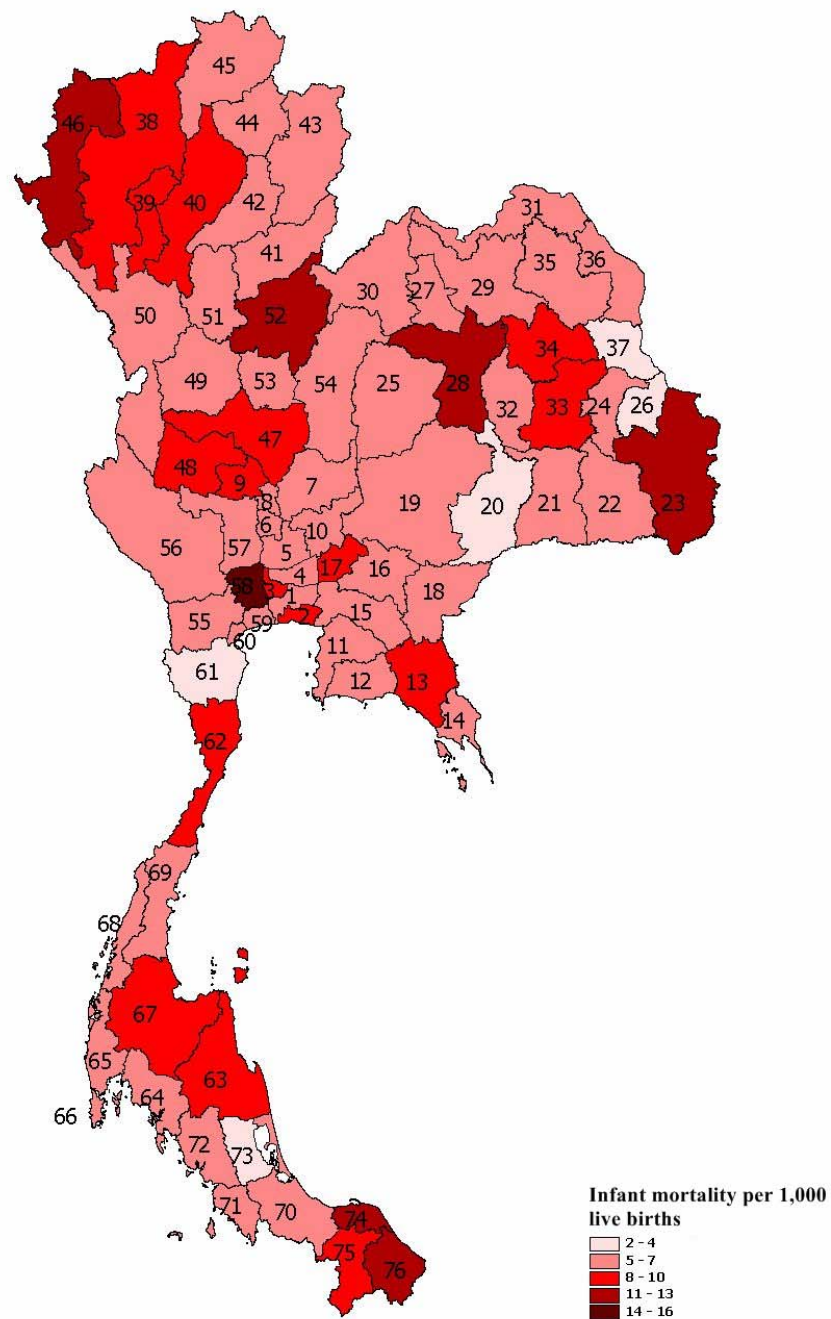
5 highest and lowest provinces for sex ratio



Source:

<http://www.ipsr.mahidol.ac.th/ipsr/AllAboutPopulation.aspx?content=AllAboutPopulation/Thailand>

Infant mortality rate



The infant mortality rate is the number of infants dying before reaching one year of age, per 1,000 live births. Thailand has made great improvements in reducing the risk of children dying in their first year; such as with the Ministry of Public Health's improving nutrition and immunization programs. In 1985-86, the infant mortality was 40.7 per 1,000 live births, this decreased to 26.1 in 1995-96. Data suggest infant mortality in 2003 was only 20 per 1,000 live births and in 2007 it was 16.3 per 1,000 live births.

A study has shown the top cause of death among infants is death during labour accounting for 27.3 percent of deaths, the next common cause is congenital malformation due to defected chromosomes accounting for 24 percent, and next is the premature birth and infant underweight accounting for 19 percent.

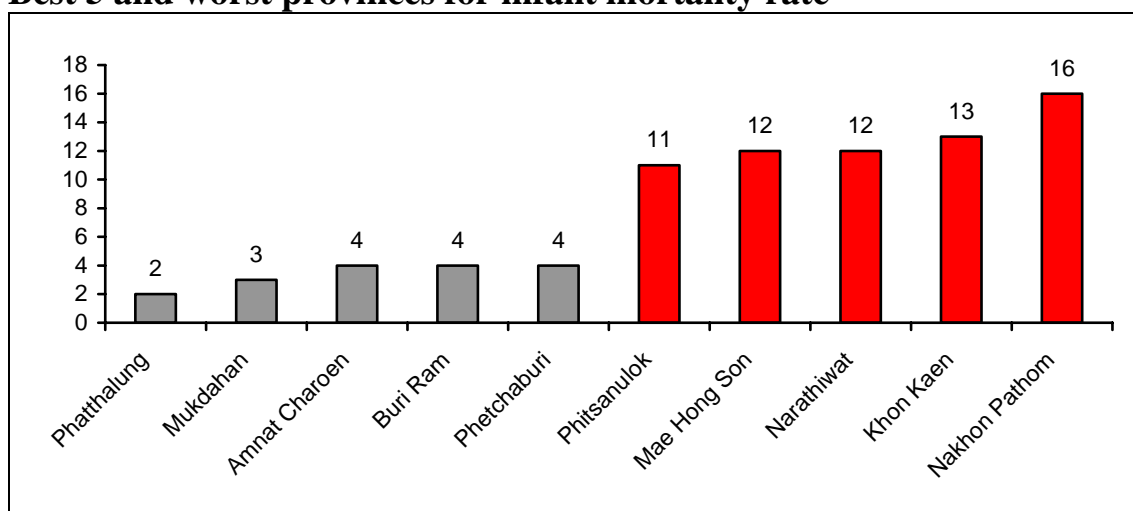
The 5 provinces with the lowest recorded infant mortality are Phatthalung, Mukdahan, Amnat Charoen, Buri Ram and Phetchaburi. Phatthalung has a recorded infant mortality rate of 2 per 1,000 live births.

The 5 provinces with the highest rates of recorded infant mortality rates are Phitsanulok, Mae Hong Son, Narathiwat, Khon Kaen and Nakhon Pathom. Nakhon Pathom has a recorded infant mortality rate of 16 per 1,000 live births.

Readers need to be cautious with this data. For example, the high infant mortality rate in Khon Kaen is not a result of health problems in that province, but due to the fact that the province has the best hospital in the region and many babies seriously ill are sent there in the hope they will receive better treatment and recover. But some of them get there too late and die in Khon Kaen inflating the figures for this province.

The difference between the best and worst provinces is 8 times.

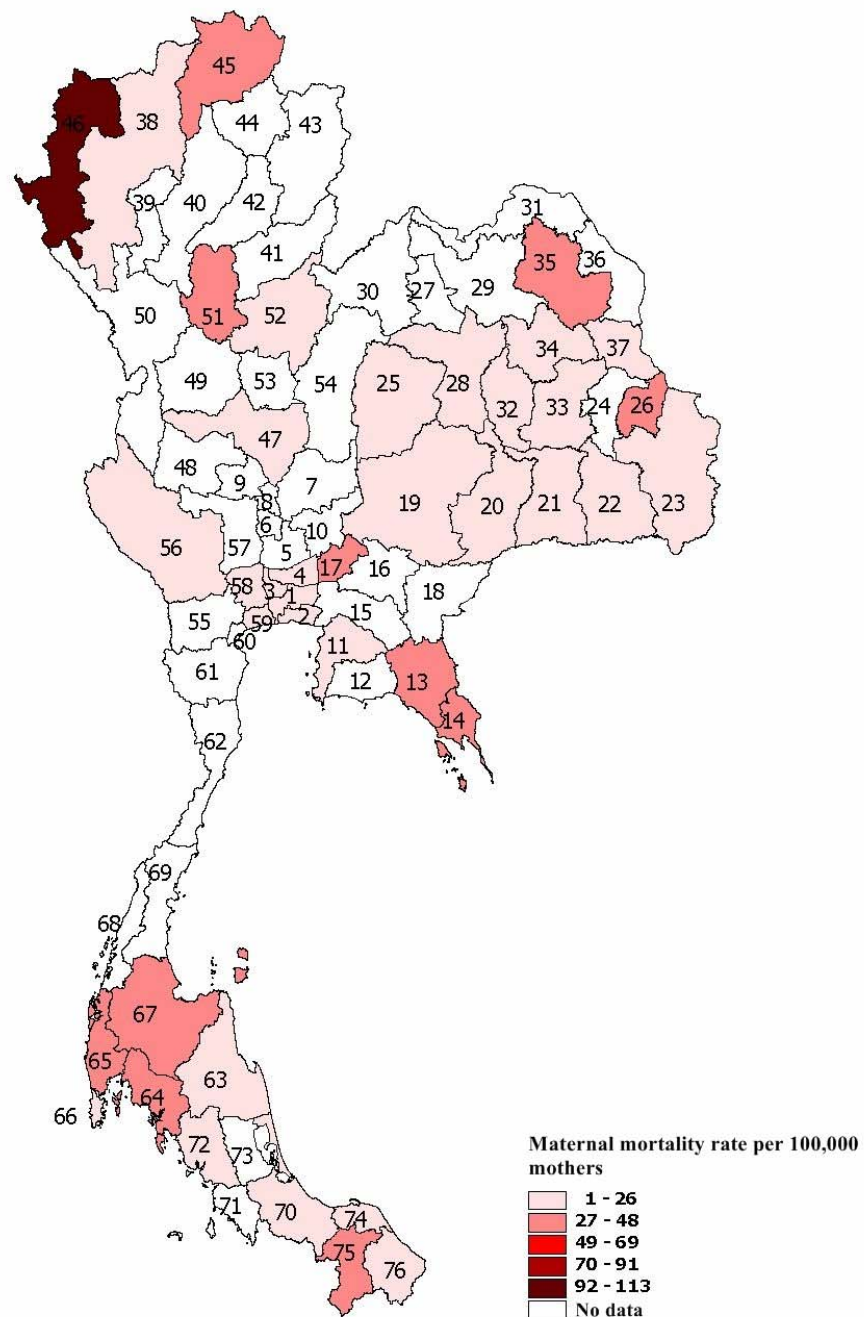
Best 5 and worst provinces for infant mortality rate



Source:

1. http://www.searo.who.int/en/Section313/Section1525_10867.htm
2. Public Health Statistics A.D. 2009, Ministry of Public Health

Maternal mortality rate



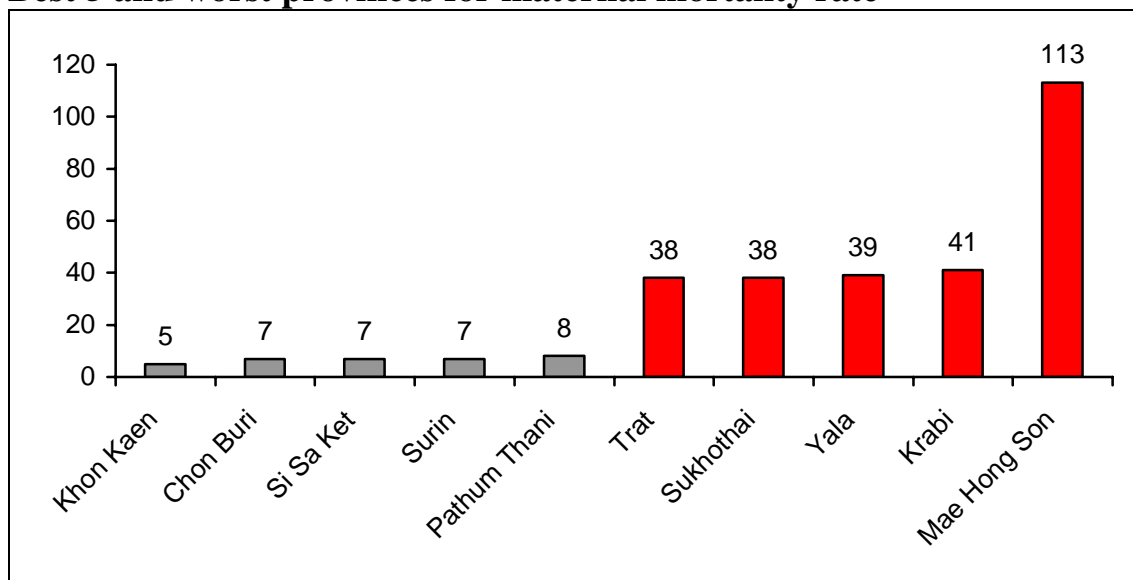
Maternal mortality is when a woman dies while pregnant or while giving birth to a child. Thailand has made great improvements over the years in reducing the risk of women dieing in this way.

The 5 provinces with the lowest recorded maternal mortality are Khon Kaen, Chon Buri, Si Sa Ket, Surin and Pathum Thani. Khon Kaen has a recorded maternal mortality rate of 5 per 100,000 live births.

The 5 provinces with the highest recorded rates of maternal mortality are Trat, Sukhothai, Yala, Krabi and Mae Hong Son. The first four of these provinces have a recorded maternal mortality rate of around 40 per 100,000 live births. However, Mae Hong Son has an alarming recorded rate of 113, nearly 3 times higher than the next worst province.

The difference between the best and worst provinces is 22 times.

Best 5 and worst provinces for maternal mortality rate



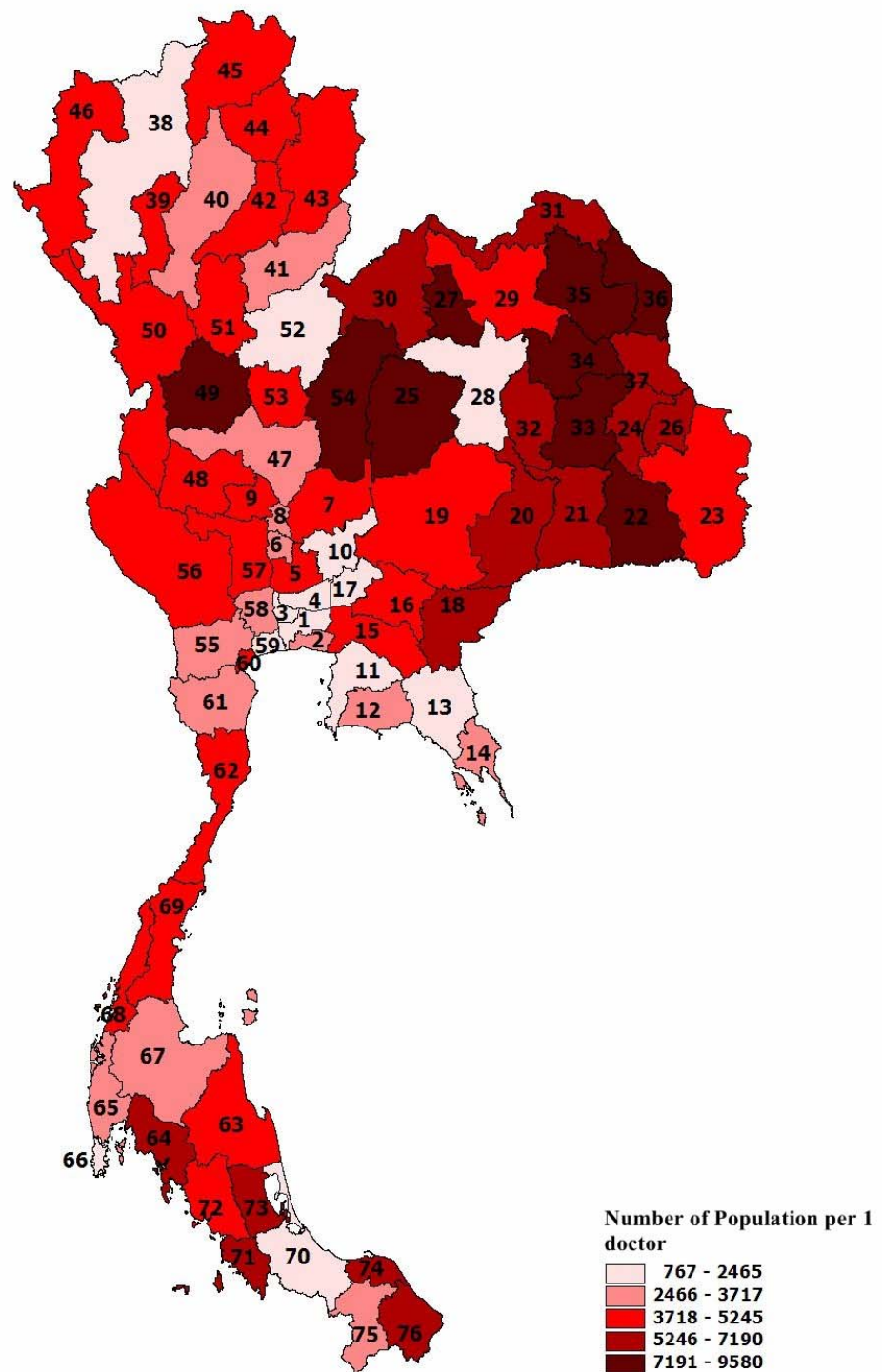
Source:

http://www.searo.who.int/LinkFiles/Improving_maternal_newborn_and_child_health_thailand.pdf

.Public Health Statistics A.D. 2009, Ministry of Public Health

Medical Services

Ratio of population per 1 doctor



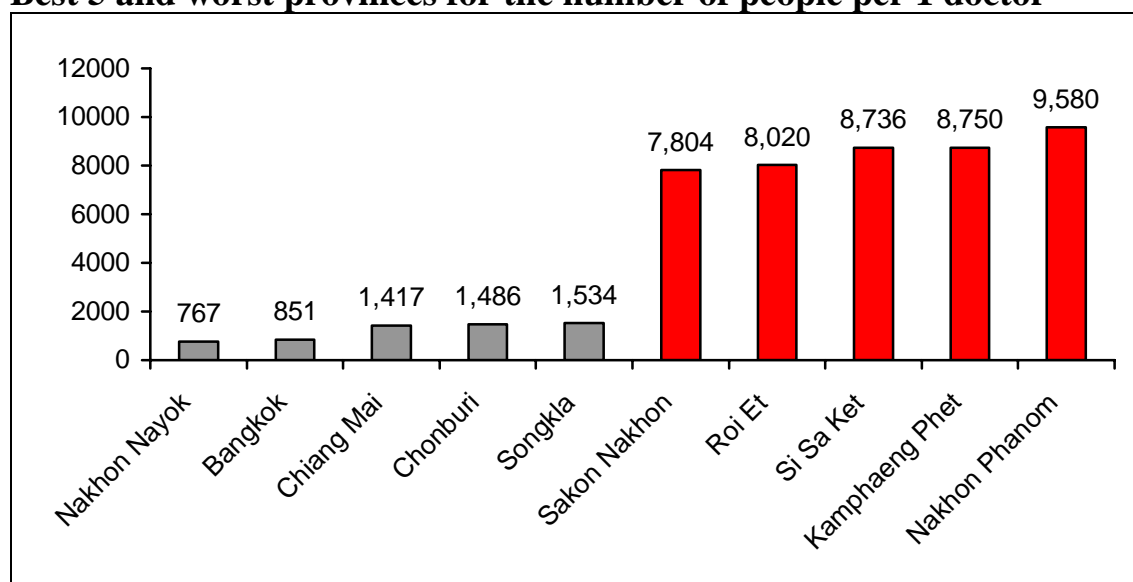
The ratio of doctors per population is an important indicator of health wellbeing. The smaller the ratio the better it is. Within Thailand there are large geographical inequalities in the distribution of doctors. The provinces with the bigger cities and the large university medical centres have more doctors while the more rural provinces are less likely to attract doctors.

Nakhon Nayok has the best ratio in the country with one doctor for every 767 people; this is followed by Bangkok which has a ratio of 851 people for every doctor. The next best provinces are Chiang Mai, Chonburi and Songkla.

The region with the worst ratio of doctors per population is the northeast. Within the northeast only Khon Kaen stands out as having a good doctor population ratio and this is due largely to Khon Kaen University, which has a large medical centre. Four of the worst five provinces for the number of doctors per population are in the northeast. The 5 provinces with the worst ratio of doctors per population are Sakon Nakhon, Roi Et, Si Sa Ket, Kamphaeng Phet and Nakhon Phanom. The worst province in the country for the ratio of doctors per population is Nakhon Phanom which has a ratio of 9,580 people for every doctor.

The difference between the worst and best provinces is over 12 times.

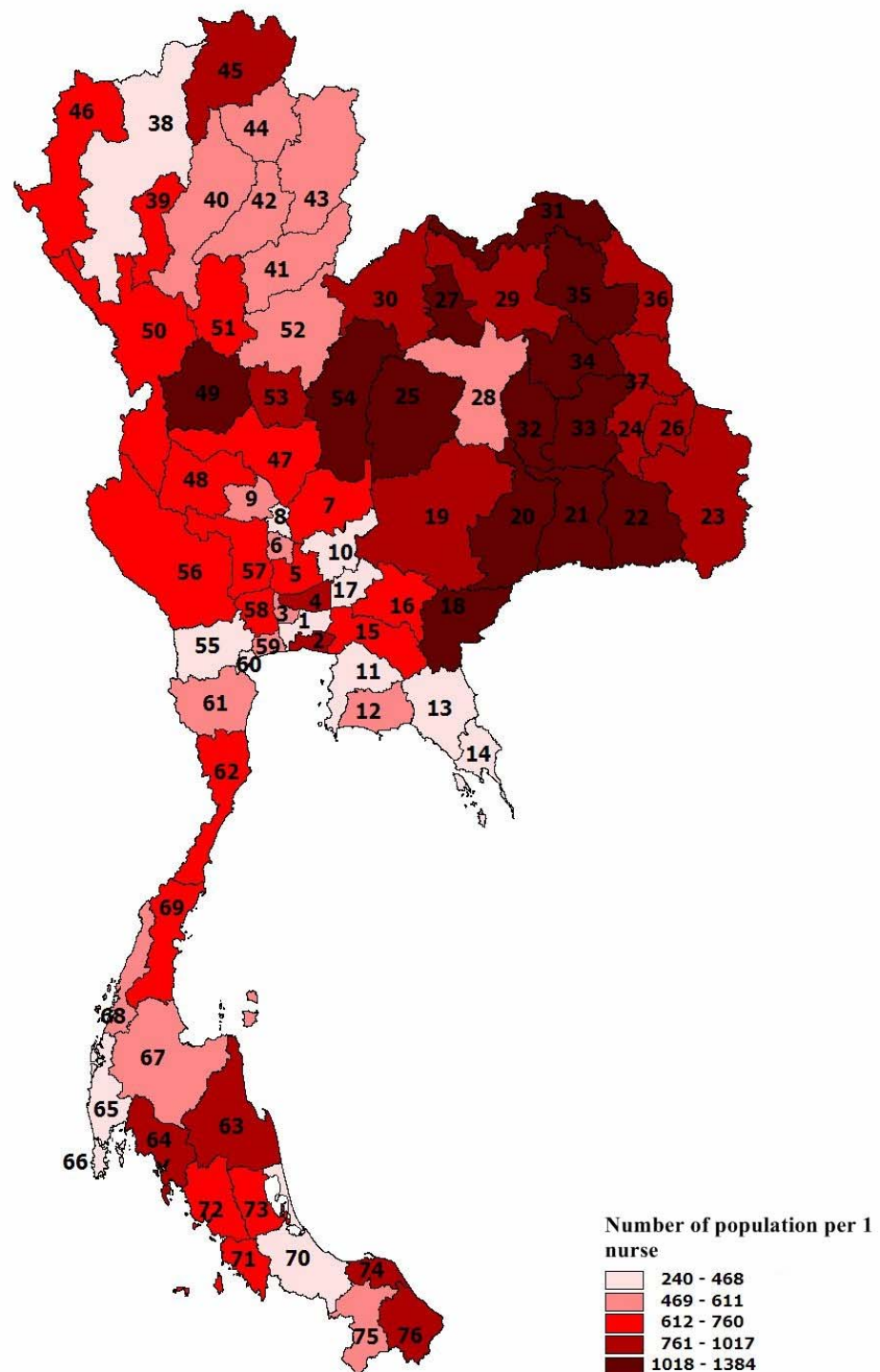
Best 5 and worst provinces for the number of people per 1 doctor



Source:

Public Health Statistics A.D. 2009, Ministry of Public Health

Ratio of population per 1 nurse

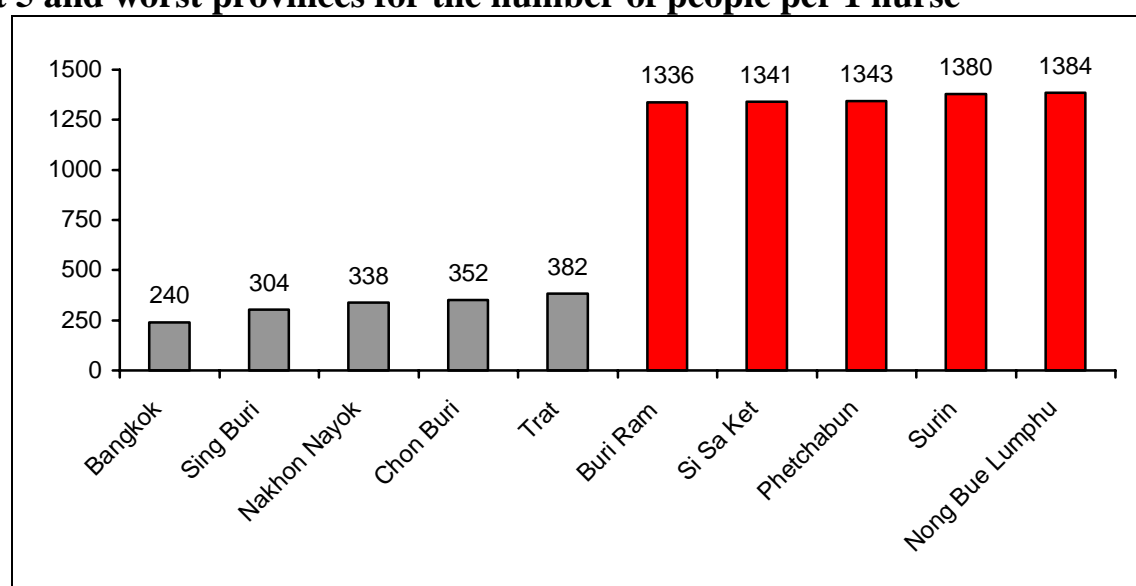


Bangkok has the best ratio of nurses per population with an average of one nurse for every 240 people. The other best provinces are Sing Buri, Nakhon Nayok, Chon Buri and Trat all with around 300 people for every nurse.

Four of the five provinces with the worst ratio of nurses per population are in the northeast, the one exception is Phetchabun. The 5 worst provinces are Buri Ram, Si Sa Ket, Phetchabun, Surin and Nong Bue Lumphu. All five worst provinces have a ratio of over 1,300 persons per one nurse, with Nong Bue Lumphu having a ratio of 1,384.

The difference between the best and worst provinces is nearly 6 times.

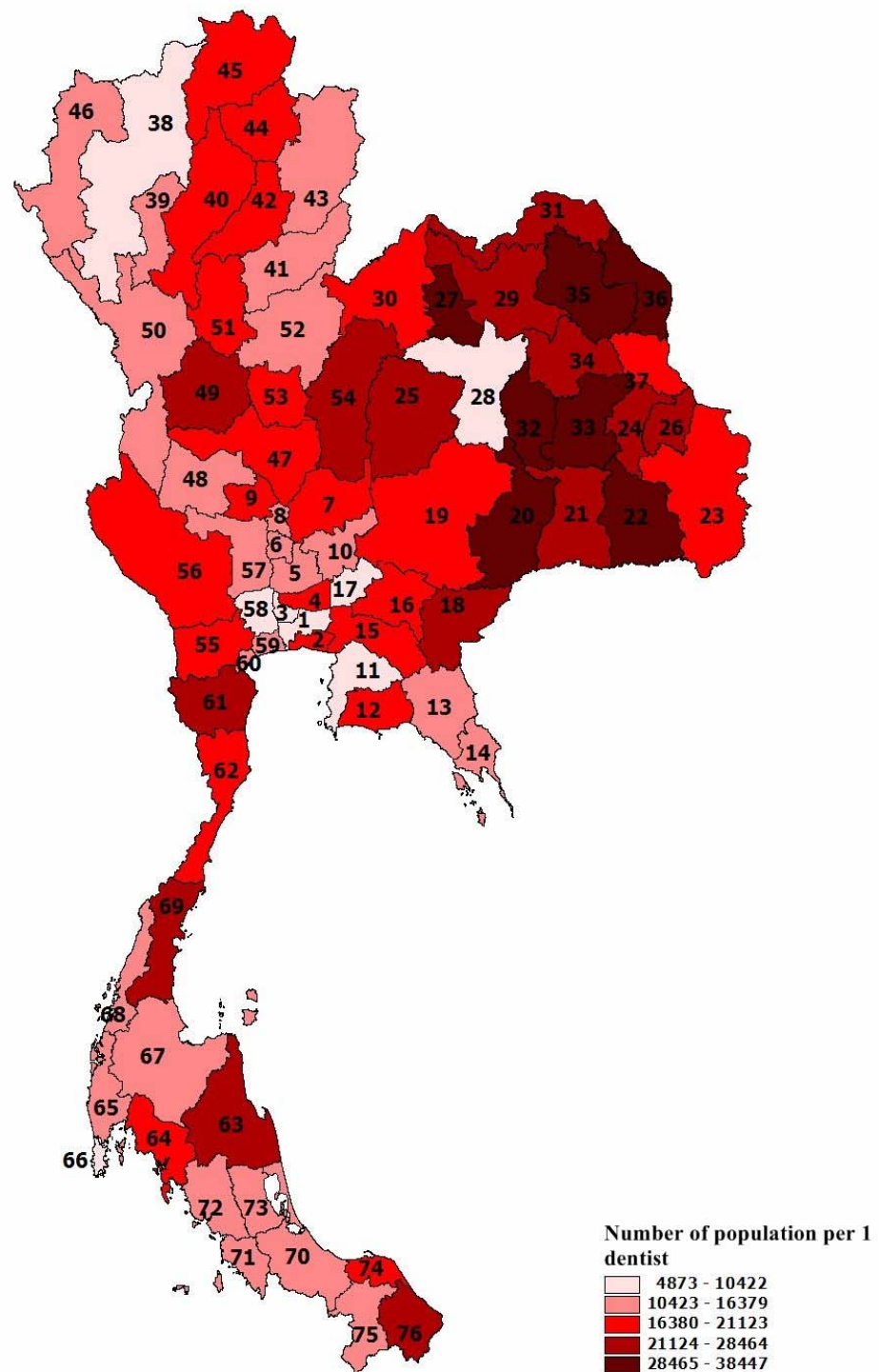
Best 5 and worst provinces for the number of people per 1 nurse



Source:

Public Health Statistics A.D. 2009, Ministry of Public Health

Ratio of population per 1 dentist

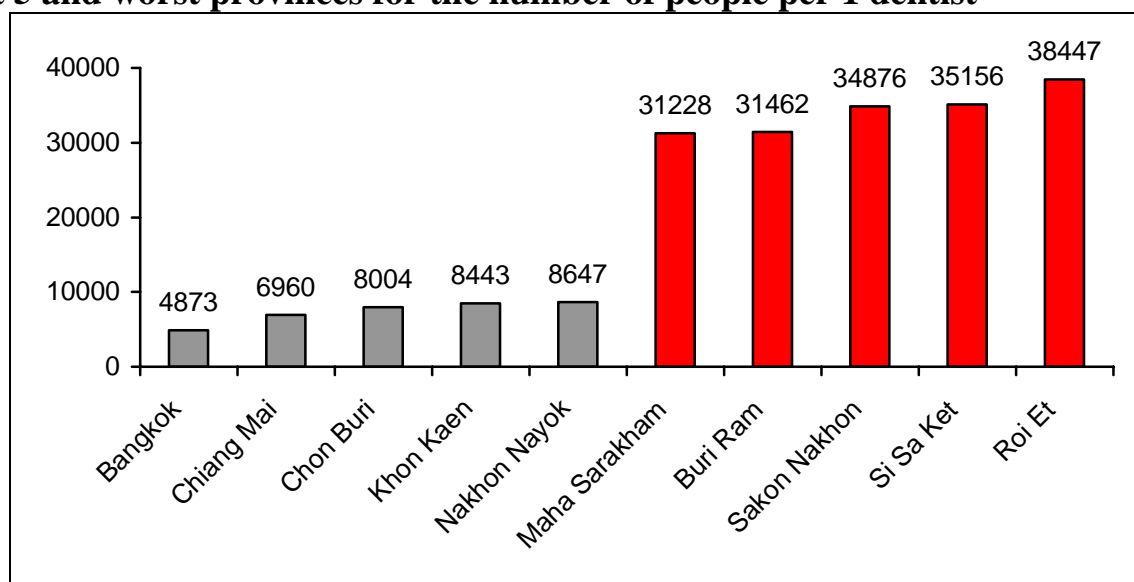


There are large geographical inequalities in access to dental care in Thailand. In terms of number of dentists per person, Bangkok has the best ratio, with 4,873 people per dentist. This is followed by Chiang Mai, which has a ratio of 6,960 people per province. The other best provinces are Chon Buri, Khon Kaen, and Nakhon Nayok which have a ratio of over 8,000 people per province.

All the worst provinces – those with the highest ratio of people per dentists are in the northeast. They are Maha Sarakham, Buri Ram, Sakon Nakhon, Si Sa Ket and Roi Et. Each of these provinces has over 30,000 people for just one dentist. In Roi Et the ratio is 38,447 for one dentist. Within the northeast all the provinces, except for Khon Kaen have poor ratios of people per dentists.

The difference between the best and worst provinces is close to 8 times.

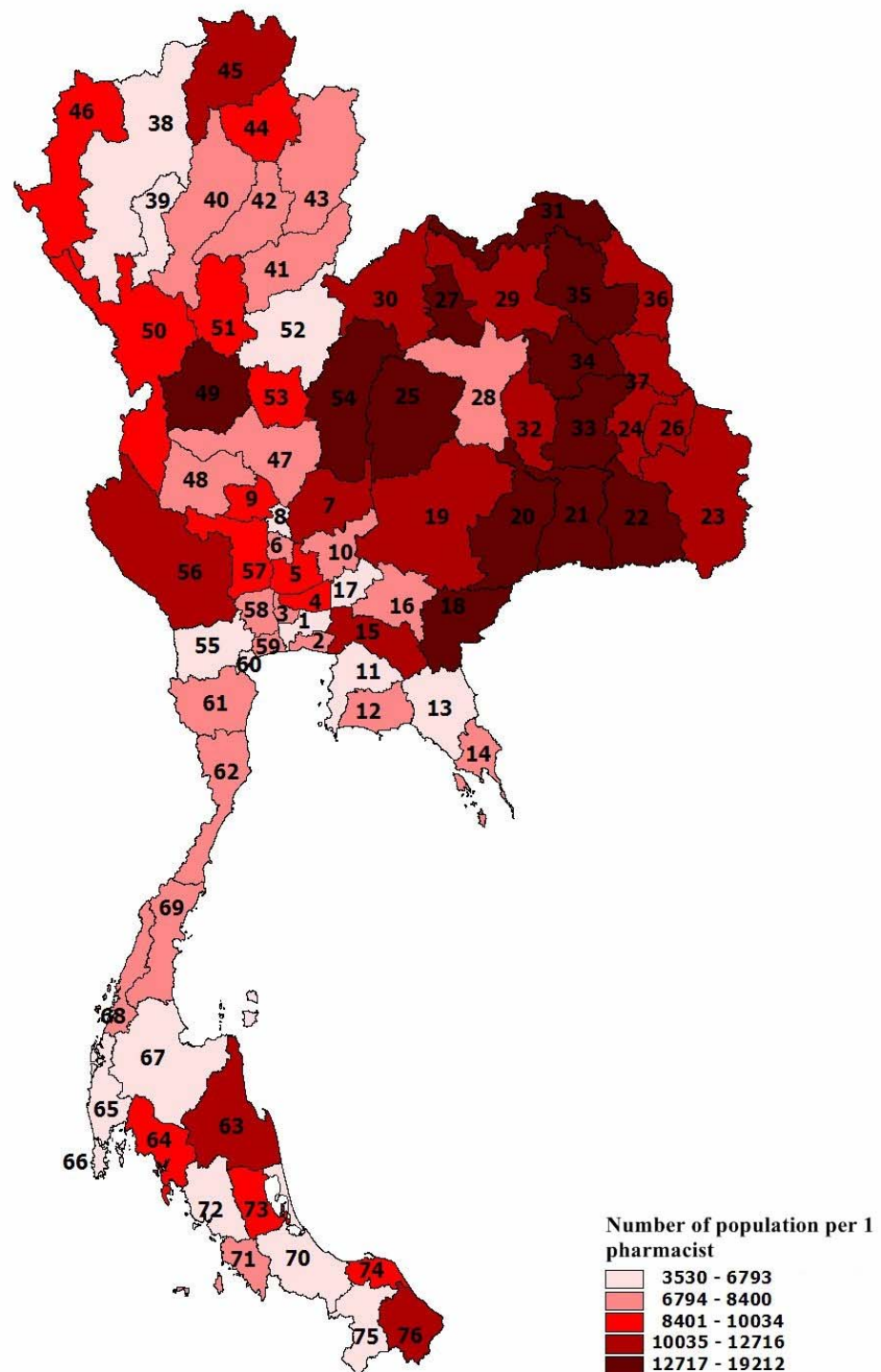
Best 5 and worst provinces for the number of people per 1 dentist



Source:

Public Health Statistics A.D. 2009, Ministry of Public Health

Ratio of population per 1 pharmacist



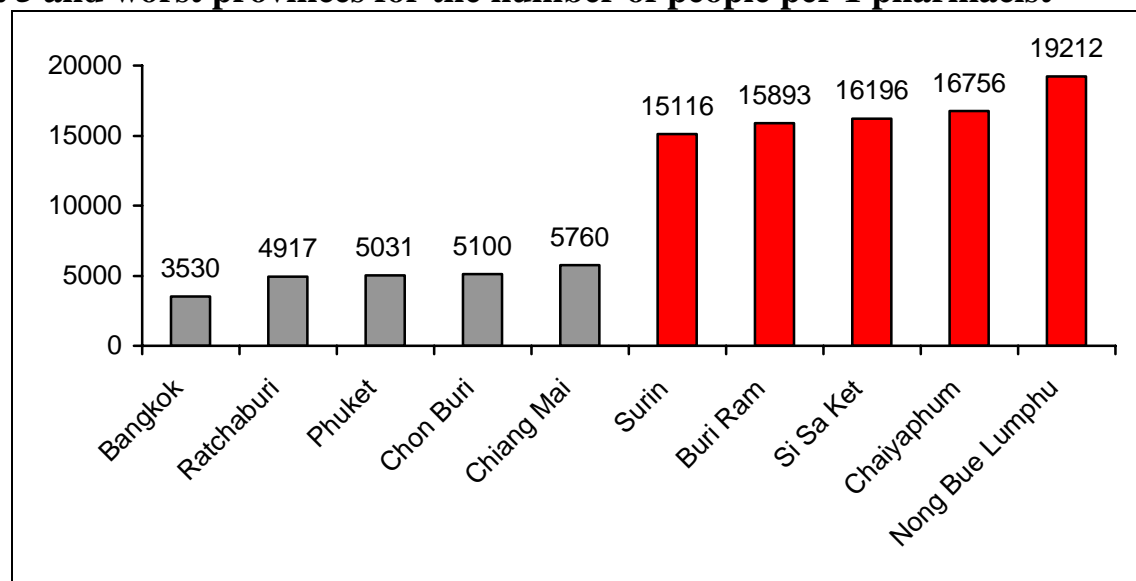
In Thailand self treatment is common – that is people going straight to a pharmacy to purchase medications, rather than seeking advice from a doctor first. For this reason it is important to have trained pharmacists ensuring people receive proper medications. However, at many pharmacies the person selling drugs are not trained.

The people of Bangkok are more likely to meet a trained pharmacist than in any other province. In the country's capital the ratio of trained pharmacists per person is 3,530. The other best provinces for trained pharmacists are Ratchaburi, Phuket, Chon Buri and Chiang Mai, all of which have a ratio of around 5,000 people per trained pharmacist.

The worst 5 provinces for trained pharmacists are all in the northeast. Only Khon Kaen in this region has a reasonable good ratio of pharmacists for its population. The worst five provinces are Surin, Buri Ram, Si Sa Ket, Chaiyaphum and Nong Bue Lumphu. The ratio in Nong Bue Lumphu is 19,212.

The difference between the best and worst provinces is over 5 times.

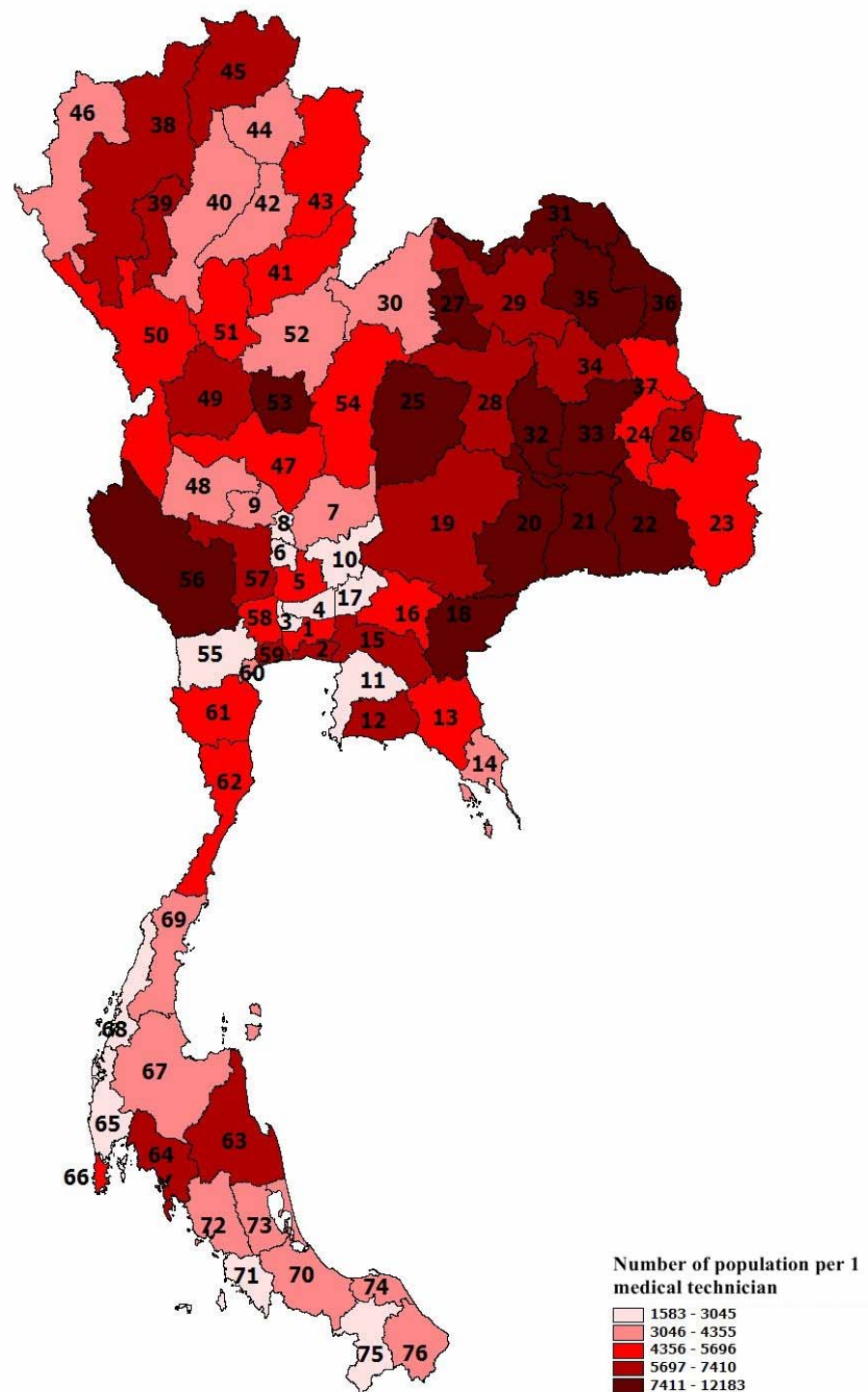
Best 5 and worst provinces for the number of people per 1 pharmacist



Source:

Public Health Statistics A.D. 2009, Ministry of Public Health

Ratio of population per 1 medical technicians

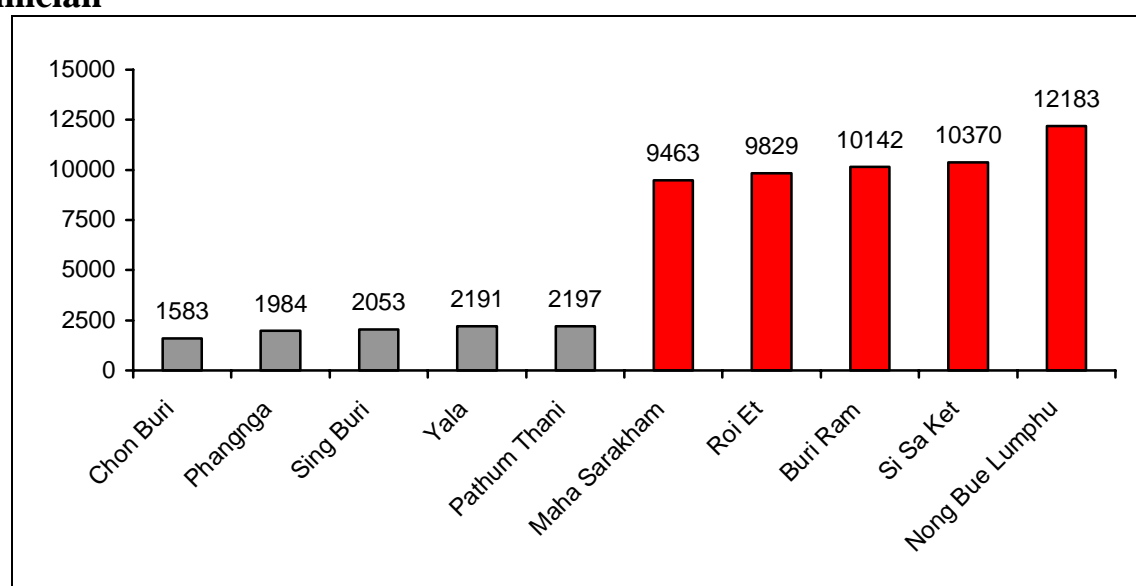


The province with the best ratio of medical technicians per population is Chon Buri, with 1,583 people for every one medical technician. The other best provinces are Phangnga, Sing Buri, Yala and Pathum Thani. Unlike for other medical services Bangkok is not in the best 5 provinces.

All worst 5 provinces are in the northeast, they are Maha Sarakham, Roi Et, Buri Ram, Si Sa Ket and Nong Bue Lumphu, which has a ratio of 12,183 people for every medical technician.

The difference between the best and worst provinces is nearly 8 times.

Best 5 and worst provinces for the number of people per 1 medical technician

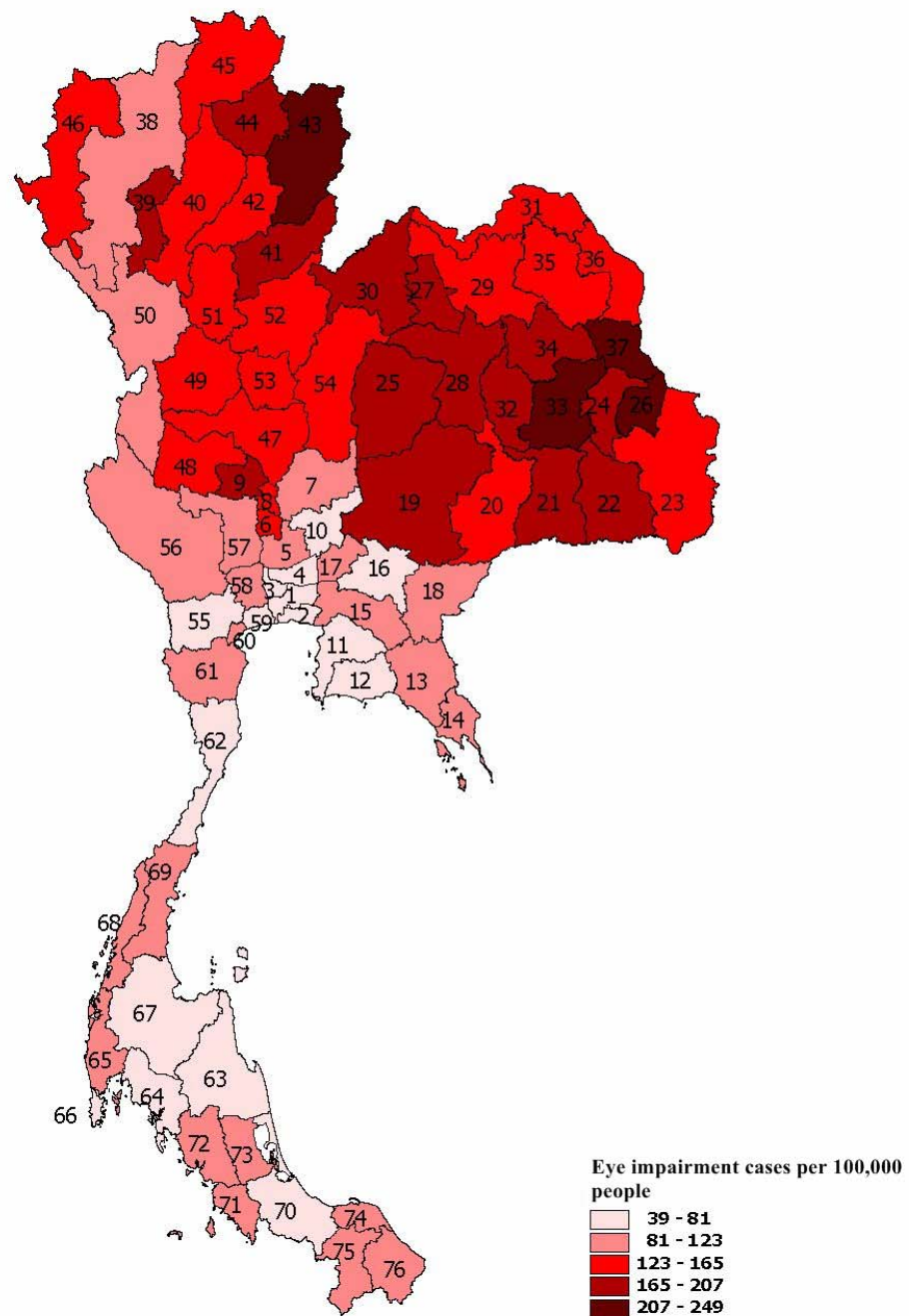


Source:

Public Health Statistics A.D. 2009, Ministry of Public Health

Disabilities

Proportion of the population with eye impairments

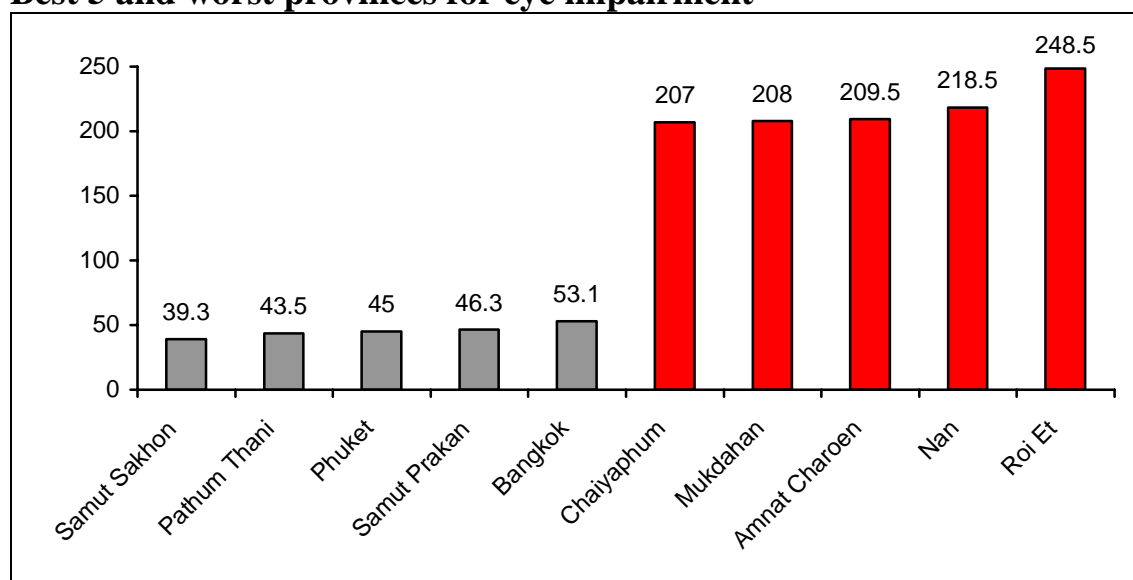


The 5 provinces with the lowest recorded levels of eye impairment are Samut Sakhon, Pathum Thani, Phuket, Samut Prakan and Bangkok. Samut Sakhon has a recorded rate of 39.3 for every 100,000 people.

Four of the 5 provinces with the highest rates of recorded eye impairment are in the northeast. In general Northern Thailand and The northeast have higher levels of recorded eye impairment compared to Central and Southern Thailand. The 5 provinces with the highest recorded rates are Chaiyaphum, Mukdahan, Amnat Charoen, Nan and Roi Et. Roi Et has 248 cases of eye impairment for every 100,000 people.

The difference between the best and worst provinces is 6 times.

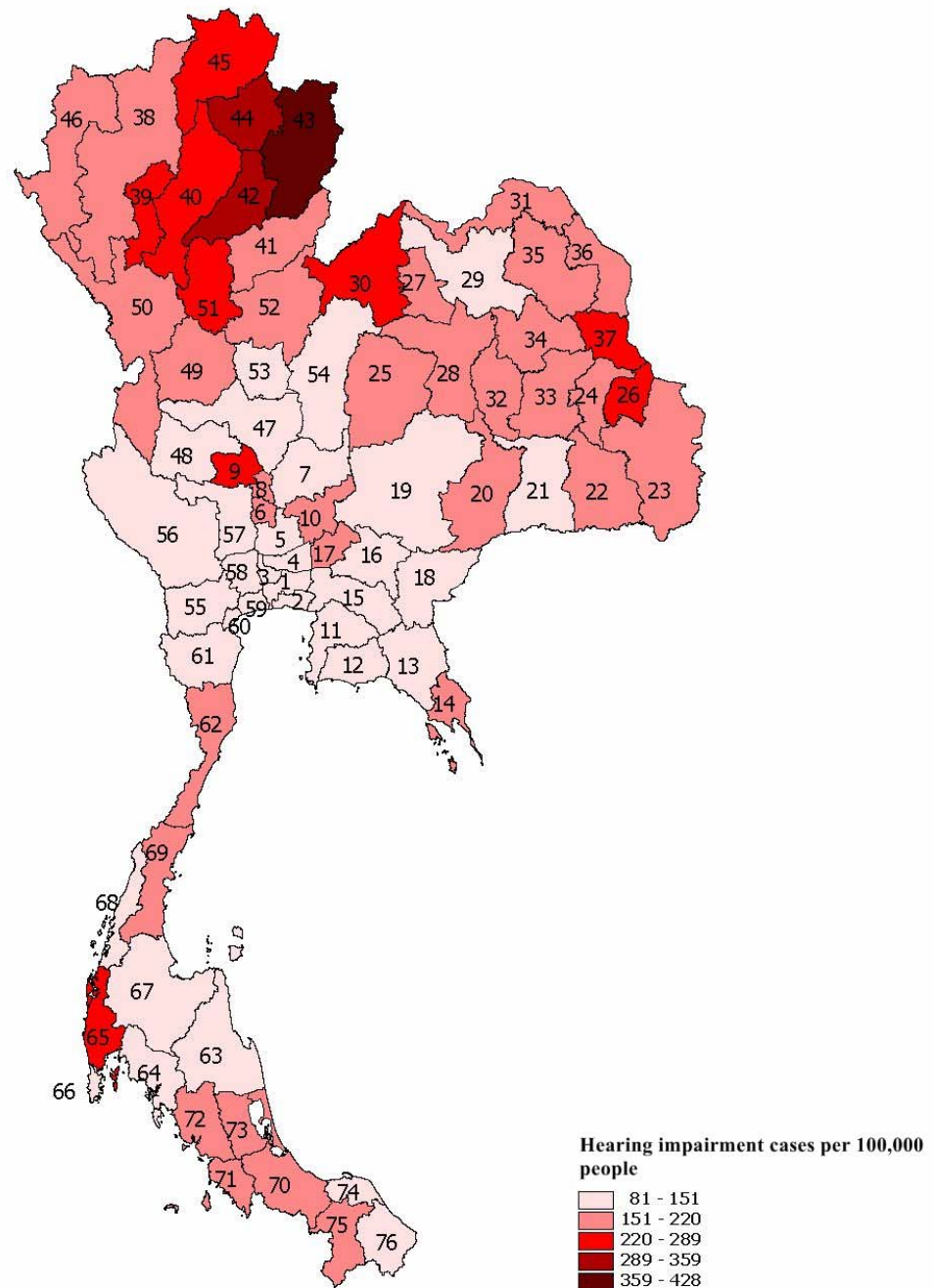
Best 5 and worst provinces for eye impairment



Source:

National office for empowerment of persons with disability, 1994-2010

Proportion of the population with hearing impairments

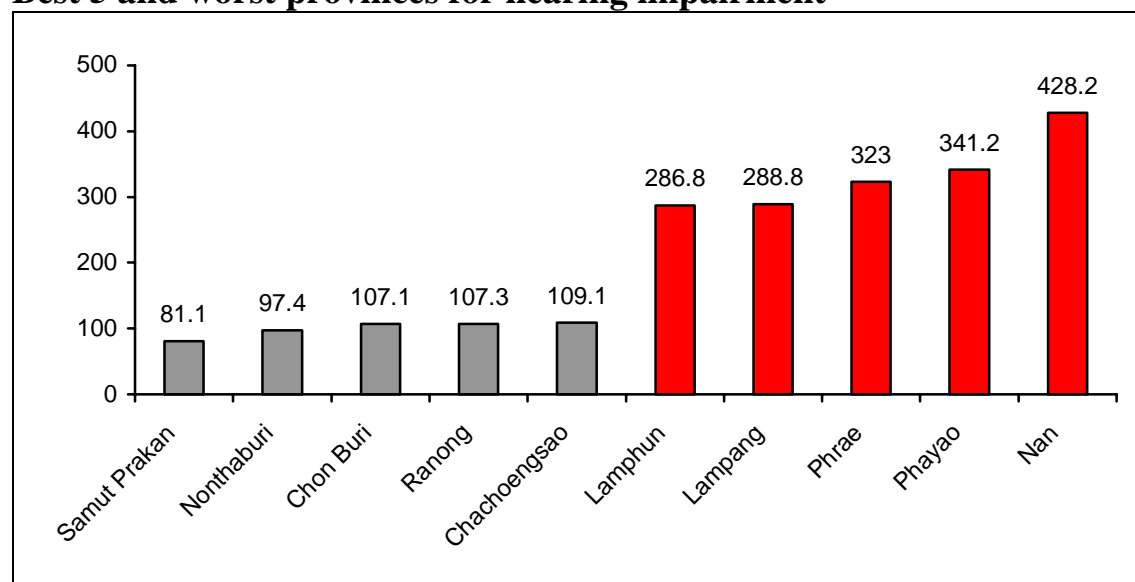


The provinces of Central Thailand tend to have lower recorded rates of hearing impairment when compared to the rest of the country. The 5 provinces with the lowest recorded rates of hearing impairment are Samut Prakan, Nonthaburi, Chon Buri, Ranong and Chachoengsao. Samut Prakan has a recorded rate of 81 cases with hearing impairment for every 100,000 people.

The provinces of Northern Thailand tend to have the highest levels of recorded hearing impairment in the country. The 5 provinces with the highest rates of recorded hearing impairment are Lamphun, Lampang, Phrae, Phayao and Nan. In Nan there are 428 cases per 100,000 people recorded with hearing problems. It is unclear why there is a concentration of hearing problems in Northern Thailand; health officials should investigate to determine why this is the case.

The difference between the best and worst provinces is 5 times.

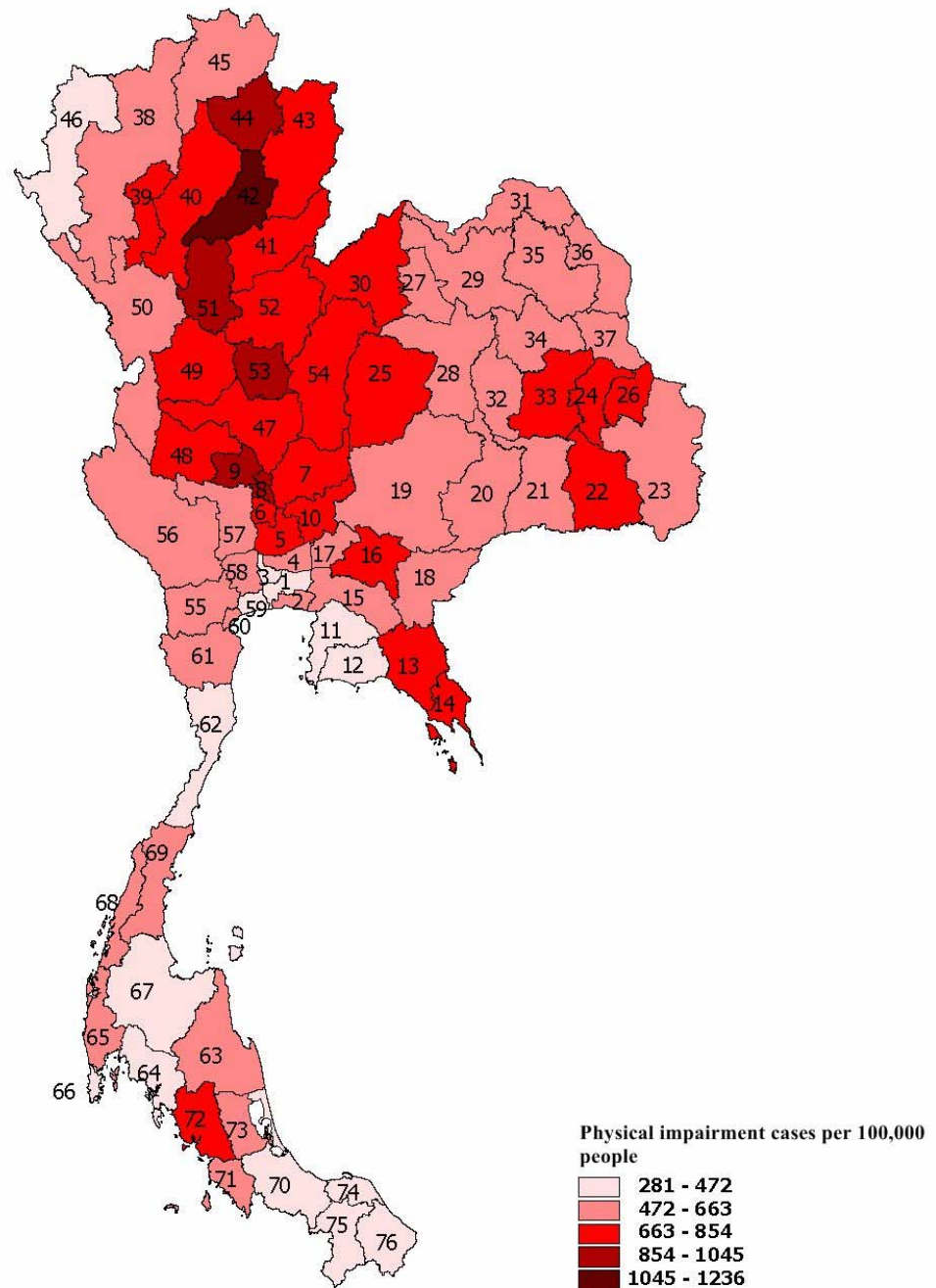
Best 5 and worst provinces for hearing impairment



Source:

National office for empowerment of persons with disability, 1994-2010

Proportion of the population with physical impairments

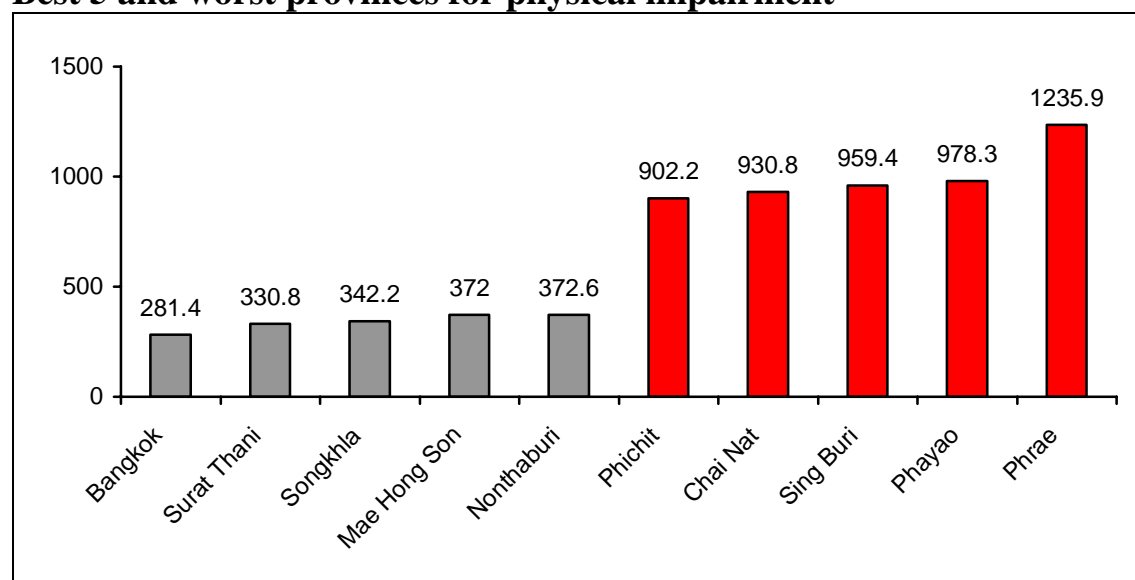


The 5 provinces with the lowest recorded rates for physical impairment are Bangkok, Surat Thani, Songkhla, Mae Hong Son and Nonthaburi. The recorded rate in Bangkok is 281 per 100,000 people.

The bottom 5 provinces for recorded physical impairment are Phichit, Chai Nat, Sing Buri, Phayao and Phrae. The recorded rate in Phrae is 1,236 cases per 100,000 people and is substantially higher than Phayao the next highest province. It is unclear why there are substantially more people with physical disabilities in Phrae. Investigations should be undertaken by health officials in the province to determine the cause of the problem.

The difference between the best and worst provinces is 4 times.

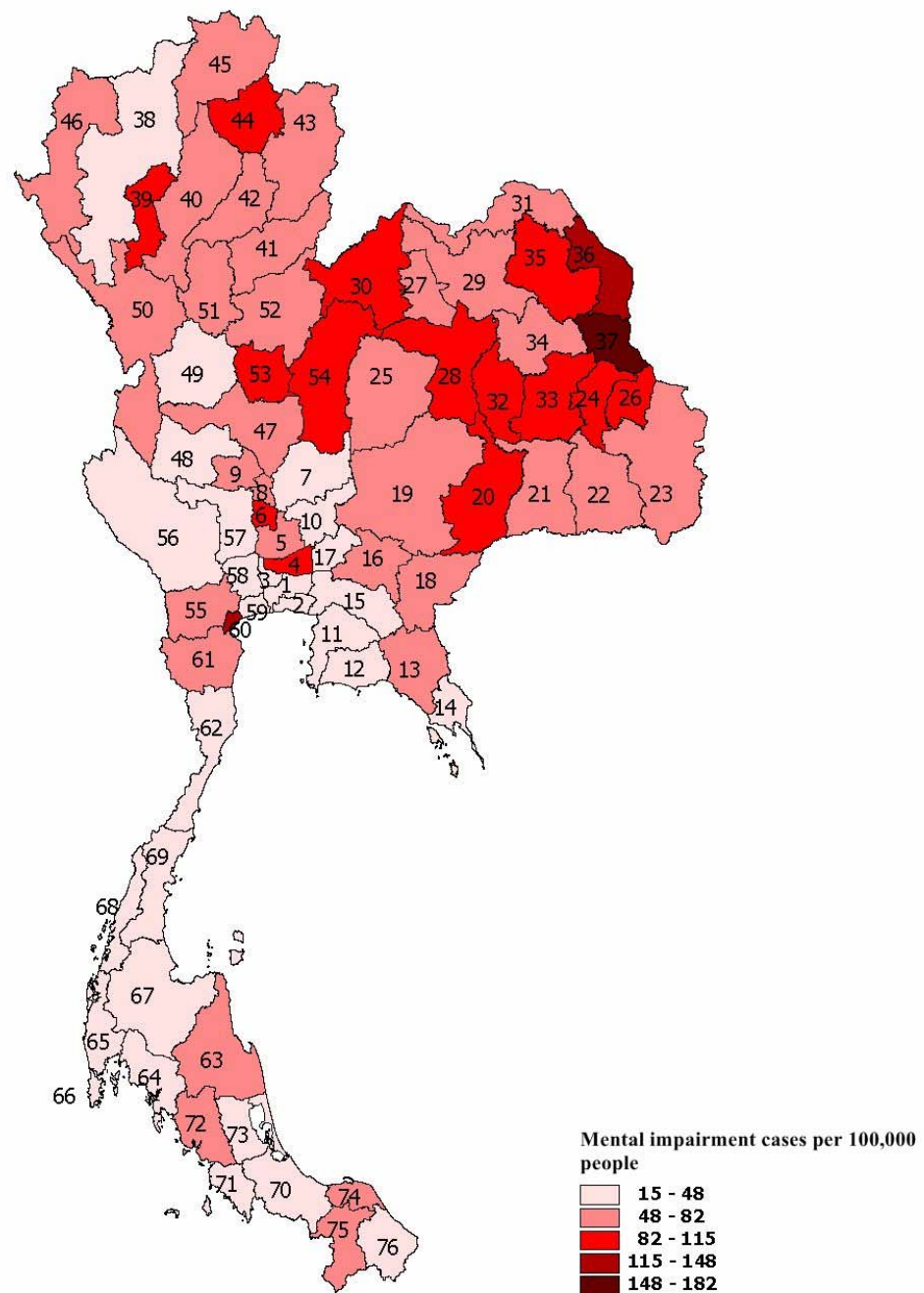
Best 5 and worst provinces for physical impairment



Source:

National office for empowerment of persons with disability, 1994-2010

Proportion of the population with mental impairments

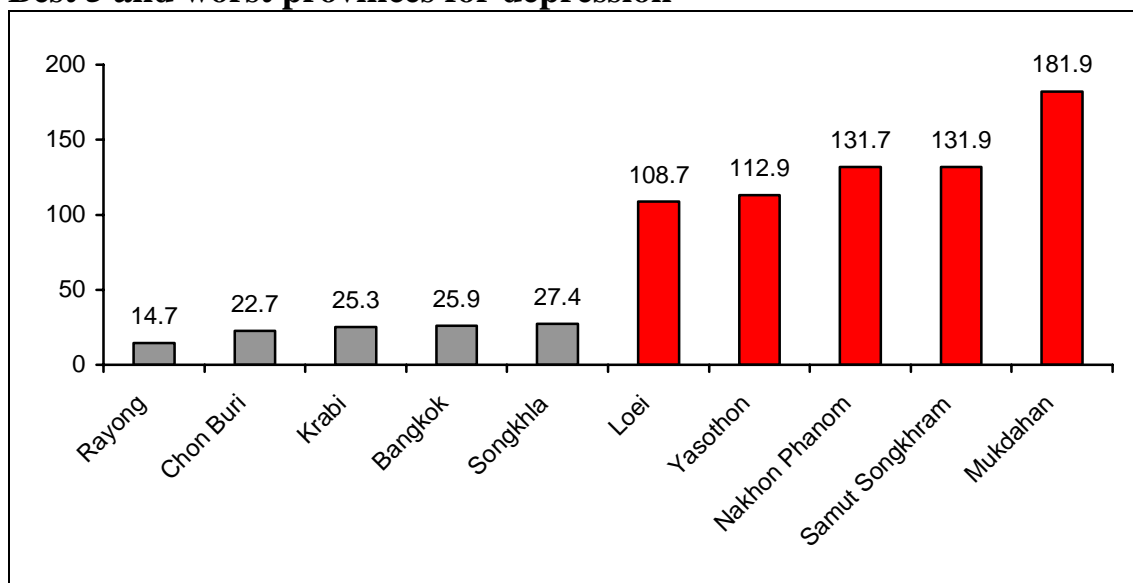


The 5 provinces with the lowest recorded rates of emotional impairments, such as depression are Rayong, Chon Buri, Krabi, Bangkok and Songkhla. The rate in Rayong is 15 per 100,000 people.

There is a concentration within The northeast of people with recorded emotional impairments, with 4 of the 5 provinces with the highest rates being in this region. The 5 provinces with the highest recorded rates are Loei, Yasothon, Nakhon Phanom, Samut Songkhram and Mukdahan. The recorded rate in Mukdahan is 182 per 100,000 people.

The difference between the best and worst provinces is 12 times.

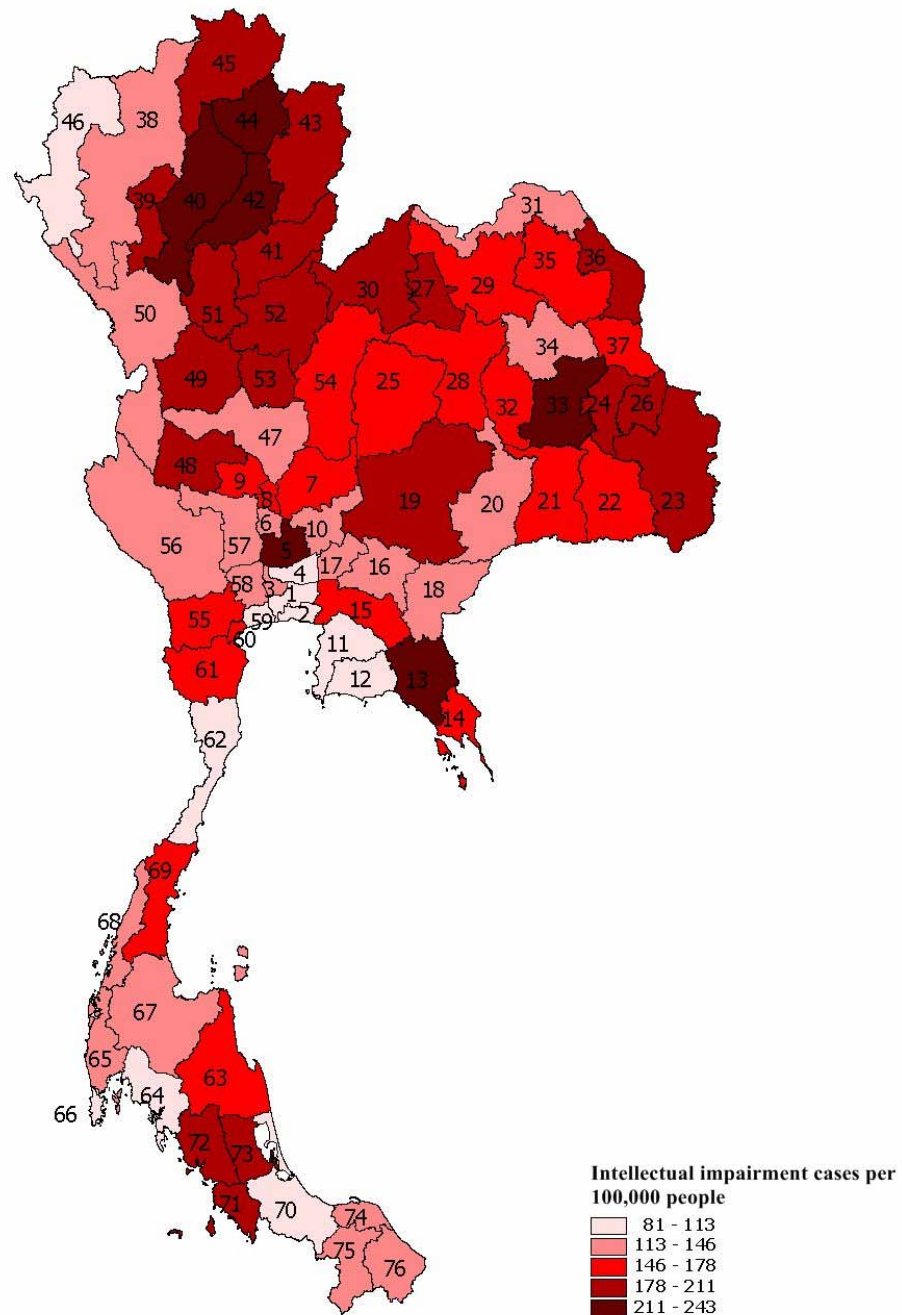
Best 5 and worst provinces for depression



Source:

National office for empowerment of persons with disability, 1994-2010

Proportion of the population with intellectual impairments

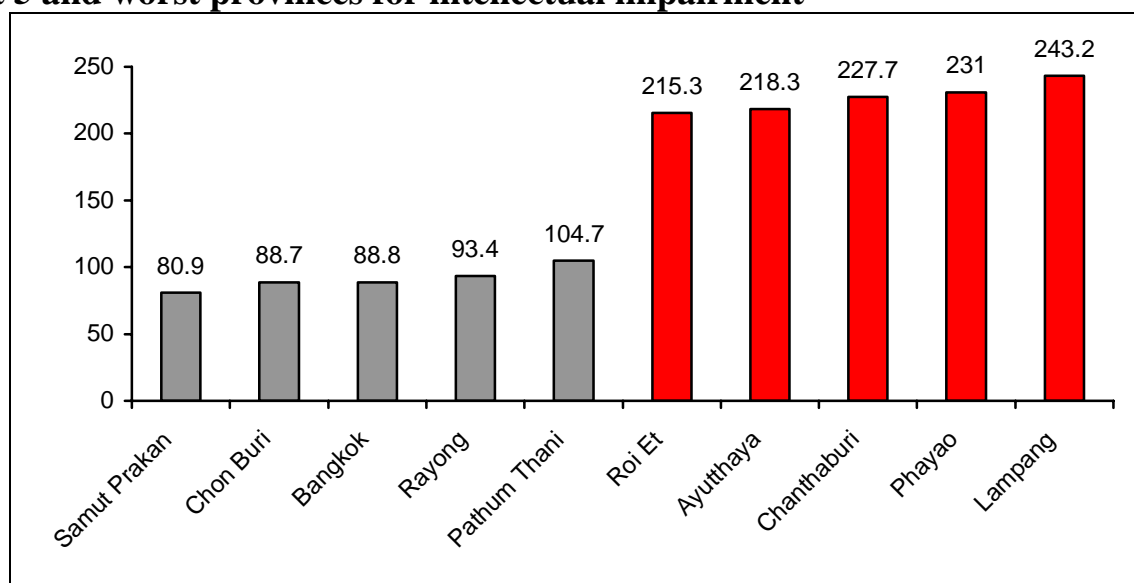


The 5 provinces with the lowest rates for recorded intellectual impairment are Samut Prakan, Chon Buri, Bangkok, Rayong and Pathum Thani. The rate in Samut Prakan is 81 per 100,000 people.

The 5 provinces with the highest rates for recorded intellectual impairment are Roi Et, Ayutthaya, Chanthaburi, Phayao and Lampang. Lampang has the highest rate of recorded intellectual impairment with 243 cases per 100,000 people.

The difference between the best and worst provinces is 3 times.

Best 5 and worst provinces for intellectual impairment

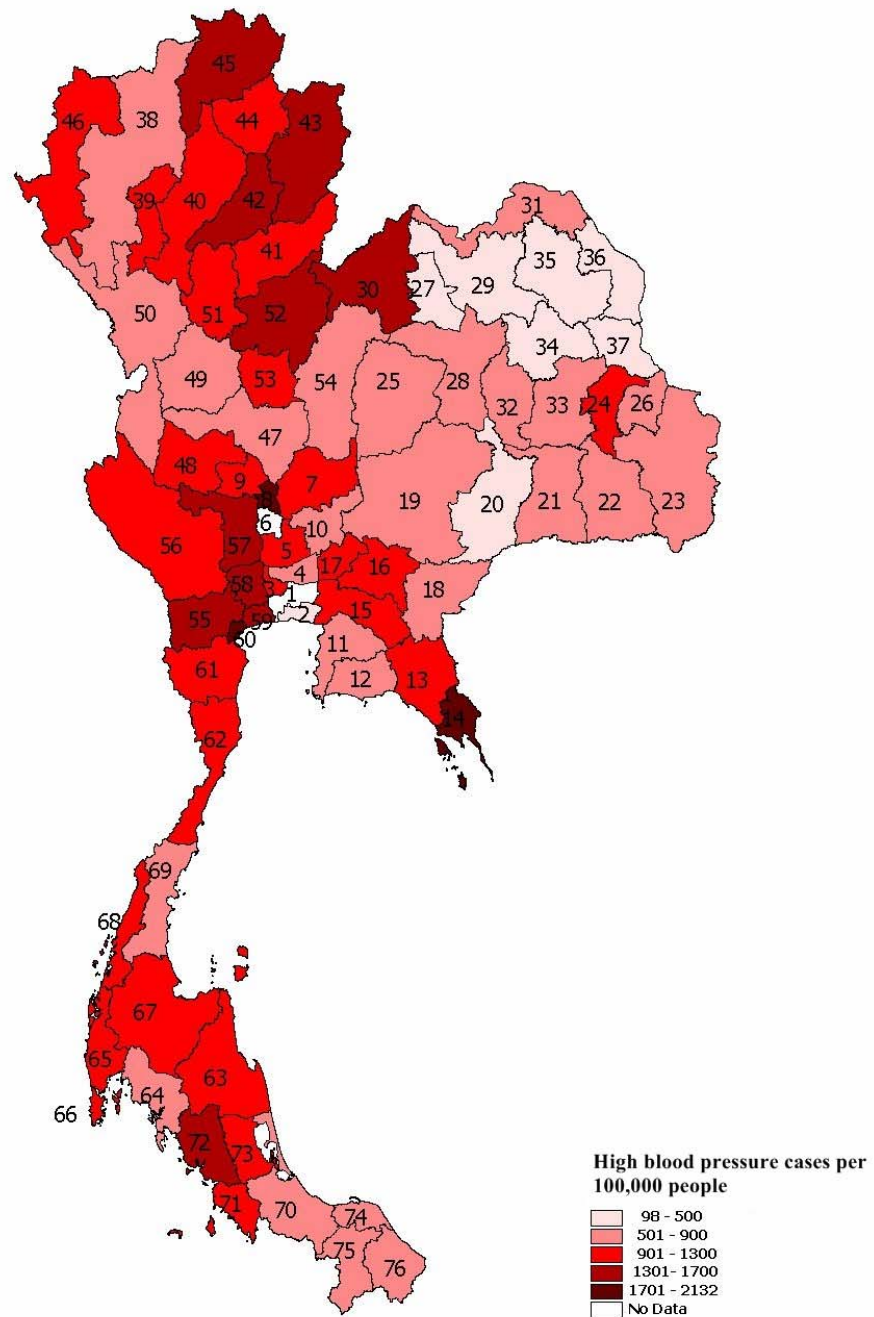


Source:

National office for empowerment of persons with disability, 1994-2010

Diseases

Proportion of the population with high blood pressure



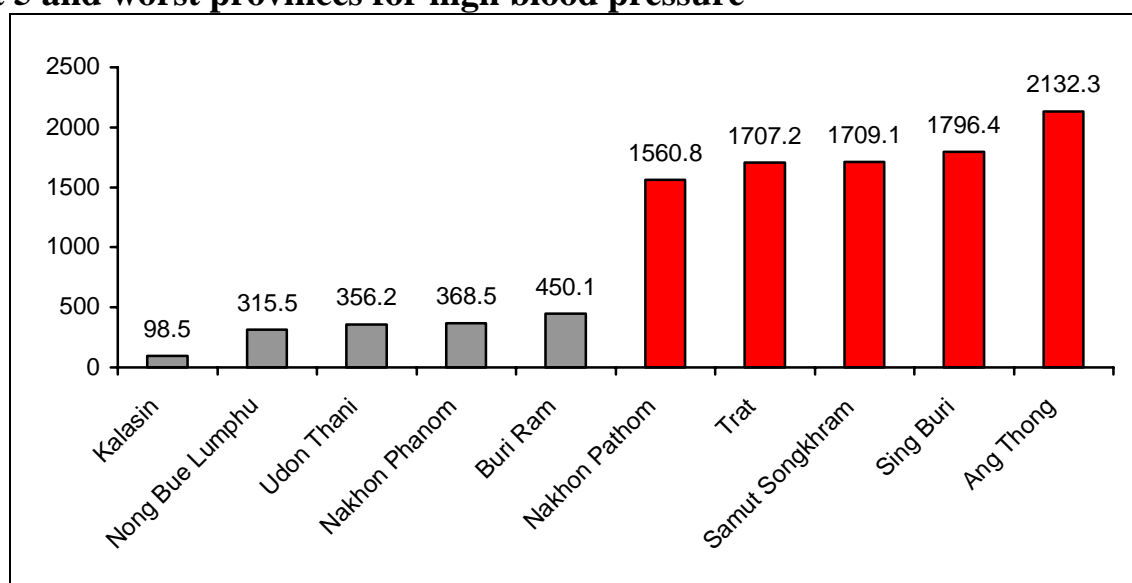
High blood pressure is a serious condition that can lead to coronary heart disease, heart failure, stroke, kidney failure, and other health problems. In Thailand high blood pressure is more common among those living in urban areas compared to those living in rural areas. The difference is around 3 times high in the urban areas. Further, high blood pressure is more common among the aged. It is estimated that around half of the aged have high blood pressure, many of whom who have not received medical treatment.

Being a disease of wealth all 5 provinces with the lowest rates of high blood pressure are in the northeast. Kalasin has the lowest recorded rate of high blood pressure, with 98 persons per 100,000 identified with the problem. The other best provinces are Nong Bue Lumphu, Udon Thani, Nakhon Phanom and Buri Ram.

The worst provinces for recorded high blood pressure are Nakhon Pathom, Trat, Samut Songkhram, Sing Buri and Ang Thong. The recorded rate in Ang Thong is 2,132 per 100,000 people.

The difference between the best and worst provinces is 22 times.

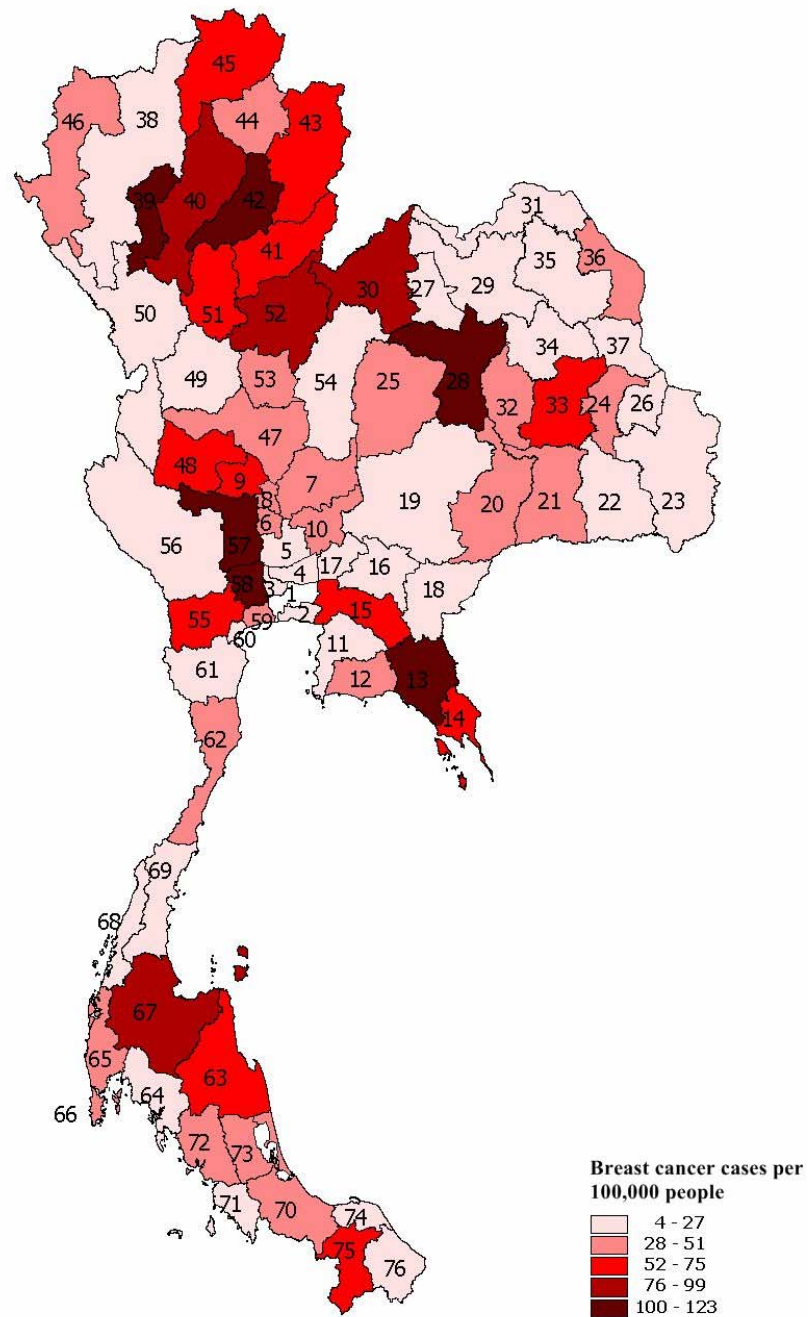
Best 5 and worst provinces for high blood pressure



Sources:

1. http://www.searo.who.int/en/Section313/Section1525_10862.htm
2. Public Health Statistics A.D. 2009, Ministry of Public Health

Proportion of the population with breast cancer



The incidence of breast cancer in Thailand is low; however the incidence rate seems to have been increasing gradually over the past decade, which may be related to the change of lifestyle and diet. Although the rate is low, breast cancer is the second most common form of cancer among Thai women after cervix cancer.

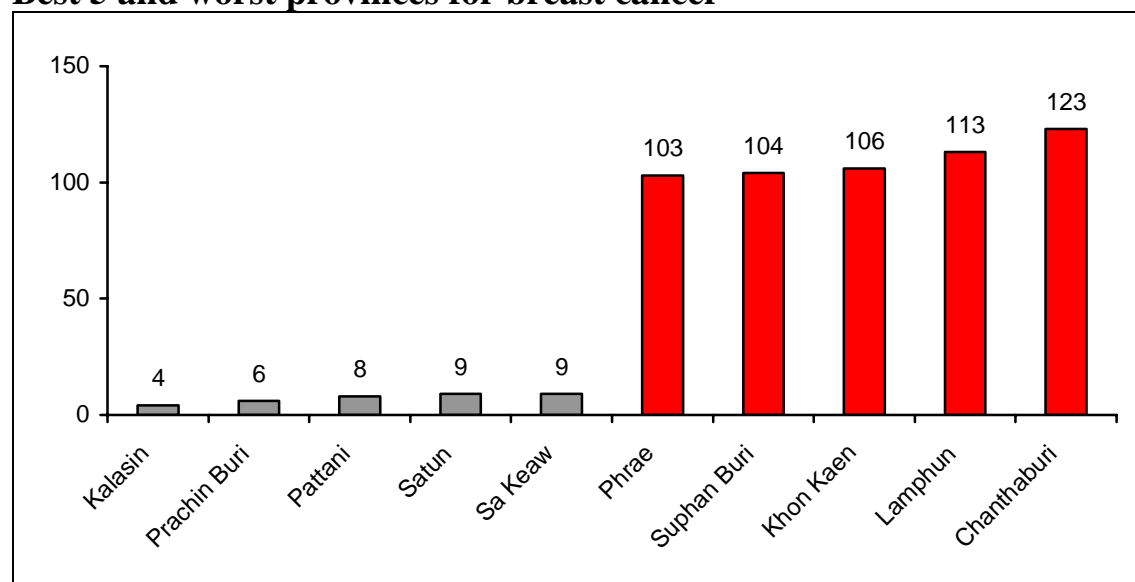
Of great concern is that breast cancer is detected at a very late stage, drastically reducing the chances women have for a full recovery. Thai women need to be screened and to undertake self-breast examination more regularly, so to reduce this problem.

The 5 provinces for the lowest recorded rates of breast cancer are Kalasin, Prachin Buri, Pattani, Satun and Sa Keaw. In Kalasin there were only 4 reported cases among 100,000 women.

The 5 provinces with the highest recorded rates of breast cancer are Phrae, Suphan Buri, Khon Kaen, Lamphun and Chanthaburi, which has the highest rate in the country with 123 cases per 100,000 women.

The difference between the best and worst provinces is 31 times.

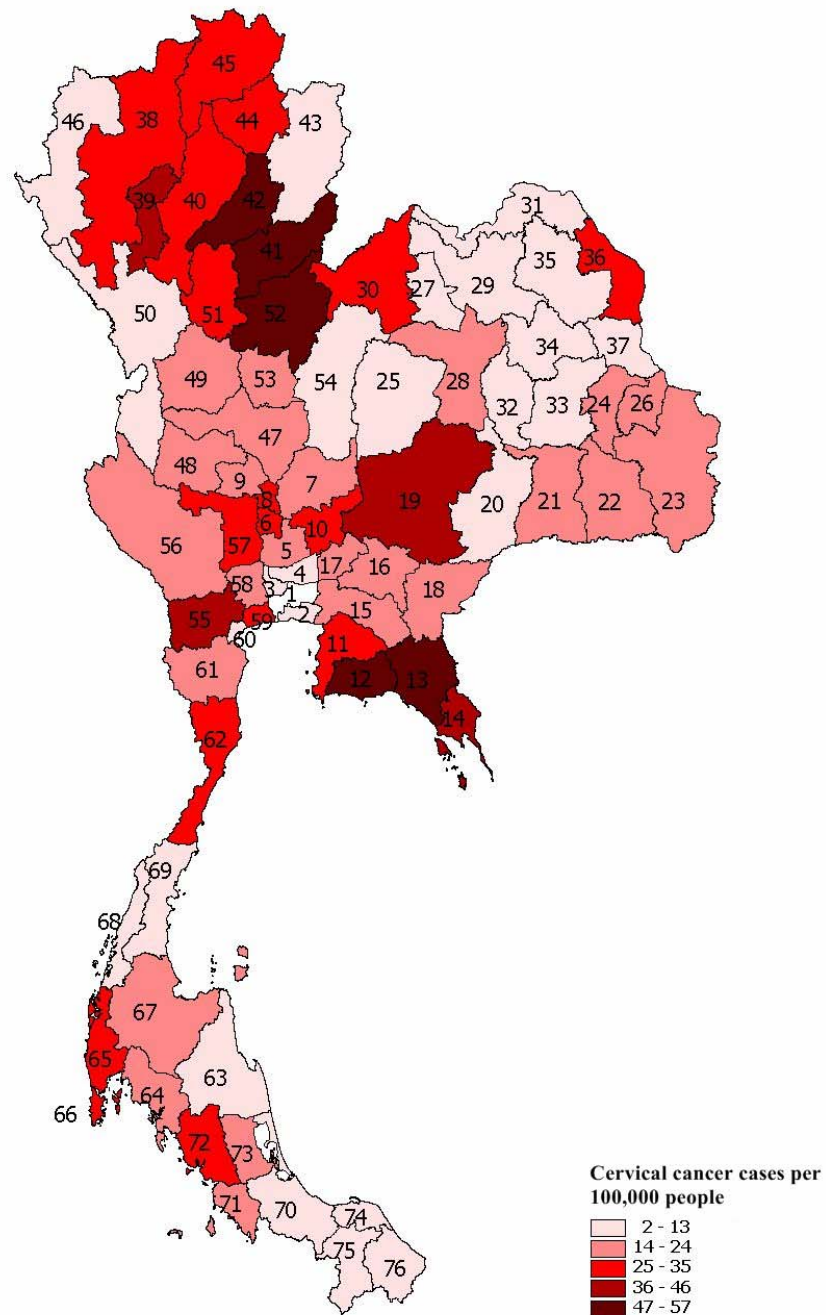
Best 5 and worst provinces for breast cancer



Sources:

1. http://jjco.oxfordjournals.org/content/32/suppl_1/S82.full
2. <http://www.frost.com/prod/servlet/market-insight-top.pag?docid=61680660>
3. Public Health Statistics A.D. 2009, Ministry of Public Health

Proportion of the population with cervical cancer



The incidence of cervical cancer in Thailand is relatively high in comparison with other developing countries in southern and Southeast Asia. The rate could be increasing with young women, on average, having their first sex at a younger age and having increasing numbers of sexual partners. Women whose partners have had sex with sex workers without using condoms have a higher risk of cervical cancer.

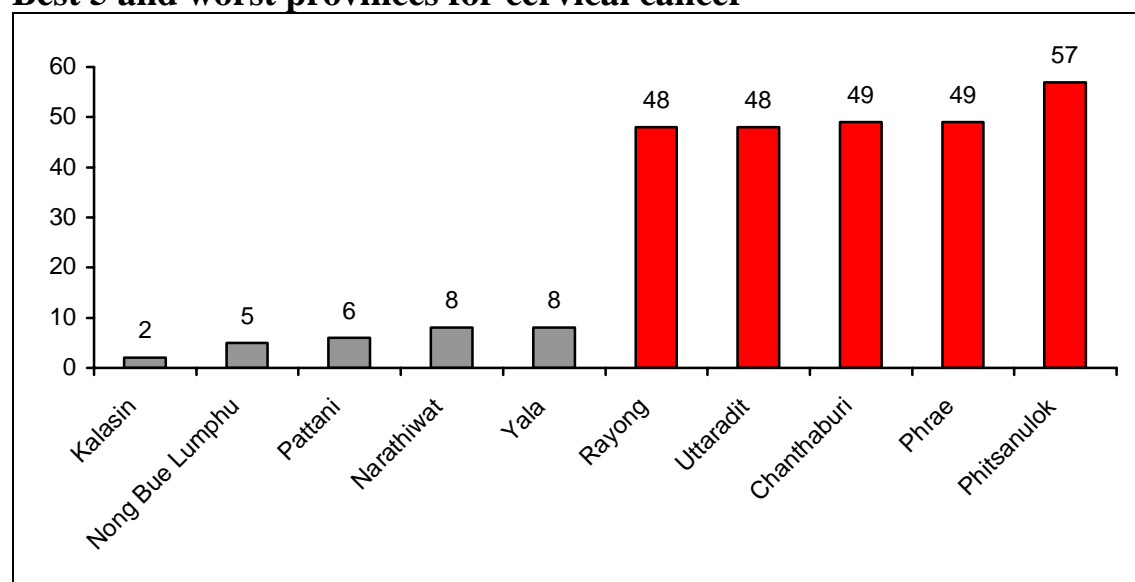
Human papilloma virus (HPV) infection is now a well-established cause of cervical cancer. Every year around 10,000 women are diagnosed with cervical cancer and around 5000 die from the disease. HPV vaccines are now available and have the potential to reduce the incidence of cervical cancer. The Ministry of Public Health is now encouraging females to receive this vaccination.

The 5 provinces with the lowest levels of recorded cervical cancer are Kalasin, Nong Bue Lumphu, Pattani, Narathiwat and Yala. The recorded cases in Kalasin were only 2 per 100,000 women.

The worst 5 provinces for cervical cancer are Rayong, Uttaradit, Chanthaburi, Phrae and Phitsanulok. The recorded level of cervical cancer in Phitsanulok was 57 per 100,000 cases.

The difference between the best and worst provinces is 28 times.

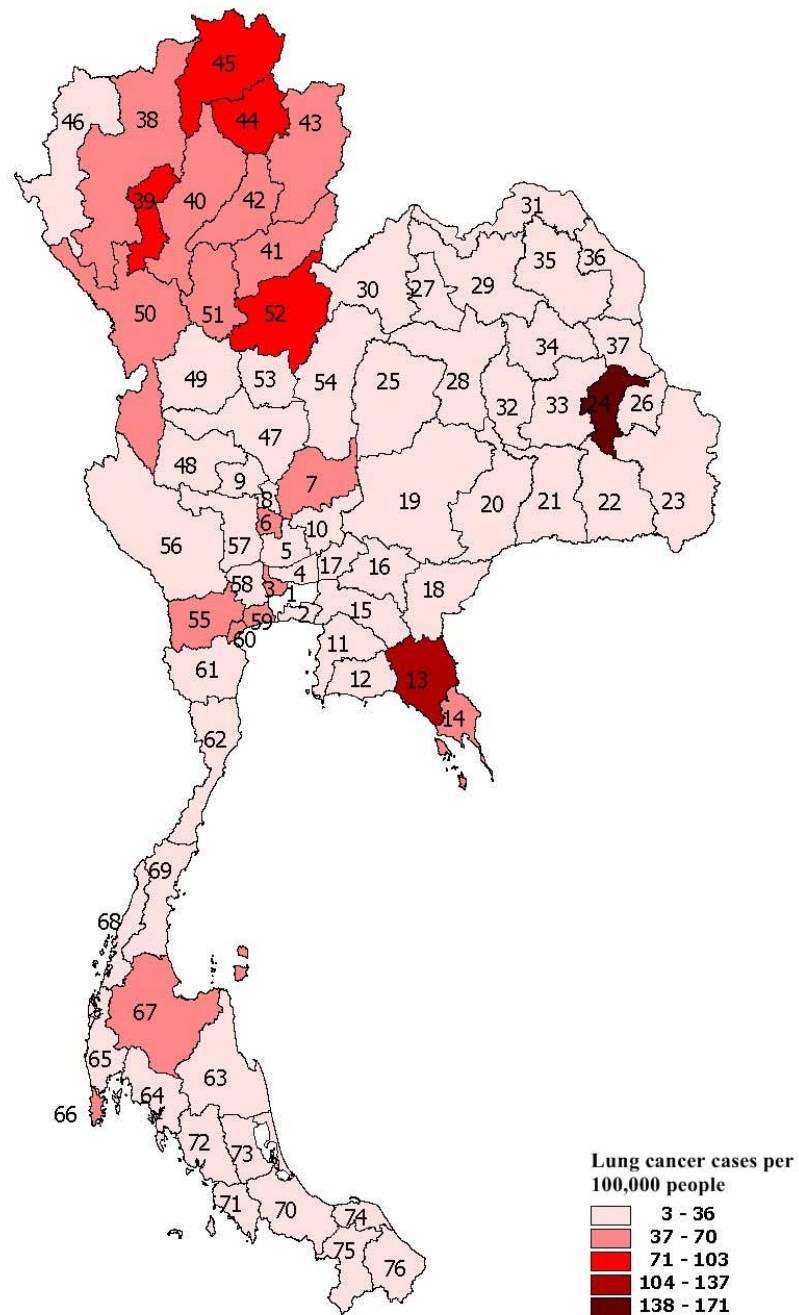
Best 5 and worst provinces for cervical cancer



Sources:

1. http://jjco.oxfordjournals.org/content/32/suppl_1/S82.full
2. http://apps.who.int/hpvcentre/statistics/dynamic/ico/country_pdf/THA.pdf
3. Public Health Statistics A.D. 2009, Ministry of Public Health

Proportion of the population with lung cancer



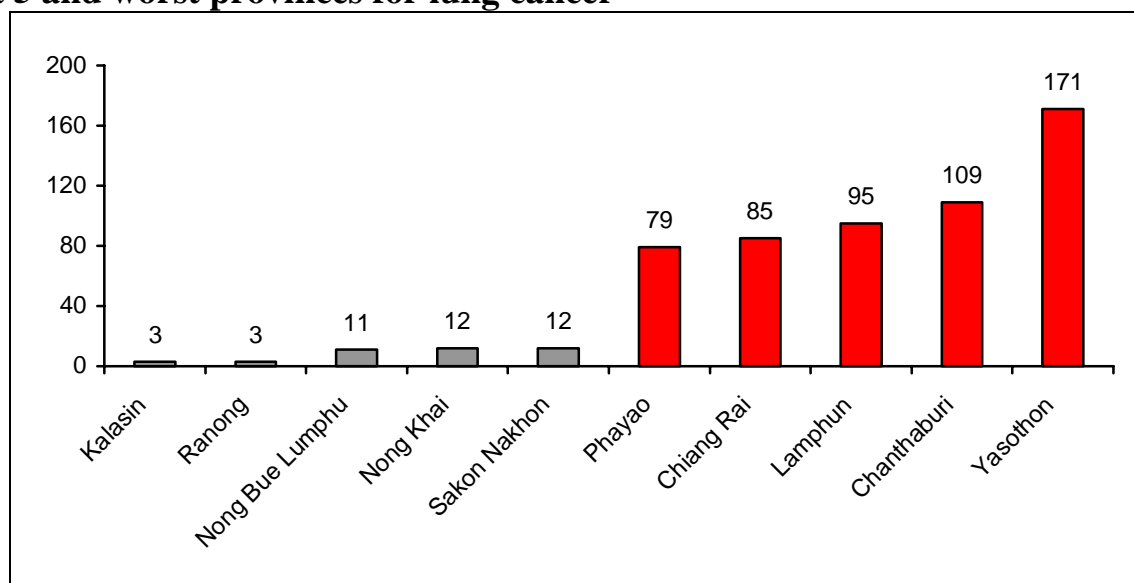
Lung cancer, the most common cause of cancer-related deaths in men and women, was responsible for 1.3 million deaths worldwide in 2004. In Thailand, lung cancer is more common among men than women with a ratio of 2:1. The most common cause of lung cancer is long-term exposure to tobacco smoke. Encouraging for Thailand is that the percentage of Thais smoking has declined over the past few years owing to strong antismoking campaigns.

The 5 provinces with the lowest recorded rates of lung cancer are Kalasin, Ranong, Nong Bue Lumphu, Nong Khai and Sakon Nakhon. Kalasin has only 3 reported cases of lung cancer for every 100,000 people.

The 5 provinces with the highest rates of recorded lung cancer are Phayao, Chiang Rai, Lamphun, Chanthaburi and Yasothon. Yasothon has 171 recorded cases of lung cancer for every 100,000 people.

The difference between the best and worst provinces is 57 times.

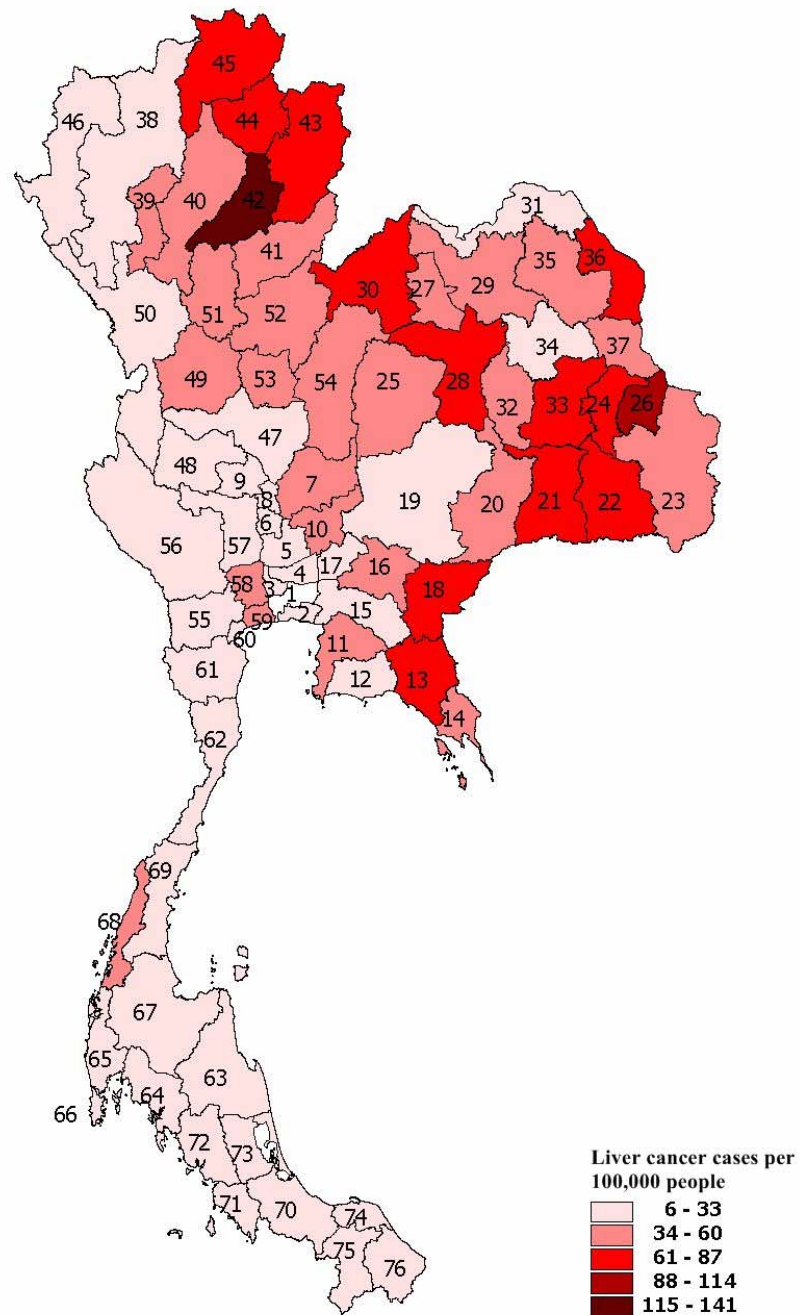
Best 5 and worst provinces for lung cancer



Sources:

1. http://www.nci.go.th/File_download/Cancer%20In%20Thailand%20IV/C-II-11.PDF
2. http://jjco.oxfordjournals.org/content/32/suppl_1/S82.full
3. Public Health Statistics A.D. 2009, Ministry of Public Health

Proportion of the population with liver cancer



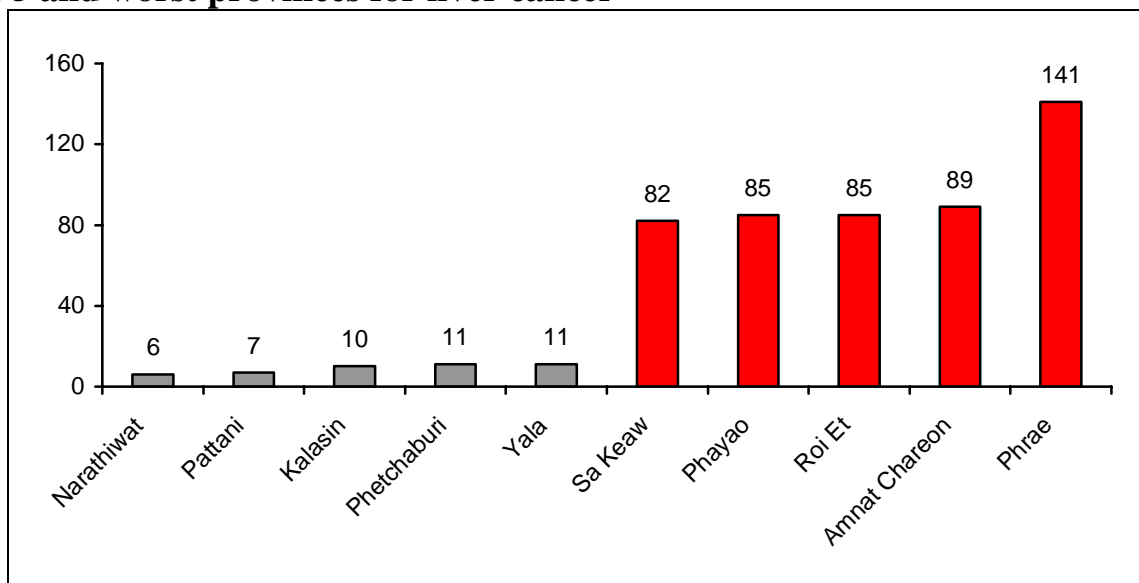
Liver cancer is very high in Thailand; it is the most common cancer in men and the third most common in women. A major problem for Thailand is that the human liver fluke, a freshwater parasite which can cause liver cancer, is endemic to areas of Thailand. People eating untreated fish paste are at risk of this disease.

The 5 provinces with the lowest recorded rates for liver cancer are Narathiwat, Pattani, Kalasin, Phetchaburi and Yala. Narathiwat with the lowest recorded rate of liver cancer had only 6 cases per 100,000 people.

The 5 provinces with the highest rates for recorded liver cancer are either in the northeast or in Northern Thailand; they are Sa Keaw, Phayao, Roi Et, Amnat Chareon and Phrae. Phrae has 141 cases of reported liver cancer per 100,000 people.

The difference between the best and worst provinces is 23 times.

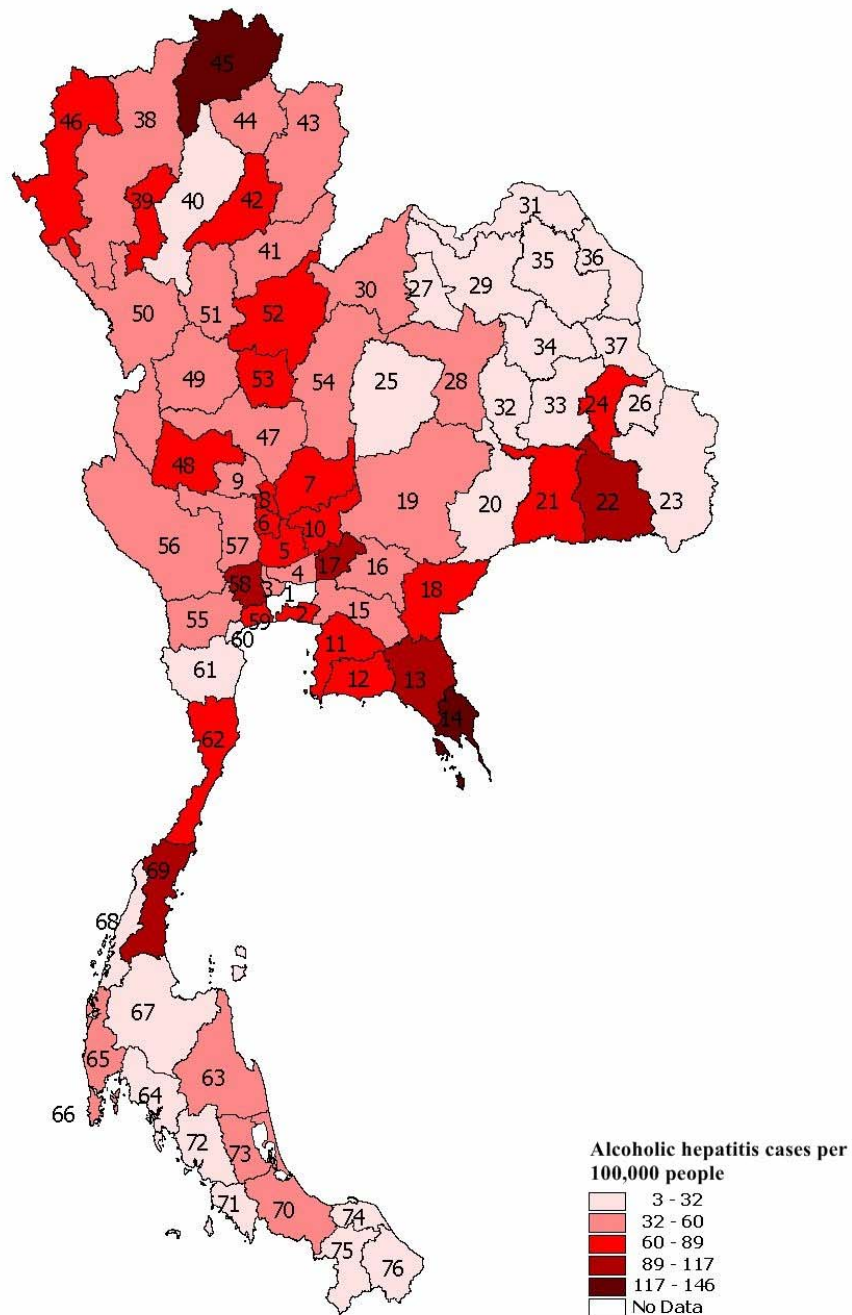
Best 5 and worst provinces for liver cancer



Sources:

1. http://jjco.oxfordjournals.org/content/32/suppl_1/S82.full
2. Public Health Statistics A.D. 2009, Ministry of Public Health

Proportion of the population with alcoholic hepatitis



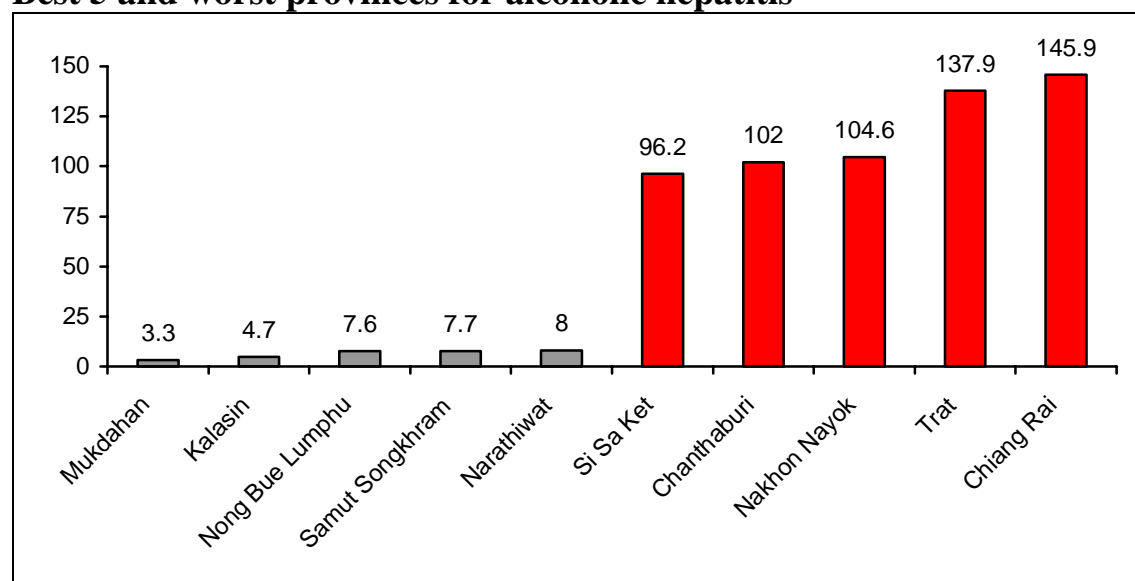
Alcoholic hepatitis is hepatitis (inflammation of the liver) due to excessive intake of alcohol. While distinct from cirrhosis, it is regarded as the earliest stage of alcoholic liver disease. Symptoms are jaundice, ascites (fluid accumulation in the abdominal cavity), fatigue and hepatic encephalopathy (brain dysfunction due to liver failure). Mild cases are self-limiting, but severe cases have a high risk of death.

The 5 provinces with the lowest recorded rates for this disease are Mukdahan, Kalasin, Nong Bue Lumphu, Samut Songkhram and Narathiwat. In Mukdahan only 3.3 people per 100,000 people have been diagnosed with this problem.

The 5 provinces with the highest recorded rates for this disease are Si Sa Ket, Chanthaburi, Nakhon Nayok, Trat and Chiang Rai. In Chiang Rai for every 100,000 people 146 of them have the disease.

The difference between the best and worst provinces is 44 times.

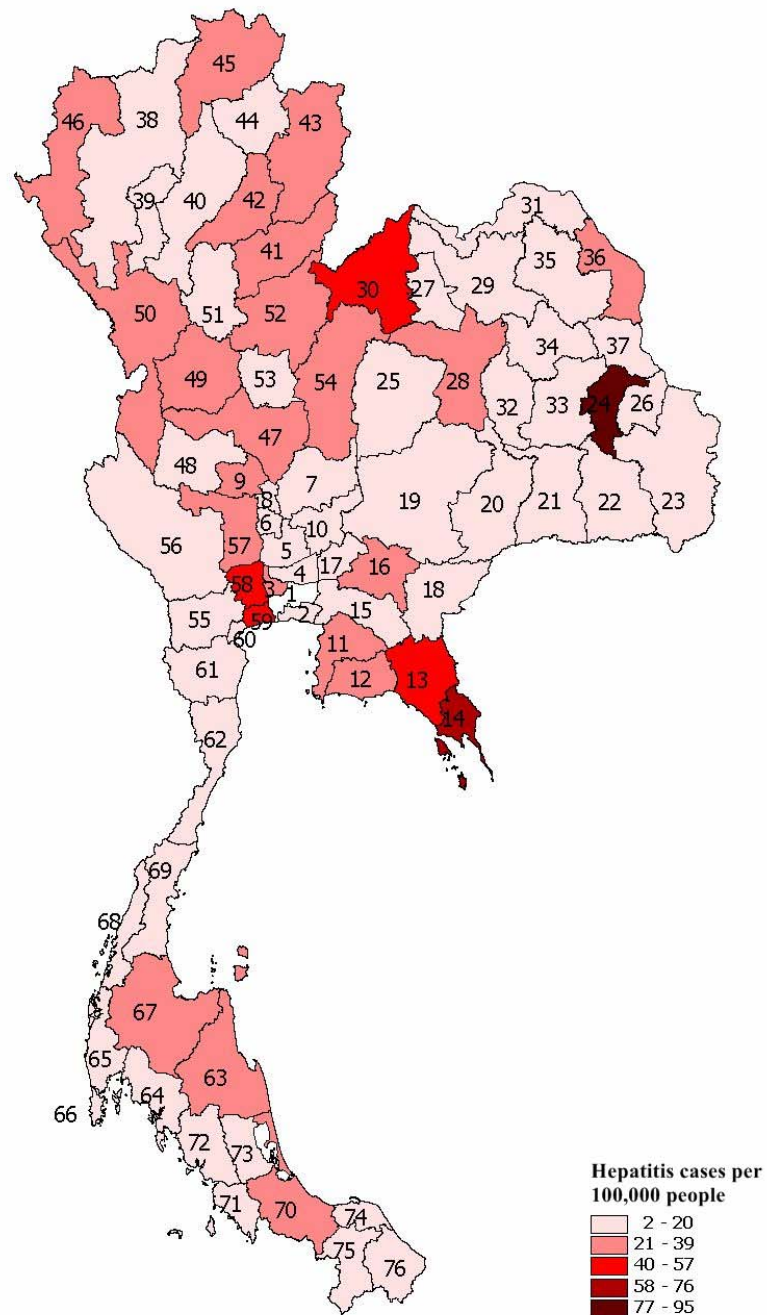
Best 5 and worst provinces for alcoholic hepatitis



Source:

Public Health Statistics A.D. 2009, Ministry of Public Health

Proportion of the population with hepatitis



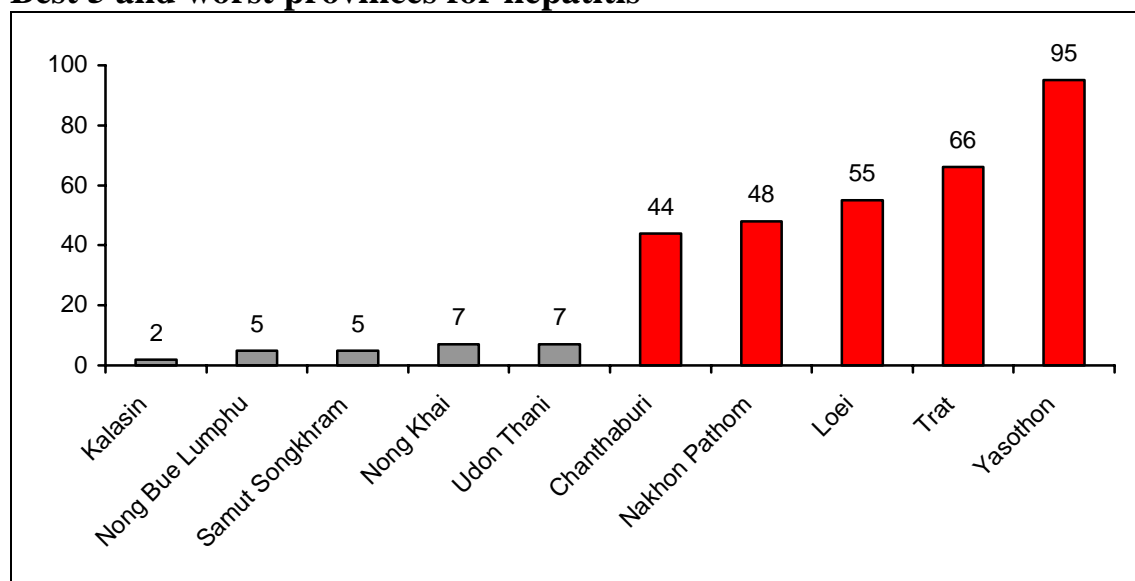
Hepatitis is endemic to Southeast Asia, one of the places in the world where the per capita carrier rate is highest. Hepatitis A is the most common form of the virus, and is spread by poor sanitation -- especially by cold food handled by unsanitary carriers, and by water contaminated with fecal matter. Contaminated shellfish is another frequent source of infection.

4 of the 5 provinces with the lowest levels of recorded hepatitis are in the northeast. The best 5 provinces are Kalasin, Nong Bue Lumphu, Samut Songkhram, Nong Khai and Udon Thani. Kalasin has only 2 recorded cases per 100,000 people.

The 5 provinces with the worst recorded levels of hepatitis are Chanthaburi, Nakhon Pathom, Loei, Trat and Yasothon. The figure for Yasothon is 95 per 100,000 people and is nearly a third higher than the next worst province. It is not clear to the authors why Yasothon has such a poor rate, suggesting investigations should be undertaken in the province to determine what the problem is and how the rate can be lowered.

The difference between the best and worst provinces is 47 times.

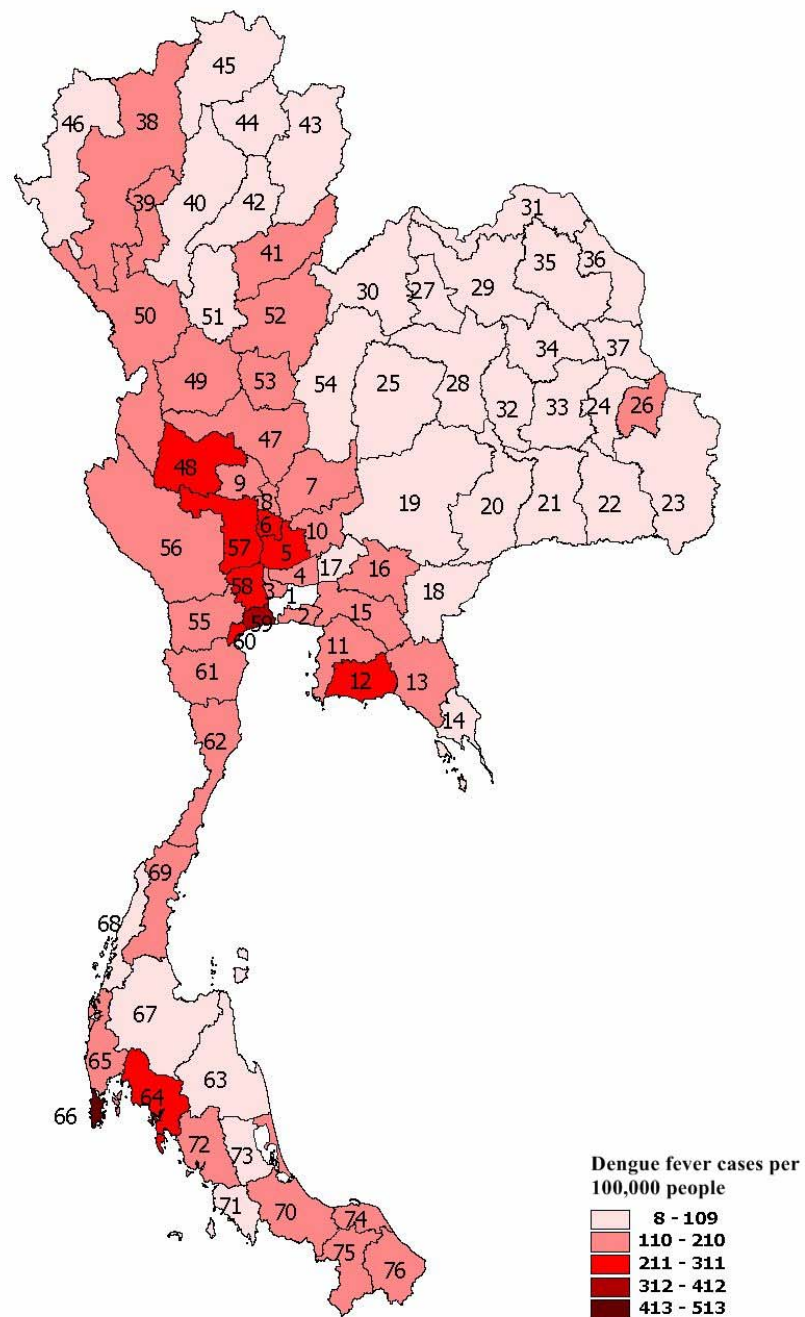
Best 5 and worst provinces for hepatitis



Sources:

1. <http://www.thailandguru.com/hepatitis-a.html>
2. Public Health Statistics A.D. 2009, Ministry of Public Health

Proportion of the population with dengue fever



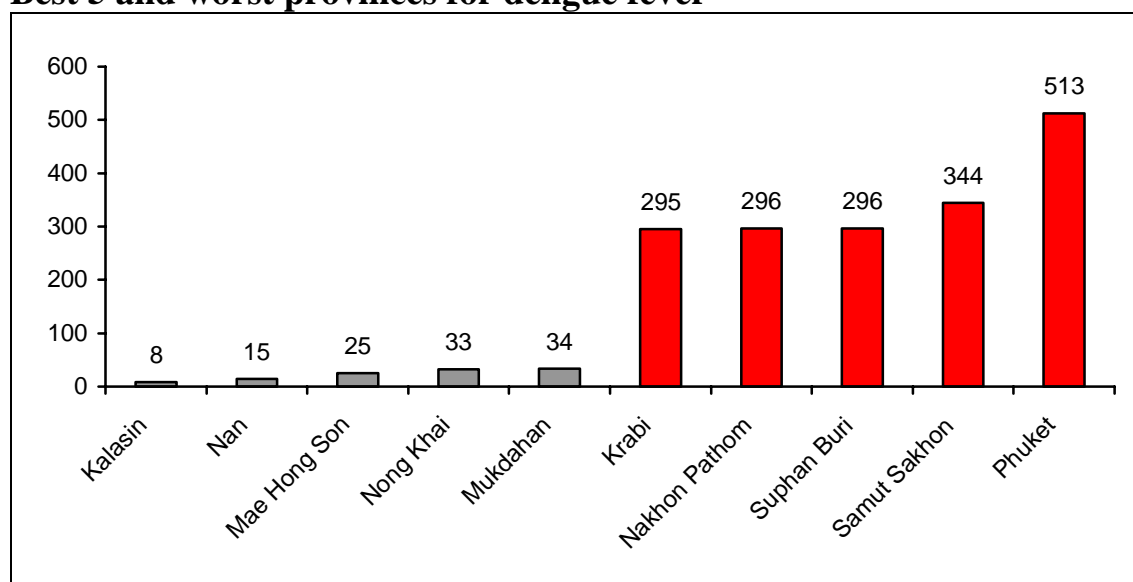
Dengue fever is prevalent throughout the tropics and subtropics. In Thailand it is common in the rainy season, approximately May to September, when the aedes mosquito is abundant.

The 5 provinces with the lowest recorded rates of dengue fever are Kalasin, Nan, Mae Hong Son, Nong Khai and Mukdahan. Kalasin has only 8 recorded cases per 100,000 people.

The worst 5 provinces for dengue fever are Krabi, Nakhon Pathom, Suphan Buri, Samut Sakhon and Phuket. Phuket has 513 recorded cases per 100,000 people.

The difference between the best and worst provinces is 64 times.

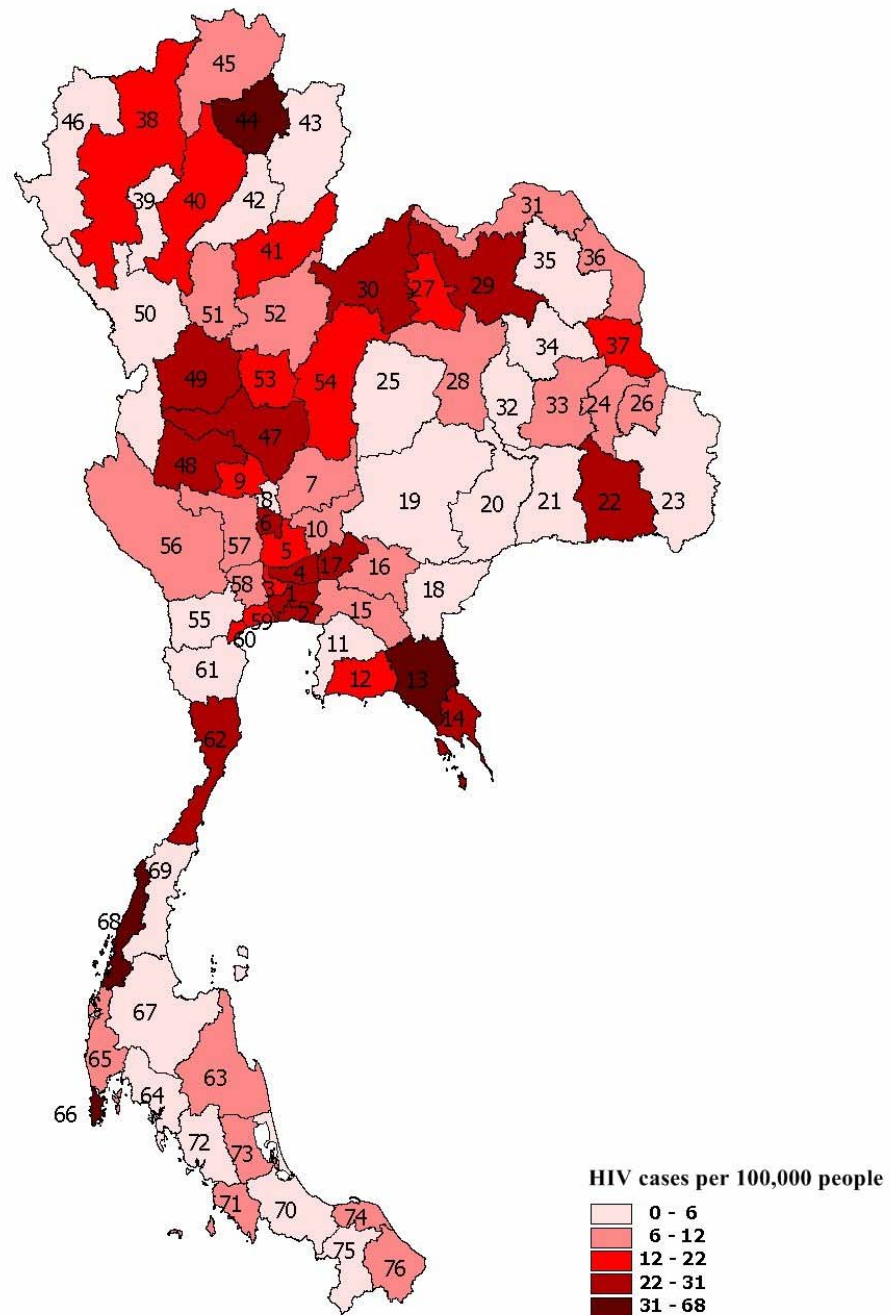
Best 5 and worst provinces for dengue fever



Source:

Public Health Statistics A.D. 2009, Ministry of Public Health

Proportion of the population with HIV



Between 2008 and 1984 when the first case of HIV was recorded in Thailand when a Thai returned home from overseas with the disease, 1,115,415 adults had been infected with HIV, with 585,830 of them having died and a further 532,522 people were living with the disease.

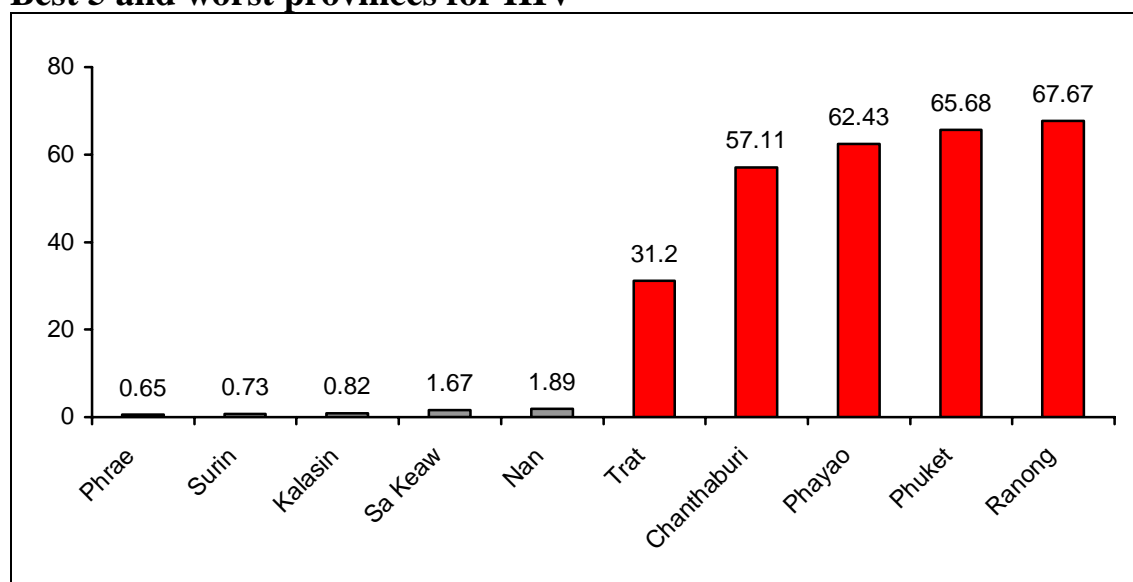
Mapping HIV is difficult for a number of reasons. First, many people with HIV do not know that they have the virus as they have not been tested. Further, some provinces do not keep track accurately the number of infected people. In the above map Sing Buri and Mae Hong Son had no collected data and are not included; it is unlikely that these provinces have no infected people.

The data indicates that there is great variation in the extent of HIV in the nation's provinces. The 5 provinces with the lowest recorded HIV rates are Phrae, Surin, Kalasin, Sa Keaw and Nan. Phrae has only 0.65 recorded cases per 100,000 people.

The 5 provinces with the highest recorded HIV rates are Trat, Chanthaburi, Phayao, Phuket and Ranong. Ranong has nearly 68 reported cases per 100,000 people.

The difference between the best and worst provinces is 104 times.

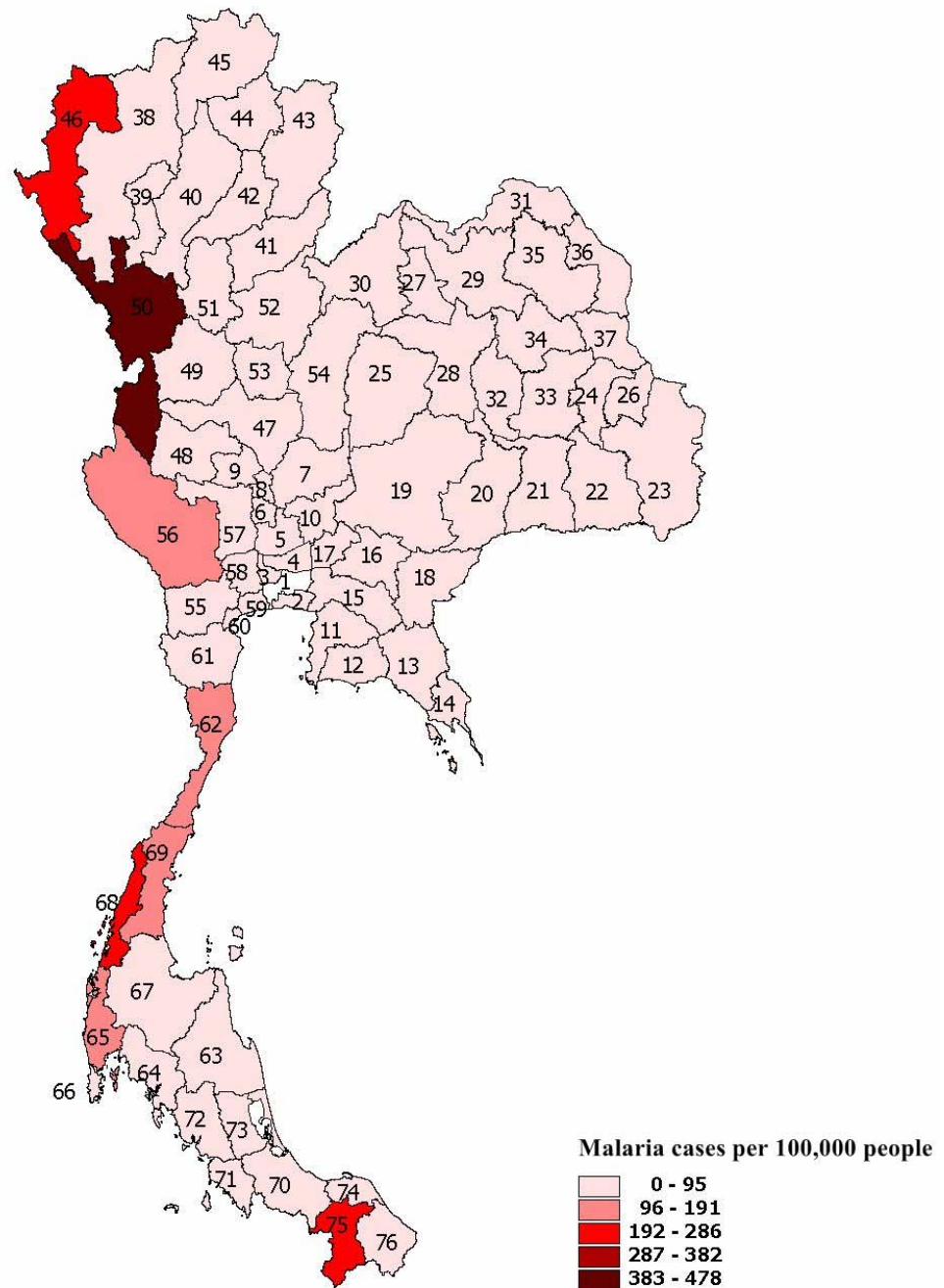
Best 5 and worst provinces for HIV



Source:

1. Epidemiological Information Section Bureau of Epidemiology, Department of Disease Control, Ministry of Public Health, 2010
2. Public Health Statistics A.D. 2009, Ministry of Public Health

Proportion of the population with malaria



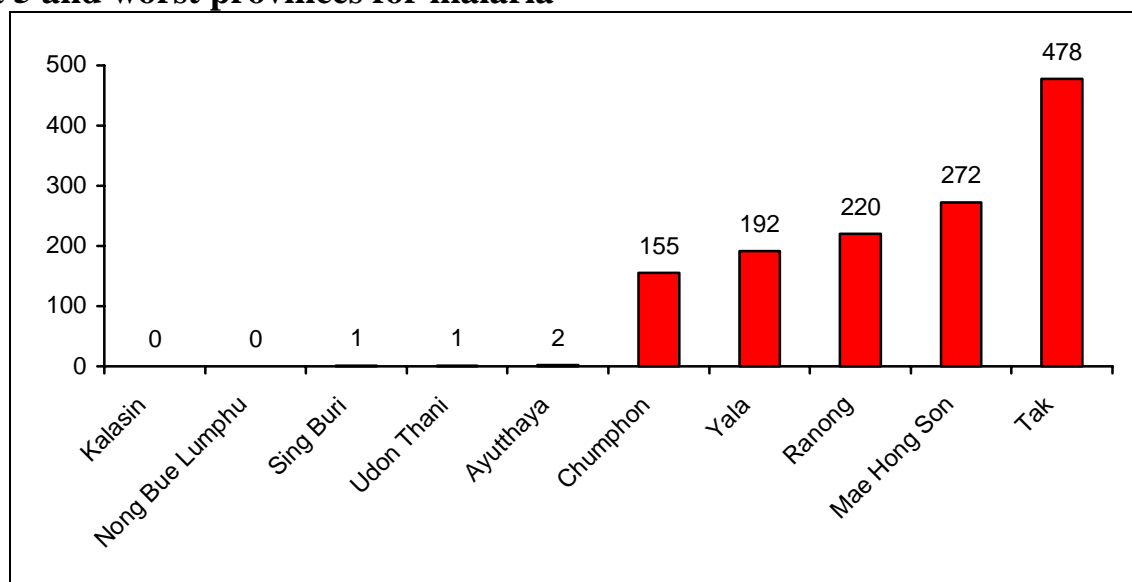
Malaria in Thailand is concentrated along the border with Burma. Most provinces have very low or even no cases.

The 5 provinces with the lowest recorded rates for malaria are Kalasin, Nong Bue Lumphu, Sing Buri, Udon Thani and Ayutthaya. The first two mentioned provinces had no reported cases.

The worst 5 provinces for malaria are Chumphon, Yala, Ranong, Mae Hong Son and Tak. In Tak the recorded rate of the disease is 478 persons for every 100,000 people, a rate which is nearly twice as high as the second highest province, Mae Hong Son which has 272 cases per 100,000 people.

Given the provinces with the lowest rates of malaria have no cases it is not possible to work out the rate between the best and worst provinces. However, if the third best province is considered the difference is 478 times.

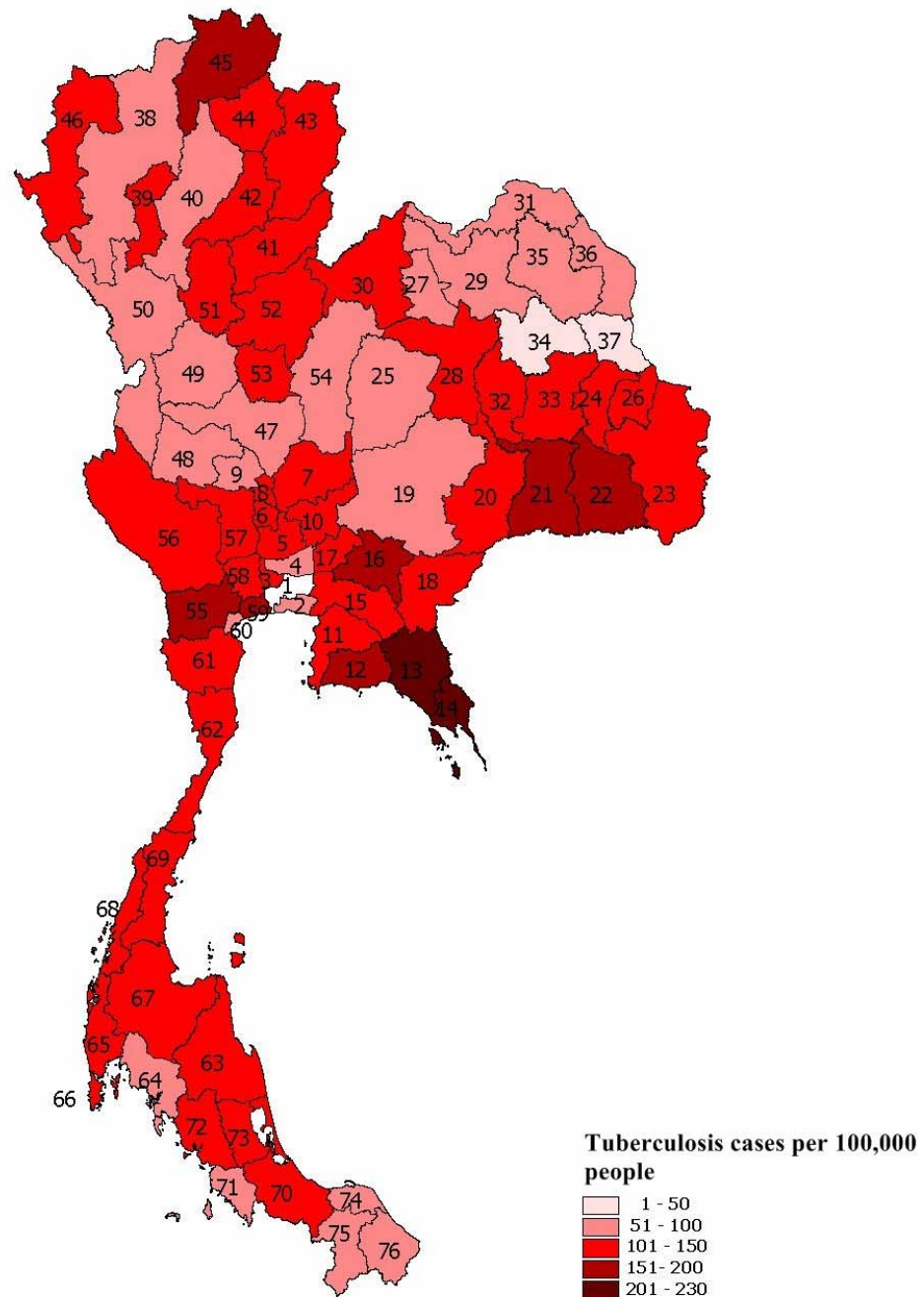
Best 5 and worst provinces for malaria



Source:

Public Health Statistics A.D. 2009, Ministry of Public Health

Proportion of the population with tuberculosis



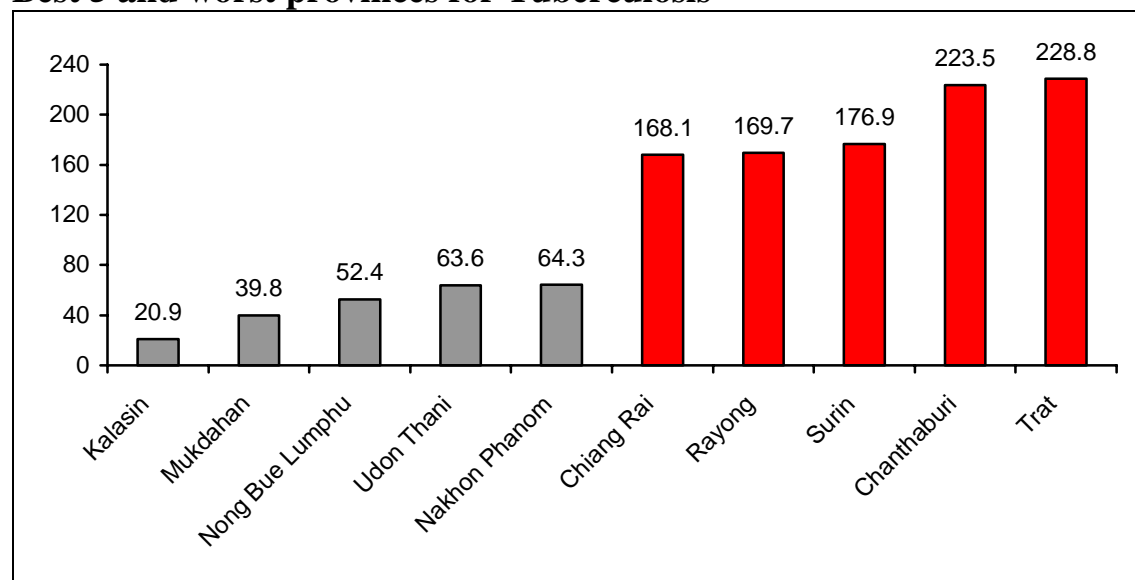
Tuberculosis is a chronic disease that commonly affects poorer people. It is relatively common in Southeast Asia and in Thailand and the disease has become more serious as a result of the connection between it and HIV. In Thailand, tuberculosis cases and deaths were declining until 1992 when the cases began to increase as a result of the rise of HIV in the country. The annual risk of infection in 1997 was estimated at 1.4%, with approximately 100,000 new tuberculosis cases developing each year. Fifteen per cent of tuberculosis patients are HIV positive. By 2007, the prevalence of tuberculosis was estimated at 192 per 100,000 people.

All 5 provinces with the lowest recorded levels of tuberculosis are in The northeast. Kalasin is the best province with only 21 persons recorded with the disease for every 100,000 people. The other best provinces are Mukdahan, Nong Bue Lumphu, Udon Thani and Nakhon Phanom. The drier conditions experienced in The northeast compared to the rest of the country could be a reason why such low rates of tuberculosis are recorded in the region.

The bottom 5 provinces for tuberculosis are Chiang Rai, Rayong, Surin, Chanthaburi and Trat. In Trat the recorded rate of the disease is 229 persons for every 100,000 people. The provinces with the highest rates of this disease border with Cambodia and Myanmar.

The difference between the best and worst provinces is 11 times.

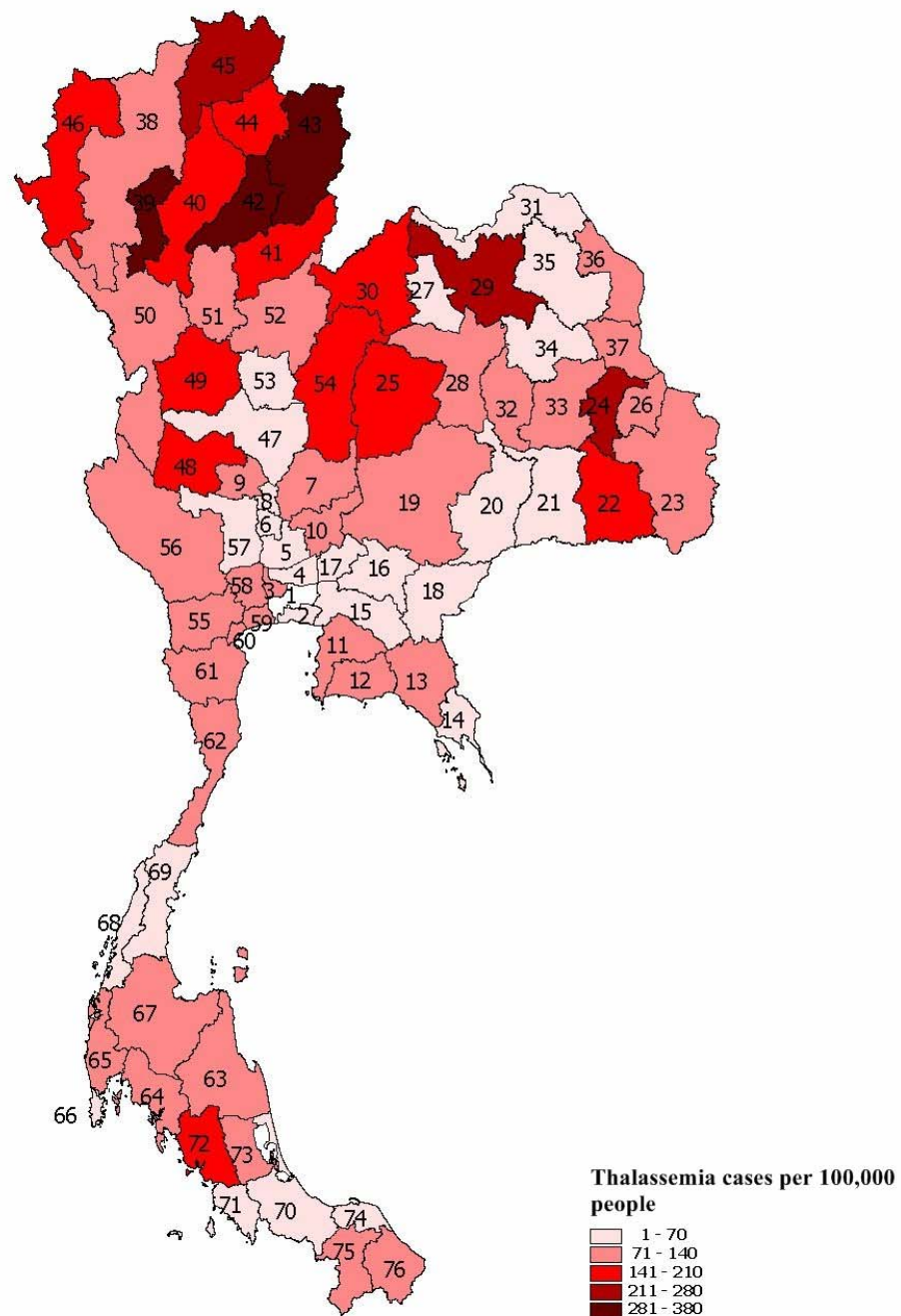
Best 5 and worst provinces for Tuberculosis



Sources:

1. http://www.searo.who.int/en/Section10/Section2097/Section2100_14803.htm
2. <http://onlinelibrary.wiley.com/doi/10.1111/j.1440-1843.2001.00299.x/abstract?systemMessage=Due+to+scheduled+maintenance+access+to+the+Wiley+Online+Library+may+be+disrupted+as+follows:+Saturday,+30+Octobe>
3. Public Health Statistics A.D. 2009, Ministry of Public Health

Proportion of the population with thalassemia



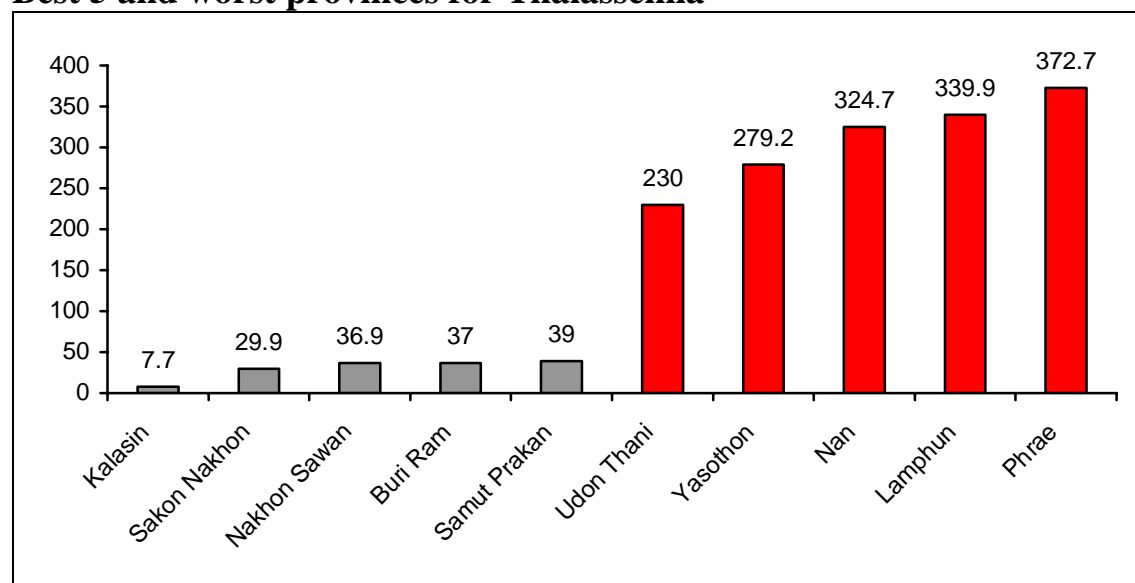
About one per cent of Thais are affected with thalassemia. In each year there are almost 50,000 pregnancies at risk of having an affected fetus, one fourth of which result in thalassemic newborns. The distribution of the disease varies from region to region and among different ethnic groups. About 30-40% of people are carriers of at least one of the abnormal genes.

The 5 provinces with the lowest recorded rates are Kalasin, Sakon Nakhon, Nakhon Sawan, Buri Ram and Samut Prakan. Kalasin has a recorded rate of only 8 per 100,000 people, while the other 4 provinces have rates around 30 per 100,000.

The worst 5 provinces are Udon Thani, Yasothon, Nan, Lamphun and Phrae; with the worst 3 all being located in the north of the country. The recorded rate in Phrae is 372 per 100,000.

The difference between the best and worst provinces is 48 times.

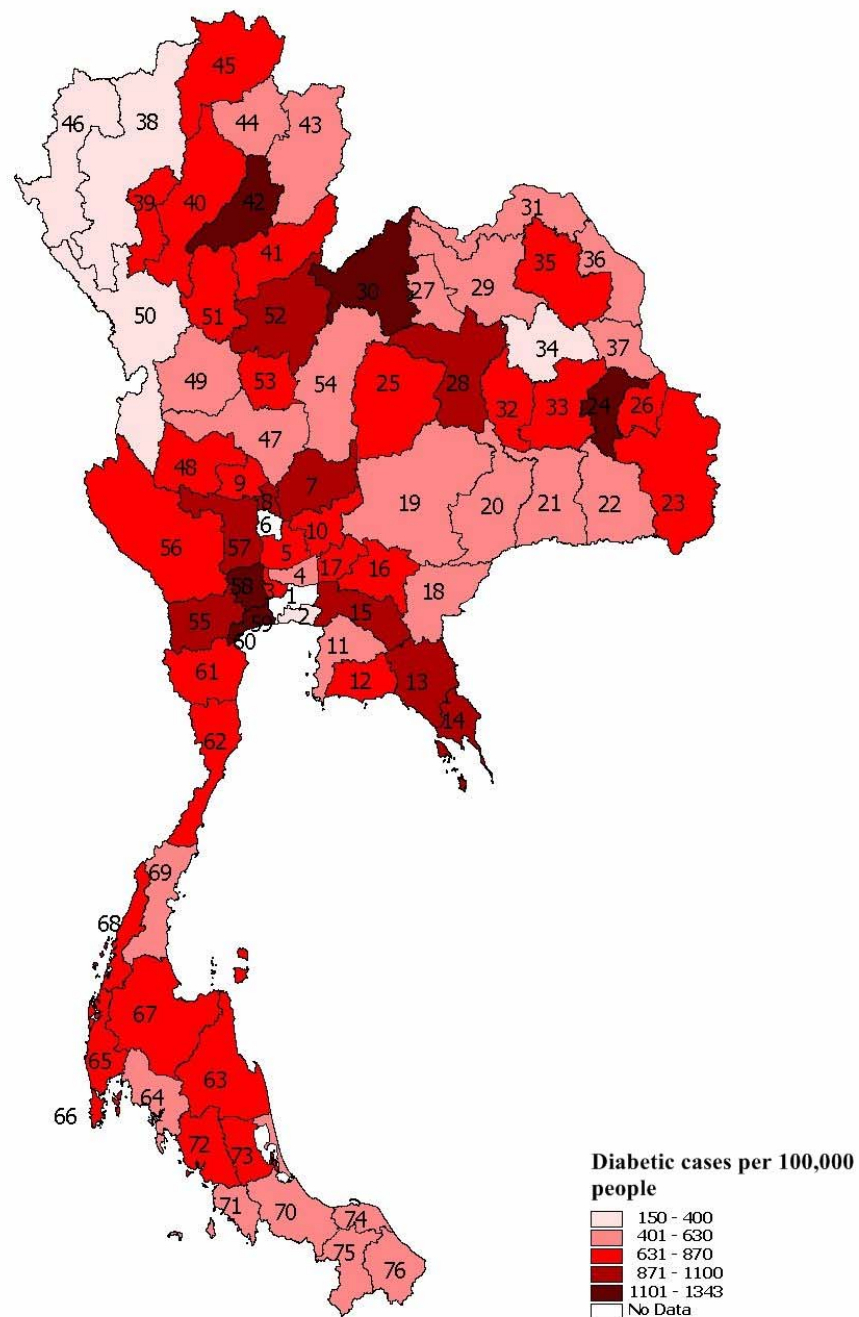
Best 5 and worst provinces for Thalassemia



Source:

Public Health Statistics A.D. 2009, Ministry of Public Health

Proportion of population with diabetics



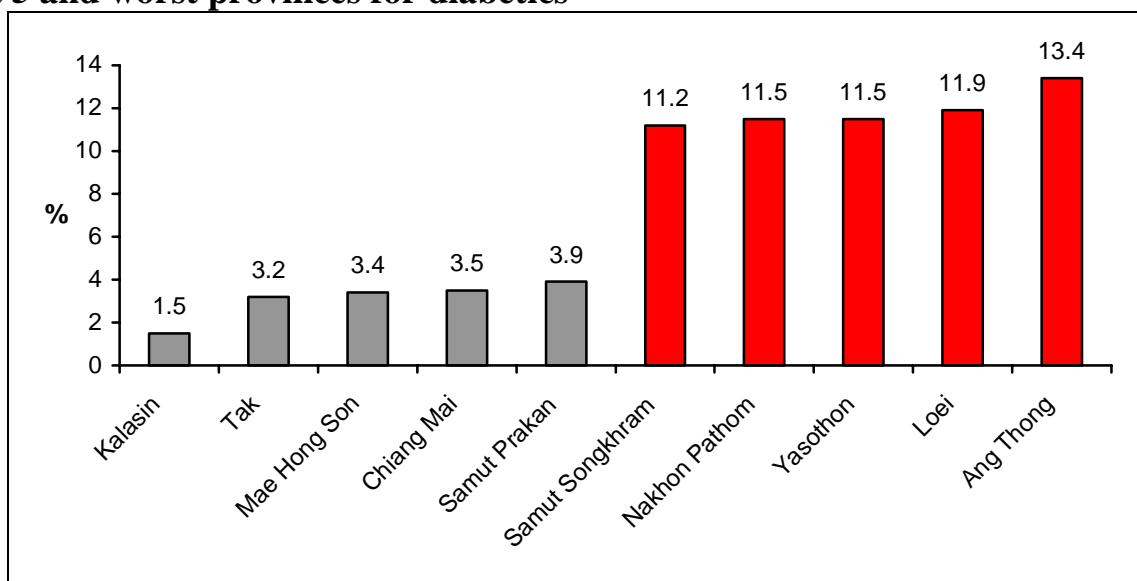
Diabetes is one of Thailand's fastest growing diseases and has now become common, but one-half of all cases are undiagnosed. The estimated national prevalence of the disease in 2003 among Thai adults was 9.6% (2.4 million people). A rate of nearly one in 10 is even worse than America's one in 12. Thai physicians blame the diabetes epidemic on more-sedentary lifestyles and the rise of the consumption of junk food.

Kalasin has the lowest recorded level of diabetes in the country with only 1.5% of its residents diagnosed with the problem. The other provinces with low rates are Tak, Mae Hong Son, Chiang Mai and Samut Prakan all of which have levels of around 3%. All of these provinces are likely to have higher rates of diabetes than indicated as so many people with the disease do not get diagnosed.

The worst 5 provinces for diabetes are Samut Songkhram, Nakhon Pathom, Yasothon, Loei and Ang Thong. Ang Thong has 13.4% of their population with the disease. The rates in each of these provinces are likely to be worse than indicated, given the lack of diagnosis of this disease.

The difference between the best and worst provinces is 9 times.

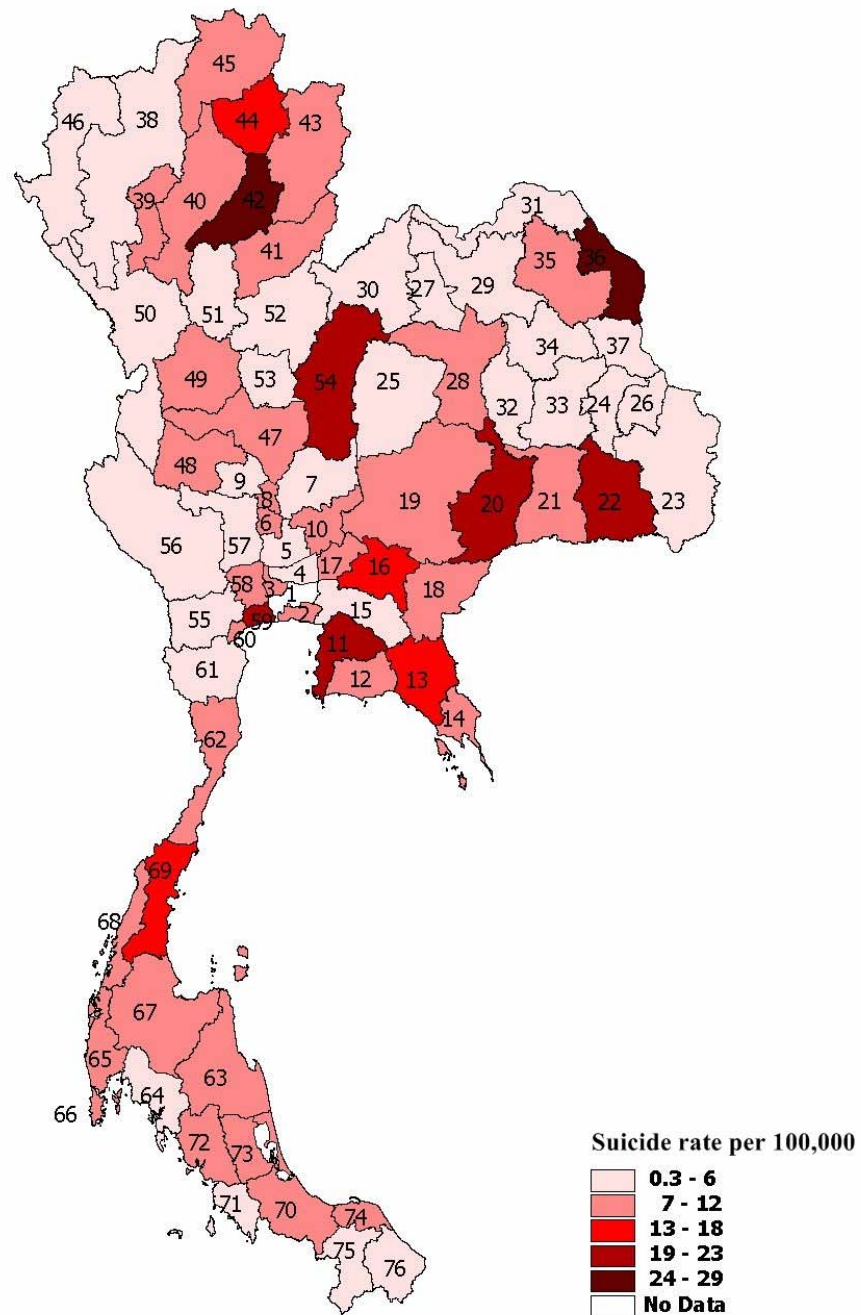
Best 5 and worst provinces for diabetics



Sources:

1. <http://www.globalpost.com/dispatch/thailand/100331/diabetes-thailand-fattest-countries>
2. <http://care.diabetesjournals.org/content/26/10/2758.full>
3. Public Health Statistics A.D. 2009, Ministry of Public Health

Social Problems

Suicide rate

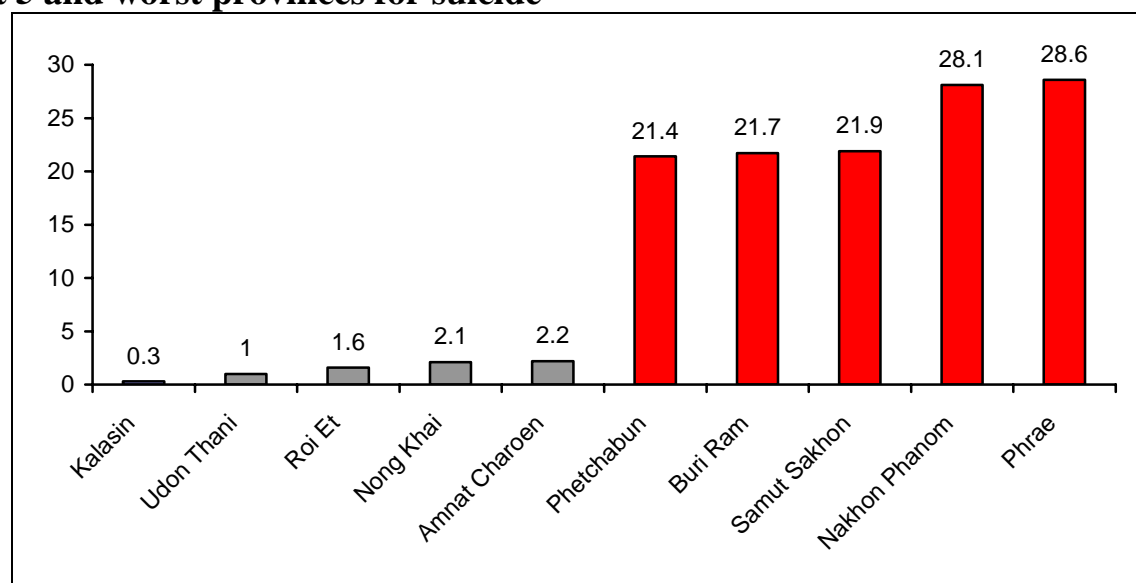
Data on suicide is hard to come by and often unreliable, as many cases of suicide are recorded as accidental deaths. The data available indicate that 3,634 Thais committed suicide in 2009; a ratio of 5.7 per 100,000 people. This is lower than the world average ratio of 16 per 100,000 people. Nevertheless, reports indicate the suicide rate is increasing, with one report indicating it had doubled between 2002 and 2009.

The 5 provinces with the lowest rates of recorded suicide are in the northeast of Thailand. Kalasin has the lowest recorded rate with only 0.3 cases per 100,000 people. The other provinces with low recorded suicide rates are Udon Thani, Roi Et, Nong Khai and Amnat Charoen.

The 5 provinces with the highest recorded rates of suicide are Phrae, Nakhon Phanom, Samut Sakhon, Buri Ram, Phetchabun. Phrae has the highest rate of recorded suicide in the country with 28.6 cases per 100,000 people.

The difference between the best and worst provinces is 95 times.

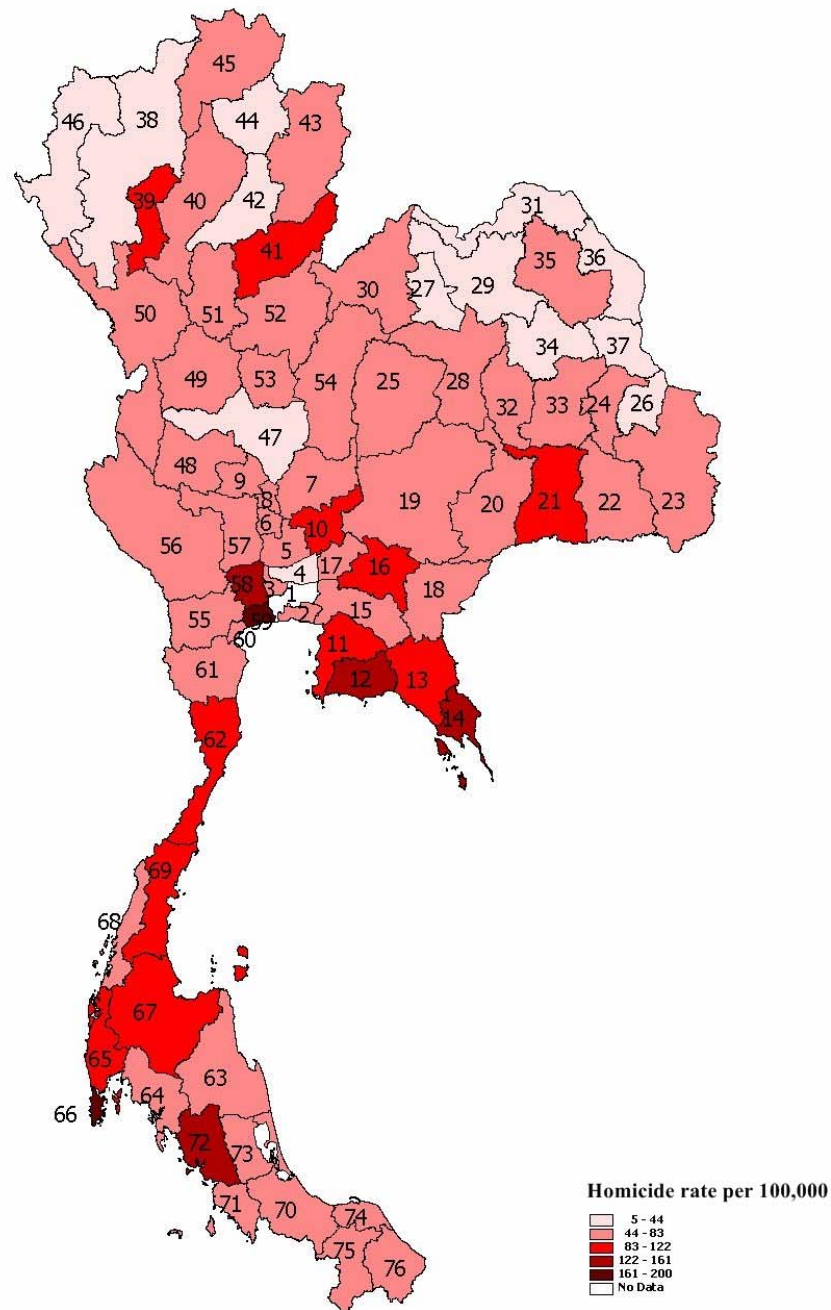
Best 5 and worst provinces for suicide



Sources:

1. <http://news.inbangkok.org/?p=2688>
2. <http://www.orientexpat.com/forum/19652-suicide-rate-in-thailand-doubles-to-two-per-hour/>
3. Public Health Statistics A.D. 2009, Ministry of Public Health

Homicide rate



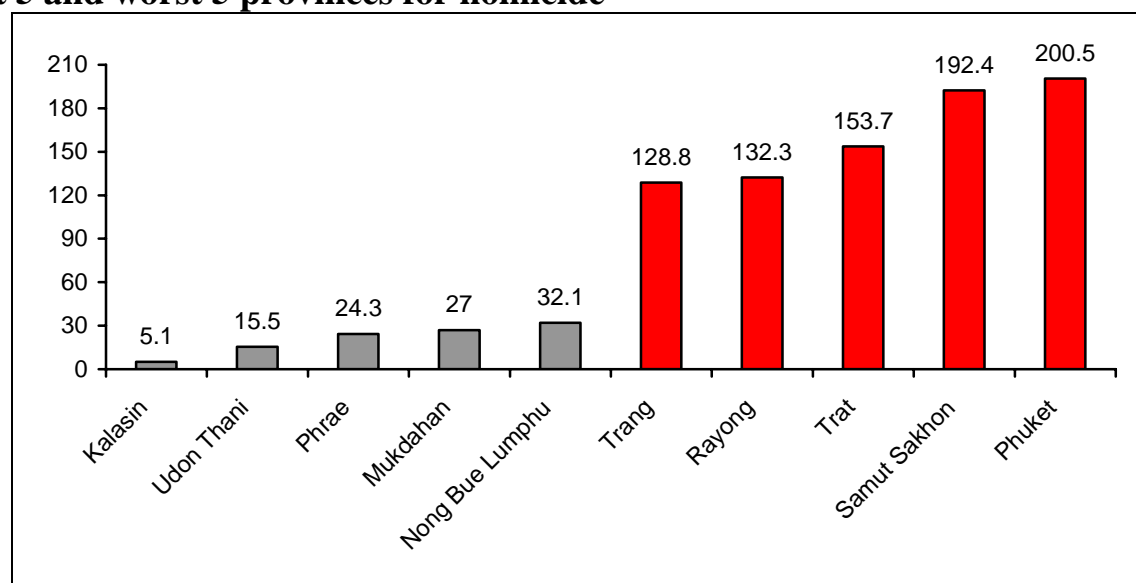
Compared to other countries, Thailand ranks low for most reported crimes - with the one exception of homicide. Thailand is near the top of countries for murder with firearms. Gun crime is most often related to gang wars. There is a serious problem of organised drug crime in the border areas with Burma, Cambodia and Laos. Guns are also often used to settle business disputes and jealous lovers - both men and women - use guns to settle scores depressingly often.

The 5 provinces with the lowest recorded homicide rates are Kalasin, Udon Thani, Phrae, Mukdahan, and Nong Bue Lumphu. Kalasin has 5 recorded homicides per 100,000 people.

The 5 provinces with the highest levels of recorded homicide rates are Phuket, Samut Sakhon, Trat, Rayong, and Trang. Phuket has the highest recorded homicide rate in the country with 200.5 deaths per 100,000 people.

The difference between the best and worst provinces is 39 times.

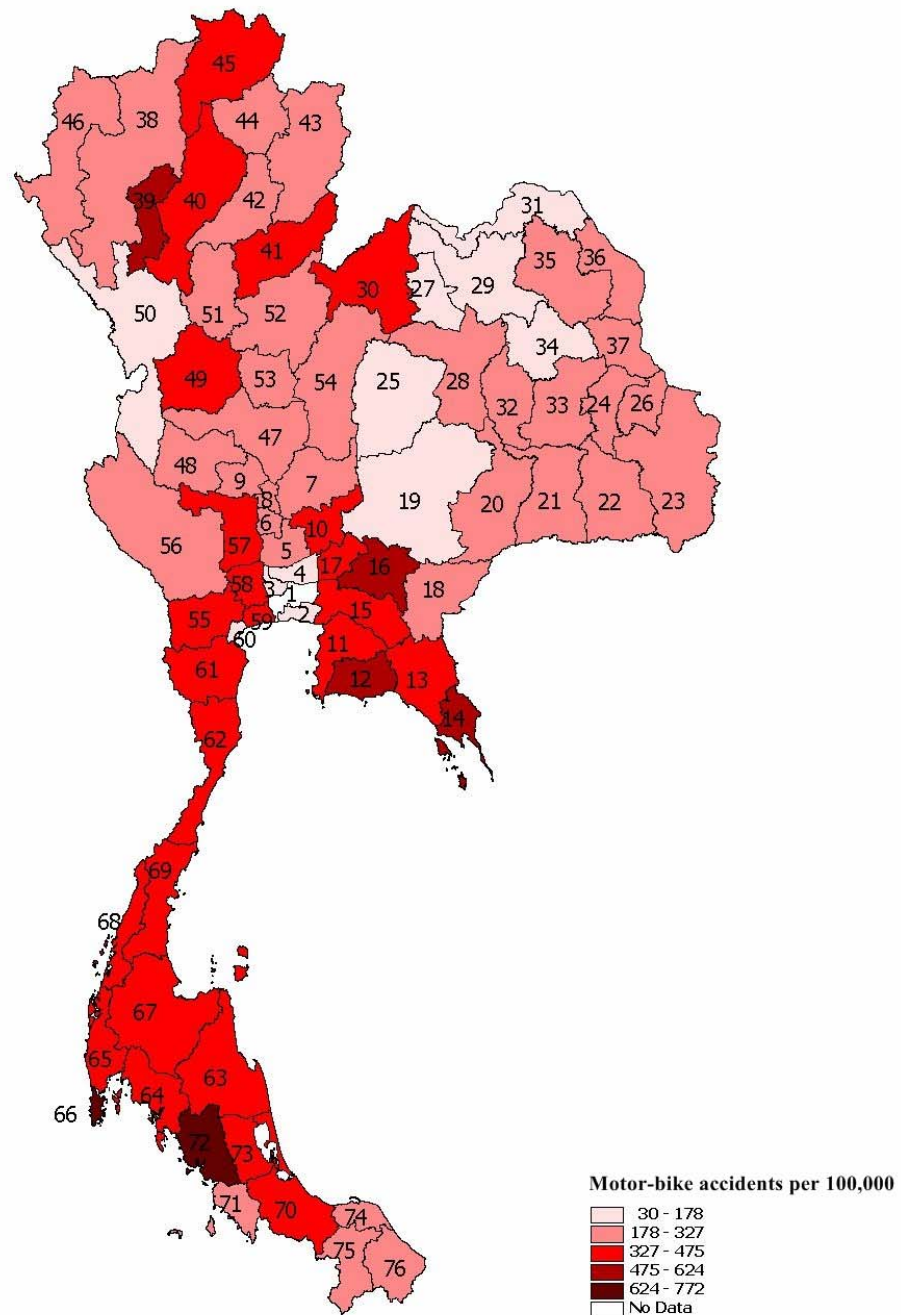
Best 5 and worst 5 provinces for homicide



Source:

Public Health Statistics A.D. 2009, Ministry of Public Health

Motor-bike accidents per population



Motorbike accidents are a series problem in Thailand, particularly during long holidays when alcohol use and traffic are both heavier than normal. The problem is exacerbated as many motorbike riders do not wear helmets despite the law. During the *Songkran* (Thai New Year) holiday, the problem is further exacerbated by people throwing water at passing vehicles as part of the traditional celebration.

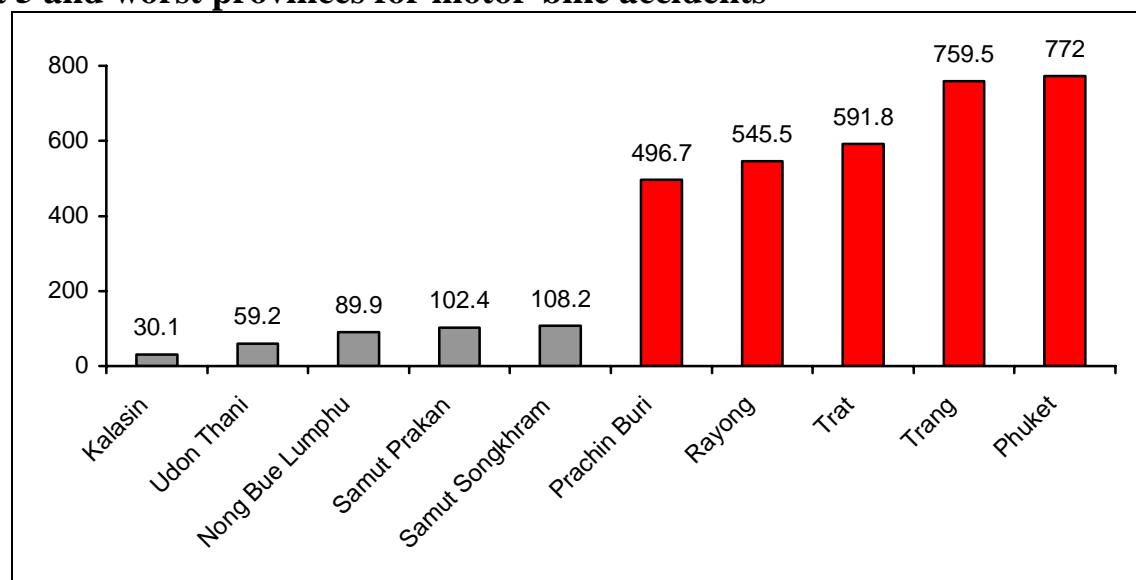
Variation between provinces depends on a number of factors. This includes the number of motorbikes been driven, the quality of the roads, the amount of alcohol and other drugs being consumed by those on the roads, the congestion on the roads and how well traffic laws are enforced.

The 5 provinces with the fewest recorded motorbike accidents are Kalasin, Udon Thani, Nong Bue Lumphu, Samut Prakan and Samut Songkhram. Kalasin has a recorded rate of 30 motorbike accidents per 100,000 people.

The 5 provinces with the highest recorded rates of motorbike accidents are Prachin Buri, Rayong, Trat, Trang and Phuket. Phuket has the highest recorded rate in the country, with a rate of 772 per 100,000 people. Phuket is a tourist resort and may have both high rates of alcohol consumption and a greater proportion of people unaccustomed to the road rules. It should be noted that the tourists distort the figure for Phuket as they are not included in the calculation of the provincial rate, yet are involved in accidents.

The difference between the best and worst provinces is 26 times.

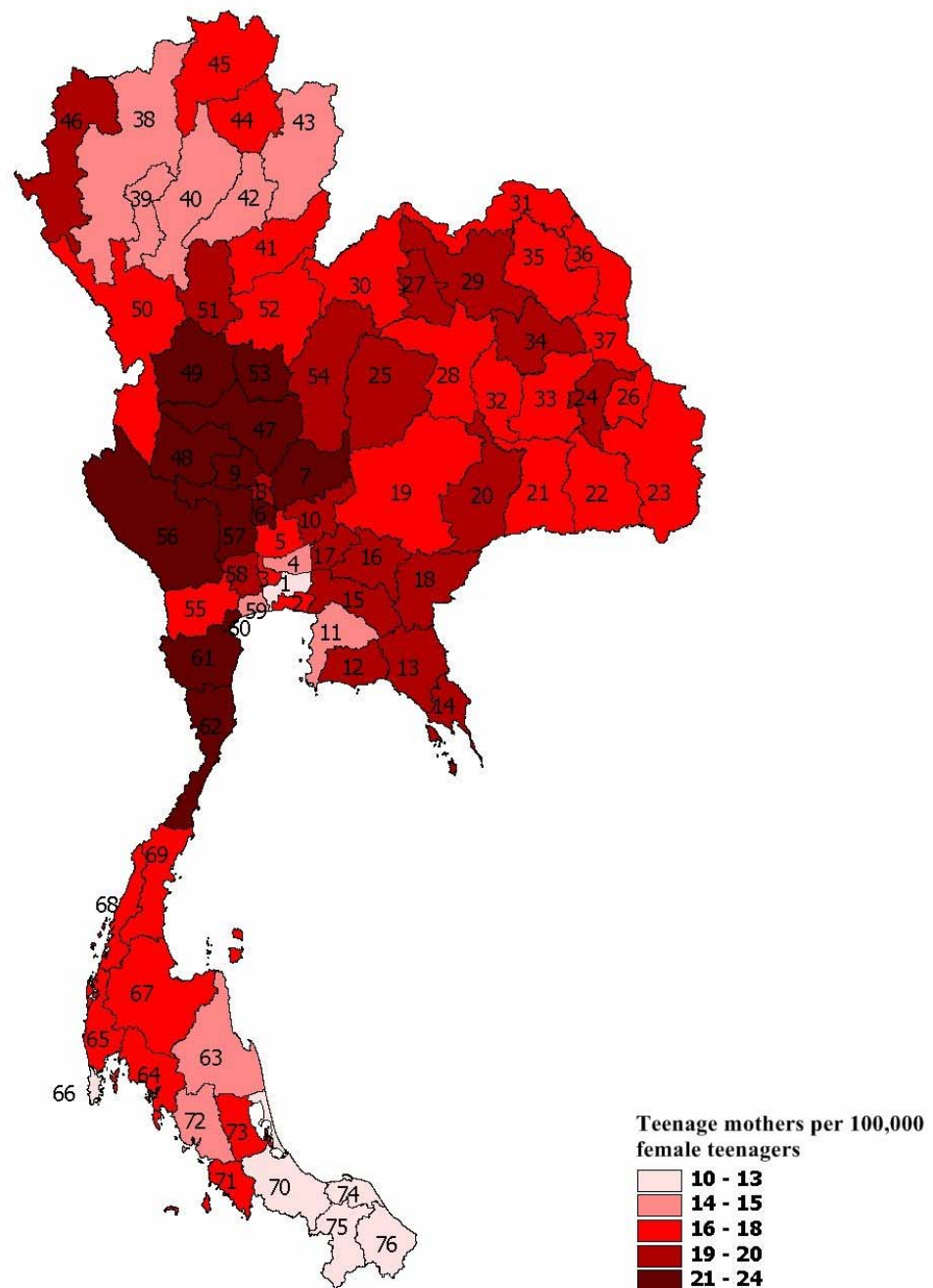
Best 5 and worst provinces for motor-bike accidents



Source:

Public Health Statistics A.D. 2009, Ministry of Public Health

Proportion of female teenagers who are mothers



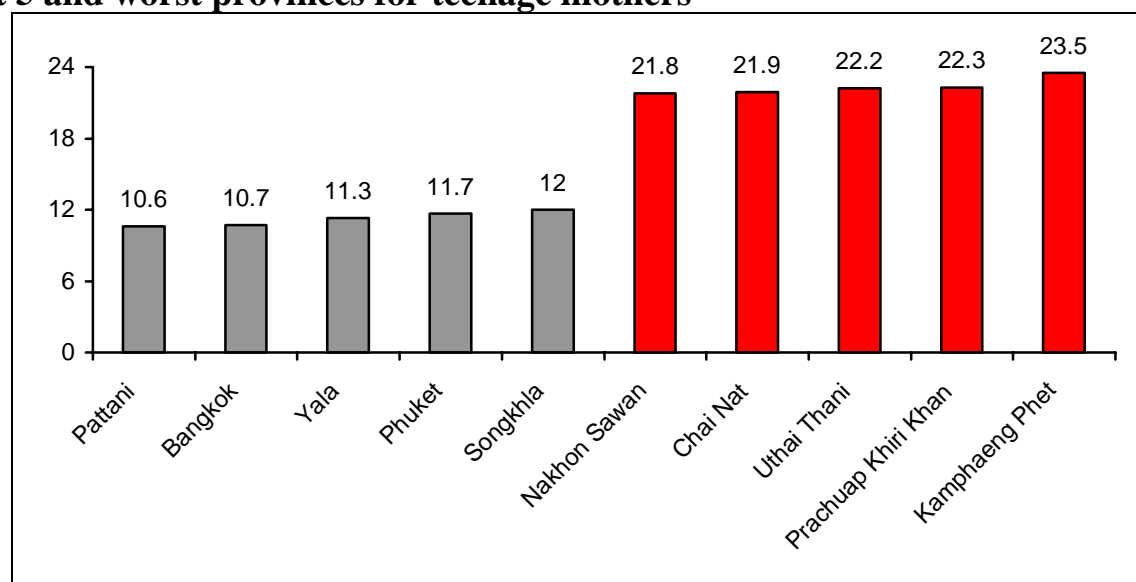
Becoming a parent should be one of the great joys of life. However, if the mother or the father is too young there are a whole range of problems for the newly born child, the parents and the society as a whole. Teenage mothers or fathers are often unprepared for parenthood and are forced out of school, take low-paying jobs and often never complete their education. The teenagers' parents are often thrust into the role of raising two children--the teenager and his or her child. Further, they find themselves stressed emotionally and economically. Children of teenage parents typically have more illnesses in the first year of life.

Apart from Bangkok, which has the second lowest recorded rate of teenage mothers, the provinces with the lowest recorded rates of teenage mothers are in Southern Thailand; they are Pattani, Yala, Phuket and Songkhla. Pattani has a recorded rate of 10.6 teenage mothers per 100,000 female teenagers.

Nakhon Sawan, Chai Nat, Uthai Thani, Prachuap Khiri Khan and Kamphaeng Phet are the provinces with the highest recorded rates of teenage mothers. The recorded rate in Kamphaeng Phet is 23.5 per 100,000 female teenagers.

The difference between the best and worst provinces is 2 times.

Best 5 and worst provinces for teenage mothers



Source:

Public Health Statistics A.D. 2009, Ministry of Public Health

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