



**Public submissions into the review of coal seam gas activities in NSW with a focus on the impacts of these activities on human health and the environment.**

**geralyn mccarron** to: csg.review

26/04/2013 02:44 PM

History:

This message has been replied to and forwarded .

The NSW chief scientist and engineer

Re: Public submissions into the review of coal seam gas activities in NSW with a focus on the impacts of these activities on human health and the environment.

Dear Sir,

The rural residential estates near Tara are the most densely settled area in Australia to have seen intensive CSG development. Since 2008, the people of these estates have informed successive Queensland Governments of their health problems. Their reports of ill health have been trivialised and ignored. The recent report released by the Queensland Government following their investigation into the health impacts near Tara was so inadequate and flawed that it has done little to alleviate concerns.

The Queensland government undertook minimal non-systematic environmental sampling, and relied mainly on extremely inadequate industry commissioned data. For 26 of the compounds tested, the limit of analysis by the method chosen was up to 100 times above the health standard they were being judged against. The investigation of patient symptoms was grossly underfunded and understaffed, with no medical staff actually visiting the site. Only 15 people were examined clinically. Positive findings of volatile chemicals were dismissed, despite the fact they are potentially capable of causing health impacts, especially over long periods of time.

I am a general practitioner living in Brisbane and during February and March 2013 I undertook to carry out a private study into the health complaints of people living in close proximity to coal seam gas development. This took the format of a health survey.

Thirty -five households in the Tara residential estates and the Kogan/Montrose region were surveyed in person and telephone

interviews were conducted with three families who had left the area. Information was collected on 113 people from the 38 households. Of these, 17 were children 5 years of age or less, 31 were children aged between 6 and 18, and 65 were adults aged between 19 and 82. 58% of residents surveyed reported that their health was definitely adversely affected by CSG, whilst a further 19% were uncertain. The pattern reported was outside the scope of what would be expected for a small rural community.

A range of symptoms were reported which can sometimes be related to neurotoxicity (damage to the nervous system), including severe fatigue, weakness, headaches, numbness and paraesthesia (abnormal sensations such as pins and needles, burning or tingling). Approximately a third of the all the 48 children to age 18 (15/48) were reported to experience paraesthesia. Almost all the 31 children aged 6-18 were reported to suffer from headaches and for over half of these the headaches were severe. Of people aged 6 years and over, severe fatigue and difficulty concentrating was reported for over half. Parents of a number of young children reported twitching or unusual movements, and clumsiness or unsteadiness.

In all age groups there were reported increases in cough, chest tightness, rashes, difficulty sleeping, joint pains, muscle pains and spasms, nausea and vomiting. Approximately one third of the people over 6 years of age were reported to have spontaneous nose bleeds, and almost three quarters were reported to have skin irritation. Over half of children were reported to have eye irritation.

I enclose a sample of pie charts demonstrating the reported health changes. The completed study report will be available in the very near future.

This unfunded study was limited in terms of what can be concluded and does not claim to be without methodological problems. However what it does do is highlight the basis for serious concerns of the residents and the need for the Queensland government to fund a comprehensive epidemiological investigation of the problem.

No baseline air or water monitoring or baseline health studies were done prior to the Queensland Government permitting the widespread development of the CSG industry in close proximity to family homes. No ongoing health study or surveillance and no ongoing testing to monitor chronic exposure levels is in place. This is clearly unacceptable.

A fully funded comprehensive medical assessment of residents currently living in proximity to gas developments should be carried out as a matter of urgency. Long term epidemiological studies are necessary to track the health of people exposed to CSG over decades. Health impact assessments must be an integral part of every unconventional gas development to prevent adverse health impacts.

Gas companies must be required to fully and openly disclose in a timely manner, all chemicals used, so that these can be tested for to exclude health impacts.

Comprehensive air and water monitoring (an open, ongoing and unlimited information loop) is essential. If we are looking at possible non beneficial human health impacts we need to look at all the gases and volatiles both natural and derived emitted via well drilling, gas and pipeline valves, leaking wellheads, flaring, and other processes involved in gas collection/purification/refining to export specifications.

The cause of human health impacts may not be simple, that is a single chemical culprit, but be the cumulative impact over time of several related or unrelated chemicals. It is the interactions of a mixture of chemicals both outside and inside the body which warrant investigation. If one compound prevents the breakdown or excretion of other compounds from the body then unforeseen toxicity can result. If solvents are part of the mix, then the blood brain barrier may be compromised, with serious and unpredictable consequences.

The state governments must take their responsibility for the health of their citizens seriously, and the federal government must develop federal legislation to protect public health from CSG impacts.

Unconventional gas development (CSG, shale, underground gasification and more) has been licenced widely throughout Australia. If the health implications of the unconventional gas industry continue to be ignored and the industry is allowed to develop along its current path, the potential exists for serious and widespread harm to human health across Australia.

Yours faithfully,

Dr Geralyn McCarron

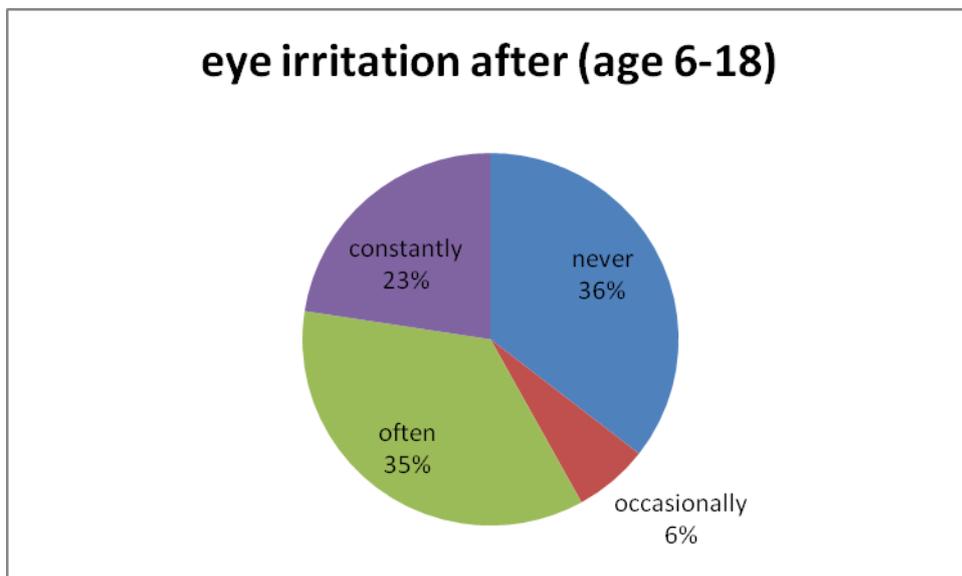
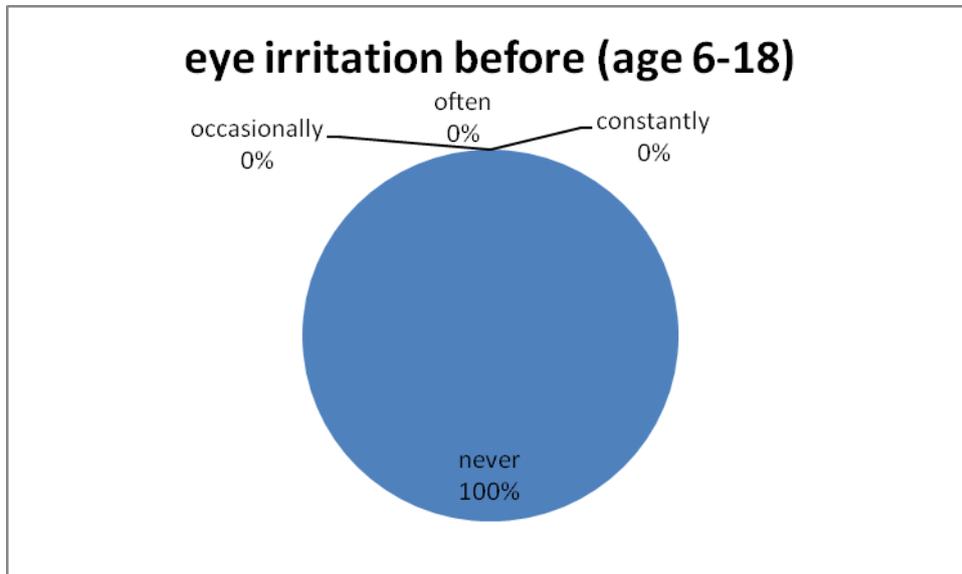
4 Bayeau Court,

Petrie, Queensland 4502.

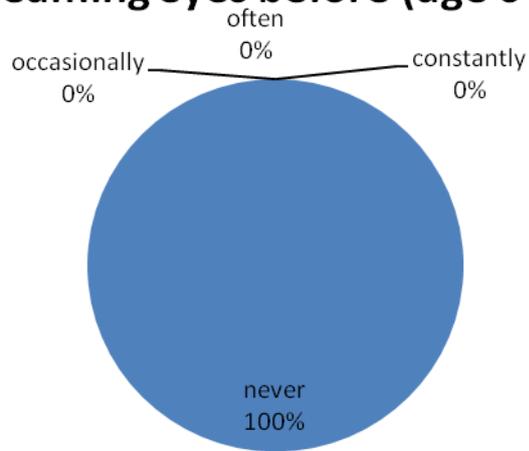


26th april 2013PIE CHARTS age 6-18, before and after CSG exposure.docx

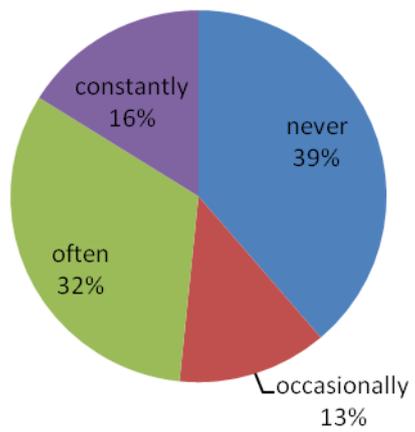
## Symptoms reported before and after Coal Seam Gas exposure



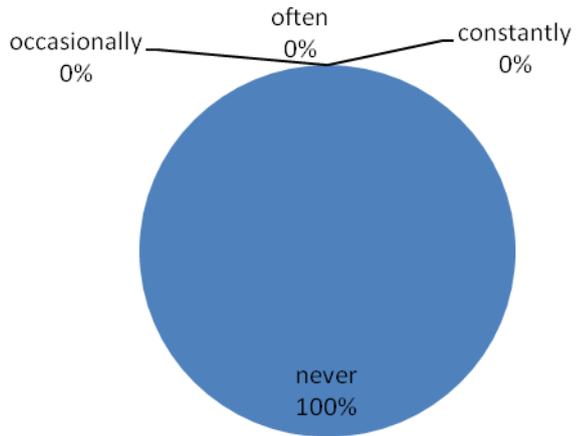
### streaming eyes before (age 6-18)



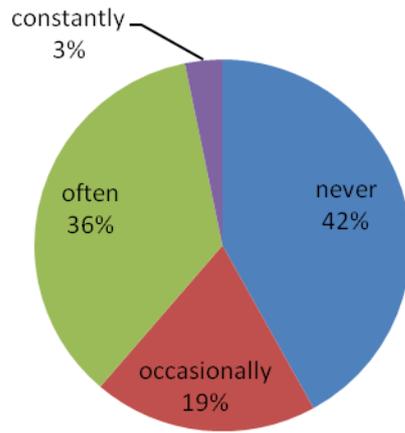
### streaming eyes after (age 6-18)



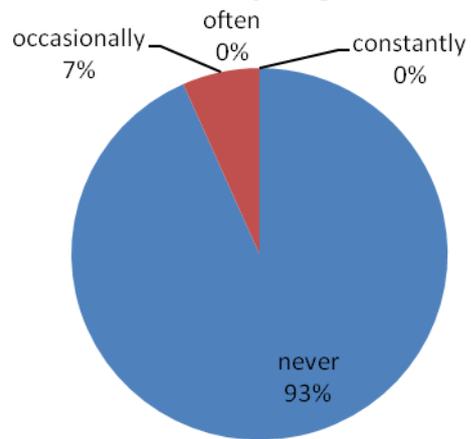
### nasal burning before (age 6-18)



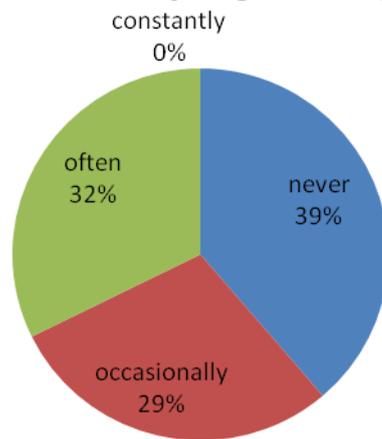
### nasal burning after (age 6-18)



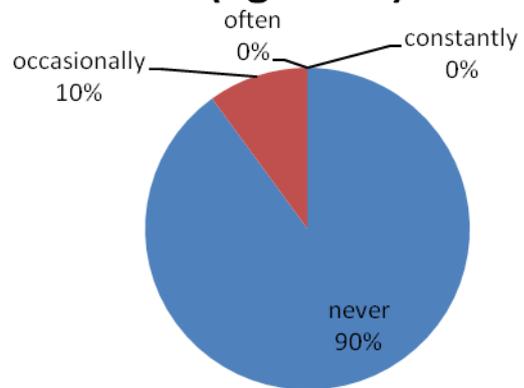
### blood nose on wiping before (6-18)



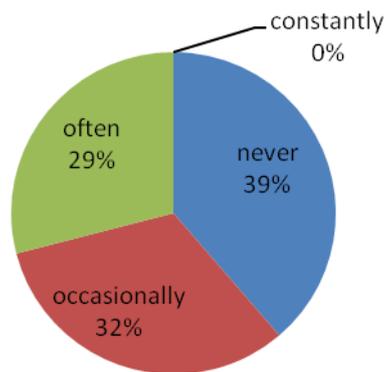
### blood nose on wiping after (age 6-18)



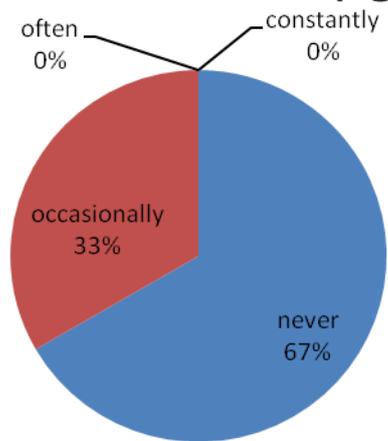
### spontaneous nose bleeds before (age 6-18)



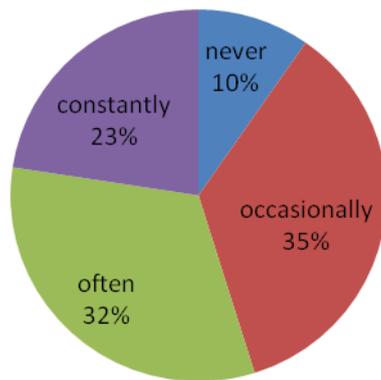
### spontaneous nose bleeds after (age 6-18)



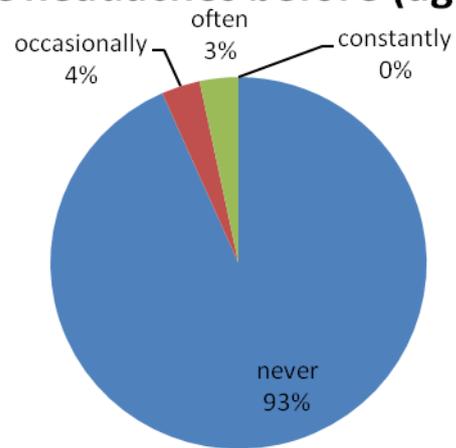
### mild headaches before (age 6-18)



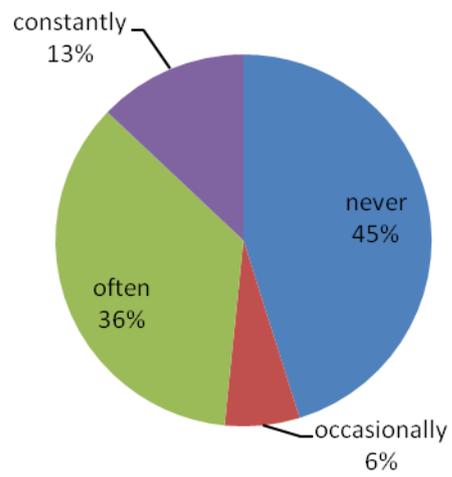
### mild headaches after (age 6-18)



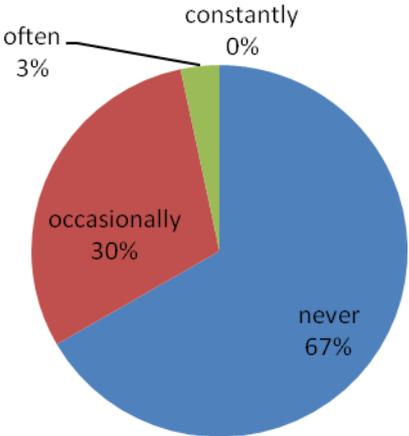
### severe headaches before (age 6-18)



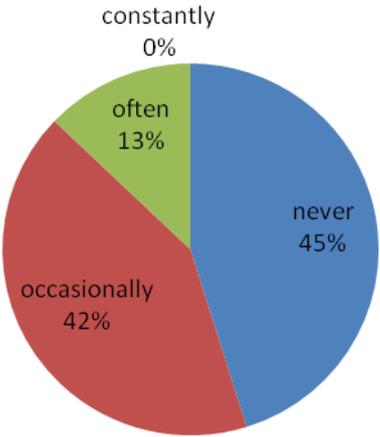
### severe headaches after (age 6-18)



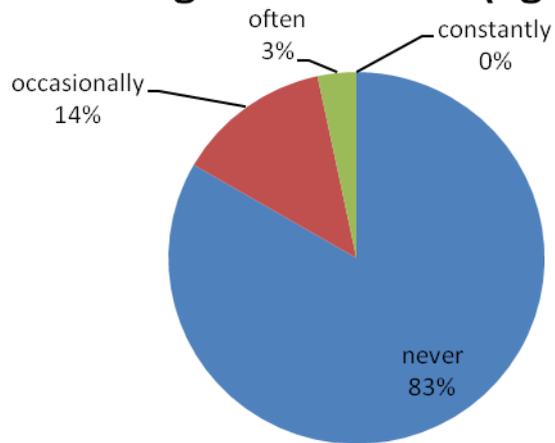
### cough before (age 6-18)



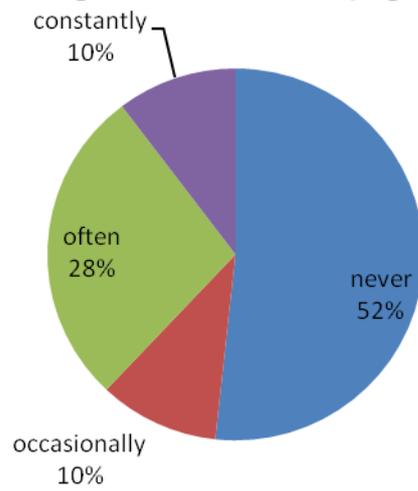
### cough after (age 6-18)



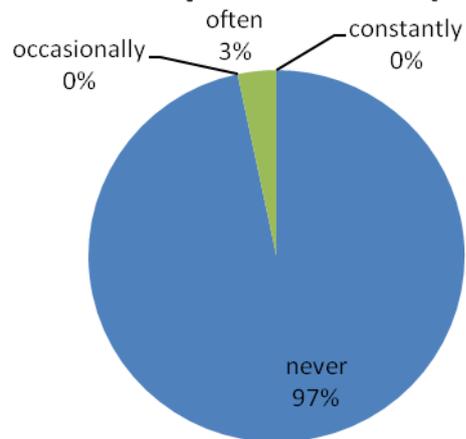
### chest tightness before (age 6-18)



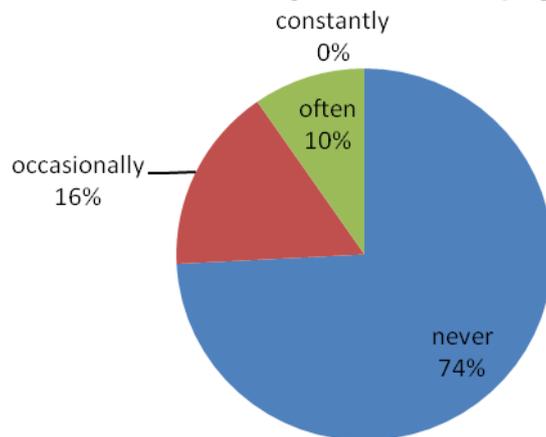
### chest tightness after (age 6-18)



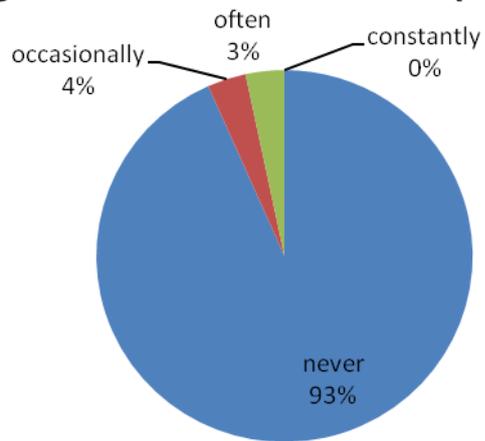
### severe chest pain before (age 6-18)



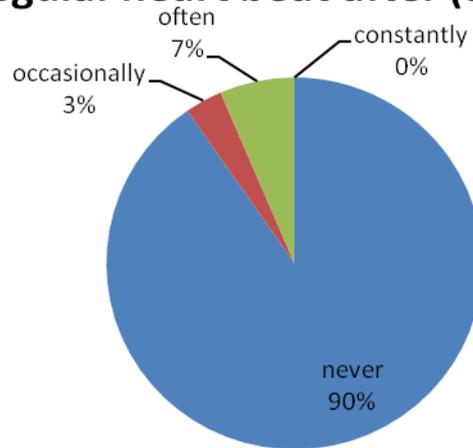
### severe chest pain after (age 6-18)



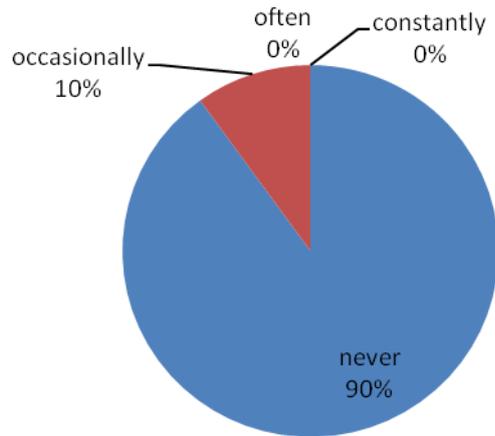
### irregular heartbeat before (age 6-18)



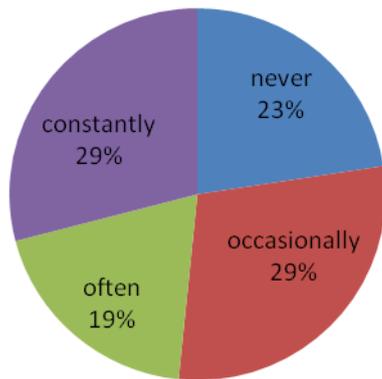
### irregular heart beat after (age 6-18)



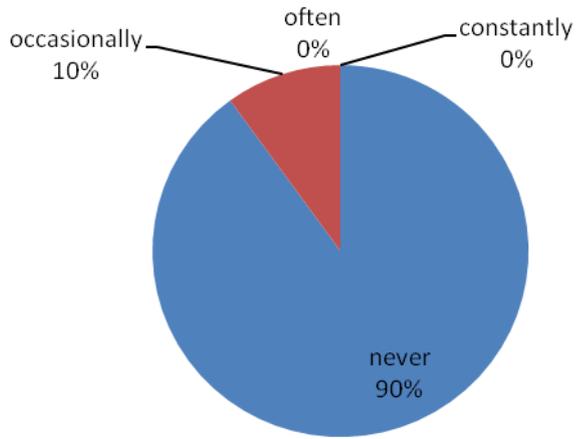
### skin irritation before (age 6-18)



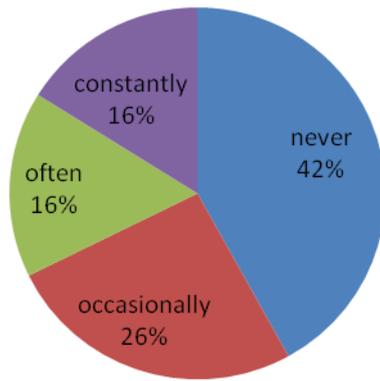
### skin irritation after (age 6-18)



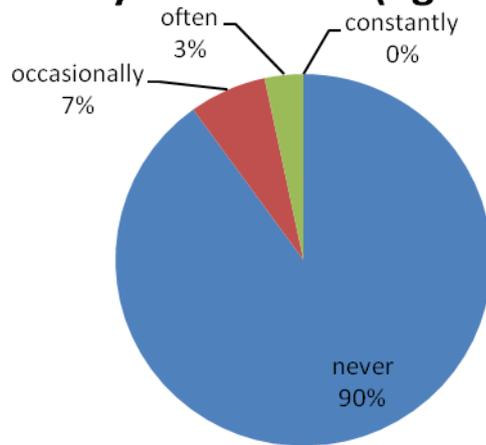
### rashes before (age 6-18)



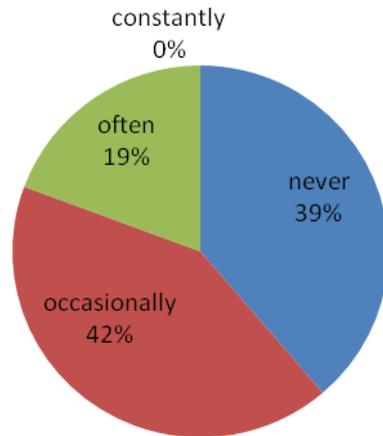
### rashes after (age 6-18)



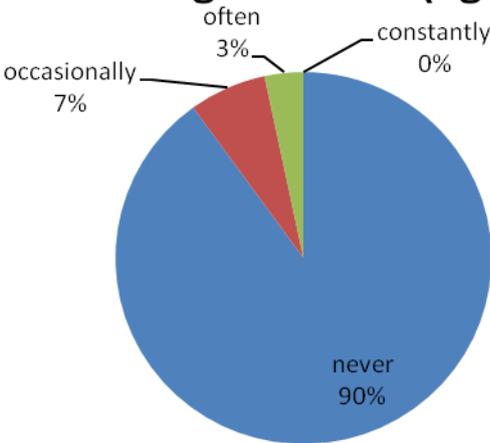
### dizziness before (age 6-18)



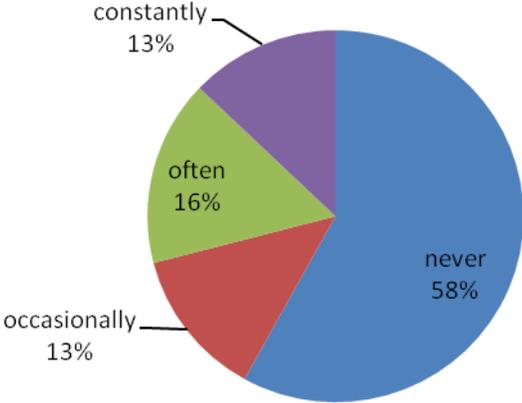
### dizziness after (age 6-18)



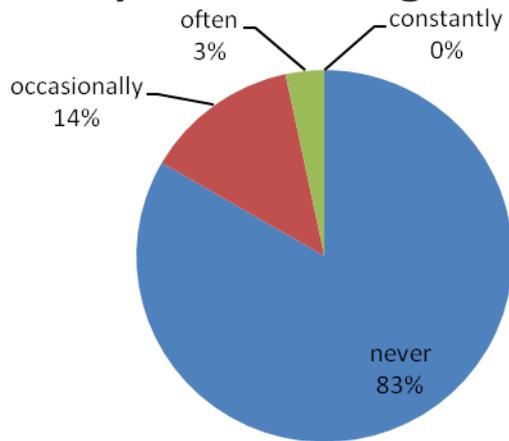
### severe fatigue before (age 6-18)



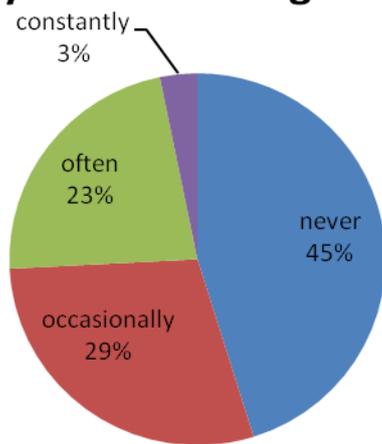
### severe fatigue after (age 6-18)



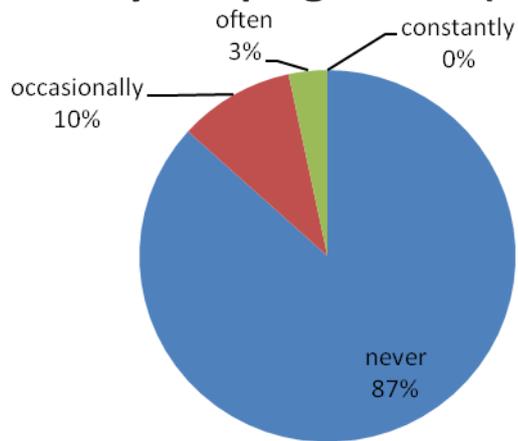
### difficulty concentrating before (6-18)



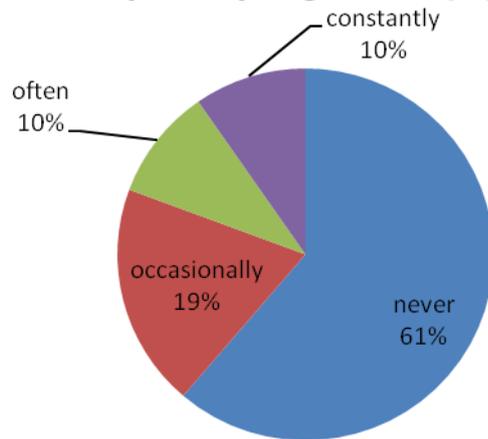
### difficulty concentrating after (6-18)



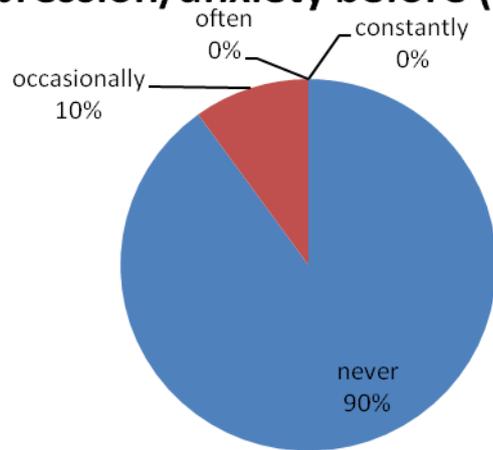
### difficulty sleeping before (age 6-18)



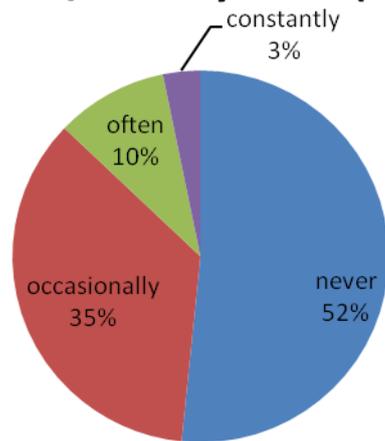
### difficulty sleeping after (age 6-18)



### depression/anxiety before (age 6-18)

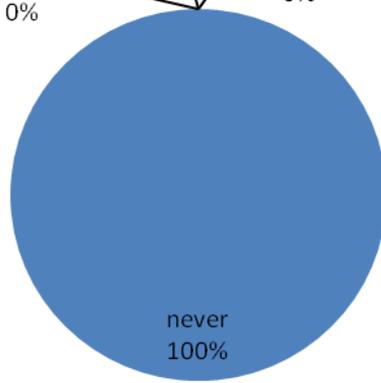


### depression/anxiety after (age 6-18)



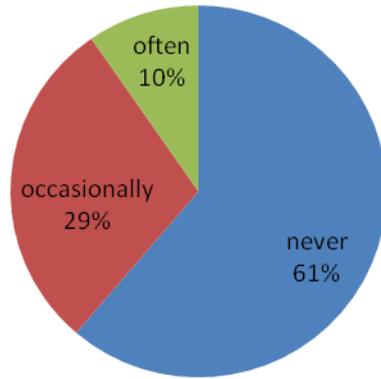
### weakness before (age 6-18)

occasionally 0%    often 0%    constantly 0%

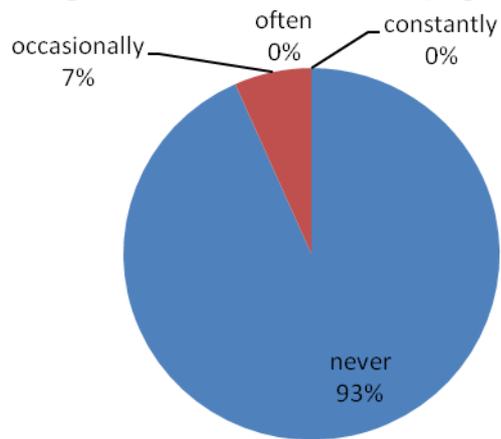


### weakness after (age 6-18)

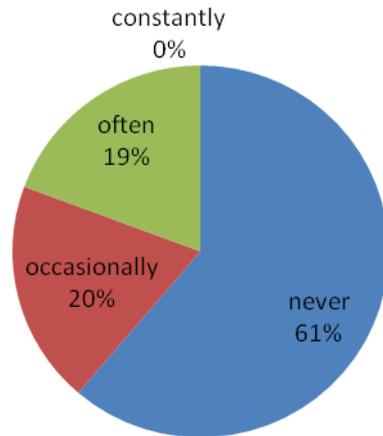
constantly 0%



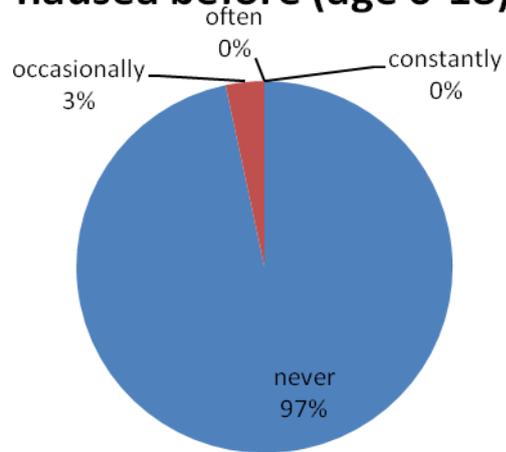
### forgetfulness before (age 6-18)



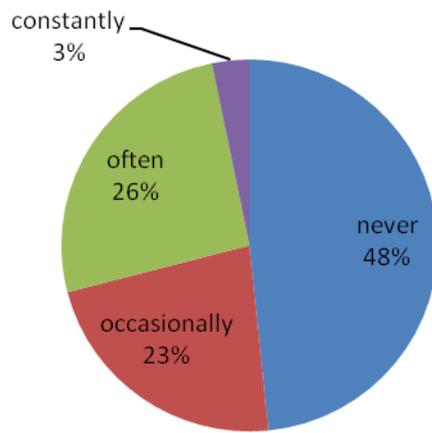
### forgetfulness after (age 6-18)



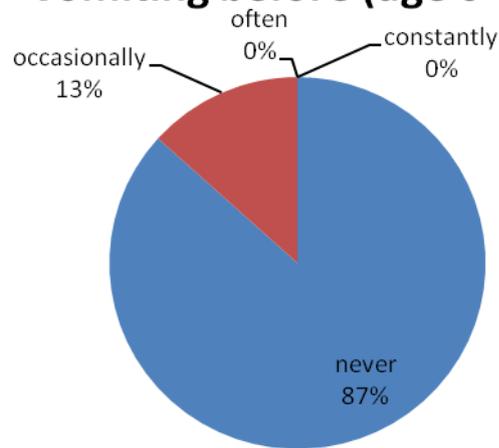
### nausea before (age 6-18)



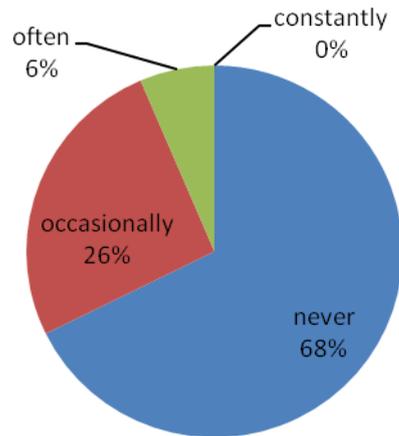
### nausea after (age 6-18)



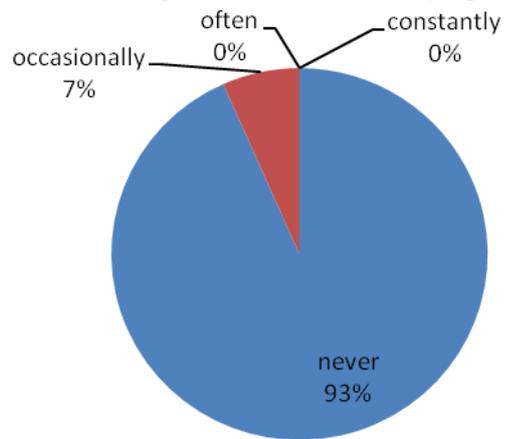
### vomiting before (age 6-18)



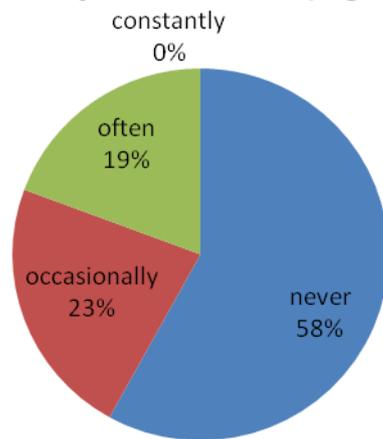
### vomiting after (age 6-18)



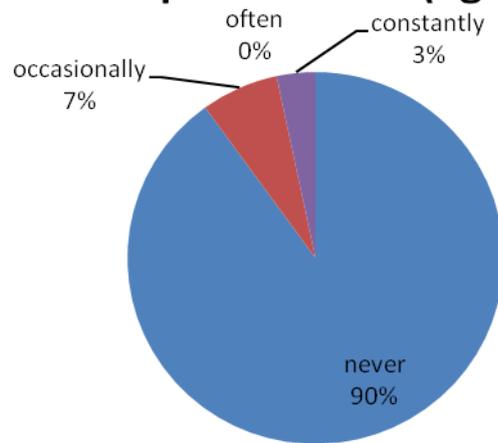
### stomach pains before (age 6-18)



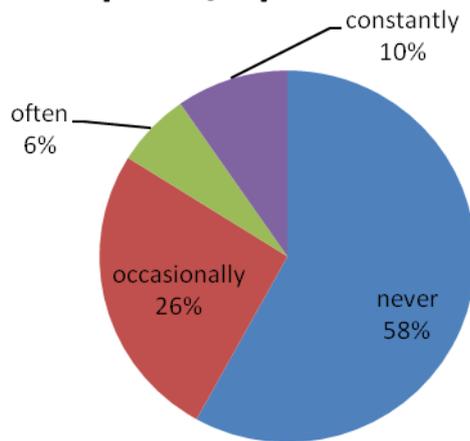
### stomach pains after (age 6-18)



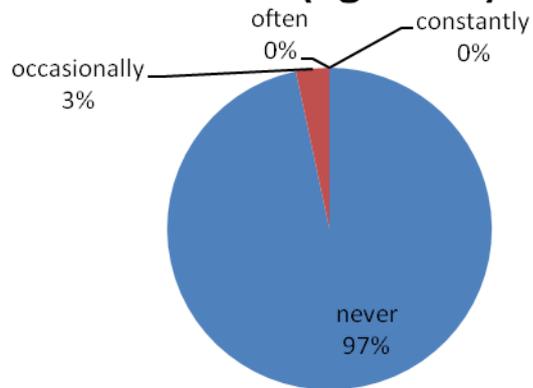
### muscle pains before (age 6-18)



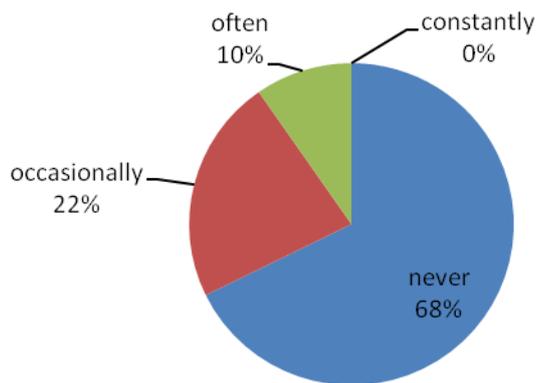
### muscle pains/ spasms after (6-18)



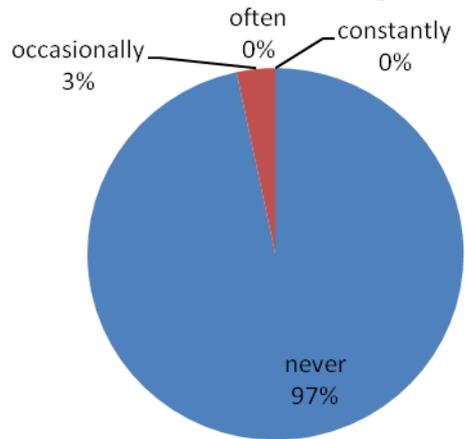
### tingling numbness pins and needles before (age 6-18)



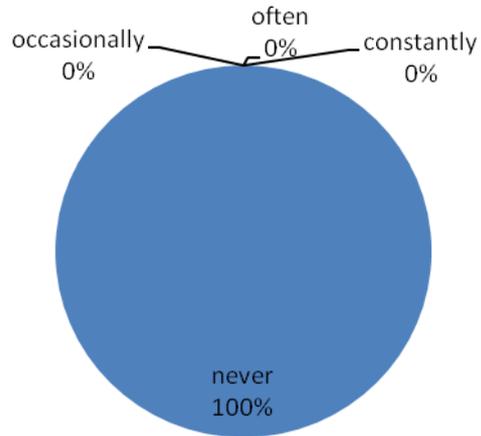
### tingling numbness pins and needles after (age 6-18)



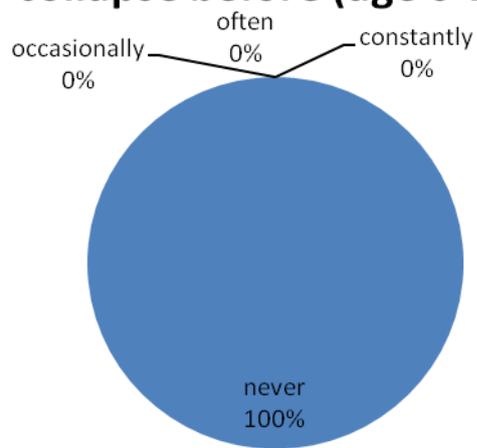
### seizures before (age 6-18)



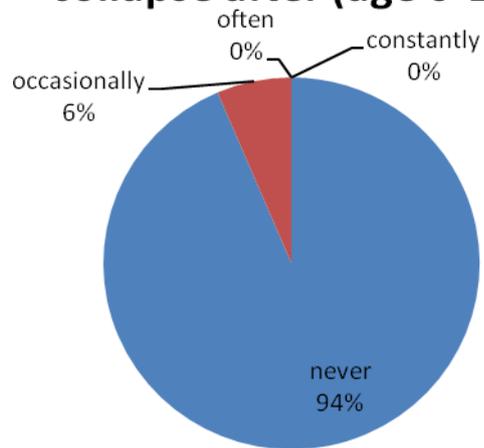
### seizures after (age 6-18)



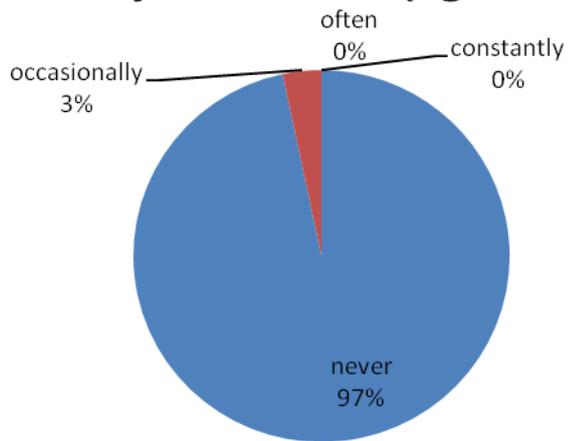
### **collapse before (age 6-18)**



### **collapse after (age 6-18)**



### sore joints before (age 6-18)



### sore joints after (age 6-18)

