

It may surprise you to learn that chronic sleep deprivation, for whatever reason, significantly affects your health, performance, safety, and pocketbook. There are many causes of sleep deprivation.

The effects that sleep deprivation can have on your health include: For example, participants in one study who slept fewer than seven hours a night were three times more likely to catch a cold than those who got eight hours of sleep a night. With sleep deprivation, levels of the hormone ghrelin – which makes you feel hunger – increase. Likewise, leptin – a hormone that makes you feel full – decreases. You eat more food. Data from Texas Tech University found that sleeping fewer than seven hours per night doubles the risk of obesity. Over a year period, men who slept five hours a night were twice as likely as those who slept seven hours a night to develop diabetes. Men who got six hours had a 29 percent higher risk of fatal prostate cancer. Sleeping both less or more than this optimal level increased the risk of death. Men sleeping six or fewer hours, or nine or more hours, per night were 1. Women in the same categories were 1. Insufficient sleep can also lead to mental health problems like depression and anxiety, social withdrawal, and increased stress. Natural Remedies for Sleep Deprivation Getting proper sleep is key to experiencing improved health, increased energy and vitality, and a better mood. If you are having trouble getting adequate sleep, try these natural remedies. Valerian Tea Although research on this supplement has shown mixed results with regards to its effectiveness, one study found that among women with sleeping problems related to menopause, one in three got better sleep after drinking valerian tea. In one study, a melatonin supplement decreased the time it took children with insomnia to fall asleep by more than 15 minutes. In the study, a small group of insomniacs increased their sleep time by 84 minutes by drinking the juice for two weeks. A study of older adults with insomnia found that exercising minutes a week reduced insomnia symptoms after six months. For instance, in a study of a practice known as mindfulness-based stress reduction, those who received the training, which includes yoga, meditation, relaxation techniques, and sleep education, got about 43 minutes extra minutes of sleep a night compared with those who just kept a sleep diary. Whether you suffer from insomnia or want to get deeper sleep, try taking magnesium supplements before bed. A study on older adults with insomnia found that taking mg per night for eight weeks significantly increased sleep time and sleep efficiency. Creating a restful sleeping environment may also help you get more. The National Sleep Foundation suggests making the bedroom cool, dark and quiet, and consider infusing it with a relaxing scent like lavender. Points to Remember Sleep deprivation is extremely common in the U. More than just making you feel lousy, insufficient shuteye can also harm your physical and mental health. Experts recommend adults get seven to nine hours per night, and children nine and a half. After 24 hours of sleep deprivation, you may experience mood swings, irritability, aggression, and a decrease in working memory and attention span. Only 10 percent of Americans prioritize getting a good night sleep despite its importance. Exercise, relaxation techniques, behavioral changes, and certain supplements can all help you get the sleep you need to thrive. National Institutes of Health.

Chapter 2 : Float Tank and Float Therapy

A sensory deprivation tank, also called an isolation tank or flotation tank, is used for restricted environmental stimulation therapy (REST). It is a dark, soundproof tank that is filled with a.

Received Oct 12; Accepted Sep This article has been cited by other articles in PMC. Abstract Background The association between area deprivation and health has mostly been examined in cross-sectional studies or prospective studies with short follow-up. These studies have rarely taken migration into account. This is a possible source of misclassification of exposure, i. The aim of this article was to examine to what extent associations between area deprivation and health outcomes were biased by recent migration. Methods Based on data from the Oslo Health Study, a cross-sectional study conducted in Oslo, Norway, we used six health outcomes self rated health, mental health, coronary heart disease, chronic obstructive pulmonary disease, smoking and exercise and considered migration nine years prior to the study conduct. Migration into Oslo, between the areas of Oslo, and the changes in area deprivation during the period were taken into account. Associations were investigated by multilevel logistic regression analyses. Results After adjustment for individual socio-demographic variables we found significant associations between area deprivation and all health outcomes. Accounting for migration into Oslo and between areas of Oslo did not change these associations much. However, the people who migrated into Oslo were younger and had lower prevalences of unfavourable health outcomes than those who were already living in Oslo. But since they were evenly distributed across the area deprivation quintiles, they had little influence on the associations between area deprivation and health. Evidence of selective migration within Oslo was weak, as both moving up and down in the deprivation hierarchy was associated with significantly worse health than not moving. Conclusion We have documented significant associations between area deprivation and health outcomes in Oslo after adjustment for socio-demographic variables in a cross-sectional study. These associations were weakly biased by recent migration. From our results it still appears that migration prior to study conduct may be relevant to investigate even within a relatively short period of time, whereas changes in area deprivation during such a period is of limited interest. Background In studies of area effects on health, misclassification of exposure due to recent migration may be a problem. Area effects on health has mostly been examined in cross-sectional studies or prospective studies with short follow-up, but migration is rarely taken into account. Studies that do not take length of residence into account may give spurious area effects on health, because individuals may be assigned an area exposure that they may have experienced too short for it to have any effect [1], and their current health may instead show the possible effects of their previous areas of residence [2], e. A cross-sectional design appears inappropriate when thinking about socially and biologically plausible causal pathways by which areas might influence health [4]. In a cross-sectional study of a city population several types of migration may bias the results. Firstly, the aspect of selective migration, i. Secondly, the aspect of health-promoting or health-damaging effects of the act of moving itself. For example, Kahlmeier et al[5] found an increased wellbeing of movers who had moved into areas with improved environmental housing quality. On the other hand, some people may have difficulties in adapting to a new area, e. The common denominator in dealing with these two types of migration is the requirement for longitudinal health data. Therefore, these issues will remain potential sources of bias in cross-sectional studies. Still, some aspects of migration may be dealt with even in cross-sectional studies, in which we can imagine two types of migration prior to the study conduct: Both need to be considered. This can be done by using retrospective linkage of residence data. But because some people tend to have rather frequent changes in residence, we believe it is important to have retrospective annual data of residence in order to capture the true exposure for the study participants. Furthermore, areas themselves may change over time, implying that people may experience different levels of area deprivation without moving at all. Boyle et al[6] addressed these problems using a selection of people from the ONS Longitudinal Study for England and Wales that had not moved between and , and who were living in non-deprived households throughout the period. The authors found that changes in deprivation in the residential area had a demonstrable effect on morbidity. The study also showed a clear

gradient for morbidity which demonstrated that people living in areas which remained most deprived throughout the period had the most morbidity, and people living in areas which remained least deprived had the lowest morbidity. This is in accordance with a number of studies measuring area effects cross-sectionally with a variety of different measures; self rated health [7 - 12], mental health [13 , 14], coronary heart disease [15], respiratory disease [8 , 16 , 17], daily smoking [8 , 17 - 22] and exercise [18 , 23 , 24], after adjusting for individual characteristics. Significant associations between areas and health have been widely documented [25], but potential bias from migration is rarely investigated. Some studies with large study populations have more or less eliminated migration bias by restricting their analyses to individuals who have resided in a given area over a relatively long period [26], whereas other studies with smaller populations have adjusted for number of years in current area of living [27]. Most studies neglect the aspect of migration, presumably in lack of data. The aim of this study was to investigate to what extent cross-sectional analyses of the associations between area deprivation and health self rated health, mental health, coronary heart disease, chronic obstructive pulmonary disease, smoking and exercise are biased by recent migration. We specifically tested whether: Area deprivation Area deprivation is a frequently used concept but has no singular definition [25]. Our definition of the concept is much in line with this. We define area deprivation as "the clustering of people with limited possibilities for choosing destination of residence". Areas with a high level of socioeconomic disadvantage may also be disadvantaged with respect to other area characteristics in ways that influence health independently of the socioeconomic characteristics of the people living in such areas [17]. Massey [29] claims that to the extent disadvantaged individuals are concentrated in geographically defined areas, disadvantage becomes a characteristic of the areas too. Such disadvantage may take two forms [10]; physical disorder such as abandoned buildings, noise, graffiti, vandalism, filth and disrepair and social disorder such as crime, loitering, public drinking or drug use, conflicts and indifference. Both types of disorder lead to unattractiveness in the housing market. Structural factors through the employment and housing market offer limited possibilities for withdrawal from the area for some people [8], who will have few options to escape from unfavourable conditions that have been found to be associated with health, e. A Norwegian study from demonstrated how certain economically disadvantaged inner-city areas of Oslo were characterised by three specific groups [35]. Firstly, a large clustering of people with several lifestyle disadvantages e. Secondly, a large group of people who had recently moved in, but who did not regard their destination of arrival as a desired area to move to. Furthermore, within these areas the largest percentage of people in Oslo who wanted to move to another area was found. And thirdly, a large group of young people, who would leave the area after a few years, regarding the area as an interim destination. In reference to the housing market; because the value of each home depends on the quality of the neighbourhood, owners have a substantial personal interest in preserving and improving it, compared to short-time renters [10]. Therefore, the extent to which young people exploit cheap tenure possibilities in low price areas, leading to high area turnover, may decrease social cohesion and induce more social disorganisation [7 , 17]. Overall, we argue that individual socioeconomic disadvantage restricts freedom of choosing where to live, and that those possibilities that do exist are characterized by physical and social disorder. Some support of this view was found by Stafford and Marmot [30] who demonstrated that perceived neighbourhood problems e. A total of 40 persons in five age cohorts were invited to participate. We included those aged 30 participation rate This left us with a total population of 14 persons. These were divided into three groups: Income was total taxable income of linked from Statistics Norway , quintilised with the first quintile representing the highest incomes. We included this many measures of individual socioeconomic position in order to reduce the likelihood that the associations between area deprivation and health were attributable to unmeasured or poorly measured confounding by individual factors [23 , 25 , 37]. At the time of the study, the city was divided into 25 administrative areas with a total population of Area deprivation was a composite index of five items: The items were chosen in order to reflect the clustering of people within an area with anticipated limited possibilities of choosing destination of residence, particularly those with limited exit options from current area of living. Across all five indicators, the areas were quintilised. A composite rank score from 5 least deprived to 25 most deprived was calculated and quintilised for the analyses. This was repeated for all years back to , i. Data were provided by

the Oslo City Council. Health outcomes Self rated health SRH was derived from the question: Cut-off was set at 1. Smoking was assessed by the question "Have you smoked or do you smoke? Former and never smokers were collapsed into one group, contrasted to current smokers. Exercise was measured by the question "What kind of physical activity have you undertaken in the course of the past year? Estimate a weekly average for the year hard physical activity, you sweat or feel out of breath ". The variable was dichotomised into no exercise at all and have exercised. Measuring exercise by self-reported data on number of occasions or time spent on such activities is commonly used [18 , 24 , 43 , 44]. Data on COPD was obtained from an additional questionnaire that had a much lower response rate than the main questionnaire in the Oslo Health Study. Hence the large number of missing values for COPD. Statistics We specified three binomial multilevel logistic regression models, estimating the parameters by the penalised quasilielihood method. Analyses were conducted for all health outcomes, in which we measured the association between area deprivation and health after adjusting for individual variables. In model 2 we removed the in-migrants, and in model 3 area deprivation was measured as an average of all areas of residence during the period " for those who had lived in Oslo in all years, i. Between-area variance was calculated, indicating the unexplained variance in the outcome of interest in the 25 areas. Analyses were carried out using the software MLwiN version 1. SPSS for Windows version Compared to the invited population, the following subgroups were under-represented [36]: But self-selection by socio-demographic background did not influence prevalence estimates in SRH, HSCL and smoking to any degree [36]. Those with one or more missing values were worse off in terms of both socio-demographic variables and health outcomes than those with no missing values figures not shown. In order to avoid bias from exclusion of participants with missing values, we included them as separate missing categories in the analyses. Percent distribution, and prevalences.

Chapter 3 : Health Deprivation - UK Deprivation- A North South Divide?

Sleep deprivation not only affects how you feel the next day, it can also have an effect on multiple systems in your body. It drains your mental abilities and puts your physical health at risk.

Two models are proposed. Methods Individual data from the Whitehall II study covering health, SES, and perceived status were linked to census data on neighbourhood deprivation. Results Both individual and neighbourhood deprivation increased the risk of poor general and mental health. There was a suggestion that the effect of living in a deprived area was more marked for poorer individuals, although interactions were not statistically significant. Poor people in poor neighbourhoods reported more financial and neighbourhood problems and rated themselves lowest on the ladder of society. Conclusions We found no evidence that personal poverty combined with affluent neighbourhood had negative health consequences. Rather, living in a deprived neighbourhood may have the most negative health effects on poorer individuals, possibly because they are more dependent on collective resources in the neighbourhood. Context , neighbourhood , area deprivation , relative deprivation , multilevel Evidence is accumulating that the place where a person lives may influence their health, even after accounting for individual risk factors, 10 although some studies have found no independent effects of area on health once individual factors have been controlled for. Some studies have used ecological analyses relating average health in an area to some characteristic of that area, such as neighbourhood socioeconomic status SES. Individual-level data on health and SES and neighbourhood level data on deprivation must be analysed simultaneously to determine whether living in a deprived neighbourhood increases the risk of poor health over and above the effect of individual risk factors. Another possibility is that the health effects of living in a deprived neighbourhood are different for rich and poor individuals. We are now dealing with the interaction between person and place in determining health. Socioeconomic factors at the individual and area level may act together to influence health in two ways. The ability of wealthier, more powerful individuals to attract high quality amenities and services enhances the area for all residents. The beneficial effect of living in an area with greater collective resources may be greater for poorer individuals; they may be less able to purchase goods and services privately and may be more dependent on locally provided facilities. A poorer individual living in a more wealthy area may have worse health than a poorer individual living in a deprived area. They might be able to afford less for the same amount of income because of higher demand and greater wealth in the area pushing up the prices of goods and services. Being relatively poor may be a barrier to taking a fully active part in society. At the other end of the socioeconomic spectrum, a wealthy individual living in a more deprived area may have better health than a wealthy individual in a non-deprived area. The local social inequality model incorporates material and psychosocial explanations for the association between health and the discrepancy between personal and neighbourhood socioeconomic position. Despite increasing interest in neighbourhood-level influences on health, a limited number of studies have considered how individual and neighbourhood deprivation might interact to influence health and the evidence so far is mixed. Greater health differences between affluent and deprived individuals have been found in more affluent areas in some studies, 22 but others suggested that differences between individuals were greater in more deprived areas. A study in Scotland found that the health of people living in a deprived area surrounded by affluent areas was higher than expected whereas the health of people living in an affluent area surrounded by deprived areas was lower than expected. Data from the Whitehall II study of British civil servants were used to investigate how individual socioeconomic position and area deprivation act together to influence health and to test the two models described above. Similarly, if those who are less well-off than their neighbours have worse health, more financial problems, greater dissatisfaction with standard of living, and lower self-rating on the ladder of society then there is support for the local social inequality model. Support for a collective resources model is given if residence in a less-deprived area is associated with better health and fewer problems with the neighbourhood. Poorer individuals are hypothesized to benefit more from residence in a richer area. Methods Whitehall II study The Whitehall II study is a longitudinal study of over 10 civil servants which was set up in to investigate the social gradient in health. At

the fifth phase of the study participants completed a questionnaire covering socio-demographic characteristics and health status and also attended a screening clinic. Details are given elsewhere. Health outcomes

Inconsistencies in existing literature on small-area variations in health may be due partly to the fact that different health outcomes have been studied. Socioeconomic status Employment grade was used as a measure of individual socioeconomic position and was coded into high grades those employed in Executive posts , medium grades Administrative and Professional and low grades Clerical and Support. Participants reported problems with the neighbourhood such as noise, unsafe streets, and few local facilities , financial problems based on not being able to afford food and clothing or having difficulty paying bills , and satisfaction with their standard of living. Participants were also asked how far up the ladder of society they saw themselves by placing a cross on one of the 10 rungs of a diagram of a ladder. A measure of neighbourhood deprivation was obtained from the census data stored at MIMAS a national data centre providing for the UK research community. The Townsend index of deprivation combines percentage of households with access to car, percentage owner occupiers, percentage unemployed and percentage overcrowded into a single value for each electoral ward. Electoral wards have an average population of about and were used here to define neighbourhood boundaries. Hypotheses and statistical methods We tested the collective resources model using the following hypotheses: People living in neighbourhoods with a lower deprivation index score less deprived have better health than people living in neighbourhoods with a high index score. People living in neighbourhoods with a lower deprivation index report fewer problems with their neighbourhood than people living in neighbourhoods with a high index score. The effect of deprivation is greater for individuals occupying lower socioeconomic positions. We tested the local social inequality model using the following hypotheses: Low individual socioeconomic position combined with low Townsend deprivation index in the neighbourhood is associated with poorer health than expected for a given individual socioeconomic position. Low individual socioeconomic position combined with low Townsend deprivation index in the neighbourhood is associated with greater dissatisfaction with standard of living than expected. Similarly, high individual socioeconomic position combined with high Townsend deprivation index in the neighbourhood is associated with better health, less dissatisfaction with standard of living, and rating self higher on the ladder than expected. Two-level models with individuals nested within neighbourhoods were used to investigate simultaneously the influences of individual and neighbourhood deprivation on health. In this way, the non-independence of individuals living in the same residential area was taken into account. All models were adjusted for age and sex. Employment grade was entered as a categorical variable taking three levels and the Townsend index was entered as a continuous variable. The prevalence of poor self-rated health and depression and mean waist-hip ratio were estimated for each employment grade at three levels of area deprivation the 10th centile, the median, and the 90th centile. The Wald statistic was used to test the significance of interaction terms. The term u_{0j} is the residual for the j th neighbourhood that is the difference from average health in neighbourhood j , once individual socioeconomic position and Townsend deprivation have been accounted for. A logit transformation was used to model poor self-rated health and depression since they are binary outcomes. Results A total of participants took part in the Phase 5 follow-up and provided complete data on at least one health outcome. Participants were clustered within wards as follows: High-grade participants were more likely to live in less-deprived areas. There are more men in the high grades, which may explain the unequal sex distribution across quartiles of the Townsend index Table 1. The independent effects of employment grade and neighbourhood deprivation on the three health outcomes are summarised in Table 2. Living in a deprived neighbourhood was associated with an increased risk of poor self-rated health, over and above individual grade, age, and sex. For each 1 standard deviation increase in Townsend index, the odds of poor self-rated health increased by 1. Multiplicative effects of individual and neighbourhood deprivation on health are summarized in Table 3. This shows increasing probability of poor health with decreasing employment grade as well as with increasing neighbourhood deprivation, accounting for age and sex. In other words, for a given employment grade, people living in deprived neighbourhoods were more likely to have poor health than people living in less-deprived neighbourhoods. There was a suggestion that the grade gradient in health widened in more deprived areas. In the most deprived areas, In less-deprived areas the differences

were smaller, with corresponding figures of 8. One objective health outcome was also investigated. Neighbourhood problems increased with increasing Townsend deprivation for low and high grade civil servants. This could indicate greater exposure or vulnerability to problems in the local area amongst lower grade participants. Another explanation is heterogeneity within the neighbourhood; low grade participants may be living in the less well-off parts of neighbourhoods, a possibility which is explored in the next section. Being short of money was not associated with Townsend deprivation except in the low grades: Thus there was no support for the hypothesis that poorer people living in rich areas face a higher cost of living and can afford fewer things, although it is possible that we have failed to control adequately for individual socioeconomic position with the measures included here. Amongst the lower grades, position on the ladder decreased with increasing deprivation. Low-grade participants placed themselves an average SE of 2. For each 1 standard deviation SD increase in Townsend deprivation, low-grade participants placed themselves 0. For high-grade participants this association was reversed, with those living in the most deprived areas rating themselves as slightly higher on the ladder. For each 1 SD increase in Townsend deprivation, high-grade participants placed themselves 0. These relationships showed the same patterns for male and female civil servants. Heterogeneity within the neighbourhood and the possibility that, for a given ward, high-grade participants live in better parts of wards than low-grade participants was investigated using data for enumeration districts. There is an average of 12 enumeration districts within a ward. Table 4 shows levels of owner-occupancy, public housing renting, and male unemployment for high-grade and low-grade participants living in the most deprived wards columns 2 and 3 and low-grade and high-grade participants living in the least deprived wards columns 4 and 5. In the most deprived wards here taken to be the top quartile of Townsend deprivation, high-grade participants were more likely to be living in enumeration districts which had below average deprivation for the ward compared with low-grade participants. Those in the high grades were more likely to be living in parts of the ward with below-average public housing and unemployment. This supports the suggestion that high-grade participants in the most deprived wards tend to live in the better parts of the ward. It was less clear whether low-grade participants living in the least-deprived wards the bottom quartile of Townsend deprivation were in less-desirable parts of the ward. In the least-deprived wards, Nevertheless, for high-grade participants living in the most deprived wards, levels of owner-occupancy in the more immediate vicinity the enumeration district were lower than the overall average. Whether electoral wards larger areas or enumeration districts smaller areas were considered, it was possible to identify some high-grade participants living in more deprived residential conditions and some low-grade participants living in less-deprived conditions. Table 3 last 3 columns shows physical and mental health by individual and neighbourhood SES, after controlling for neighbourhood problems estimated at the level of no neighbourhood problems, age and sex. Whilst those in the lower grades continued to have a greater risk of poor self-rated and mental health, the differences between high and low grades were more similar across different levels of neighbourhood deprivation once neighbourhood problems are included in the model. These figures were This indicates that problems in the neighbourhood account for much of the higher prevalence of poor general self-rated and mental health among poorer individuals living in poorer areas. Health differences between high- and low-grade civil servants may be larger in more deprived areas, although interaction tests were not statistically significant. Larger studies would be useful for investigating whether those in higher socioeconomic positions are protected from the health-damaging aspects of deprived neighbourhoods. These analyses can be considered as a test of one component of the relative deprivation hypothesis. If people in the same residential area are a relevant comparison group, we would expect poorer people living in more wealthy areas to have poorer health, greater financial stress, or a lower perception of themselves on the ladder. Our findings do not support this hypothesis at the neighbourhood level; low grades living in less-deprived areas rated themselves higher up the ladder than low grades in more deprived areas. However, at the opposite end of the socioeconomic spectrum we found that perceived position in the ladder of society increased with increasing area deprivation for high-grade participants. Relevant comparison groups may also be different for those in high versus low socioeconomic positions.

Chapter 4 : Sleep and Health | Need Sleep

OBJECTIVE Many studies show the average health status in deprived areas to be poorer and the use of health care to be higher, but there is hardly any information on the impact of the geographical classification on the size of these differences.

Plans to Build Your Own Sensory Deprivation Chamber Float therapy is a luxurious and effective way to de-stress and ease your mind and body. The process gives you the silence you need, so you can find your way back to your old self who is healthy, happy and peaceful. Living in the most fast-paced generation the world has ever been, anxiety and stress can get the better of everyone. It is no wonder that more and more people are seeking out complementary and alternative therapies that would bring the focus back to holistic care and mental health. Often mistaken as a new age technique, float tank therapy has been around for more than 60 years and it will not be disappearing anytime soon. It is one of the most reliable and best therapies that alternative medicine has to offer. The whole process involves isolation from elements within a sensory deprivation tank to give you the opportunity for complete calmness and relaxation. Read on to understand why more and more people are choosing this relaxation treatment today. What is Float Therapy? When a person has been bombarded with stimuli, the senses experience and overload that the brain cannot keep up with the process. This results in irritation, anxiety, and stress. This can also lead to high blood pressure, mental disorders, overeating and obesity, among other things. When you are feeling any of these, you should consider a float pod therapy. This particular therapy is a luxurious way to soothe and heal your body from stress and pressure and it happens inside a float tank. What's a float tank? Can you picture it out? The tank is filled with 6 to 10 inches of clean water and salt. How much salt in a float tank? An isolation float tank contains a whopping pounds of Epsom salt. That is why some people also refer it to as Epsom salt float therapy. The water is warmed to skin temperature or around 34 to 36 degrees Celsius. Once the tank is set up and ready, you may put on your earbuds and enter the tank naked. It is highly recommended to fully close the hatch of the door behind you to block out the light and sounds from the world outside. You may start to float from there on. How Does Float Therapy Work? Have you asked yourself how does a float tank work? It is natural for people to lie down and curl up in a ball to feel a sense of comfort and security. When you float in a water tank, you experience this same sense of calmness without the distraction of the external world. Once a person is partially submerged and loses contact with the outside world, the brain is temporarily startled due to the lack of stimulants. This is why for the first few minutes, you may experience a state of panic and confusion but the mind is quick to adapt and will begin to generate stimulation from within. From the state of Alpha waves, the brain is further relaxed into the state of Theta waves. Theta waves are achieved during light sleep or very extreme relaxation; and are commonly used for hypnosis and self-programming. You may experience some pleasant hallucinations from the activity that your brain is generating. Some examples are calming music and dancing lights. You may also start dreaming or recalling pleasant memories. Due to the weightlessness of the body and nothing that can be touched, you may lose a sense of where your limbs are. This method of relaxation allows you to boost your creativity and engage in a deep meditative state, regardless of your deep meditation experience. In addition, it can enhance your concentration, improve your sleeping patterns and aid your phobias and addictions. Once the mind and body are completely relaxed, the brain is able to fully sync which each of its physiological layers. The pituitary gland is able to release a good amount of dopamine and endorphins. Conclusion By trying out float tank therapy, you will be opening yourself up to a whole world of benefits that you have not previously experienced. Floating in a pod filled with saltwater and void of any stressors will allow your body and mind more freedom. If you find that you are not getting optimal results from your current routine, you should try saltwater meditation tanks. Our bodies do not have replaceable parts and they can only regenerate at a limited rate, it is best to take care of it now. As they say, prevention is better than cure. Why would you deprive yourself the chance of getting the best care there is when it is already available? Invest for your health and wellness, try float therapy!

Chapter 5 : Health deprivation and disability - Facts and Figures

Health deprivation and disability Health deprivation and disability is one of the domains that makes up the Index of Multiple Deprivation (IMD). For more information and data on the IMD and the other domains that make up the index please see the main IMD page.

Sleep deprivation can affect your mental health Updated: June 19, Published: July, Sleep and mental health are closely connected. Sleep deprivation affects your psychological state and mental health. And those with mental health problems are more likely to have insomnia or other sleep disorders. Americans are notoriously sleep deprived, but those with psychiatric conditions are even more likely to be yawning or groggy during the day. Sleep problems are particularly common in patients with anxiety, depression , bipolar disorder, and attention deficit hyperactivity disorder ADHD. Traditionally, clinicians treating patients with psychiatric disorders have viewed insomnia and other sleep disorders as symptoms. But studies in both adults and children suggest that sleep problems may raise risk for, and even directly contribute to, the development of some psychiatric disorders. This research has clinical application, because treating a sleep disorder may also help alleviate symptoms of a co-occurring mental health problem. The brain basis of a mutual relationship between sleep and mental health is not yet completely understood. Key points Sleep problems are more likely to affect patients with psychiatric disorders than people in the general population. Sleep problems may increase risk for developing particular mental illnesses, as well as result from such disorders. Treating the sleep disorder may help alleviate symptoms of the mental health problem. How sleep affects mental health Every 90 minutes, a normal sleeper cycles between two major categories of sleep – although the length of time spent in one or the other changes as sleep progresses. During "quiet" sleep, a person progresses through four stages of increasingly deep sleep. Body temperature drops, muscles relax, and heart rate and breathing slow. The deepest stage of quiet sleep produces physiological changes that help boost immune system functioning. The other sleep category, REM rapid eye movement sleep, is the period when people dream. Body temperature, blood pressure, heart rate, and breathing increase to levels measured when people are awake. Studies report that REM sleep enhances learning and memory, and contributes to emotional health – in complex ways. In this way, insomnia may amplify the effects of psychiatric disorders, and vice versa. Psychological effects of sleep deprivation More than 70 types of sleep disorders exist. The most common problems are insomnia difficulty falling or staying asleep , obstructive sleep apnea disordered breathing that causes multiple awakenings , various movement syndromes unpleasant sensations that prompt night fidgeting , and narcolepsy extreme sleepiness or falling asleep suddenly during the day. Type of sleep disorder, prevalence, and impact vary by psychiatric diagnosis. But the overlap between sleep disorders and various psychiatric problems is so great that researchers have long suspected both types of problems may have common biological roots. Most patients with depression have insomnia, but about one in five suffer from obstructive sleep apnea. Sleep problems also increase the risk of developing depression. A longitudinal study of about 1, adults ages 21 to 30 enrolled in a Michigan health maintenance organization found that, compared with normal sleepers, those who reported a history of insomnia during an interview in were four times as likely to develop major depression by the time of a second interview three years later. And two longitudinal studies in young people – one involving pairs of young twins, and another including 1, teenagers – found that sleep problems developed before major depression did. Sleep problems affect outcomes for patients with depression. Studies report that depressed patients who continue to experience insomnia are less likely to respond to treatment than those without sleep problems. Even patients whose mood improves with antidepressant therapy are more at risk for a relapse of depression later on. Depressed patients who experience sleep disturbances are more likely to think about suicide and die by suicide than depressed patients who are able to sleep normally. Longitudinal studies suggest that insomnia and other sleep problems worsen before an episode of mania or bipolar depression, and lack of sleep can trigger mania. Sleep problems also adversely affect mood and contribute to relapse. They are also common in children and adolescents. One sleep laboratory study found that youngsters with an anxiety disorder took longer to fall asleep, and slept less

deeply, when compared with a control group of healthy children. Insomnia may also be a risk factor for developing an anxiety disorder, but not as much as it is for major depression. But insomnia can worsen the symptoms of anxiety disorders or prevent recovery. Sleep disruptions in PTSD, for example, may contribute to a retention of negative emotional memories and prevent patients from benefiting from fear-extinguishing therapies. Typical problems include difficulty falling asleep, shorter sleep duration, and restless slumber. The symptoms of ADHD and sleeping difficulties overlap so much it may be difficult to tease them apart. And children with these sleeping disorders may become hyperactive, inattentive, and emotionally unstable – even when they do not meet the diagnostic criteria for ADHD. Sleep and mental health lifestyle changes

In some respects, the treatment recommended for the most common sleep problem, insomnia, is the same for all patients, regardless of whether they also suffer from psychiatric disorders. The fundamentals are a combination of lifestyle changes, behavioral strategies, psychotherapy, and drugs if necessary. Most people know that caffeine contributes to sleeplessness, but so can alcohol and nicotine. Alcohol initially depresses the nervous system, which helps some people fall asleep, but the effects wear off in a few hours and people wake up. Nicotine is a stimulant, which speeds heart rate and thinking. Giving up these substances is best, but avoiding them before bedtime is another option. Regular aerobic activity helps people fall asleep faster, spend more time in deep sleep, and awaken less often during the night. Many experts believe that people learn insomnia, and can learn how to sleep better. Good "sleep hygiene" is the term often used to include tips like maintaining a regular sleep-and-wake schedule, using the bedroom only for sleeping or sex, and keeping the bedroom dark and free of distractions like the computer or television. Some experts also recommend sleep retraining: Meditation , guided imagery, deep breathing exercises, and progressive muscle relaxation alternately tensing and releasing muscles can counter anxiety and racing thoughts. These techniques can also help to change the "blame game" of attributing every personal problem during the day on lack of sleep.

Medications for sleep and mental health If such nondrug interventions are not enough, an additional option is medication. A variety of medications are available to treat sleep problems. In some cases, both a sleep disorder and a psychiatric problem can be treated with one drug. Although selective serotonin reuptake inhibitors SSRIs are a mainstay of treatment for depression, some may cause or worsen insomnia. Alternatives without this side effect include serotonin and norepinephrine reuptake inhibitors SNRIs , tricyclic antidepressants, and mirtazapine Remeron. Something else to be aware of: It may be possible to combine antidepressant therapy with a sleeping medication. One placebo-controlled study of patients with depression found that combining eszopiclone Lunesta and fluoxetine Prozac improved both mood and sleep. Another study found that treating insomnia with zolpidem Ambien , after successful SSRI treatment, improved sleep and daytime functioning. Researchers have not done much testing of sleep aids in patients with bipolar disorder. The agents most often prescribed for insomnia in bipolar patients are the newer benzodiazepine-like drugs, such as eszopiclone, zaleplon Sonata , and zolpidem. Two anticonvulsants, gabapentin Neurontin and tiagabine Gabitril , might also treat insomnia in patients with bipolar disorder. Tricyclic antidepressants, though often prescribed to alleviate sleep problems because they are sedating, can trigger mania in patients with bipolar disorder. Likewise, antipsychotics may worsen sleep-related movement disorders in this population. Benzodiazepines such as alprazolam Xanax and temazepam Restoril not only help treat insomnia but also are used to treat anxiety, so these are options to consider when a patient suffers from both disorders. Case reports indicate that pregabalin Lyrica , a fibromyalgia drug, and the anticonvulsant tiagabine might also help treat insomnia in generalized anxiety disorder. Stimulants such as methylphenidate Ritalin are often prescribed to treat children with ADHD, but can cause insomnia. Taking stimulants only early in the day or using a time-release formulation may help.

Chapter 6 : The Effects of Sleep Deprivation

Sleep deprivation (DEP-rih-VA-shun) is a condition that occurs if you don't get enough sleep. Sleep deficiency is a broader concept. It occurs if you have one or more of the following: You don't get enough sleep (sleep deprivation) You sleep at the wrong time of day (that is, you're out of sync with.

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Main messages Health inequalities are differences in health between people or groups of people that may be considered unfair. There is a social gradient in lifespan; people living in the most deprived areas in England have on average the lowest life expectancy and conversely, life expectancy is higher on average for those living in areas with lower deprivation. Males living in the most deprived tenth of areas can expect to live 9 fewer years compared with the least deprived tenth, and females can expect to live 7 fewer years. Males and females living in the most deprived areas can also expect to spend nearly 20 fewer years in good health compared with those in the least deprived areas: For males living in the 5 most deprived tenth of areas, and females living in the 4 most deprived, average healthy life expectancy falls below the age of 65 years current state pension age for men. Although deprived areas can be found in all regions of England, there is a higher concentration of more deprived authorities in the north. In addition, life expectancy in local authorities within the same deprivation group is generally lower among authorities in the north than those in the south. Those in southern regions can on average expect to live longer and with fewer years in poor health than those further north. Almost half of the gap in life expectancy between the most and least deprived areas in England is due to excess deaths from heart disease, stroke, and cancer in the most deprived areas. These are also the causes that make up a large proportion of the burden of premature death in England overall. As well as lower life expectancy, there is a higher prevalence of many behavioural risk factors among the more deprived areas compared with the less deprived areas. These health inequalities are underpinned by inequalities in the broad social and economic circumstances which influence health.

Introduction As described in previous chapters, there are differences in health outcomes for men and women, for different age groups and for different countries. As described in this chapter, there are also differences in outcomes relating to socioeconomic status, ethnicity, geographical region and other social factors. These health inequalities, differences in health between people or groups of people that may be considered unfair, reflect historic and present-day social inequalities in our population. Reducing inequalities should allow everyone to have the same opportunities to lead a healthy life. This chapter provides an overview of inequality in health in England, concentrating primarily on deprivation. Inequalities by other socioeconomic characteristics are explored in more depth in the report *Public Health Outcomes Framework: Patterns in health inequality*

Life expectancy at birth in England has generally increased in recent decades and provisional data for show that it has reached However, life expectancy is not uniform across England and inequalities exist. On average, individuals living in more deprived areas live the fewest years, while those in the least deprived areas have the longest lives figure 1, 2. Between the most and least deprived tenths of England, the absolute difference in life expectancy is 9 years for males and 7 years for females figure 1, 2.

Public Health Outcomes Framework Note: Of all live births at full term, a higher percentage are born at a low birth weight in the 3 most deprived decile groups than on average in England figure 3. Furthermore, the infant mortality rate is highest in the most deprived areas and lowest in the least deprived areas figure 4. If the most deprived decile group had the same infant mortality rate as the least deprived, there would have been fewer infant deaths in to And if all decile groups had the same infant mortality rate as the least deprived, there would have been 2, fewer infant deaths in England as a whole.

Public Health Outcomes Framework: Focus on Ethnicity Note: More of the authorities in the most deprived group are in the north of England than in the south, but there are deprived authorities in all regions figure 5. In addition to this, as shown in the PHOF , life expectancy in local authorities within the same deprivation group is generally lower among authorities in the north than those in the south. As a consequence, there is a persistent north-south divide in life expectancy. Those in southern regions can expect to live longer than those further

north figure 6, 7. Department for Communities and Local Government, This shows: The most deprived areas have the lowest healthy life expectancy while the least deprived areas have the highest figure 1, 2. For both males and females in the most deprived areas, there is almost a year difference in healthy life expectancy compared with those living in the least deprived areas. Healthy life expectancy across England is also characterised by the same north-south divide that exists for life expectancy: In addition, for males living in the lowest 5 deprivation decile groups, and females living in the lowest 4 groups more deprived, their healthy life expectancy falls below the age of 65 years, the current state pension age for men figure 1, 2. In the most deprived decile group, healthy life expectancy falls short of the current state pension age for men by more than 10 years for both males and females figure 1, 2. Public Health Outcomes Framework This shows: Almost half of the gap in life expectancy between the most and least deprived areas in England is due to excess deaths from circulatory disease heart disease and stroke and cancer in the most deprived areas. This means that if people in the most deprived fifth of areas in England had the same mortality rate for these causes as the least deprived fifth, the gap in life expectancy between the most and least deprived fifths would reduce by almost a half. For example, in more deprived areas, the prevalence of inactivity and the prevalence of smoking are both highest, while the proportion of people eating the recommended 5-a-day of fruits and vegetables is lowest figure 9. These are among the key behavioural risk factors for cardiovascular, cancer and respiratory disease deaths chapter 2. Those in the most deprived areas are also more likely to suffer the harms associated with alcohol consumption, one of the risk factors associated with the highest proportion of deaths in the 15 to 49 age group 3, chapter 2. Compared with women, men have a higher prevalence of excess weight, poor diet and smoking, but a lower prevalence of inactivity figure The prevalence of these risk factors also varies between ethnic groups. Compared with the average in England, a higher proportion of those in Asian and Black ethnic groups do not eat the recommended amount of fruit and vegetables and have a higher rate of inactivity. Smoking is more common among White and Mixed ethnic groups and being overweight is higher in White and Black ethnicities figure The social determinants of health underpin the inequalities in behavioural risk factors and health outcomes and are explored in chapter 6. More detail on inequalities in health outcomes by these area and individual characteristics, and the inequalities in the social determinants of health that underpin them can be found in the report Public Health Outcomes Framework: The indicators are all drawn from the Public Health Outcomes Framework and are divided into 3 groups: There has been little change in inequalities in male life expectancy, male and female healthy life expectancy and premature cancer mortality. For female life expectancy, there has been a small widening of the gap between the most and least deprived areas. For premature cardiovascular disease mortality, considerable inequality by deprivation remains, with mortality rates in the most deprived areas almost 3. However, this picture is complex and difficult to summarise with some groups doing well on some measures of health and less well in others. For most indicators, it was not possible to analyse trends in inequality by ethnic group. Where this was possible, the picture was mixed. For example, inequality in low birth weight by ethnic group has narrowed, but there has been little change in inequality between ethnic groups in infant mortality. In , the ethnic group with the highest infant mortality rate Pakistani was more than 3 times that of the ethnic group with the lowest infant mortality rate White Other figure Focus on Ethnicity This shows: Further information Further information on trends in inequalities in health outcomes by area and individual characteristics, and the social determinants of health can be found in Public Health Outcomes Framework:

Chapter 7 : Sleep and mental health - Harvard Health

Individual-level data on health and SES and neighbourhood level data on deprivation must be analysed simultaneously to determine whether living in a deprived neighbourhood increases the risk of poor health over and above the effect of individual risk factors.

What is a sensory deprivation tank isolation tank? A sensory deprivation tank, also called an isolation tank or flotation tank, is used for restricted environmental stimulation therapy REST. It is a dark, soundproof tank that is filled with a foot or less of salt water. The first tank was designed in by John C. Lilly, an American physician and neuroscientist. He designed the tank to study the origins of consciousness by cutting off all external stimuli. His research took a controversial turn in the s. In the s, commercial float tanks were created and began being studied for possible health benefits. These days, finding a sensory deprivation tank is easy, with float centers and spas offering float therapy all over the world. Their increase in popularity may be due in part to the scientific evidence. Studies suggest time spent floating in a sensory deprivation tank may have some benefits in healthy people, such as muscle relaxation, better sleep, decrease in pain, and decreased stress and anxiety. Sensory deprivation effects The water in a sensory deprivation tank is heated to skin temperature and nearly saturated with Epsom salt magnesium sulfate , providing buoyancy so you float more easily. As you float weightless in the silence and darkness, the brain is supposed to enter into a deeply relaxed state. Sensory deprivation tank therapy is said to produce several effects on the brain, ranging from hallucinations to enhanced creativity. Do you have hallucinations in a sensory deprivation tank? Many people have reported having hallucinations in a sensory deprivation tank. Over the years, studies have shown that sensory deprivation does induce psychosis-like experiences. A study divided 46 people into two groups based on how prone they were to hallucinations. Researchers found that sensory deprivation induced similar experiences in both the high- and low-prone groups, and it increased the frequency of hallucinations in those in the high-prone group. Will it make me more creative? According to an article published in in the European Journal of Integrative Medicine , floating in a sensory deprivation tank has been found in a handful of studies to increase originality, imagination, and intuition, which can all lead to enhanced creativity. Can it improve concentration and focus? Though most of the research that exists is older, there is some evidence that sensory deprivation may improve focus and concentration, and may also lead to clearer and more precise thinking. This has been linked to improved learning and enhanced performance in school and different career groups. Does it improve athletic performance? The various effects of sensory deprivation tank therapy on athletic performance are well documented. It has been found effective in speeding up recovery after strenuous physical training by decreasing blood lactate in a study of 24 college students. A study of 60 elite athletes also found it improved psychological recovery following intense training and competition. There are several psychological and medical benefits of a sensory deprivation tanks on conditions such as anxiety disorders, stress, and chronic pain. Does sensory deprivation tank treat anxiety? Flotation-REST has been found to be effective in reducing anxiety. A study showed that a single one-hour session in a sensory deprivation tank was capable of a significant reduction in anxiety and improvement in mood in the 50 participants with stress- and anxiety-related disorders. A study of 46 people who self-reported generalized anxiety disorder GAD found that it reduced GAD symptoms, such as depression , sleep difficulties , irritability, and fatigue. Can it relieve pain? The effect of sensory deprivation tank therapy on chronic pain has been confirmed by several studies. It is shown to be effective in treating tension headaches , muscle tension, and pain. A small study of seven participants found it effective in treating whiplash -associated disorders, such as neck pain and stiffness and reduced range of motion. It has also been shown to reduce stress-related pain. Can it improve cardiovascular health? Flotation-REST therapy may improve your cardiovascular health by inducing deep relaxation that reduces stress levels and improves sleep, according to research. Chronic stress and sleep deprivation have been linked to high blood pressure and cardiovascular disease. Will it make me happier? There are many claims about flotation-REST causing feelings of overwhelming happiness and euphoria. People have reported experiencing mild euphoria, increased well-being, and feeling more optimistic following therapy using a

sensory deprivation tank. Others have reported spiritual experiences, deep inner peace, sudden spiritual insight, and feeling as if they were born anew.

Sleep deprivation affects your psychological state and mental health. And those with mental health problems are more likely to have insomnia or other sleep disorders. Americans are notoriously sleep deprived, but those with psychiatric conditions are even more likely to be yawning or groggy during the day.

Sleep deficiency is a broader concept. It occurs if you have one or more of the following: Sleeping is a basic human need, like eating, drinking, and breathing. Like these other needs, sleeping is a vital part of the foundation for good health and well-being throughout your lifetime. Sleep deficiency can lead to physical and mental health problems, injuries, loss of productivity, and even a greater risk of death. Non-REM sleep includes what is commonly known as deep sleep or slow wave sleep. Dreaming typically occurs during REM sleep. This clock typically follows a hour repeating rhythm called the circadian rhythm. The rhythm affects every cell, tissue, and organ in your body and how they work. For more information, go to "What Makes You Sleep? You may not feel refreshed and alert when you wake up. Sleep deficiency can interfere with work, school, driving, and social functioning. You might have trouble learning, focusing, and reacting. Sleep deficiency also can make you feel frustrated, cranky, or worried in social situations. The signs and symptoms of sleep deficiency may differ between children and adults. Children who are sleep deficient might be overly active and have problems paying attention. They also might misbehave, and their school performance can suffer. Outlook Sleep deficiency is a common public health problem in the United States. People in all age groups report not getting enough sleep. As part of a health survey for the Centers for Disease Control and Prevention, about 71 percent of adults in the United States reported not getting enough rest or sleep every day. Nearly 40 percent of adults report falling asleep during the day without meaning to at least once a month. Also, an estimated 50 to 70 million Americans have chronic ongoing sleep disorders. Sleep deficiency is linked to many chronic health problems, including heart disease , kidney disease, high blood pressure , diabetes, stroke , obesity , and depression. Sleep deficiency also is associated with an increased risk of injury in adults, teens, and children. For example, driver sleepiness not related to alcohol is responsible for serious car crash injuries and death. In the elderly, sleep deficiency might be linked to an increased risk of falls and broken bones. In addition, sleep deficiency has played a role in human errors linked to tragic accidents, such as nuclear reactor meltdowns, grounding of large ships, and aviation accidents. A common myth is that people can learn to get by on little sleep with no negative effects. However, research shows that getting enough quality sleep at the right times is vital for mental health, physical health, quality of life, and safety. What Makes You Sleep? Many factors play a role in preparing your body to fall asleep and wake up. The body clock typically has a hour repeating rhythm called the circadian rhythm. Two processes interact to control this rhythm. This drive for sleep reaches a peak in the evening, when most people fall asleep. A compound called adenosine ah-DEN-o-seen seems to be one factor linked to this drive for sleep. The increasing level of this compound signals a shift toward sleep. While you sleep, your body breaks down adenosine. A second process involves your internal body clock. This clock is in sync with certain cues in the environment. Light, darkness, and other cues help determine when you feel awake and when you feel drowsy. For example, light signals received through your eyes tell a special area in your brain that it is daytime. This area of your brain helps align your body clock with periods of the day and night. Your body releases chemicals in a daily rhythm, which your body clock controls. When it gets dark, your body releases a hormone called melatonin mel-ah-TONE-in. The amount of melatonin in your bloodstream peaks as the evening wears on. Researchers believe this peak is an important part of preparing your body for sleep. Exposure to bright artificial light in the late evening can disrupt this process, making it hard to fall asleep. Examples of bright artificial light include the light from a TV screen, computer screen, or a very bright alarm clock. As the sun rises, your body releases cortisol KOR-tih-sol. This hormone naturally prepares your body to wake up. The rhythm and timing of the body clock change with age. Teens fall asleep later at night than younger children and adults. One reason for this is because melatonin is released and peaks later in the hour cycle for teens. For example, newborns may sleep more than 16 hours a day, and preschool-aged children need to take naps. Young children tend to sleep

more in the early evening. Teens tend to sleep more in the morning. Also, older adults tend to go to bed earlier and wake up earlier. The patterns and types of sleep also change as people mature. For example, newborn infants spend more time in REM sleep. The amount of slow-wave sleep a stage of non-REM sleep peaks in early childhood and then drops sharply after puberty. It continues to decline as people age. Sleep plays a vital role in good health and well-being throughout your life. Getting enough quality sleep at the right times can help protect your mental health, physical health, quality of life, and safety. During sleep, your body is working to support healthy brain function and maintain your physical health. In children and teens, sleep also helps support growth and development. The damage from sleep deficiency can occur in an instant such as a car crash, or it can harm you over time. For example, ongoing sleep deficiency can raise your risk for some chronic health problems. It also can affect how well you think, react, work, learn, and get along with others. Sleep also helps you pay attention, make decisions, and be creative. Studies also show that sleep deficiency alters activity in some parts of the brain. Sleep deficiency also has been linked to depression, suicide, and risk-taking behavior. Children and teens who are sleep deficient may have problems getting along with others. They may feel angry and impulsive, have mood swings, feel sad or depressed, or lack motivation. They also may have problems paying attention, and they may get lower grades and feel stressed. Physical Health Sleep plays an important role in your physical health. For example, sleep is involved in healing and repair of your heart and blood vessels. Ongoing sleep deficiency is linked to an increased risk of heart disease, kidney disease, high blood pressure, diabetes, and stroke. Sleep deficiency also increases the risk of obesity. For example, one study of teenagers showed that with each hour of sleep lost, the odds of becoming obese went up. Sleep deficiency increases the risk of obesity in other age groups as well. Sleep helps maintain a healthy balance of the hormones that make you feel hungry ghrelin or full leptin. Sleep also affects how your body reacts to insulin, the hormone that controls your blood glucose sugar level. Sleep deficiency results in a higher than normal blood sugar level, which may increase your risk for diabetes. Sleep also supports healthy growth and development. Deep sleep triggers the body to release the hormone that promotes normal growth in children and teens. This hormone also boosts muscle mass and helps repair cells and tissues in children, teens, and adults. Sleep also plays a role in puberty and fertility. Your immune system relies on sleep to stay healthy. This system defends your body against foreign or harmful substances. Ongoing sleep deficiency can change the way in which your immune system responds. Daytime Performance and Safety Getting enough quality sleep at the right times helps you function well throughout the day. People who are sleep deficient are less productive at work and school. They take longer to finish tasks, have a slower reaction time, and make more mistakes. Lack of sleep also may lead to microsleep. For example, have you ever driven somewhere and then not remembered part of the trip? If so, you may have experienced microsleep. In reality, though, you may have slept through part of the lecture and not been aware of it. Even with limited or poor-quality sleep, they may still think that they can function well. For example, drowsy drivers may feel capable of driving.

Chapter 9 : Sleep Deprivation and Deficiency | National Heart, Lung, and Blood Institute (NHLBI)

Sleep deprivation was a factor in some of the biggest disasters in recent history: the nuclear accident at Three Mile Island, the massive Exxon Valdez oil spill, the nuclear meltdown at.

Discussion What this paper shows This epidemiological study evaluated the impact of deprivation on incidence, mortality, prevalence of depression and health care costs associated with multiple morbidity in a large population. The results show that deprivation is overall strongly associated with the incidence of the study conditions. Participants in higher categories of deprivation are differentially filtered into higher categories of multiple morbidity. Therefore, people living in deprived circumstances represent a much higher proportion of the population with multiple morbidity than of those with single or no morbidity. In the same way, deaths in people with multiple morbidity are more highly concentrated into the most deprived quintile. Paradoxically, relative inequalities in incidence and mortality tend to be smaller as the level of morbidity increases, because the denominator of people at risk, as well as the numerator of incident events or mortality, is influenced by deprivation category. However, depression is more frequent in the most deprived quintile at each level of multiple morbidity. Per capita health care costs are determined by the extent of physical morbidity and, while multiple morbidity is more frequent in deprived populations, per capita costs tend not to be associated with deprivation in patients with multiple morbidity. Strengths and limitations of this paper The paper was based on analysis of a very large sample of nearly , participants drawn from primary care registers in the UK. Clinical diagnoses recorded in CPRD have been shown to have very high predictive values. Problems of misclassification might be greater in deprived areas. We also know that the gap between estimated and reported prevalence for conditions such as coronary heart disease, stroke or hypertension is greater for general practices in areas of higher deprivation. The study only included four types of physical morbidity and one mental health condition, depression. We acknowledge that there are other forms of morbidity including musculoskeletal, respiratory and gastrointestinal disease, as well as other mental disorders, which were not included in these analyses. Future studies should include a wider range of morbidities. There were necessarily smaller numbers of participants with multiple comorbidities and there was more limited power to detect associations with deprivation in participants with three comorbidities. Socioeconomic status was evaluated in terms of social and material deprivation at the small area level. The use of individual-level socioeconomic measures would be preferable. We also recognize that different socioeconomic indicators, such as educational attainment, income and wealth, may show varying patterns of association with health measures, especially in older adults in whom multiple morbidity is frequent. Depression has been defined in different ways even in the context of CPRD research studies. The present definition was the same as used in our previous paper, 14 but the prevalence of depression was somewhat lower here, in data for a later period, in England, and in a more highly selected group of family practices. We caution that it may be difficult to obtain precise estimates for mental disorders from clinical diagnoses and prescriptions in electronic health records. What other research shows The association of deprivation with greater morbidity and mortality and higher health care costs is well recognized. Our previous analyses reported on the association of depression with multiple morbidity but did not evaluate associations with deprivation. Fewer studies have evaluated the importance of deprivation for people with established morbidity, and little attention has been paid to the impact of deprivation on multiple morbidity, especially in relation to health care costs. Their results confirmed an association between depression and both number of comorbidities and socioeconomic status. Policy implications The findings of this study have implications both for resource allocation and for intervention strategies to attenuate morbidity differences related to socioeconomic status. In England, a weighted capitation formula is used to allocate health care resources to authorities in local areas. In addition to weighting for age and gender and utilization-based estimates of need, the formula currently includes an additional weighting for DFLE. The present results provide empirical support for this approach, but also provide evidence of greater costs for health service users in deprived areas, through generally greater levels of multiple morbidity, as well as more frequent depression as an important

driver of costs. Predictive risk modelling would be likely to pick up these drivers of resource use to inform better allocation decisions. In considering the tasks of the new local commissioners of services, a number of studies have demonstrated that employing effective treatments not only helps patients across the socioeconomic spectrum but can also reduce socioeconomic inequalities in outcomes. For example, increased uptake of specific medical technologies to prevent heart failure was found to reduce absolute differences in heart failure rates by socioeconomic status among patients in the English General Practice Research Database GPRD from to People living in social and material deprivation are channelled, through the higher incidence of disease, into higher categories of multiple morbidity. People living in deprived circumstances live longer with multiple morbidity, and more of those who die have multiple morbidity. Depression is associated with morbidity, but deprivation is associated with a higher prevalence of depression at any level of morbidity. In multiple morbidity, the costs of health care use tend to be more strongly determined by the level of morbidity than the deprivation level. The data emphasize the importance of disease prevention and health promotion to reduce inequalities in health. The findings demonstrate the impact of deprivation on needs for services for patients with multiple morbidity. These needs include not only disease management pathways but also needs for mental health care, social care for attendant disabilities and end-of-life care. However, the interpretation and conclusions contained in this study are those of the authors alone. Commission on Social Determinants of Health Closing the gap in a generation. Health equity through action on the social determinants of health, Geneva: World Health Organisation, [PubMed] 2. Social determinants of health, Oxford: Oxford University Press, 3. Socioeconomic differences in the prevalence of common chronic diseases: Int J Epidemiol ; Area-based socioeconomic status, type 2 diabetes and cardiovascular mortality in Scotland. Diabetes prevalence and socioeconomic status: J Epidemiol Commun Health ; Income related inequalities in mental health in Great Britain: J Health Econ ; Mental health inequalities in Wales, UK: Br J Psychiatr ; Influence of socio-economic deprivation on the prevalence and outcome of depression in primary care " The Hampshire Depression Project. Cross sectional study of primary care groups in London: Research on the health inequalities elements of the NHS weighted capitation formula. Department of Health, [http: Advisory Committee on Resource Allocation](http://Advisory Committee on Resource Allocation). Epidemiology of multimorbidity and implications for health care, research, and medical education: Prevalence of depression and utilization of health care in single and multiple morbidity: Psychol Med ; 43 7: Validation and validity of diagnoses in the General Practice Research Database: Br J Clin Pharmacol ; Department for Communities and Local Government: The English Indices of Deprivation Department for Communities and Local Government, [https: Impact and cost-effectiveness of a universal strategy to promote physical activity in primary care: Eur J Health Econ](https://Impact and cost-effectiveness of a universal strategy to promote physical activity in primary care: Eur J Health Econ) Coding, recording and incidence of different forms of coronary heart disease in primary care. PLoS One ; 7: Selection of medical diagnostic codes for analysis of electronic patient records. Application to stroke in a primary care database. Personal Social Services Research Unit. Unit costs of health and social care. University of Kent, Canterbury: Personal Social Services Research Unit, First Databank, Socioeconomic differences in case finding among general practices in England: J Health Serv Res Policy ; 17 2: Income, wealth and risk of diabetes among older adults: Eur J Public Health ; Implications of comorbidity for primary care costs in the UK: Br J Gen Pract ; The influence of multi-morbidity and self-reported socio-economic standing on the prevalence of depression in an elderly Hong Kong population. BMC Public Health ; 8: Droomers M, Westert GP. Do lower socioeconomic groups use more health services, because they suffer from more illnesses? The effect of physical multimorbidity, mental health conditions and socioeconomic deprivation on unplanned admissions to hospital: Office for National Statistics Disability-free life expectancy, sub-national estimates for England , London: Office for National Statistics, Buck D, Dixon A. Improving the allocation of health resources in England, London: Dixon J, Bardsley M. Predictive risk modelling using routine data: J Health Serv Res Policy ; Community care in England: