Chapter 1 : Theresa Overfield: Biological Variation in Health and Illness (ePUB) - ebook download - english

Specifically for the health professional, this book contains an extensive compilation of research findings on biologic variation by race, age, and gender relating to health and illness. Completely rewritten, revised, and updated, the Second Edition includes an increased discussion of biologic variation and expanded coverage of each chapter topic.

Cooper I very early got the idea that what I was going to do was prove to the world the Negroes were just like other people. DuBois Biology is being transformed by the advent of technology that allows us to define the molecular basis of genetic variation. The technological capacity to read and manipulate genes has in turn generated speculation that our ability to solve health problems will be transformed in a similarly dramatic fashion. Acknowledging that we are in the early stages of this new era, the practical accomplishments of genetic medicine to date are much more modest, however. Although great success has been achieved with the rare monogenic disorders, for the common chronic illnesses that account for most of the death and disability in our society, genomics has yet to elucidate the pathophysiology in important ways or improve treatment Cooper and Psaty, ; Khoury, ; Lander, ; Report of the Advisory Committee on Health Research, Describing the genetic underpinnings of common chronic diseases is a challenge of infinitely greater complexity than obtaining a sequence of nucleotides or finding single gene mutations. A quantum leap in biology will be required before the genes and the associated physiologic abnormalities that confer susceptibility to chronic disease can be understood. Given the intertwined effects of genes and environment on these conditions, the question remains as to whether or not important genetic causes can even be identified. Nonetheless, the exploration of the genome has accumulated unstoppable momentum and will profoundly alter our understanding of the biological world, even if it does not transform the practice of medicine or public health. Genomics is connected to public health science through population genetics and epidemiology, and to the everyday practice of public health through race. An important goal of this discussion will be to try to disentangle genomics from race, based on the argument that they are categorically different ways of framing the epidemiologic questions. This is more than an intellectual challenge, however, because deeply held beliefs about the relative influence of nature and nurture on variation in disease patterns between populations bind the two together. After centuries of reliance on race as a surrogate for genes, the impulse has been to merely incorporate molecular data as new details, leaving the accepted framework in place. However, this solution can only be temporary. Among its many consequences, molecular genetics has made the current model of race obsolete and, in the long run, untenable. As a result, through no initiative of its own, public health suddenly has been presented with the opportunity to rethink one of its most intractable problems. Perhaps, one might argue, that will be the most important contribution of genetics to public health: Given our complete inability to devise effective solutions to racial inequalities in health, discarding what now passes for theory could be a salutary development. The two main dimensions of the race controversy can be discussed separately. This version of race is defined by social and historical forces and is used to create and justify many of the divisions that exist among people of varying religious, ethnic, or geographic backgrounds. This concept assumes the existence of categories that have no scientific foundationâ€”at least none based on molecular data. This concept has been challenged since Darwin , yet it persists for ideological purposes Cooper, ; Montagu, ; Root, Although everyone in public health needs to be reminded of the importance and illegitimacy of this notion, and those who have not yet heard the news need to be informed, there is little of substantive importance that is really new to add to this debate: We should begin by simply acknowledging that race in the world of politics, and all the nutritional, educational, and social influences it entrains, continues to be the determining influence on ethnic variation in health. A second use of race has assumed new relevance. As a label for regional populations, race has a long history in population genetics, and in this arena, important opportunities exist to revisit old questions on interethnic variation in health. At stake is whether or not we can move beyond the indirect methods applied in epidemiology or the generalizations built on estimation of genetic distance that have preoccupied population geneticists and anthropologists Cavalli-Sforza, Menozzi, and Piazza, ; Relethford, Specifically, it is now possible to ask a set of testable questions: Can the global variation in the

human genome be aggregated into subunits, and do those units correspond to the categories we call race? Can we assess the relative magnitude of shared and nonshared genetic material among population groups? Is there variation in causal genetic polymorphisms that is associated with important differences in chronic disease risk? Is it possible to conceptualize the collective human genome as a whole, and express that concept in quantitative terms? Of course, complete answers to these questions are still well beyond our grasp. Some of the questions, like the aggregation of variants within population groups, are likely to be answered in the near future, while others, like the relative frequencies of causal variants for chronic diseases, may never be fully answered. Yet molecular genetics is changing the way we think about human variation, and it is crucial that this change has a positive impact on medicine and public health. Even though the noxious effects of racismâ€"the social and economic consequences of the ideologyâ€"will only be eliminated through a political process, it remains the obligation of biological scientists to contribute to this eventual outcome by providing a clear description of the natural phenomena as we understand them. With an eye to history, it will be necessary, first and foremost, to ensure that the mistakes surrounding racial comparisons in the past are not repeated using molecular data. This standard application of race has obvious limitations and has resulted in widespread misunderstanding about the potential of genes to influence health Cooper, Kaufman, and Ward, ; Kaufman and Cooper, ; Krieger, Rowley, Herman, Avery, and Phillips, As in society at large, incorporation of these notions into the intellectual grammar of science can lead to racist practice Cooper and Kaufman, Thus, one of the aims of this paper will be an attempt to explore the role of scientific racism within the discipline of public health, and examine how that shapes the discourse and the research agenda. As is well known, the definitions used by government agencies are explicitly not based on biological categories Cooper, ; Hahn, ; Lott, ; instead this system was developed to meet the political obligations of the Census. Health status will be discussed in more detail in other sections of this volume, the more limited purpose here is to frame the specific question that needs to be addressed by a genetic analysis. The first and most striking feature is the heterogeneity that exists among the groups. Dismissed in the past as artifactual, the relative advantage enjoyed by Hispanics, despite similar education and income to blacks, is now undeniable. A number of cohort studies now document low age-specific death rates in Hispanics, primarily Mexican Americans, which cannot be ascribed to these biases Wei et al. This relative advantage is not universal, however; in many Hispanic communities, obesity and diabetes occur at much greater frequencies than among whites Diehl and Stern, ; Harris et al. On the other hand, black Americans experience higher rates of all the major causes of death except chronic obstructive pulmonary disease and liver disease Table The excess rates of cardiovascular disease CVD have long been recognized as being secondary to the high prevalence of hypertension Cooper, Despite high rates of hypertension, coronary heart disease mortality was lower among blacks than whites over the past half century, and it was once widely held that blacks were constitutionally resistant to atherosclerosis Johnson and Payne, Rates of coronary heart disease in blacks now exceed whites Cooper et al. Type II diabetes had been less common in blacks in the first half of the 20th century; it now occurs twice as often among blacks as among whites Harris et al. Death rates from common malignant neoplasms are highest among black Americans Table The black excess is found in all the common forms of cancer except myeloma, and the differences are particularly marked in the younger age groups. Potential genetic influences are given considerable attention in studies of prostate cancer, where blacks have an incidence twice that of whites National Center for Health Statistics [NCHS], ; Robbins, Whittemore, and Thom, Lung cancer has attracted less speculation, despite a black to white mortality rate ratio of 1. Breast cancer mortality is higher in blacks than whites, and at a younger age the excess is twofold; the long-awaited downturn in mortality that began in has been observed only in whites. Known mutations at the BRCA loci account for a substantial proportion of breast cancer cases only among women of Jewish ancestry. Deaths from diabetes and liver disease are higher among Hispanics than whites, although total mortality is lower and life expectancy among Hispanics is thought to exceed 80 Table All-cause mortality for Asians is remarkably lowâ€"only 38 percent of the rate among blacks. The risk of dying from HIV is 2. Infant mortality is lower in Hispanics and Asians than whites, but more than twice as high in blacks; the persistently higher rates among blacks are driven in large measure by prematurity and low birthweight Kleinman and Kessel, The prevalence of diabetes is currently 14 percent among Mexican

Americans, 12 percent among blacks, and 7 percent among whites Harris et al. In general, other measures of health status are consistent with this overall picture. Growing sophistication in descriptive epidemiology, particularly related to CVD and diabetes, has made it possible to model the relationship between risk factor exposures and subsequent disability and disease rates. Measurement of smoking habits, blood pressure, and cholesterol in young adulthood has been shown to predict directly the quality of life and health care experience of persons over 65 Daviglus et al. In broad strokes, therefore, health among the elderly can be linked to surveillance data on known exposures. Thus, while coronary heart disease rates have been declining at a rate of about 3 percent a year among whites nationwide, CVD mortality has turned upward among blacks in Mississippi Jones et al. Blacks in communities located in the center of large cities have also experienced declining health; life expectancy for black men in Atlanta, Baltimore, St. Louis, Los Angeles, and several other cities was less than 60 years in Good, The contrasts in disease patterns among U. The relevant question for this discussion is how the influence of genetics on variation in health outcomes among U. The magnitude and consistency of the ethnic differentials, such as in relation to hypertension and prostate cancer, lends credence to these arguments, although the potential environmental contribution is universally acknowledged. A focus on specific syndromes can be misleading, however. It is essential to remember that the health disadvantage extends across a range of key public health measures. Although the hypothesis of genetic predisposition may seem plausible taken one disease at a time, when faced with the pattern as a whole, the probability that the black disadvantage is primarily genetic becomes remote. Rather than postulating a genetic cause for each condition, a more parsimonious explanation would suggest a common-source exposure to a disease-promoting environment. Likewise, a universal characteristic of the syndromes that vary across ethnic groups, with the exception of prostate cancer, is a strong social class gradient. Most of these syndromes have also shown marked secular trends in recent decades, and the prevalence changes across generations among migrants Collins, Wu, and David, Clearly a strong set of assumptions regarding equal levels of exposure to environmental factors is required to sustain this hypothesis. Although it is subject to many of the same caveats, a different test of the racial predisposition hypothesis is provided by comparisons of genetically related populations in contrasting social settings. The evolution of hypertension risk occurs in parallel with changes in known risk factors Figure Cooper et al. Blacks in Brazil have more hypertension than whites, but the differential is also smaller than in the United States Cooper and Rotimi, ; Sichieri, Oliveira, and Pereira, Obesity and diabetes are infrequent in Africa and among Native American groups not living in U. Diabetes is less common among blacks than whites in Brazil Franco, Asthma and dementia are less common in Africa than among U. The rate of prostate cancer in blacks outside the United States is not yet reliably known, although high rates have been reported from Jamaica Glover et al. Foreign-born women of African descent have children whose birthweight on average is close to whites David and Collins, ; Friedman et al. Life expectancy in Jamaica and Barbados is longer than among U. Although this pattern is still logically consistent with a predisposition inherent in blacks that is unmasked by environmental stimuli in the United States, it demonstrates that genes are not the determining factor in any of these examples. To avoid misunderstanding on this point, however, it must be acknowledged that among members of populations that share a common environment, genetic susceptibility can play a crucial role in determining who develops a particular illness; the issue addressed here has been the variation in aggregate health status among groups across time and place. However, the competing hypothesis that the root cause is embedded in the historical and social circumstances peculiar to each of these groups is more consistent with the data Chaturverdi, Furthermore, the probability that genes account for the general pattern of health disadvantage is untenable and it must follow that the claims made, for example, by investigators studying diabetes, renal failure, hypertension, and prostate cancer regarding genetic predisposition cannot all be true based on this joint probability. Likewise, the presence of a strong environmental hypothesis, based on the overall pattern, creates a prior assumption against genetic predisposition for any given disease. But these arguments are simply logical inferences; the possibility that genes make an important contribution to interethnic variation of a major disease cannot be dismissed. The contemporary standard will require molecular evidence in order to resolve the question of the relative balance of genes versus environment. Nonetheless, as in all other branches of science, the rules require that the null

hypothesis is the only legitimate starting point; the burden of proof should fall on those who claim the genetic, not social, content of race is causal. Traditionally, epidemiology has placed emphasis on studies that use the individual as the unit of measurement. When group variation is of interest, it is modeled as the average of the individuals, rather than through any emergent or higher order properties. Alternatively, a second approach uses ecological analyses and attempts to analyze social and economic forces that impinge on groups, taking as the unit of analysis a community or population subgroup.

Chapter 2 : Two Questions About Race

Biological Variation in Health and Illness: Race, Age, and Sex Differences by Theresa Overfield Specifically for the health professional, this book contains an extensive compilation of research findings on biologic variation by race, age, and gender relating to health and illness.

Doctors are called on to deal with many states of affairs. Not all of them, on any theory, are diseases. A doctor who prescribes contraceptives or performs an abortion is not treating a disease. Although some women cannot risk pregnancy or childbirth for health reasons, women typically use contraception or abortion in the service of autonomy and control over their lives. In addition, it is very difficult to find a philosophically or scientifically interesting cleavage between diseases and other complaints Reznek , 71â€" One dominant strand in modern medicine sees a disease as essentially a process that recurs across individuals in slightly different forms: But since a disease is a biological insult, distinguishing it from injury is very difficult. Perhaps injuries are not processes in the relevant sense but events. This essay assumes that the conceptual issues raised by illnesses, injuries and other medical conditions are similar enough to let us put this demarcation problem aside. Disability is another important and neglected topic in health and well-being. It will be addressed here only slightly, since it would take us too far afield. Health has received less philosophical attention than disease, and this essay will correspondingly have less to say about it. The conceptual terrain in the case of health is a little more complex than that of disease; one way of thinking about health says that it is just the absence of disease, so if disease is biological malfunction or abnormality, it follows that a healthy person is someone whose biological systems are all in order. But another way of looking at health insists that it is not just the absence of disease but the presence of something more; a positive state. According to views like this, we should think in terms not of health and disease alone, but in terms of health, disease and normality. This essay will look at theories of health after first discussing disease. Naturalism and Constructivism The tendency in recent philosophy has been to see disease concepts as involving empirical judgments about human physiology and normative judgments about human behavior or well-being Bloomfield , Boorse , Ereshefsky , Culver and Gert , Thagard First, we have beliefs about the natural functioning of humansâ€"both our common sense expectations about the body and scientific theories of human biology. Second, we make judgments about whether some particular condition or way of life is or is not undesirable, in some relevant way. This second set of concerns obviously involves normative criteria, to do with the extent to which a life is unnatural, undesirable or failing to flourish in some way. There is not a clear consensus among writers here. One important and controversial question is whether the judgments we make concerning our biology are also normative in some way. A further large question concerns the relationship between the two types of judgments, in both medicine and common sense. Another strain in recent scholarship suggests that our normative judgments alone determine who falls under the concepts of health and disease. This view has been less influential in philosophy, but commands widespread adherence in other areas of the humanities and social sciences e. Kennedy , Brown Kitcher , â€"9 summarizes the debate as follows: Some scholars, objectivists about disease, think that there are facts about the human body on which the notion of disease is founded, and that those with a clear grasp of those facts would have no trouble drawing lines, even in the challenging cases. Their opponents, constructivists about disease, maintain that this is an illusion, that the disputed cases reveal how the values of different social groups conflict, rather than exposing any ignorance of facts, and that agreement is sometimes even produced because of universal acceptance of a system of values. I will provide a slightly more elaborate taxonomy of analyses of disease,starting with forms of constructivism and the difficulties they face will be discussed. Then naturalism will be similarly treated, before the discussion moves to health. Before arriving at some qualifications, then, we should have straightforward statements of naturalism and constructivism in hand. Although, since the qualifications are not yet in place, perhaps no theorist would fully endorse these bald versions of the positions. The naturalist conception of disease perhaps most clearly stated in Boorse , is that the human body comprises organ systems that have natural functions from which they can depart in many ways. Some of these departures from normal functioning are harmless or

beneficial, but others are not. So to call something a disease involves both a claim about the abnormal functioning of some bodily system and a judgment that the resulting abnormality is a bad one. Naturalists contend that the determination of bodily malfunction is an objective matter to be determined by science. They may also argue Boorse that determining whether a malfunction is detrimental to human well-being is also an objective matter, but often they concede that normative considerations are the basis for that judgment. This malfunction could take many forms: Rather, they could be a set of naturally occurring processes that are held together in virtue of our interest in grouping them as a class. Constructivism, however, argues that human interests do not just define the superordinate class of diseases. It is human interests, not biological malfunctions, that explain the judgments that subordinate members have the relevant biological character. Although constructivists accept that disease categories refer to known or unknown biological processes they deny that these processes can be identified independently of human values by, for example, a science of normal human nature. Constructivist conceptions of disease are normative through and through, although the precise account of the relevant norms will vary between scholars. The key constructivist contention is that there is no natural, objectively definable set of human malfunctions that cause disease. Rather, constructivists assert that to call a condition a disease is to make a judgment that someone in that condition is undergoing a specific kind of harm that we explain in terms of bodily processes. But the bodily processes are not objectively malfunctioning; rather, they are merely judged by us to be unusual or abnormal because they depart from some shared, usually culturally specific, conception of human nature. The crucial difference between the positions then is that for naturalists, diseases are objectively malfunctioning biological processes that cause harms. For constructivists, diseases are harms that we blame on some biological process because it causes the harm, not because it is objectively dysfunctional. However, constructivism is hard to define satisfactorily, for two reasons. First, its core claim is a denial of the naturalist thesis that disease necessarily involves bodily malfunction. Since there are many views one might hold about the nature of the biological processes involved in disease that are compatible with the denial of malfunction, the positive constructivist claim varies across theories and is often elusive. Reznek for example, explicitly denies that malfunction is a necessary condition for disease. Constructivists often, as we will see later, argue that disease judgments appeal to biological processes that are to be understood in terms of human practices rather than membership in some biologically definable class of abnormalities or malfunctions. We have decided that some harmful conditions are the province of the medical profession, and those are diseases. That brings up the second reason why constructivism can be an elusive target: This means, as we shall see, that constructivists, especially in the social sciences, do not tend to offer necessary and sufficient conditions. Rather, they often seek to reconstruct the concept of disease as revealed by our practices. Constructivism, therefore, often looks like a thesis about how inquiry is carried on: This stress on our practices is a common constructivist trope, whereas objectivists more often seek to analyse a concept that will clarify what disease really is, however fumbling and biased our attempts to uncover it may have been. That both medical practice and lay thought shape disease concepts is undeniable. Because of this, we need to introduce a second distinction. Both naturalism and constructivism can take either a revisionist or a conservative form. A conservative view says that our folk concept of illness should constrain a theoretical picture of health and disease worked out by scientists and clinicians. A revisionist thinks that our existing concepts should be amended in the light of what inquiry uncovers. One could be a conservative or revisionist naturalist, as well as a conservative or revisionist constructivist. Health and disease, like many other concepts, are neither purely scientific nor exclusively a part of common sense. They have a home in both scientific theories and everyday thought. That raises a problem for any philosophical account: If the picture we end up with deviates too far from folk thought, should we worry? You might think that everyday language puts constraints on a concept of health that need to respected, and that if we move too far from ordinary usage we have stopped talking about health and started talking about something else. Furthermore, it is not really possible to argue that scientific and vernacular uses of the concepts are fully independent, since the development of science influences everyday thought, and many scientific concepts begin in pre-scientific contexts and carry the marks of those origins deep into their careers. Schwartz contends that the biomedical sciences do not share a general concept of disease that is coherent

enough to be analyzed. He recommends seeing the proposed analyses as introducing new concepts of disease that are related to existing usage but not bound by it. Concepts so introduced may work in some concepts but not others, and different concepts of disease could be needed for different medical purposes. Hesslow argues that diseases are not interesting theoretical entities in medicine and are irrelevant to most clinical decisions. Furthermore, the concept of disease that is currently employed in most areas of medicine has undergone a process of development. For much of the modern era there has been a dialectic between two concepts of disease. On the one hand, there has been the idea that a disease is just an observable suite of symptoms with a predictable course unfolding. This notion dates back to Sydenham in the late seventeenth century. Kraepelin applied it to psychiatry as the basis for differential diagnosis, for example between hebephrenia and dementia praecox schizophrenia , â€" This is perhaps still the core medical conception of disease. It seeks explanations that cite pathological processes in bodily systems. This model takes the presence of elevated risk, for example as indicated by high blood pressure, to be a disease even in the absence of overt symptoms or a clearly destructive pathological process. The idea of a specific pathogenic process in medicine includes dysregulation, but this may not accord with folk thought. Modern medicine looks naturalistic about disease. One question, then, concerns the extent to which common sense and biomedical concepts are related. Perhaps both have naturalist commitments, or perhaps common sense is driven by values and medicine is not, or perhaps physicians are really constructivists who are self-deceived or arguing in bad faith. There is little reason to expect scientific and common sense concepts to agree in general, so if medicine and everyday thought disagree about disease, we may ask which concept should be adopted. If we wish to distil a concept that can play a role in medical inquiry, we may side with the scientists. But such proposals, which argue for a sharp separation between scientific and folk uses, are not neutral pieces of observation about the language. They are proposals for purging science from commonsense constraints that hinder its development. A revisionist view of this sort, in this case, says that our concepts of health and disease might be a necessary starting point but should not constrain where the inquiry ends up. Other forms of revisionism are possible. A revisionist naturalist argues that we should follow the science where it takes us and come up with concepts that further scientific inquiry, for example, even if that means that we eventually use the language in ways that look bizarre from the standpoint of current common sense. But a revisionist constructivist could argue that our thought, whether medical or lay, should be reformed in the service of other goals, such as emancipation for hitherto oppressed groups. Such revisionist thought was important in overturning the psychiatric view, dominant until the s, that homosexuality is a mental illness. Activists argued that homosexuality was diagnosed for offensive moral reasons and not for medical ones and the classification of homosexuality as a disease was changed as a result of lobbying on moral grounds rather than on the basis of any new discovery. Naturalists will respond that this was not an example of using constructivism for emancipatory ends, but of bringing psychiatrists to understand that they were not obeying their own naturalist principles about mental disorder, and showing them that there was no good reason to retain the diagnosis.

Chapter 3 : Theresa Overfield (Author of Biological Variation in Health and Illness)

biological variation in health and illness Download biological variation in health and illness or read online books in PDF, EPUB, Tuebl, and Mobi Format. Click Download or Read Online button to get biological variation in health and illness book now.

Advanced Search Introduction Human genetic variation is often biologically relevant, particularly when it influences or is influenced by health outcomes. This is because, in many health-related conditions, it is difficult to discern the precise contribution of genetics to general human biological variability. Genetic variability is only one component of human biodiversity and its relationship to human biological variability is non-linear. Genes interact with each other and with the environment and the products of these interactions may vary throughout the lifetime of the affected human. Discriminating between the various contributors to an interactive and dynamic condition human biodiversity and then correlating this with health remains an important contemporary challenge. For example, efforts to identify key genes influencing multifactoral complex phenotypes such as many of the psychiatric disorders continue to be less than satisfactory 1, 2. Most major diseases and traits are polygenic; the results of multiple genes with small additive effects. Scientists are just beginning to understand how these genes interact with each other 3 and with environmental factors in ways that impact on health. Genetic factors ultimately must pass through several filters before they become part of the expressed genotype as depicted in Figure 1. Identifying and isolating the genetic component from the other factors can be complicated, particularly when the health phenotypes under question are highly nuanced as, for example, in such expressed genotypes as nicotine resistance, alcohol tolerance and emotional balance. These filters may interact with specific aspects of the genome, influencing functional gene expression as well as geneâ€”gene interaction thresholds. Furthermore, insights gained through using specific family studies, animal usually mouse models and retrospective assessments of affected individuals may not be broadly applicable to large groups of humans across geographical space or through generational time. Presumed biomarkers for many important environmental health disorders often vary by ethnicity, such as in the case of asthma. This inflammatory airways disorder is phenotypically heterogeneous and appears to have an important genetic component in its expression. When linkage studies were done on an ethnically diverse cross-section of affected families with the disease, linkage to six novel genome regions were detected. Ethnicity-specific analyses, revealed different frequencies of asthma-susceptibility genes in each ethnic group, suggesting linkage at 6p21 in the European American population, at 11q21 in the African American population, and at 1p32 in the US Latino population 3. This diversity was revealed at a crude level of substructuring. Imagine the diversity that could have been revealed had the researchers examined substructuring within each of these macroethnic groups. It has been reported that there is a growing sense in genetic epidemiology that many findings are failing to replicate, because many of the claimed associations are false positive. These false positives are seen because of our inability to study many genetic variants in relation to many disease outcomes 4, 5 without knowing the precise biocultural background of the groups being studied. This chapter presents an alternative to the classic macroethnic, racial approach by proposing more carefully defined categories and smaller units of assessment in determining the reciprocal influences of human genetic variation on health, and of health outcomes on population human genetic diversity. Chapter overview This chapter considers those aspects of human biodiversity specifically genetic and nongenetic variability with biological consequences that appear to vary within and between geographical groups and examines their correlation or lack of association with various parameters of health. Case studies are presented to illustrate the complex interrelationships of human genetic variability and health. The chapter then proposes an alternative bioanthropological strategy for identifying genetic and nongenetic substructuring within and between geographical groups, called ethnogenetic layering. This technique, when applied in multiethnic settings, may facilitate the identification and testing of smaller and presumably more genetically homogenous and socioculturally uniform groups, thereby providing an alternative, more nuanced, and anthropologically precise strategy for assessing the interrelationships of human genetic variation and health. Important human biological

variation exists, but classical races, as the term is used systematically and taxonomically in the natural sciences, appears inapplicable to modern humans. Traditionally, Western biomedicine and public health have embraced four or five continent-based major races of humans, often using local US or European representatives as proxies for these continental groups. This blunt, often ahistorical comparative strategy continues to dominate the biomedical literature, even though its deficiencies are well noted. Underpinning the medical acceptance of biological race has been the assumption that substantial human genetic variability is at the core of racial group-level human differences. Significant within-group variation is often ignored and this inherent variability is now returning to haunt researchers searching for broad racial generalizations. And 2 can they be used as reliable shortcuts to making predictions probability statements about group disease susceptibilities and health status? The answers to both of these questions are a resounding No. Modern human origins are in continental Africa where our collective ancestors spent most of human evolutionary history. Subsets of modern humans appear to have migrated out of and back into Africa as early as , years ago, eventually spreading to encompass the world. Our species collective origins are too recent, the extent of gene flow between us is too great, and our current diversity is too evolutionarily superficial to warrant the racial or subspecies level of differentiation among contemporary humans. Human variability does not neatly package itself into separate and discrete categories, as the term race would indicate. In fact, from a scientific point of view, we humans are a single, highly variable, polytypic raceâ€”Homo sapiens sapiens. What biodiversity exists among modern humans exists taxonomically below the subspecies level. Since patterns of genetic variation at the molecular level do not always faithfully correspond to the phenotypically expressed individual and group patterns of biodiversity, this presents an initial dilemma for researchers and policy makers. This old paradigm is based on the presumption that real human biological races exist, that they can be easily delineated, that they represent longstanding patterns of reproductive isolation, and that they have perpetuated with significant consistency through time. In fact, there is tremendous biological lineage overlap in modern humans. We all share many ancestors in common and the farther we go back in time, the more common ancestors are found. In the year C. However if we contrast the graph of direct ancestors with the estimated world population figures, as depicted in Figure 2 , it is clear that there must have been as much significant biological lineage redundancy among humans years ago as there is today. The more we understand about the fine tuning of human biology and culture, the more difficult it is to match what we now know about human biological diversity with the pervasive, traditional 19th and 20th century sociologically-based categories of human biological variation. Note that the number of ancestors increases exponentially going back in time but that the number of actual humans on the planet decreases. Therefore, it is obvious that biological lineages must converge around shared ancestors, thus increasing the potential for genetic similarity among all modern humans. Race, human genetic variation, and health If we humans are a single biological raceâ€”sapiensâ€”then this implies that the biological variation that exists among us is at a lower level than the subspecies or racial category. Since the draft human genome sequence about 3 billion base pairs was completed in , appropriately issuing in the 21st century as the century of the study of human genetic variability, we have come to realize that humans have fewer protein-coding genes than expected, and that most of these are highly conserved. Much of the variation between individual humans, including that which may affect our predispositions to common diseases, is probably the result of differences in the non-coding regions of the genome i. Humans and other complex organisms produce massive amounts of non-coding RNAs, which may function as another level of genetic output that controls phenotypic differentiation and development. Classical monogenic diseases and other differences caused by mutations and polymorphisms still seem to be caused by variations in protein-coding genes 7. The differences between geographical groups of modern humans are less than the differences between any two unrelated humans. Overall human heterogeneity is less than that observed among existing populations of contemporary chimpanzees. Modern chimpanzees Pan troglodytes are more biologically diverse than are modern humans. Yet how do we reconcile the lack of remarkable inter-group distinctions at the evolutionary level with the fact that human biological differences are often clustered and often have important clinical relevance? Intra-group genetic variability and health outcomes Genetic variability within a group particularly among macroethnic groups aggregated on the basis of

cultural, geographical, or linguistic criteria may complicate detecting and correlating specific, broadly applicable candidate genes with specific health outcomes. Most large and socially constructed groups evidence a high degree of intra-group genetic variability at many of the loci of interest. For example, marked interindividual variability in genetic and non-genetic factors can influence the disposition of many endo- and xenobiotics, including the metabolism of environmental toxins 8 affecting health. An unusual genetic background or localized behaviour trait may place an exposed individual at a higher risk for adverse health when in contact with particular constellations of environmental toxins. Even dormant genetic alleles that are a part of normal variation may become activated in specific environmental contexts, for example, when coupled with certain environmental toxins. Long and colleagues 9 have discussed the interaction of arylsulphatase-A ASA allelic variation, environmental lead exposure, and an increased risk for neurodevelopmental damage in urban children. As another example of human genetic variability and health, consider the case of the enzyme methyltetrahydrofolate reductase or MTHFR; the gene product is a cofactor for folic acid metabolism. Some researchers have suggested that there is a relationship between MTHFR polymorphism and human neoplasia. Carriers of genotypes containing the methylenetetrahydrofolate reductase T allele show constitutive low levels of 5-methylcytosine in their genomes, and tumours in these patients do not achieve severe degrees of global hypomethylation In a folate deficiency state, genetic polymorphisms of methyltetrahydrofolate reductase polymorphisms produce megaloblastic anaemia, classic neuropathy of the spinal cord, and an increase in homocysteine in the blood a major risk factor for cardiovascular disease. US Latinos, one of the fastest growing multiethnic groups in the United States, are a perfect example of imbedded heterogeneity within a highly diverse, socially constructed group. All US Latinos are basically either di- or trihybrid, their ancestral populations being a combination of European, African and Native American Indian biological and cultural lineages. However, the proportion of biologically important genes and cultural factors US Latinos received from these ancestral populations varies greatly. However, in the state of Pennsylvania and among the US Southeast population, European and African ancestral contributions are more important. Since the genetic propensity for developing a number of chronic diseases in the United States is being addressed in more sophisticated and comprehensive ways with the new genetic technology, it is imperative that the technology be applied and interpreted in a culturally and historically informed manner. This is the only way we will be able to truly assess the relationship of human genetic variability and health. US Latino populations are of particular interest because they seem to show different disease susceptibilities depending on their point of geographical origin Additionally, recent research suggests that US Latinos exhibit clear variabilities in response to the traditional US health care system 14 , in part because of inherent within-group biological and cultural diversity. Health is not simply the absence of disease. More meaningfully, health is a biocultural state of relative equilibrium and normal function maintained within specific temporal, social, cultural and ecological contexts. The relationship of health with inherent human genetic variability is rarely predictable since most human genetic variability is not linked to obvious pathologies. For highly diverse groups such as US Latinos and others, who are usually analysed at the macroethnic i. HLA variability in populations illustrates the complexity of health Numerous studies have clearly indicated a role for the major histocompatibility complex MHC in susceptibility to autoimmune diseases. Susceptibility to coeliac disease discussed later in this chapter shows such a relationship with HLA variability. Most of the studies of HLA background genetics and health status have focused on the genetic variation of a small number of classical human-leukocyte-antigen HLA genes in the autoimmune disease gene region. By using linkage disequilibria to study the relationship between human genetic variation and health status and a high-density map of single-nucleotide polymorphisms SNPs , researchers are increasingly able to propose potentially good candidate genes. However, although these immunologically-associated genes represent potentially good candidates within well defined groups, linkage disequilibria LD surrounding these genes has made it difficult to rule out neighbouring genes, many also with important immune functions, which may also influence disease susceptibility and health in more broadly distributed human groups. Perhaps using a high-density map of single-nucleotide polymorphisms SNPs would begin to facilitate a better understanding of the nature of the observed associations in diverse groups, as well as lead to the identification of causal variation. A comprehensive analysis of the patterns of linkage

disequilibria and human variation was recently done using SNPs, nine classical HLA loci, two TAP genes and 18 microsatellites. From these results, researchers were able to propose that the MHC has patterns of linkage disequilibria and variation that are essentially no different from those in the rest of the human genome. The exception seems to be the classical HLA markers that behave in a more straightforward, Mendelian way with respect to human genetic variation and health. Regional differences in HLA genetics may define, to some extent, subgroup susceptibilities to harmful environmental agents and even the identities of such harmful agents. Compounds that may be highly toxic for a significant segment of one local regional group, may be essentially nontoxic for another otherwise similar regional group. For these individuals, wheat gliadins and as yet unknown compounds in rye, barley, oats and triticale 17 can provoke often fatal sensitivities and are, for genetically susceptible individuals, clearly environmental toxins. In these cases, the maintenance of health requires avoidance of wheat gliadins. Without this environmental trigger, the responsible human genetic variants are unable to initiate disease and impair health. Case studies of specific human genetic variants and health hNP and hGSTO genes and arsenic metabolism Human genetic differences are known to modulate toxicant metabolism, and in so doing influence health status. An example of such a toxicant with differential metabolism based on human genetic variability is arsenic. Millions of persons worldwide are exposed to arsenic, primarily through natural enrichment of drinking water drawn from deep wells. When humans come in contact with inorganic arsenic, a known cause of skin cancer 18 , this toxin is methylated primarily in the liver but in other organs as well through a detoxification process to methylarsonic acid MMA and dimethylarsinic acid DMA. Variations in arsenic metabolism may affect individual risks of toxicity and carcinogenesis. In fact, a study in southwest Taiwan 18 recently concluded that arsenic biotransformation including methylation capacity is likely to have a role in the development of arsenic-induced skin disorders, particularly skin cancer. Marked differences in arsenic metabolism have been observed in humans at the individual and group levels.

Chapter 4 : Asian American Health: MedlinePlus

Biological Variation in Health and Illness: Race, Age, and Sex Differences by Theresa Overfield and a great selection of similar Used, New and Collectible Books available now at calendrierdelascience.com

Political-Economic Perspectives on Human Biology. He is president-elect of the American Anthropological Association. At a smaller scale, three million Basques do as well; so they are a race as well. Race is merely a shorthand that enables us to speak sensibly, though with no great precision, about genetic rather than cultural or political differences. Instead of feeding the fires of neuroticism, we could start teaching people to forget about race, to move on. The problem is that they are both wrong. In this essay, I propose that debates about race often ride upon two questions: Contra Thomas, I argue that race is not a mere social construct, but as a lived experience has devastatingly real effects. As in the case of Leroi, many scientists in the US would probably answer the first question in the affirmative. In doing so, they conflate the idea of race with the reality of human geographic variation. Since Lewontin , it has been clear that race fails to explain the vast majority of human genetic diversity. Moreover, processes such as evolution and cultural history better explain what is statistically left over to race. Moreover, with better explanations available, it is unnecessary to hammer away at questions regarding genetic diversity using the same blunt and dull instrument of race. Thomas does not directly disagree with Leroi because he is presumably focused on the social reality of race, the second question. In suggesting that we ought to forget about race, Thomas makes two entirely different errors. First, he treats race as a biosocial unity that cannot be broken apart. Thus, if race is not real biologically, it must not be real at all. Second, he ignores the real consequences of racialization and racism. Conflating Race and Biodiversity Although the word is somewhat unfashionable, and may even be considered politically incorrect, race is a good short wordâ€¦â€”Teresa Overfield, Biological Variation in Health and Illness, The idea that humans were divisible into racial types, a European folk idea, was assumed to be scientifically right, and very few scientists or nonscientists questioned the assumption. Through constant use, the idea of race was fixed and reified as human diversity. In the middle of the 20th century, a few scientists realized that race was not the same as human biological variation. The Fallacy of Race, Montagu considered race to be a myth because race was a typological rather than an evolutionary concept. Human variation was unstable and races could not be reliably defined. Two decades later, Brace proposed a nonracial approach to human variation that emphasized continuous or clinal variation and Livingstone wrote that there are no races, only clines. Ehrich and Holm clearly pointed out that traits tended to be nonconcordant. Race was only skin deep. Until the s, one could be excused from thinking race both categorized and explained human biological variation because there was not very much data to think beyond the existing, powerful and thoroughly reified racial worldview Smedley, Since Lewontin , however, an accumulation of data on human genetic variation has made it easier to think beyond race. Nonetheless, as a tribute to the power of the idea of race, many such as Leroi and Overfield still believe that race is a useful way to characterize human variation. Conversely, I am fairly certain that word length is not. True Believers and De Facto Believers There is a spectrum of views among contemporary scientists like Leroi who still assert race is a useful classification for human biological variation. Rushton , now the president of the Pioneer Fund. Rushton is infamous for promoting the idea that races evolved either brains meaning big heads , or brawn meaning large muscles, and sex organs. What separates this group from the true believers is that they understand races as statistical approximations rather than natural types, asserting race as a de facto stand-in for the messy patterns of human biological variation. She goes on to say that race might not be necessary in a near future of individualized genetic analysis. While they grasp some of the limits of race, they neither grasp the potential harm nor the lack of necessity to racialize human variation. Is race a reasonably useful shorthand for human biological variation? A first test of this question would examine whether race statistically explains or correlates with a significant portion of human genetic variation. A second test considers whether the idea of race explains the process by which variation comes about. Is Human Variation Racial? In a classic article published in Richard Lewontin estimated the proportion of human variation that could be statistically explained by races. On the other hand, if the relative degree of variation

among races is small compared to the variation within a race, then races are less statistically real. Lewontin took data on blood group polymorphisms those that have two or more alleles in high frequency such as blood types A, B, AB and 0 and tested how much variation was explained at three levels: He found that on average Humans fail the test for biological races Templeton, It may seem surprising that a species with such a wide geographic range would display so little variation among races or continental groups. However, the apportionment of variation makes sense when one considers the history of our species and in particular its youth, steady mobility, and constant openness to ideas and other peoples. This is the first problem when one substitutes race for human variation: The test I now put to race-as-genetics is not statistically, but conceptually. Is race merely a poor correlate of human genetic variation or does it help to explain the underlying processes by which variation comes about? Racial definitions and boundaries change over time and place. Thus, race is an inherently unstable and unreliable concept. That is fine for local realities but not so for a scientific concept. The importance of this point is that a bio-racial generalization that appears true at one time and place is not necessarily as true in another time and place. One of the first lessons of science is to not base a generalization on a shifting concept, which is exactly what race is. The idea of race can only divide human diversity into a small number of divisions. That is the limit. This might have been all that one could do before the advent of parametric statistics, multivariable analyses, and computers. But, now we can do so much more. Because race is used in medicine and other fields as a way to categorize both genetics and lived experience, what passes as the result of genetic difference may actually be due to interactions or some aspect of lived experience. Using race tends to conflate genetics and lived experience Goodman, I am pessimistic about how the subtle reuses of race in genetics will eventually merge with virulent racists. This does not mean that I want to hide anything about human variation. Rather, it means that we need to study human variation precisely. I advocate for de-racializing biological variation simply because there is always a more precise and meaningful way to characterize and explain those myriad variations. Location, Location, Location In the real estate industry there is a general rule that three things primarily determine housing prices: A similar refrain applies in the case of human genetic variation. Geographic location is the best single explanation for human genetic variation. There is no more powerful piece of information for predicting the genetic makeup of either an individual or a group than knowing from where on the map they originate. Furthermore, the degree of genetic variation between any two human groups is almost entirely explained by the geographic distance between them: Genetic and geographic distances are almost perfectly correlated Templeton, Although highly correlated with genetic variation, geographic location, however, is not in itself an explanation for genetic variation. Complex questions about human variation come down to specifics about our early evolution and migration out of Africa, subsequent movements of migrating populations, adaptive struggles, and stochastic events. To begin to put together these puzzle pieces, requires multiple lines of evidence and inquiry. Human diversity is the end result of two complex, interrelated and fascinating processes: Is it because of their race? Rather, sickle cell trait can be understood as a fascinating history involving agricultural intensification, clearing of lands, breeding grounds for mosquitoes, and so on Livingstone, Sickle cell is but one example of how evolution and cultural history explain not only the distribution of particular traits, but how particular traits come about. This is one specific example of the profoundly biocultural processes of evolution and history. I want to propose that if we think race is an explanation or even if we use it as a statistical proxy, we are less likely to conceptually understand how variation arises and is distributed. Thus, to say that race is not real in one way as a shorthand for human biological variation and is real in another way as a way to group and track lived experience is indeed confusing. The idea that race is a social construct derives in part from natural scientists like Lewontin who maintain that race is a myth, or more precisely that the concept does not capture human diversity. It also derives in part from a misunderstanding of the notion of historical or social construction. Even though race was invented and made to seem real by social humans, and even though race makes little sense on the genetic level, this does not mean that it is not real in other ways. Thomas makes the mistake of thinking that because race is a social construct, race cannot have real effects. To the contrary, processes of racing, racializing, and practicing racism have enormous and powerful consequence for human wealth and health. Some of my colleagues on the left have taken the path of seeing race as both genetically

and socio-politically real see Mosley, for example. This strategy involves trying to erase the negative biological association of the concept while providing equal opportunity. This message, that race is real, has the advantage of simplicity, but it may not work in the long run. My own position is basically the same as that of the American Anthropological Association http: This position reaffirms the salience of race as lived experience while calling for a new vocabulary and concepts to study human biological variation. In summary, there is no good scientific reason beyond word length, convenience, and maintenance of the status quo laziness in short , to continue to racialize human variation. Moreover, doing so may cause harm. Real human suffering may result from poor conceptualization of human variation. Yet, race is real as lived experience. It is time, at least, to ask the right question. This question is not whether race is real, but in what ways do we make it a reality? The Concept of Race.

Chapter 5 : Biological Variation in Health and Illness: Race, Age, and Sex Differences - CRC Press Book

Specifically for the health professional, this book contains an extensive compilation of research findings on biologic variation by race, age, and gender relating to health and illness.

Such behaviors are intended to reduce susceptibility to disease, as well as to reduce the effects of chronic diseases when they occur in the individual. Secondary prevention of disease is more closely related to the control of a disease that an individual has or that is incipient in the individual. This type of prevention is most closely tied to illness behavior. Tertiary prevention is generally seen as directed towards reducing the impact and progression of symptomatic disease in the individual. This type of prevention is highly related to the concept of sick-role behavior. In general, illness and sick-role behaviors are viewed as characteristics of individuals and as concepts derived from sociological and sociopsychological theories. Broadly speaking, it is any behavior undertaken by an individual who feels ill to relieve that experience or to better define the meaning of the illness experience. There are many different types of illness behavior that have been studied. Some individuals who experience physical or mental symptoms turn to the medical care system for help; others may turn to self-help strategies; while others may decide to dismiss the symptoms. In everyday life, illness behavior may be a mixture of behavioral decisions. For example, an individual faced with recurring symptoms of joint pain may turn to complementary or alternative medicine for relief. However, sudden, sharp, debilitating symptoms may lead one directly to a hospital emergency room. In any event, illness behavior is usually mediated by strong subjective interpretations of the meaning of symptoms. As with any type of human behavior, many social and psychological factors intervene and determine the type of illness behavior expressed in the individual. Considerable research exists showing the importance of age and gender in illness behavior. Illness behavior, as shown in the use of medical services, is far greater in women. Many studies have linked illness-behavior variation to ethnicity, education, family structure, and social networks. Illness behavior is also shown to be related to health care coverage and insurance. Most importantly, illness behavior is highly related to socioeconomic status. Classic studies done in the s powerfully demonstrated that socioeconomic class influenced how symptoms were acted on, with lower-class individuals lower in socioeconomic status most likely to delay seeking professional health care even when presented with severe symptoms. While much of the early work on illness behavior was seen in the context of understanding patient help-seeking behavior, the large research literature on illness behavior has gone well beyond this more narrow medicalized view. Many studies have considered the different perspectives of illness behavior held by individuals and health care practitioners. The differing worldviews of patients and practitioners are now seen as highly relevant to illness behavior. The medical practitioner and the individual experiencing symptoms go through very different appraisals of the meaning of the symptoms. Increasingly in the literature there is the recognition of the strong relationship between the physical and mental experience of symptoms and the meaning of that experience for illness behavior. David Mechanic, a pioneer in the study of illness behavior, best summarizes the current perspective on illness behavior: Parsons was a structural functionalist who argued that social practices should be seen in terms of their function in maintaining order or structure in society. Ultimately, the sick role and sick-role behavior could be seen as the logical extension of illness behavior to complete integration into the medical care system. Basically, Parsons defined the "sick role" as having four chief characteristics. First, the sick person is freed or exempt from carrying out normal social roles. The more severe the illness, the more one is freed from normal social roles. Everyone in society experiences this; for example, a minor chest cold "allows" one to be excused from small obligations such as attending a social gathering. By contrast, a major heart attack "allows" considerable time away from work and social obligations. Second, people in the sick role are not directly responsible for their plight. Third, the sick person needs to try to get well. The sick role is regarded as a temporary stage of deviance that should not be prolonged if at all possible. Finally, in the sick role the sick person or patient must seek competent help and cooperate with medical care to get well. This conceptual schema implies many reciprocal relations between the sick person the patient , and the healer the physician. Thus the function of the physician is one of social control. The complicated theoretical explanations

of Parsons yielded a voluminous research literature in the second half of the twentieth century, and they continue to stimulate much research today. In particular, there has been much study of the norms and values that define the behaviors of both the sick and those providing treatment. These studies form the basis for present-day research on the patient-physician relationship. They inform the various strategies undertaken by behavioral scientists to intervene in this relationship to bring about positive behavioral changes in both patient and practitioner that will lead to better health outcomes. There are many research issues attendant to understanding this complicated relationship between patient and practitioner. One paramount issue is that of the differential power of the participants in the relationship. According to this view, the superior power of the physician, in terms of technical expertise and status, will more effectively induce the patient toward a positive medical outcome. It is this superior power that helps make possible the often painful procedures to which the patient concedes. The concept of diversity in populations has been greatly enhanced through the articulation of the concepts of illness behavior and the sick role. Researchers now have a significant body of research showing the wide variation in these behaviors with respect to all the key demographic variables. For example, there has been excellent work showing how the presentation of symptoms to a physician is highly dependent on gender, ethnic background, and other sociocultural characteristics. It would be difficult, given this literature, for a practicing health educator not to consider the role of power in patient-physician interactions. Present-day health education has also been heavily influenced by the research on illness and sick-role behavior. These concepts have helped inform part of the scientific basis for the educational and environmental approach to health promotion planning elucidated by L. At the same time, the conceptual components of illness and sick-role behavior continue to be explored in narrative analyses of the written and spoken traditions of peoples to describe their experiences of illness and sickness. An Educational and Environmental Approach, 3rd edition. The Health of Regionville. Cite this article Pick a style below, and copy the text for your bibliography.

Chapter 6 : Sociology of health and illness - Wikipedia

Specifically for the health professional, this book contains an extensive compilation of research findings on biologic variation by race, age, and gender relating to health and illness. Completely rewritten, revised, and updated, the Second Edition includes an increased discussion of biologic.

There is a great deal of data supporting the conclusion that these behaviors affect health more significantly than other factors. Sociologists agree that alcohol consumption, smoking, diet, and exercise are important issues, but they also see the importance of analyzing the cultural factors that affect these patterns. Sociologists also look at the effects that the productive process has on health and illness. While also looking at things such as industrial pollution , environmental pollution, accidents at work, and stress-related diseases. Studies of epidemiology show that autonomy and control in the workplace are vital factors in the etiology of heart disease. One cause is an effort-reward imbalance. Decreasing career advancement opportunities and major imbalances in control over work have been coupled with various negative health costs. Various studies have shown that pension rights may shed light on mortality differences between retired men and women of different socioeconomic statuses. These studies show that there are outside factors that influence health and illness. Note that levels of infection are much higher in sub-Saharan Africa. On the opposite end, there are many beliefs that an infected male can be cured of the infection by having sex with a virgin. These beliefs increase the number of people with the virus and also increase the number of rapes against women. It is used more than standard treatment because it is more affordable. This lack of research on whether the herbal medicines work and what the medicines consist of is a major flaw in the healing cycle of HIV in Africa. The labor force in Africa is slowly diminishing, due to HIV-related deaths and illness. In response, government income declines and so does tax revenue. The orphan epidemic in Africa is a regional problem. In most cases, both of the parents are affected with HIV. Due to this, the children are usually raised by their grandmothers and in extreme cases they are raised by themselves. In order to care for the sick parents, the children have to take on more responsibility by working to produce an income. Not only do the children lose their parents but they also lose their childhood as well. Having to provide care for their parents, the children also miss out on an education which increases the risk of teen pregnancy and people affected with HIV. The most efficient way to diminish the orphan epidemic is prevention: Also, educating adults about HIV and caring for the infected people adequately will lower the orphan population. The age range with the highest death rates, due to HIV, are those between the ages of 20 and 49 years. The fact that this age range is when adults acquire most of their income they cannot afford to send their children to school, due to the high medication costs. It also removes the people who could help aid in responding to the epidemic. Japan , for example, has the third highest life expectancy 82 years old , while Afghanistan has the 11th worst 44 years old. These problems are influenced by the sociological factors of religion or belief systems, attempts to reconcile traditional medicinal practices with modern professionalism, and the economic status of the inhabitants of Asia. Vietnam is a country with feudal, traditional roots, which, due to invasion, wars, technology and travel is becoming increasingly globalized. Globalization has altered traditional viewpoints and values. Even early globalization has added to this problem â€" Chinese influence made Vietnam a Confucian society , in which women are of less importance than men. Men in their superiority have no need to be sexually responsible, and women, generally not well educated, are often unaware of the risk, perpetuating the spread of HIV and AIDS as well as other STIs. Cultural beliefs shape attitudes towards physical and mental disabilities. China exemplifies this problem. According to Chinese Confucian tradition which is also applicable in other countries where Confucianism has been spread , people should always pursue good health in their lives, with an emphasis on health promotion and disease prevention. Many traditional healing practices include shamanism and herbal medicines , and may have been passed down orally in small groups or even institutionalized and professionalized. Now governments must be careful to create health policies that strike a balance between modernity and tradition. Organizations, like the World Health Organization , try to create policies that respect tradition without trying to replace it with modern science, instead regulating it to ensure safety but keeping it accessible. Indigenous

psychology is that which is derived from the laws, theories, principals, and ideas of a culture and unique to each society. They may or may not receive professional ANC depending on their education, class, and financial situation. Female midwives and healers are still the norm in most places. Western methods are overtaking the traditional in an attempt to improve maternal health and increase the number of live births. Even wealthy Asian nations, such as Japan, Singapore , and Taiwan , also have very elderly populations and thus have to try to sustain their economies and society with small younger generations while caring for their elderly citizens. While indigenous medicinal beliefs are not significantly prevalent in Australia, traditional ideas are still influential in the health care problems in many of the islands of the Pacific. Because of this, public health was professionalized beginning in the late s in an effort to control these and other diseases. In the s and s it was recognized that Australia had several hundred thousand alcoholics and prevention became a priority over cures, as there was a societal consensus that treatments are generally ineffective. The government has also waged a war on illegal drugs, particularly heroin , which in the s became widely used as a pain reliever. European colonization and late independence meant modernization but also slow economic growth, which had an enormous effect on health care, particularly on nutrition in the Pacific Islands. The end of colonization meant a loss of medical resources, and the fledgling independent governments could not afford to continue the health policies put in place by the colonial governments. Poorer rural communities, on the other hand, continue to suffer from malnutrition and malaria. Native attitudes towards weight contribute to the obesity problem. Tongan natives see obesity as a positive thing, especially in men. They also believe that women should do as little physical work as possible while the men provide for them, meaning they get very little exercise. It is as low as 67 in Russia and 73 in the Balkan states. The study of hypertension within the United Kingdom has turned to examining the role that beliefs play in its diagnosis and treatment. Hypertension is an essential topic for study since it is linked to increased risk of stroke and coronary heart disease. The most common treatment for hypertension is medication but compliance for this treatment plan is low. Patients commonly believe that high levels of anxiety when first diagnosed are the major cause and think that when stress levels decline so too will their hypertension. Other respondents in this UK based study had varying beliefs concerning the necessity of medication while others still argued that it was the side effects of medication that made them end their prescribed regimen. These common illness were examined not because of their seriousness but because of their frequency. The researchers explain five possible triggers that people seek medical aid: These kind of explanatory models are part of the process that people use to construct medical culture. It can help explore why some patients will follow a doctors instructions to the letter and others ignore them completely. Half of the respondents did not have any lay consultation before coming to the doctors office. One-third did not try any self-treatment and three-quarters of the sample consulted the doctor within three days of symptoms developing. These results echo similar studies in Ireland that explain this phenomenon as being based in a strong work ethic. Illness in these countries will affect their work and Finnish people will quickly get treatment so they can return to work. This research out of Finland also describes that this relationship between patient and doctor is based on: On one hand many patients believe they are the expert of their own body and view the Doctor-patient relationship as authoritarian. These people will often use knowledge outside the medical field to deal with health and illness. Others see the doctor as the expert and are shy about describing their symptoms and therefore rely on the doctor for diagnosis and treatment. Data was collected between and It was built by an amalgamation of wealth, ideas, culture, and practices. North America is highly advanced intellectually, technologically, and traditionally. This advantageous character of North American nations has caused a high average life expectancy of 75 years for males and 80 years for females. This leads to the conclusion that North America has cultivated a comparatively healthy society. As North America contains several core nations, the growing economies in those nations are able to maintain and develop medical institutions. This subsequently provides more access to health care for American citizens but health care is not universal. North America is known for being a leading nation in regards to industrialization and modernization, but the United States lacks federal laws regarding health care as a basic human right. This lag of health care security causes subsequent issues with pharmaceutical competition, lack of care for the elderly, and little attention to alternative medicine. There are high incidence rates in many other world regions.

There have also been 22, alcohol induced deaths in the United States in the past year, about 13, of which were related to liver disease. The Swine Flu also known as H1N1 epidemic is a recent disease emerging in the early 21st century. In April , during the early days of the outbreak, a molecular biologist named Dr. These students apparently brought the virus back from Mexico and infected their classmates. Flu viruses can be directly transmitted via droplets from sneezing or coughing from pigs to people, and vice versa. These cross-species infections occur most commonly when people are close to large numbers of pigs, such as in barns, livestock exhibits at fairs, and slaughterhouses. The flu is transmissible from human to human, either directly or via contaminated surfaces. Elevation is a major factor in the areas where malaria is found. The disease is spread from person to person via mosquito bites. People are typically bitten by mosquitoes at dusk and dawn. Symptoms of this disorder are: If left untreated, new symptoms can occur; people that are infected may experience seizures , delirium and coma. Severe cases may end in death. Malaria can be cured, but the symptoms may not become noticeable until months later. There are three forms of medication that can cure Malaria. Literature about Malaria treatment typically is focused toward people who are tourists. Most sources are not written with the native in mind.

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To avoid misunderstanding on this point, however, it must be acknowledged that among members of populations that share a common environment, genetic susceptibility can play a crucial role in determining who develops a particular illness; the issue addressed here has been the variation in aggregate health status among groups across time and place.

Chapter 9 : Illness and Sick-Role Behavior | calendrierdelascience.com

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