

Introduction to  
Anthropology:  
Holistic and Applied  
Research on Being  
Human

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ISBN: 9798858723769

# CONTENTS

Acknowledgments	i
1 What is Anthropology	1
2 A Brief History of Anthropology	23
3 Research Methods	55
4 Evolution and Genetics	90
5 Primates	118
6 Early Hominin Evolution	149
7 Genus Homo and First Cultures	180
8 Upper Paleolithic and Ice Age	214
9 Development of Agriculture	238
10 Sociopolitical Classification	269
11 Culture Change and Globalization	293
12 Communication and Language	322
13 Politics, Economics, and Inequality	357
14 Gender and Sex	383
15 Kinship and Marriage	408
16 The Issue with Race	437
17 Health and Medicine	466
18 Religion	494
19 Human Rights and Activism	519
20 Climate Change and Human Lifeway Adaptation	546

## MODULE 17: HEALTH AND MEDICINE

### What is Health?

What does it mean to be healthy? Can health simply be maintained by exercise, diet, and appropriate medical treatments? Is **health** the absence of disease or disability? Does health cover physical, mental, and spiritual wellbeing? The idea of health, and what it means to be healthy, are not universal. Cultures value various aspects of well-being and have different ways of conceptualizing and understanding health and illness, including causes, symptoms, and appropriate treatments. What it means to be healthy, or ill, is shaped by a myriad of historic, cultural, political, and economic factors. Therefore, understanding health is not always clear-cut. What happens when people with different understandings of health interact?

People are faced with health-related challenges within and between communities, and resolving these questions is often a complicated venture. In this globalized world, anthropologists can help address these complications and resolve miscommunications between groups with different belief systems. **Medical anthropology** is an applied field that emphasizes aspects of biological and cultural anthropology to raise awareness of and mitigate health concerns on local and global platforms. Traditionally, medical anthropologists were interested in medical systems that included witchcraft and magic (see Module 18: Religion), but following WWII and particularly in the 1970s, medical anthropological research shifted towards international public health. Medical anthropology has grown since then as

key anthropological approaches are essential to public health solutions, including cross-cultural perspectives, immersive fieldwork focused on people's daily lives, and holistic analyses that consider epidemiology and broader socio-political, environmental, and historical contexts of health problems.



**Video 17.1. Check out the video from Dr. Anastasia Hudgins discussing medical anthropology.**

To begin our discussion of medical anthropology, we first differentiate **disease** and **illness**. In Western cultures, these terms are often viewed as synonyms, but there is an important distinction between them. Diseases are defined as objectively measured pathological conditions of the body. They describe weakened biological systems with universally recognized symptoms and treatments, such as the common cold, HIV/AIDS, influenza, cancer, heart disease, diabetes, and broken bones. COVID-19 is a disease that is caused by the SARS-COV-2 virus and recognized all over the world by a common suite of symptoms, including fevers, chills, difficulty breathing, body aches, and loss of sense of smell or taste. No matter where you live, health professionals recommend that upon experiencing symptoms, individuals should stay home, stay hydrated, self-quarantine for a set amount of time, maintain distance from other people, and wear a mask in public to prevent disease transmission. To treat this disease, health professionals may provide medications to reduce fever, slow the virus, reduce overreactive immune responses, and support the body's immune function. Further, they will likely recommend water to keep a patient hydrated and may prescribe supplemental oxygen for breathing difficulties. Additionally, several different types of vaccines are currently available that demonstrate efficacy to inhibit transmission of COVID-19.

An illness, on the other hand, is a complicated cultural construction. Illnesses are feelings of imbalance or ill health from a physical, psychological, and/or spiritual standpoint. They may be related to diseases, but that is not always the case, and treating them often requires an understanding of the patient's culture and experiences. Illnesses may represent culture-bound

syndromes and not be universally recognized. Culture-bound syndromes are localized, folk diagnoses for illnesses experienced and treated in a particular region or population. These may or may not correlate to diseases that are recognized in Western medicine. For example, eating disorders are culture-bound syndromes in Western culture. There isn't a simple way to diagnose or treat eating disorders based solely on biomedical criteria, and culture plays a large role in the development and expression of these disorders. Eating disorders have been described as ways for people to assert control over their environments, participate in religious beliefs, protest conditions, express their fitness and individuality, or even as survival strategies in oppressive conditions. They have traditionally been associated with women in Western cultures due to Western ideals of female beauty and thinness, but eating disorders are recognized among all genders from multiple cultural groups and are characterized by different etiologies, expressions, and treatments.

## How Do Cultures Understand the Causes of Illnesses?

**Ethnomedicine** is the comparative study local systems of health and healing, including culturally specific ways of diagnosing illnesses, determining causality (also known as etiology), and treatment. Ethnomedicine was traditionally focused on non-Western societies, including their extensive knowledge and use of plants and other natural substances in healing. Contemporary research in ethnomedicine investigates the cultural dimensions of Western medicine as well, including Western ways of understanding and treating illness that reflect cultural values and concepts of the body. Throughout this chapter, we describe **ethnoetiologies**, or disease theory systems, that frame a culture's understandings of health and illness, including **biomedical**, **personalistic**, and **naturalistic** perspectives. Understanding these perspectives provides insight into the development of specific health-related beliefs and practices and how disparate views between groups might be addressed.

### Personalistic Ethnoetiology

Among some cultures, illnesses are believed to represent social punishment or retribution from other people, non-human animals, or supernatural forces. They also encompass the physical, emotional, and

spiritual realms. While people may understand the physical causes of a malady (e.g., colds are caused by germs, or a granary collapsed because it was termite-ridden), personalistic ethnoetiologies address why an incident or illness happened to a particular person at a particular time (e.g., why did someone catch a cold when they did, or why did the granary collapse when people were sitting below it?). People don't become ill by accident or random chance; illnesses send a message that someone, somewhere, is purposefully causing an individual harm. In personalistic approaches, health practitioners are more interested in finding the supernatural cause of the illness and appeasing the aggressor who it versus treating the physical symptoms. This requires an assessment of multiple realms of well-being.

The Chukchi of Siberia traditionally practiced **shamanism**. Chukchi shamans served as religious and political figures and community leaders. Shamanistic religions are often associated with personalistic ethnoetiologies because, among their other duties, the shaman uses rituals to interface with spirits and animals to keep communities safe and healthy. They may enter trances to enter the spiritual realm and talk to ancestors or calm malignant spirits. Bogoras, a Russian ethnologist in the early 1900s, observed Siberian groups and reported a broad range of shamanic rituals designed to cure illness, cause harm to enemies, and protect against spirits. Evil spirits, known as k'lat, caused all misfortune and maladies. When a person became ill or had an accident, it was attributed to the **k'lat**. The Chukchi believed that every person had at least five souls loosely attached to the body, and k'lat spirits attacked people to eat pieces of their souls. If one soul was lost or destroyed, a person might be okay and show no symptoms, but if multiple souls were lost or damaged, a person became sick or experienced other maladies. Shamans used rituals to predict k'lat attacks and neutralize them before ill befell a community and helped people mend or replace their souls when they experienced illness.

In another example, cultural groups on the northern coast of Peru in the Moche Valley believe health is a balance of social relationships, natural forces, and supernatural energies. It's critical for people to maintain relationships with other people and nature for the sake of their own health. These beliefs were well established and observed during Spanish contact and represent a complex understanding of humans' health and place in the world. Despite

Spanish attempts to destroy Moche religions and cultures, some of these rituals and beliefs have persisted to the present day. Maestros are medical specialists who diagnose and treat patients when they become ill. Although biomedical doctors perceive maestros and traditional folk practices as primitive and inaccurate, many people prefer to consult with maestros before biomedical doctors, believing that biomedical doctors do not address the full health spectrum.

This is because some Moche cultures perceive two broad categories of illness: those treated by doctors and those treated by maestros. Illnesses may reflect loss of souls, contact with dead souls, ill intentions from the community, or influences from environmental conditions. When a maestro is required, they may perform the mesa ritual, which requires the maestro to understand the healing system, culture, environment, and details of the patient's social and familial systems. This personalized ritual aims to restore balance for the patient.

One notable illness that only maestros can treat is caused by proximity to *huacas*. *Huacas* are sacred locations or monuments (see Figure 17.1). When people are too close to these areas without permission or proper ritual, they may be impacted by the sacred power of these sites, which includes positive and negative energies. While a maestro may be able to use the powerful forces from *huacas*, the average person is ill equipped for these efforts (see discussion of mana in Module 18: Religion). Subsequent illnesses from these encounters cannot be clearly categorized with biomedical categories, and symptoms like temporary blindness and shaking are reported. These illnesses require collective healing rituals, often with family participation, to reestablish balance for the patient.





Figure 17.1. An example of a *huaca*. The Huaca del Sol (Pyramid of the Sun) at Moche, Peru, was an important religious and state site during the rule of the Moche civilization. Original image from Carl Ottersen/Wikimedia.

Dano, an illness caused by someone else's jealousy, hatred, or revenge, also requires maestro support. Someone may hire a maestro to send ill intentions through contaminated food, poisons, or elaborate rituals involving possessions or photographs of the victim. In these cases, if the recipient of the dano does not seek out healing from a maestro, they may get worse or even die.

Illness is not approached from a biological standpoint. No medicines are administered with the intent of bringing the body back to biological balance. Instead, when people become ill, personalistic approaches emphasize the supernatural or root causes of illness. The difference in biomedical and personalistic approaches is further illustrated by H'mong migrants that came to the United States after the Vietnam War (see Module 1: What is Anthropology?). Clashes in medical approaches led to distrust between both groups, and it took collaboration and cooperation between Western health

practitioners and H'mong shaman to resolve concerns.

## Naturalistic Ethnoetiology

Other cultures relate illnesses to impersonal imbalances in natural forces. **Traditional Chinese Medicine (TCM)** is a good example of a naturalistic ethnoetiology that has existed for over 2,500 years. In TCM, people and their worlds comprise systems of interconnected and interdependent pieces. If all parts of the system are in balance, there is harmony, health, and sustainability. If any pieces are disturbed, the system may experience a butterfly effect of disturbances, creating imbalance that leads to illness, disease, and suffering for those in the system.

TCM emphasizes the idea of **qi**, or vital energy, and yin/yang, opposing but complementary forces that make up the universe. All objects have qi, which is in a continuous state of flux. It cannot be created or destroyed, but it can become blocked or imbalanced. When illness occurs in an individual, healthcare practitioners determine whether qi imbalance is caused by external forces, such as temperature or wind; emotional forces; or lifestyle forces, such as diet, sleep routines, or alcohol consumption. For example, some illnesses are associated with imbalances of heat or cold. If someone complains of symptoms associated with too much heat, such as inflammation, a practitioner may recommend the patient avoid hot, spicy, and acidic foods and instead ingest foods and herbs with cooling properties to tip the body's balance. Furthermore, certain organs are associated with emotions and functions, so treatments may emphasize these areas to regain balance. For example, the lungs are associated with sadness or grief, so someone who has experienced loss or is not demonstrating clear thinking may receive treatments that emphasize lung function.



**Figure 17.2.** Traditional Chinese Medicine. Image from Wikimedia Commons.

Numerous culture-bound symptoms are found among groups with naturalistic views of health. Khyal Cap, or wind attacks, are found in Cambodian communities. Patients exhibit dizziness, shortness of breath, heart palpitations, and other symptoms related to anxiety. It most closely resembles panic attacks in Western cultures, but it is believed to be related to wind rising in the body. Practitioners must examine the patient to determine whether the Khyal Cap reflects biological imbalances or emotional trauma before they prescribe treatments. One common treatment is cupping, where a glass is warmed and pressed against the skin. As the glass cools, a vacuum is created, and the skin is slightly suctioned up into the glass. This treatment removes excess wind from the body and brings calm to the patient.

Naturalistic practitioners recommend a variety of treatments for illnesses, such as movement routines, bodily modifications, and medicines that are designed to unblock qi or re-balance yin/yang, and restore all realms of an individual's physical, mental, and spiritual well-being. TCM is more holistic and personalized than Western biomedicine. If two patients visit a healthcare practitioner with the same physical symptoms and complaints (e.g., a cold) a

biomedical practitioner would ascribe both patients the same treatment. However, a naturalistic practitioner may ascribe different treatments based on assessments of each patient's qi and yin/yang balance. In the clip below, you can listen to a TCM practitioner discuss herbal remedies designed to bring the body back into balance.



**Video 17.2. Check out the video from Food Stories featuring employees at a TCM shop discussing medical ingredients and health.**

Another type of naturalistic ethnoetiology emphasizes emotional experiences, where extreme or prolonged negative emotional experiences can lead to illness. Koro occurs in southeast Asia and associated with intense anxiety that results in genitalia shrinkage or reduction. Koro represents an imbalance due to inappropriate sexual acts, particularly when a patient feels extreme guilt or shame. As a result of these acts, people believe their genitalia are shrinking, which can lead to death. These can be treated in several ways, including herbal remedies or physical manipulation of the afflicted body parts.

In Latin American cultures, Susto, or fright sickness, is associated with a range of symptoms like insomnia, nervousness, and despondency. Susto occurs when people experience sudden frightening accidents, witness someone else's sudden death, or have a traumatic or dangerous experience. A number of herbal remedies and rituals are prescribed, depending on the experiences and specific symptoms.

While naturalistic approaches treat physical maladies, they differ from biomedical approaches because treatments are based on holistic assessments of physical, mental, and spiritual well-being with the aim of bringing a person and their surroundings back into balance. Unlike personalistic approaches, illness is seen as an impersonal event, and there is no need to confer with spirits or ancestors during treatment.

## Biomedical Ethnoetiology

In the United States and much of Western medicine, health practitioners study human biology with the scientific method to understand the body's relationship with pathogens, biochemical imbalances, and other physiological concerns. This biomedical approach developed from naturalistic ethnoetiologies but varies in significant ways. From a biomedical perspective, being healthy means to be free of physical disease and dysfunction. This concept of health differs from other ethnoetiologies, especially, as it doesn't focus on social or spiritual imbalances and has a narrow focus the physical, individual body. Treatments prioritize medication, surgery, and other physical interventions (see Figure 17.3). Additionally, biomedical practitioners also tend to specialize in parts of the body rather than treating the whole person.



**Figure 17.3.** Surgical procedures. Image from the NARA and DVIDS Public Domain Archive.

Western society views the physical, mental, and spiritual as completely different realms of being, and physical health is prioritized. When someone has a disease (e.g., a broken bone or the flu) they are treated by a physician,



but when someone has an illness that cannot be clearly diagnosed or treated by traditional biomedical practices (e.g., eating disorders or depression) they may visit a psychologist, priest, or other specialist. Practitioners who are more interested in mental or spiritual well-being undergo different schooling and training than a medical doctor, they have a different status in society, work in distinct locations, and are viewed separately from medical doctors.

A great amount of time, money, and effort have been devoted to anatomical and physiological health in the U.S., however, mental wellbeing has not been well studied. In the past, mental illness was perceived as demonic possession, witchcraft, or other supernatural conditions that could not be treated. Often, individuals with mental illnesses were severely mistreated, separated from their families, and generally dehumanized because of their afflictions. It's only through investigative journalism and public awareness efforts over the past few decades that the U.S. has shifted its views on mental health. In 1952, the American Psychiatric Society published the *Diagnostic and Statistical Manual of Mental Disorders* (DSM) as an authoritative guide to diagnosing mental disorders. The manual is in its 5th edition as of 2013 and represents a standardized description of recognized mental illnesses. However, compared to other cultures, the U.S. does not treat mental health to the same standard as physiological concerns.

With its emphasis on science, Western medicine is sometimes perceived as objective and neutral and, therefore, superior. However, even biomedical approaches are prone to subjectivity, and this superiority can be questioned through critical assessments and comparative studies. For example, **obesity** is an illness described as excessive fat accumulation that leads to health risks. It is a risk factor for numerous diseases, like heart disease and diabetes. Nearly half of the U.S. population is considered obese, and globally, more than four million people die every year because of excessive weight and associated diseases. The obesity pandemic has received global attention as healthcare providers and educators battle to raise awareness and shift cultural perspectives on diet and exercise. Highly visible infographics indicate that obesity can be easily avoided or reversed if people exercise regularly, maintain healthy diets, and avoid fast food. Realistically, obesity is much more complicated than these popular infographics suggest because they're heavily entrenched in cultural perspectives. In fact, Western medical

approaches do not fully understand and accurately treat this condition.

Obesity is one of several “**civilization diseases**” that reflects intense changes in human diet and lifestyle in recent generations. Evidence suggests that many civilization diseases do not and did not exist among hunter-gatherer groups and non-Westernized groups. Diseases became more prevalent and overall health declined when people switched to agricultural diets and sedentary lifestyles starting around 10,000 years ago (see Module 9: Development of Agriculture). When people largely lived hunter-gatherer lifestyles, with wild diets and higher levels of mobility, fat retention was a good thing. Humans evolved a sophisticated process to store and use fats for energy and to keep the body warm. This allowed women to continue breastfeeding during times of resource scarcity and may have been a desirable trait when selecting mates. In fact, in many places around the world with low-economic areas or scarce resources, extra weight is a sign of beauty, wealth, and status because it indicates that people have enough to eat; it is not considered an illness or disease. What was once considered an advantageous evolutionary adaptation has become a negative trait in Western culture. As sedentary lifestyles and domestic diets with higher fats and sugars became increasingly prominent, much of Western society began to view obesity as a **maladaptive** trait that poses significant health risks.

Further, there are stigmas and discrimination surrounding diseases like obesity that have lasting impacts on people’s psychological and physical health. This discrimination includes blaming people for their health conditions, while others are seen as innocent victims. For example, people with obesity are often seen as **guilty** of gaining weight; it’s commonly advertised that if people took care of themselves, they wouldn’t be obese and at risk for other health conditions. This type of health-shaming discrimination and judgment can impact people’s mental wellbeing and whether they seek treatment. On the other hand, if someone is diagnosed with a disease like pancreatic cancer, which is often genetic and not heavily associated with lifestyle, that individual is less likely to be judged or shamed for their condition. This discrimination and judgement reflect the subjectivity of Western biomedicine, as well as our poor understanding of things like fat accumulation. As Attia notes in his TEDMED talk, the causes and cures of obesity are not well understood.



**Video 17.3. Check out the video from *TEDMED* featuring Peter Attia discussing the obesity crisis and assumptions of biomedical medicine.**

This example illustrates that Western biomedicine is just as prone to subjectivity as other ethnoetiologies. It's simply one way of understanding health and illness, but one that focuses primarily on physical well-being. There are advantages and disadvantages to this approach, as with all ethnoetiologies. Western biomedicine does not typically use a holistic approach to understanding the relationship between physical, mental, and spiritual well-being.

### **Social Determinants of Health**

We have looked at ethnoetiologies that have varying understandings of what health is and what the prerequisites for health might be. The World Health Organization (WHO) adopts a holistic definition that encompasses many of these understandings. The WHO defines health as the presence of physical, mental, and social well-being, and not just the absence of disease. This definition can be a useful starting point for investigating health disparities, which the CDC defines as “preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that are experienced by socially disadvantaged populations.” A person’s health depends on the ability of their communities to access healthy foods, environments, and livelihoods because these conditions enable physical, mental, and social well-being.

So, why do disparities exist across social groups in life expectancy? Or the likelihood of contracting and dying from particular diseases? In 2019, the average life expectancy for people in the Central African Republic was 53 years, contrasted with 85 years in Hong Kong. In the United States, the average life expectancy in 2019 was 79 years, but if we look within the United States, this statistic varies by region and across racial and ethnic groups. On the Pine Ridge Reservation in South Dakota, the life expectancy is the lowest in the United States (and the second lowest in the Western hemisphere) with an estimation of 52 years of age for women and 48 years for men as of 2017.



Additionally, in the United States, the COVID-19 pandemic has disproportionately impacted African American and Latino-Hispanic populations, who have suffered higher rates of hospitalization and death.

From an etic perspective, health, disease, and illness are influenced by factors like where people are born, where they grow and age, and where they live and work. However, people's place in space is not the only factor that influences how long and healthy a life they will live. It's also important to examine how they are positioned in the social hierarchy in relation to systems of power. How do economic and political systems and other systems of power related to social class, race, sexuality, gender, and citizenship status determine people's access to the basic criteria for well-being (see Module 13: Economics, Politics, and Inequality)? How do health care systems reflect or perpetuate these social inequalities?

**Critical medical anthropology** considers how inequality impacts health. Biomedicine focuses on individual behavior shaping health outcomes, but critical medical anthropologists examine systems of power and inequality that shape health outcomes. This includes considering access to healthcare and education, balance of work and leisure, access to healthy foods, and exposure to toxins and other environmental risks (see Module 19: Human Rights and Activism).

The World Health Organization launched the Commission of **Social Determinants of Health** in March 2005. The WHO defines social determinants of health as the “non-medical factors that influence health outcomes. They are the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life. These forces and systems include economic policies and systems, development agendas, social norms, social policies and political systems.”

The commission found that lifestyle is an important determinant of health, but people need better access to health services that will influence their lifestyle choices. They recommended that the WHO focus on improving peoples' daily conditions and tackle the inequitable distribution of power, money, and resources. These recommendations can be applied regardless of the ethnoetiologies at play.

## Modern Dine/Navajo Medicine in a Globalized World

Traditional Dine or Navajo cultures present a mix of naturalistic and personalistic beliefs. According to the Navajo worldview, the purpose of life is to achieve balance in a continual cycle of gaining and retaining harmony. Humans straddle the border between extremes: health and sickness, good and evil, happiness and sadness. This balance is called **hozho**. All aspects of Navajo life, whether secular or spiritual, are connected to hozho.

Illnesses arise because of improper contact with dangerous forces including natural phenomena like lightning and thunder, animals (bear, coyote, porcupine, and snakes), ghosts, or other supernatural forces. Rituals are critical to maintain hozho when people interact with these forces. Among the Navajo, singers are versed in the healing arts and must train for years to properly conduct rituals. Singers must also apprentice to learn the myths that serve as charters for rituals, the songs for all rituals, and to identify, collect, and make medicines and other ritual objects.

However, Navajo traditions have been altered significantly by European contact. A large amount of traditional cultural knowledge was lost after missionization, forced assimilation, and the disruption of farming practices. However, people still maintained some traditional beliefs, **syncretized** within a more globalized world. Navajo beliefs dictate that human bodies are a gift and should not be cut or harmed because people have predetermined lifespans, and harming bodies or transplanting organs will shorten one's life. Contemporary Navajo may believe that organ donations can come from relatives or community members, but overall, the body is personal and sacred. Similarly, knowledge is revered and sharing it is discouraged. Knowledge and bodies have power and should be retained by individuals where possible.

In today's world, these beliefs impact lifestyle and health practices. **Diabetes** is a common problem among the Navajo. Related to obesity, it is another "civilization disease," reflecting in part unhealthy diet and insufficient exercise. Among Native Americans, diabetes prevalence is three times higher than the U.S. national average. Nearly 25% of indigenous

people are diabetic; the high occurrence rate has been correlated to a mix of genetics, income, diet, and physical exercise. Like obesity, diabetes is a multifaceted disease that is not well understood. Many indigenous people see it as an inevitable part of culture, noting the community's long history with the disease since European contact. Navajo narratives note that farming lifestyles and fresh plant produce became unsustainable with European modification to the surrounding landscapes. Many individuals do not recognize the health-risks associated with diabetes.

Carolyn Smith-Morris is a medical anthropologist working to understand the intersection of traditional Navajo health beliefs and the broader biomedical framework of the United States. Smith-Morris found that many women developed gestational diabetes during pregnancy. They often believed these biomedical diagnoses were inaccurate, especially when the diabetes cleared up after birth. Women did not typically share these diagnoses with their families because it was considered personal information, and they did not follow up on the diagnoses or take preventative actions. However, gestational diabetes can lead to preeclampsia and type 2 diabetes for the mother and place their child at a higher risk for developing obesity and diabetes. Additionally, it has been associated with heart disease, kidney failure, amputations, and blindness when not treated.

Many pregnant Navajo women report missing regular prenatal appointments, and even more people were reticent about sharing their experiences with anthropologists. Although the National Institute of Diabetes and Digestive and Kidney Diseases spent decades (1965-2007) studying diabetes among indigenous groups in the SWUS, very little of this research tackled the private lives and beliefs of the people. Smith-Morris noticed that indigenous perspectives were missing from the research.

This discrepancy between traditional health and biomedical practices is a concern to many medical anthropologists working with the Navajo Nation. Biomedical health practitioners recommend healthy diets and regular exercise to prevent further diabetic complications, which are the same types of recommendations for obesity. However, personal beliefs and social determinants, including family history, ethnicity, and healthcare access, significantly influence susceptibility to gestational and type 2 diabetes.

Smith-Morris documented the cultural significance of unhealthy foods, such as fry bread, which are essential components of religious gatherings and recognized as good cooking. Furthermore, in an area where fresh foods are expensive and hard to find, shifting dietary practices was neither a welcome nor realistic recommendation. However, when research demonstrated that modest dietary and exercise changes significantly reduced the rate of diabetes, people invested more in health and education initiatives. Particularly, it was framed as a return to traditional dietary practices, which were disrupted by European colonization. Furthermore, because of the small community sizes, indigenous groups were able to quickly enact public health initiatives and community-based efforts.

Medical anthropology can help people initiate significant changes in their lives by incorporating local perspectives and increasing public attention to important health issues, as well as understanding the social determinants of health. Medical anthropologists help move the focus from research and policy towards application on the community level.



**Video 17.4. Check out the video from *Discussion of diabetes among Native American groups and the impacts of genes and environments.***

## Archaeological Health Studies

How can we understand health in populations long gone? Although we cannot study past ethno-etiologicals, archaeologists can infer health and social determinants from material culture and other objects. This includes studies of health and disease prevalence within populations. Archaeologists may examine fossils, human remains and mortuary contexts, food remains, historical records, or ethnographic data. Study of human remains, however, is complicated for several reasons. First, many diseases leave similar impacts on the skeleton. It's often impossible to diagnose a specific disease based on the condition of a bone, and only certain diseases (arthritis or dietary-deficiency diseases) may leave diagnostic evidence. Most don't impact bone or only present evidence after prolonged or advanced sickness. Diseases that

are minor, heal before becoming too advanced, or kill quickly may leave no visible evidence on skeletal remains. Additionally, skeletal analyses are becoming more limited as people grapple with appropriate and ethical treatment of human remains. There is a shift towards the humane and sensitive treatment of remains being more important than scientific analysis because the benefits do not outweigh the cultural concerns of exhuming human remains (see Module 2: A Brief History of Anthropology).

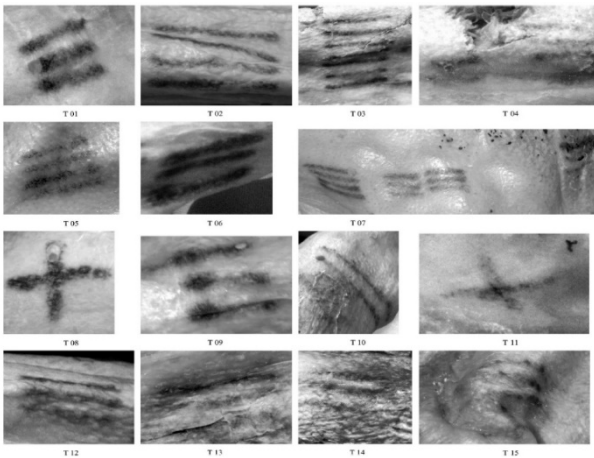
Studying food remains or proxies of diet provides one way to study past health. For example, agriculture has a long and varied history in North America, with many plants being domesticated over time (see Module 9: Development of Agriculture). Researchers, specifically, have long been interested in the spread of maize agriculture from Mesoamerica into North America because it is one of few plants that spread so far and dominated indigenous diets, regardless of geographic location. Additionally, the presence of maize has been linked to the onset of civilization diseases. Maize lacks two vital amino acids needed to make protein, and a sudden switch from wild resources to the high starch and carbohydrate contents in maize has been associated with a rise in tooth loss, abscesses, and cavities. These types of studies can be valuable to contemporary health issues today.

The Fremont people lived in Utah and surrounding regions between AD 400 and 1350. **Coprolites** are fossilized fecal material that provide direct evidence of what organisms were eating. Researchers studying human coprolites and teeth from the Fremont culture determined that the people with the most maize in their diets were the least healthy within the Fremont community. People with maize-heavy diets had significantly more tooth problems than hunter-gatherers. Hunter-gatherers showed signs of nutritional stress based on seasonal availability of food, but they didn't tend to have the same long-term nutritional deficiencies observed in the teeth of agriculturalists.

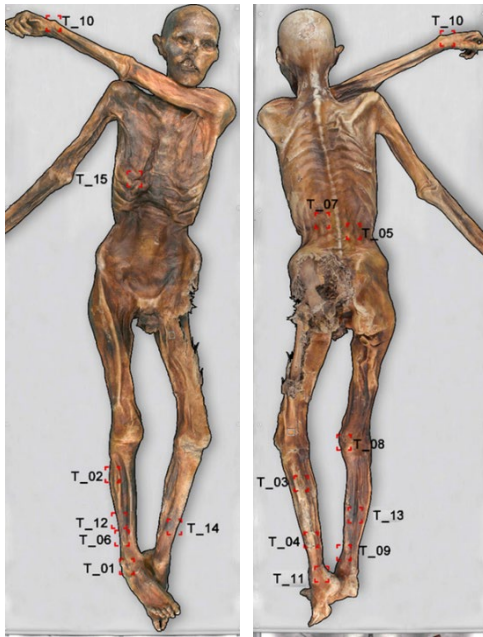
Another example is Otzi the Iceman: a well preserved 5,300-year-old mummy discovered in the Alps in 1991. In fact, he was so well preserved that the mummy was initially treated as a forensic case. However, the artifacts surrounding Otzi suggested a deeper past. His clothing, made of animal skins and grasses, were still preserved, and he had several weapons and tools,

including a copper axe, a stone dagger, and a yew bow with a quiver. Otzi died during a fight from an arrow to the left shoulder and several smaller wounds.

More than 60 small charcoal tattoos on his body likely represent a form of acupuncture (see Figure 17.4). The tattoos were mostly simple lines and geometric patterns all in places where Otzi had health issues and may have felt pain. His knees and ankles were arthritic, his teeth were rotten, and he likely had a case of Lyme disease, in addition to stomach ulcers and intestinal parasites. Remnants of medicinal mushrooms were found in his digestive system, suggesting health treatments. Additionally, he was so well preserved that scientists were able to scan his body using computed tomography (CT) to examine his cardiovascular health. The scans revealed calcified plaque in Otzi's heart, suggesting increased heart attack risks likely related to a mixture of genetic predisposition and a diet heavy in fatty meats. Otzi is an unusual case in which researchers can examine health and health-related practices in the past.



**Figure 17.4.a.** Compilation of several tattoos found on Otzi the Iceman. Based on the location and design, the tattoos are believed to represent medical treatment. Images modified from Engelking 2015.



**Figure 17.4.b.** Compilation of several tattoos found on Ötzi the Iceman. Based on the location and design, the tattoos are believed to represent medical treatment. Images modified from Deter-Wolf et al. (2016).

## Summary

Health is a complicated, culturally influenced concept that is understood in various terms of physical, mental, or spiritual well-being. Biomedical, personalistic, and naturalistic ethnoetiologies represent the ways people understand and treat health concerns. In a global world, understanding these perspectives helps people with disparate views resolve misunderstandings and receive appropriate treatments. In more recent decades, medical anthropology has focused on public health initiatives to improve health practices and education around the world. From archaeological perspectives, researchers are finding novel ways to study diet, migration, and health among groups in the past and using that information to contribute to contemporary health studies.

## Review Questions

- **T/F.** Illnesses are complicated cultural construction and do not necessarily reflect objectively defined diseases.
- **T/F.** Naturalistic health practitioners recognize that illness is a personal event and, as such, confer with spirits or ancestors during treatment.
- **T/F.** Biomedical approaches to health typically incorporate a holistic perspective that balances physical, mental, and spiritual imbalances.
- **T/F.** Obesity is a "civilization disease" that is viewed in the past or in different parts of the world as an advantageous trait.
- **T/F.** Social determinants of health refer to inequality structures and other non-medical factors that impact health outcomes.

## Discussion Questions

- Why is it difficult to define health?
- How can medical anthropologists bridge health-related miscommunication between different groups?
- What are the advantages and disadvantages of biomedical approaches?
- Describe some of the cultural assumptions behind Western medicine.
- How do personalistic perspectives vary from naturalistic perspectives?
- What types of methods can archaeologists use to study health in the past?
- Why is it important to consider cultural factors that contribute to illness rather than placing blame on sick individuals?



## Activities

### 1. **Dancing Skeleton**

Read *Dancing Skeleton* by Kathryn Dettwyler.

- Identify a culture-bound syndrome in your culture or another. In your own words, define the syndrome. In what part of the world is it recognized? Who is afflicted by this illness? What is it? How does it manifest in a patient (signs and symptoms)? How is it treated? Can it be cured? Is there an equivalent disorder within your own culture? Conversely, if you select a syndrome from your own culture, does an equivalent disorder exist among another group? Why do you think there is variation among the perception and status of this behavior between cultures?

### 2. **Is the obesity crisis hiding a bigger problem?**

Watch Peter Attia's TED Talk, "Is the obesity crisis hiding a bigger problem?"

- After watching Attia's talk, consider the different types of ethnoetiologies that people use to understand health. Does Western biomedicine provide a satisfactory way of understanding the causes and cures for obesity? Why or why not? How might other groups describe obesity?

## Key Terms

**Biomedical ethnoetiology:** Illness and disease are associated with physiological imbalances, including pathogens or biochemical disorders.

**Civilization diseases:** Illnesses or diseases that did not exist in hunter-gatherer and non-Westernized populations and that reflect profound changes in diet and lifestyle during recent human history.

**Coprolites:** Fossilized fecal matter.

**Critical Medical Theory:** The study of how inequality impacts health.

**Culture-bound syndrome:** Localized folk diagnoses for illnesses experienced and treated in a particular region or population

**Diabetes:** A “civilization disease” that affects how your body turns food into energy and is associated with poor diet and exercise.

**Disease:** Objectively measured pathological conditions of the body.

**Ethnoetiology:** How cultures understand health and the underlying causes of health problems

**Ethnomedicine:** The comparative study of local systems of health and healing, including culturally specific ways of diagnosing illnesses, determining causality (also known as etiology), and treatment.

**Guilty patients:** Patients who are blamed for poor health or contracting disease through their own action or inaction (whether or not it is accurate to do so).

**Health:** A concept of wellbeing that variously includes physical, mental, and spiritual realms

**Health disparities:** Preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that are experienced by socially disadvantaged populations.

**Hozho:** A Navajo term reflecting balance in a continual cycle of gaining and retaining harmony.

**Illness:** Feelings of imbalance or ill health from a physical, psychological, and/or spiritual standpoint.

**Innocent patients:** Patients who are considered victims of ill health or believed to have contracted disease through no fault of their own.

**K'lat:** Evil spirits that cause misfortune and maladies among Chukchi communities.

**Maladaptive traits:** An attribute formerly considered an advantageous evolutionary characteristic, but now causes more health risks and harm than benefits.

**Medical anthropology:** An applied field that emphasizes aspects of biological and cultural anthropology to raise awareness of and mitigate health concerns on both local and global platforms.

**Naturalistic ethnoetiology:** Illness and disease in the body are associated with imbalances within bodies, elements, and/or other natural systems.

**Obesity:** An illness described as excessive fat accumulation that leads to health risks.

**Personalistic ethnoetiology:** Illness and disease are viewed as aggressions directed towards individuals by human, non-human, or supernatural beings.

**Qi:** Vital energy, an integral component of Traditional Chinese Medicine.

**Shamanism:** A type of religion where a designated political leader or healer uses rituals to interface with spirits and animals to maintain community well-being and health.

**Social Determinants of Health:** Non-medical factors that influence health, including the conditions into which people are born, develop, live, and work, as well as political and economic policies and systems, social norms, and other factors that impact daily life.

**Syncretism:** The merging of different religions, cultures, customs, and ideas.

**Traditional Chinese Medicine (TCM):** A health system that relies on a naturalistic ethnoetiology and emphasizes the balance between people and their worlds.

## Suggested Readings

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