

# Mitigating Chronic Diseases during Archaeological Fieldwork

## Lessons from Managing Asthma, Diabetes, and Depression

Carla Klehm , Elisabeth Hildebrand, and Maureen S. Meyers 

### ABSTRACT

Chronic diseases and preexisting conditions shape daily life for many archaeologists both in and out of the field. Chronic issues, however, can be overlooked in safety planning, which more often focuses on emergency situations because they are considered mundane, or they are imperceptible to project directors and crews until a serious problem arises. This article focuses on asthma, diabetes, and depression as common medical conditions that impact otherwise healthy archaeologists during fieldwork, with the goal of raising awareness of these conditions in particular, and the need to be more attentive to chronic diseases in general. Archaeological fieldwork presents novel situations that put those with chronic diseases and preexisting conditions at risk: environmental hazards, remoteness from medical and social resources and networks, lack of group awareness, and varying cultural norms. As a result, if chronic diseases are not attended to properly in the field, they can lead to life-threatening situations. Managing the risk presented by these conditions requires a group culture where team members are aware of issues, as appropriate, and collaborate to mitigate them during fieldwork. Descriptions of how chronic diseases affect archaeologists in the field are followed by “best practice” recommendations for self-management and for group leaders.

**Keyword:** health, wellness, archaeological fieldwork, ethics, risk mitigation, chronic diseases, pre-existing conditions, asthma, diabetes, depression

Las enfermedades crónicas y las condiciones preexistentes son parte de la vida diaria de muchos arqueólogos, tanto dentro como fuera del campo. Sin embargo, los problemas crónicos pueden obviarse en la planificación de seguridad, pues esta se limita a situaciones de emergencia, por lo que estos problemas resultan triviales e imperceptibles para los directores de proyectos y los equipos hasta que surge un problema grave. Este artículo se enfoca en el asma, la diabetes y la depresión como afecciones médicas comunes que impactan a los arqueólogos, por lo demás saludables, durante el trabajo de campo, con el objetivo de crear conciencia sobre estas afecciones en particular y la necesidad de dar importancia a las enfermedades crónicas en general. El trabajo de campo arqueológico presenta situaciones inusuales que ponen en riesgo a quienes padecen enfermedades crónicas y condiciones preexistentes: peligros ambientales, lejanía de recursos y redes médicas y sociales, falta de conciencia de grupo y normas culturales variables. Como resultado, si las necesidades de tratamiento para el asma, la diabetes y la depresión no son atendidas adecuadamente en el campo, pueden provocar situaciones que pongan en riesgo la vida. La gestión de riesgo que conllevan estas condiciones requiere de una cultura grupal en que los miembros del equipo sean conscientes de los problemas, según corresponda, y colaboren para mitigarlos durante el trabajo de campo. Las descripciones de cómo estas condiciones afectan a los arqueólogos en el campo van seguidas de recomendaciones de “buenas prácticas” para la autogestión y para los líderes de grupo.

**Palabras clave:** salud, bienestar, trabajo de campo arqueológico, la ciencia ética, gestión de riesgo, enfermedades crónicas, condiciones preexistentes, asma, diabetes, depresión

Chronic diseases are defined as conditions that last more than one year, require ongoing medical attention, and possibly limit daily activities (NCCDPHP 2020). Chronic diseases include a suite of illnesses that impact physical and mental health, such as arthritis, cancer, cardiovascular disease, chronic respiratory diseases, dementia, diabetes, inflammatory bowel diseases, fibromyalgia,

mental illness, neurological conditions, and osteoporosis (Public Health Agency of Canada 2020).

This article focuses on three common chronic diseases—asthma, diabetes, and depression—and their relationship to archaeological fieldwork. Each section contains “best practice”

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recommendations for self-management for archaeologists working in the field with these conditions and for their group leaders and team members. Although many chronic conditions may have acute phases—or in some cases, even resolve fully—the purpose of this article is to address efforts to maintain these conditions beyond their acute phases. Aside from the three chronic diseases reviewed here, we encourage field directors to educate themselves about other diseases that their team members manage and to make appropriate preparations.

We chose these three because they are conditions that generally (1) do not severely limit or prevent fieldwork, (2) represent a range of physical and mental health conditions (which are often intertwined), (3) are variably visible, (4) involve differing levels of ease (and appropriateness) of disclosure, (5) can be triggered by the social and environmental factors involved in fieldwork, and—if not properly attended to—(6) can be life-threatening. Additionally, we have personally experienced the seriousness that these three chronic diseases have caused us or others during archaeological fieldwork (Supplemental Texts 1 and 2).

The following information is derived from medical literature. It is important to note, however, that we are not medical experts ourselves. If you have a chronic condition, please consult your physician and provide a thorough description of your field environment so as to design an individualized plan. If you are a field director, become educated on ways to be inclusive in how you structure the field environment (e.g., Phillips et al. 2007), practice archaeology with compassion (e.g., New Ethnographer 2019), and become familiar with medical issues that may occur in the field and appropriate responses.

## CHRONIC DISEASES AND ARCHAEOLOGY

Chronic diseases are prevalent. It is estimated that 6 in 10 adults in the United States have a chronic disease and that 4 in 10 adults have two or more (NCCDPHP 2020). Although the prevalence of these conditions among archaeologists has not been assessed directly, it is likely that these statistics carry over in a significant fashion to our profession.

Chronic diseases are often invisible to others until emergency situations arise (Joachim and Acorn 2000). Even disclosure does not necessarily bring understanding, sensitivity, or accommodation of others to the social and physical demands of a chronic condition (Charmaz and Rosenfeld 2006:43). Furthermore, with visibility may come stigmatization, and people with illnesses and disability often see reflections of their bodies and selves in the way others respond (Charmaz and Rosenfeld 2006; Hoppe 2010).

Chronic diseases impact everyday life, both in and out of the field. People with chronic illness deal with the stress of managing symptoms, ongoing treatment, the financial burden of medical care, and the emotional toll (e.g., loss of control, guilt, social isolation, self-definition by the disease, sense of ineffectiveness; Natale 2019:13–20). Anthropology (and archaeology, in particular) often places a primacy on fieldwork, which is further wrapped in sexist connotations and ableism (e.g., “cowboy archaeology” and the need to “tough it out”; if one cannot perform x and y tasks,

one is either not “cut out” to be an archaeologist or not a “true” archaeologist; Fitzpatrick 2019; New Ethnographer 2019; Vieth 2019). To previously published, powerful personal accounts on mental illness (e.g., Fitzpatrick 2018, 2019; Rocks-Macqueen 2016; Vieth 2019), we add how asthma and diabetes have impacted our career trajectories in archaeology (Supplemental Texts 1 and 2). We strongly encourage our readers, especially those without chronic diseases, to review these narratives because they lend perspective to the challenges faced by those with chronic diseases in our profession.

Finally, for those with chronic illnesses, archaeological fieldwork creates additional risk factors that can lead to medical emergencies, discussed below. Even if managed well, preexisting chronic medical conditions can cost comfort and productivity the field (Eifling and Klehm 2020). What happens during fieldwork may have lasting impacts long after the season or project has been completed. Awareness of, and planning for, risk factors is an important complement to the creation of an accessible, inclusive field environment where team members feel free to disclose their conditions without being judged, where everyone is encouraged to monitor their health, and where all team members are supportive of prompt, sensible action.

## ASTHMA

In the United States today, more than 25 million people (1 in 13 people) are affected by asthma, and more than 30 million Americans have experienced asthma in their lifetime (NACP 2020). Each year, more than 1.5 million U.S.-based emergency room visits and 439,000 hospitalizations occur due to asthma (Hsu et al. 2018). In the United States alone, asthma kills 4,000 people and is a factor in 7,000 additional deaths per year (NACP 2020).

### Symptoms and Treatment

An asthma attack can progress through multiple stages if left untreated. First, the lining of the airways swells and becomes inflamed. Second, airways may become clogged with mucus, and muscles around the airways tighten. Third, damage to the ciliated lining cells in the lungs causes them to break away and accumulate as debris in the airway. All of these developments constrict the airway, making it difficult to breathe (NACP 2020). The National Institute of Health’s National Heart, Lung, and Blood Institute (NHLBI 2007:6–7) gives more detailed clinical descriptions.

Asthma may be divided into four categories according to the severity and frequency of symptoms (Table 1), with different strategies for treatment. Some medications (e.g., inhaled or oral corticosteroid) aim to achieve long-term control by reducing inflammation and loosening muscles around the airway. These may be taken daily for extended periods (NHLBI 2007). Others are meant to provide fast relief during an acute episode (e.g., albuterol or other “rescue” inhalers). Asthmatics undertaking fieldwork may or may not be taking long-term medication, depending on their disease severity category. All asthmatics, however, should keep a rescue inhaler with them because acute episodes can occur at any time. Doses for rescue inhalers may vary depending on circumstances.

In many cases, an asthma attack may be momentarily resolved through prompt use of a rescue inhaler. Individuals experiencing more frequent or severe attacks during fieldwork should examine

**Table 1.** Categories of Asthma and Associated Symptoms and Medications.

Category	Symptom Frequency (daytime, nighttime)	Lung Function (as % of value predicted by age, sex, height)	Typical Symptoms of Asthma Attack or Episode	Possible Treatment(s) (depending on physician consultation)
Mild intermittent	<3×/week <2×/month	>80	May include wheezing, coughing, airways swollen or with mucus.	A rescue inhaler is prescribed to be kept on hand. Doctor will assess whether daily meds are needed. Allergy medications may be prescribed if asthma is related to allergies.
Mild persistent	3–6×/week 3–4×/month	>80	Above symptoms plus pain or tightness in chest.	Rescue inhaler. Inhaled corticosteroid (low daily dose). Possible use of oral corticosteroid and/or allergy medications.
Moderate persistent	Daily >5×/month	60–80	Same as above. Symptoms affect activity and may last for days.	Rescue inhaler. Inhaled corticosteroid (moderate daily dose). Possible use of allergy medications.
Severe persistent	Continuously Frequent	<60	Same as above.	Different combinations and doses of medication, including rescue inhaler, higher doses of inhaled and oral corticosteroids, and medications that address triggers such as allergies

Source: Wells 2019.

**Table 2.** Field Archaeology Scenarios That May Trigger an Asthma Attack and Suggestions for Mitigating These Risk Factors.

Situation with Elevated Trigger Potential	How to Reduce Trigger Potential
Smoking takes place in a context (meal, group meeting, near a door or passage into work or office) that forces project members to inhale secondhand smoke, even briefly.	Declare the project smoke free, or designate a smoking area >10 m from any working, eating, or sleeping areas. Avoid smoky restaurants/bars.
Field housing has old bedding and pillows rich in dust mites or mildew, triggering allergies and, consequently, asthma.	Select better accommodations, or purchase new pillows and bedding for asthmatic crew members.
On extended walks, people with asthma may feel pressured to move at a faster pace than they can manage in order to keep up with the group, and/or they are left to struggle alone.	Designate a rear guard, check team members' progress, and make destinations clear so that people can walk at their own pace.
Spreading unchecked through the team, common colds raise asthmatics' risk for respiratory complications (bronchitis, pneumonia) that, in turn, exacerbate the severity of asthma.	If a team member gets a cold, minimize spread by giving them a private room/bathroom to recover. Practice good hand hygiene even on field sites.

triggers and contingency treatment plans as outlined by their doctor in predeparture meetings (see below). If an attack is so severe that the asthmatic cannot speak, and the rescue inhaler does not result in rapid improvement, the asthmatic should be taken to the emergency room or an urgent care facility. There, treatments may include oral corticosteroids, bronchodilators such as ipratropium, oxygen, or in extreme cases, intubation and mechanical ventilation (Mayo Clinic 2020).

### Prevention of Triggers during Fieldwork: A Team Effort

Asthma has multiple risk factors, proximate triggers, and escalating causes that can increase the severity of an episode. Occupation, for example, plays a role in one in six cases of adult-onset asthma (Hsu et al. 2018). Long-term risk factors include having a family or personal history of asthma or allergies; being overweight; smoking or experiencing regular secondhand smoke exposure; and spending time in areas with pollution, fumes, or occupational chemicals. Proximate triggers can include intense aerobic exercise (especially for people with mild, intermittent asthma) or exposure to long-standing or new allergens. Hormonal

changes, or respiratory illnesses such as pneumonia or bronchitis, may escalate more manageable categories of asthma into severe, persistent asthma (Hsu et al. 2018; Wells 2019).

Many people with asthma have excellent working knowledge of how their condition manifests in regular, non-fieldwork life, and they follow routine safeguards and medication regimens to minimize the frequency and severity of symptoms. Nevertheless, all archaeologists (with or without a history of asthma) must recognize that field environments (both on-site and after-hours) may pose special risks for triggering or amplifying asthma. Minimizing this risk is part of the job of everyone on the project. Table 2 provides examples of common situations where decisions by project leaders or behavior of crew members might trigger an onset or escalation of symptoms. It also details simple changes that could reduce or eliminate those triggers.

### Essentials for the Field-Bound Asthmatic: Self-Recognition, Preparation, and Monitoring

Recognizing that one is an asthmatic is the essential first step in preparing for field situations. Surprisingly, some asthmatics are

reluctant to do so, particularly those who are typically in the “mild intermittent” category. Successful home regimens (e.g., using hypoallergenic bedding and HEPA filters, foregoing pets) can lead to complacency and an “I don’t *really* have asthma” attitude. But one of us (EH) has known someone with very mild intermittent symptoms at home who experienced a sudden, dramatic, and life-threatening escalation in the field.

Preparing for fieldwork requires knowing one’s baseline symptoms as well as considering typical and new potential triggers. Baseline knowledge of the frequency and severity of symptoms at home is essential for recognizing changes in condition during fieldwork. Peak flow meters (which cost around \$14) are simple handheld, nonelectric devices that help track typical range of lung function over time. It is also good for asthmatics to keep a record of home episodes and likely triggers, as well as the treatments that they and/or medical professionals used in response.

If you have asthma, prior to a field project, you should review your home baseline for the previous year with your doctor. This can help you both anticipate scenarios and strategize appropriate responses (either in reducing the trigger or altering the medication regime to compensate). Your medical visit should not yield simply a set of refilled prescriptions for medications taken at home. It should also generate an “asthma action plan” (Nall 2020) of preventative measures, known triggers, medicines, and contingency protocol. To provide for escalation scenarios, your doctor might instruct you on possible higher doses of medications you already use or give you additional prescriptions.

Before leaving for the field, you should also meet with the project director or another senior project member (if you are the director). Provide detailed information about your condition, the typical severity and frequency of symptoms, known triggers, and potential escalation, along with a streamlined version of your “action plan” (a second copy should be taped into your field notebook or first aid kit in case you become incapacitated). Together, review the action plan and explore triggers that could occur in the field, as well as ways to minimize their likelihood. Inquire about the availability of nearby emergency medical care.

After arriving in the field, assess potential triggers and mitigation strategies using on-the-ground knowledge. If necessary, bring problems to the attention of the director (or another senior staff member). Verify the accessibility of medical care, and make sure your medicines accompany you at all times, even if you don’t expect to need them. Implement the medication regime your doctor recommended. Monitor lung function daily to establish new field baselines and track improvement or deterioration.

### Project Director Essentials

If you are a director, listen carefully to the information provided by your asthmatic colleagues (above), and make sure you give them the time and discussion space to brief you as fully as they can before departure. Ask follow-up questions where appropriate. Together, identify and reduce potential triggers during work hours or nighttime. Work with them to plan for contingencies, including in-field medical treatment or emergency evacuation. Before departure—as part of general project guidance about health, safety, and ethics—communicate essential information to all team members so as to avoid unnecessary triggers. Soon after

arrival in the field, check to see if any unanticipated triggers are present and work to reduce them. Create opportunities for your asthmatic colleagues to update you privately on their condition. Cultivate a team atmosphere of respect for people’s medical needs and mutual assistance, and make sure team members are complying with health/safety/ethics protocols.

## DIABETES

Diabetes is prevalent in the United States. Just over one-tenth of the population has diabetes, or 34.2 million people (CDC 2020). It is the seventh leading cause of death in the United States, and 1.5 million cases are diagnosed yearly (American Diabetes Association 2020). There are two types of diabetes—Type I and Type II. Type I diabetics do not produce insulin and must inject it. Type II diabetics have a combination of diminished insulin production in the pancreas and decreased sensitivity to insulin’s effects. Consequently, they take pills to stimulate production, but they may also inject insulin. Diet and exercise help control both types.

Diabetics monitor their blood sugar levels to prevent complications, which may be short term (including diabetic coma, ketoacidosis), long term (such as blindness, kidney damage, and nerve damage), or even death. Diabetics strive to maintain their blood sugar level between 80 and 130 mg/dL before meals, and under 180 after meals (Campbell 2020), although this can vary by individual and is determined in consultation with a physician. Blood sugar is monitored using a glucometer, in which a drop of blood is obtained through a finger prick. Alternatively, blood sugar can be measured through a continuous glucose monitoring (CGM) sensor inserted into the skin. Readings are taken every five minutes and sent electronically to a system, usually part of an insulin pump (see below). Sensors, however, need to be calibrated with a glucometer and finger prick at least twice daily.

Type I and some Type II diabetics inject insulin through either the use of syringes or insulin pumps. In a general sense, insulin converts carbohydrates into energy for the body. Without insulin, glucose from carbohydrates builds up and eventually results in ketoacidosis and death. Insulin pumps administer insulin from a reservoir in the pump through tubing into a cannula inserted into the individual’s subcutaneous fat layer, although pump delivery systems vary. The cannula, tubing, and reservoir are generally replaced every three days. If insulin pumps are also CGMs, some pumps can self-regulate and adjust insulin needs as blood sugar varies throughout the day. All pumps deliver insulin in two modes: basal and bolus. Basal modes inject rates of insulin throughout the day. Rates are set based on blood sugar patterns. For example, some diabetics experience the “dawn phenomenon,” where rising cortisol levels increase blood sugar in early morning hours, and pumps can be set to deliver more insulin at this time. Bolus insulin delivery is done when the individual eats food containing carbohydrates. They have a set insulin/carbohydrate ratio, so that, for example, every x number of carbohydrates they eat requires y number of units of insulin to be processed appropriately. Total insulin rates vary per individual, and they are determined by diet, weight, and personal insulin sensitivity. Glucometer and pump data can be downloaded on a regular basis so that patterns can be identified and adjustments made.

Diabetes impacts life both in and out of the field. Because diabetes can compromise the immune system, diabetics may have increased doctor visits and sick days, and they are more prone to infections. The cost of diabetes can be prohibitive, given that insulin pump supplies, pump sensors, test supplies, and insulin can cost hundreds of dollars per month in the United States *with* insurance, let alone without. Diabetics are also prone to higher rates of depression (discussed later in this article).

## Managing Diabetes in the Field

There are three primary areas of concern when considering diabetes in the field that both field directors and diabetics (if different) should be aware of: hypoglycemia (low blood sugar), hyperglycemia (high blood sugar), and weather extremes.

Hypoglycemia occurs when blood sugar drops below 70 mg/dL. This may be due to exercise, too much insulin, too little food, or a combination of these. Hot weather conditions also make hypoglycemia more likely for many individuals. If not treated, blood sugar continues to drop until the individual passes out, and death can occur. Symptoms of low blood sugar include dizziness, shaking, pallor, and slurred speech, but other symptoms can be specific to individuals or situations. It is a good idea to ask the diabetic what their particular signs of hypoglycemia are before fieldwork begins so that symptoms can be recognized promptly. Hypoglycemia can be quickly halted by ingesting a fast-acting form of glucose, such as regular (not diet) soda, juice, honey, or candy. Diabetics should carry fast-acting forms of sugar with them, such as juice boxes or glucose tablets. These can also be part of the field medical kit as a backup. If the individual is having difficulty swallowing, honey or candy in the mouth can be absorbed through the oral mucous membranes. If the individual loses consciousness, 911 or other local emergency medical service numbers should be called. In addition, a rapid-reversal agent called “glucagon,” a hormone that stimulates the liver to release glucose into the bloodstream, can be given as an injection (liquid) or a nasal spray (powder). Again, individuals should carry these items with them and instruct a member of the team about its location and use. Individuals with low blood sugar often need a few minutes to recover. Some individuals, in consultation with their physician, may need to eat a snack with fats and complex carbohydrates before returning to work.

Hyperglycemia, or high blood sugar, occurs when the blood sugar is over 250 mg/dL. In extreme cases, diabetics can enter a state of ketoacidosis, which can cause extreme thirst, frequent urination, vomiting, rapid heartbeat, and loss of consciousness. Hyperglycemia is caused by a lack of insulin, possibly due to blockage in a pump, a missed injection, or insufficient insulin for food needs. In addition, expired insulin or insulin that has been either frozen or overheated will lose its effectiveness. If an individual appears to be in ketoacidosis, give plenty of water, and call the appropriate local emergency number. A person may need a few hours to recover before returning to work, but this can vary.

As stated above, extreme heat makes low blood sugar more common for some diabetics. Cold weather can inhibit a glucometer’s ability to work (and make finger pricking difficult). Heat can alter the effectiveness of insulin, so it needs to be kept cool. Heat can also affect the tape used to attach the cannula and sensor of a pump or CGM to the skin, which can result in these

falling out—unbeknownst to the diabetic—and causing hyperglycemia. Special tape and skin glues can be used to avoid these problems.

Diabetics should travel with backup supplies, particularly if they are far from home, and they should consider storing them in a waterproof bag. Keeping injection areas and finger-prick sites clean is important in order to decrease the risk of infection, and it is especially critical and often difficult in the field. It is also good practice to wear a medic alert or a similar type of bracelet. That said, there is a line between the necessity of discussing the concerns and needs of diabetic employees and their right to privacy. As a director, you can urge all employees to discuss any health issues and needs with supervisors as soon as possible so as to ensure a smooth field season—or as a supervisor, with the crew.

Diabetes is not a barrier to archaeological fieldwork. Knowledge, preparation, and support can help ensure safe field experiences.

## DEPRESSION

As of 2018, 17.3 million U.S. adults, or 7.1%, of the population have suffered from at least one depressive episode during the last 12 months, and this number is nearly doubled (13.1%) for those aged 18–25 (CBHSQ 2018). Depression is the largest contributor to nonfatal health loss around the world. It is often a taboo topic in archaeology, where it may be viewed as weakness that will lead to discrimination, stigmatization, or even unemployment (but see Fitzpatrick 2018, 2019; New Ethnographer 2019; Rocks-Macqueen 2016). Here, we wish to emphasize the population at risk in order to recommend how to prepare for, identify, and manage depression in the field. The topic of mental health is also covered in greater depth in Eifling (2021a).

Depressive disorders are among the suite of mental health disorders that impact mood, thoughts, and behavior and causes significant interruption in everyday activities (American Psychiatric Association 2013; McGladrey and Campisi 2018:413–414). Depressive disorders are common, occurring in 7.6% of the population in the United States over the age of 12, and in 4.4% of the global population (CBHSQ 2018; GBD 2017 Disease and Injury Incidence and Prevalence Collaborators 2018). Women are one-and-a-half to three times as likely to experience depression, beginning in adolescence. As is the case with the related affliction of anxiety, depression is more likely among those with genetic vulnerability, early childhood trauma, current life stressors, and certain belief structures. Current life stressors are particularly relevant for archaeologists, given that work stress may be exacerbated by office (or out-of-field) environments as well as personal life circumstances. Depression is a common comorbidity to other chronic diseases (Clark and Currie 2009) as well as sexual harassment and assault—prominent issues in archaeological fieldwork (e.g., Meyers et al. 2018; VanDerwarker et al. 2018) that also may contribute to depression.

## Risk Factors for Depression

Archaeologists, whether in academia or cultural resource management, carry significant risk for anxiety and depression. Academic work is often poorly compensated, rarely sticks to 40 hours per week, and smuggles emotional labor within the tacit



expectation to work longer hours and to publish more, along with a fear of falling “behind” (Tucker and Horton [2018] for summary). One-third of graduate students are at risk of having or developing a mental health condition (Leveque et al. 2017). In both the academic and cultural resource management worlds, archaeologists may regularly experience unemployment, underemployment, poverty, frequently changing schedules, and labor-intensive work that may lead to or exacerbate injuries and chronic pain. Active smoking and drinking cultures within archaeology share comorbidity with depression.

Extended travel heightens the risk of developing or deepening depressive episodes (Valk 2019). Fieldwork in other countries introduces aggravators such as culture shock, foreign language, varying cultural approaches to mental illness, variable treatments that may or may not be compatible with a patient’s prescription, and minimal or a complete absence of medical infrastructure to obtain psychotropic medications or professional help in-country. Travel insurance does not always cover psychiatric illness, which may skyrocket treatment costs, especially if medical evacuation is required. Fieldwork can contribute to travel anxiety in multiple and often layered ways: being away from home, supportive friends and family, and professional health support; being in a challenging physical and/or social environment; living communally, in unfamiliar territory; experiencing eating and sleeping arrangements that may lead to poor nutrition, poor sleep, and a lack of privacy; completing tasks in groups; and being asked to divulge personal responses (Birnie and Grant 2001; Tucker and Horton 2018).

### Depression in the Field: Preparation, Prevention, Recognition, and Management

Before travel, individuals dealing with depression should consult with a travel medicine specialist, and potentially a psychiatrist who is familiar with international travel risks (Valk 2019:465). Those with recurring major depressive episodes that have not been stabilized on medication should recognize that they may be at higher risk. They should work with medical professionals before fieldwork to evaluate the severity of illness, the long-term stability of treatment, and the availability of psychiatric resources and medications that they may need. Even those who are stable may need to adjust lithium dosing for exercise, diet, and hydration changes. Along similar lines, the antimalarial mefloquine (which used to be routinely prescribed but now carries a black box warning from the United States Food and Drug Administration) can induce psychotropic effects in fieldworkers who are stable or have no history of depression (US-FDA 2013). Those with a history of depression should consider other antimalarials.

Alcohol and substance abuse at home can lead to withdrawal in the field. Also, fieldworkers who are in recovery from alcohol/substance abuse may find fieldwork challenging due to the absence of recovery support networks. If you suspect a substance abuse disorder that will be disruptive during the field season, consider referring your peers to Substance Abuse and Mental Health Services Administration’s free, 24/7 hotline (1-800-662-4357), which provides referrals to local treatment facilities, support groups, and community-based organizations in the United States.

Archaeological field directors can work toward creating a more relaxing and affirmative field season by allowing the crew to

identify good/bad days for participation without fear of resentment, enabling full integration of the crew into social aspects (if social contact is beneficial), and encouraging a buddy system of disclosure (see Phillips et al. 2007:29). Student-to-student or peer-to-peer monitoring has proven to be especially effective as a way to assess mental health. Days off from fieldwork can be particularly resetting for a field crew.

Foreknowledge of risk factors and recognition of symptoms (see below) are also important. Depending on university or company regulations, medical screening and disclosures can help assess the level of risk among field participants. Self-disclosure might not be allowed in all contexts, and when it is, directors should consider reciprocal measures of confidentiality and statements of where and how that information will be used. Due to systemic ableism, many archaeologists with mental health disabilities may make the reasonable choice of not disclosing their diagnoses. Field directors should not expect or press for disclosures of diagnoses of mental health disabilities from colleagues. Although field directors may have procedures for storing and taking medications, they should permit archaeologists with mental health conditions to manage their own medications in order to protect their privacy.

Field directors and field participants alike should look for physical manifestations of depression in themselves and others. Depression can range from subtle changes in energy of the individual to total disruption of behavior and/or suicidal ideation (McGladrey and Campisi 2018:413). People’s reactions to depression manifest through a variety of emotions: shame, frustration, betrayal, embarrassment, desperation, and feeling unsupported, among others (Pollard 2009). Weight loss or gain may be difficult to see with daily exposure, but other symptoms may be more visible. These include decreased energy, sleep disturbance, isolation, fatigue, rumination, worry, anxiety, and decreased ability to concentrate, complete tasks, and/or make decisions (McGladrey and Campisi 2018:418). Increased drinking is often a sign of depression.

In the field, all levels of care should be provided, including recognition that depression is the issue, both by the field member and the appropriate supervisor; provision of support and validation (i.e., connection with the patient); and forthright questioning with regard to suicidal ideations (McGladrey and Campisi 2018:419; see also Eifling 2021a). If an individual engages in self-harm, staff should evaluate and treat immediate wounds and/or bring that individual to a medical professional or emergency department, as is appropriate given the severity and field settings.

Unfortunately, there are no fast-acting medications or universal preventative measures for eliminating depression. However, preparation by both field directors and participants, recognition of symptoms, and proactive efforts to build an inclusive field environment can help mitigate the incidence in the field.

## CONCLUSION

Accommodating and welcoming colleagues with chronic diseases into the profession and in fieldwork is a vital part of archaeology’s pursuit to become more diverse and inclusive. It is the responsibility of archaeological projects to be accessible to all participants. Following Phillips and colleagues (2007:17–19), an attitude of acceptance,

awareness of limitations and potential and emerging issues, responsiveness, and flexibility are foundational to creating successful, enjoyable, and safe field seasons for those with chronic conditions.

We stress the importance of this often overlooked, significant, even life-threatening topic of chronic illnesses, especially in the context of fieldwork, which introduces novel situations and other challenges for management. Many of these problems can be anticipated, prepared for, and mitigated with adequate knowledge. Further resources on mental health (Eifling 2021a), disability and archaeology (Fraser 2008; O'Mahony 2015; Phillips et al. 2007), sexual harassment and assault (Colaninno et al. 2020; Nelson et al. 2017), building a safe and inclusive culture in archaeology (New Ethnographer 2019; Peixotto et al. 2021; Phillips and Gilchrist 2012; Phillips et al. 2007), and medical emergency and safety preparedness (Davis et al. 2021; Eifling 2021b; Emerson 2021; Hawkins and Simon 2021; Hawkins and Winstead 2021; Meyers et al. 2021; White 2021) may also be of use.

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## Data Availability Statement

No original data were presented in this article.

## Supplemental Materials

For supplemental material accompanying this article, visit <https://doi.org/10.1017/aap.2020.49>.

Supplemental Text 1. Author essay: a career in archaeology with diabetes.

Supplemental Text 2. Author essay: a career in archaeology with asthma.

## REFERENCES CITED

- American Diabetes Association  
2020 Statistics about Diabetes. Electronic document, <https://www.diabetes.org/resources/statistics/statistics-about-diabetes>, accessed February 27, 2020.
- American Psychiatric Association  
2013 *Diagnostic and Statistical Manual of Mental Disorders*. 5th ed. American Psychiatric Publishing, Arlington, Virginia.
- Birnie, Jacky, and Annie Grant  
2001 Providing Learning Support for Students with Mental Health Difficulties Undertaking Fieldwork and Related Activities. Geography Discipline Network, University of Gloucester. Electronic document, <http://gdn.glos.ac.uk/disabil/mental/index.htm>, accessed June 26, 2020.
- Campbell, Amy  
2020 Blood Sugar Chart: What's the Normal Range for Blood Sugar? Electronic document, <https://www.diabetesselfmanagement.com/managing-diabetes/blood-glucose-management/blood-sugar-chart>, accessed February 28, 2020.
- CBHSQ (Center for Behavioral Health Statistics and Quality)  
2018 2017 National Survey on Drug Use and Health: Methodological Summary and Definitions. Substance Abuse and Mental Health Services Administration, Rockville, Maryland. Electronic document, <https://www.samhsa.gov/data/report/2017-methodological-summary-and-definitions>, accessed June 26, 2020.
- CDC (Centers for Disease Control and Prevention)  
2020 National Diabetes Statistics Report: Estimates of Diabetes and Its Burden in the United States. Electronic document, <https://www.cdc.gov/diabetes/library/features/diabetes-stat-report.html>, accessed February 27, 2020.
- Charmaz, Kathy, and Dana Rosenfeld  
2006 Reflections of the Body, Images of Self: Visibility and Invisibility in Chronic Illness and Disability. In *Body/Embodiment: Symbolic Interaction and the Sociology of the Body*, edited by Dennis Waskul and Phillip Vannini, pp. 35–49. Ashgate Publishing Limited, Aldershot, United Kingdom.
- Clarke, David M., and Kay C. Currie  
2009 Depression, Anxiety and Their Relationship with Chronic Diseases: A Review of the Epidemiology, Risk and Treatment Evidence. *Medical Journal of Australia* 190(S7):S54–S60.
- Colaninno, Carol E., Shawn P. Lambert, Emily L. Beahm, and Carl Drexler  
2020 Creating and Supporting a Harassment- and Assault-Free Field School. *Advances in Archaeological Practice* 8:111–122.
- Davis, Kaitlyn E., Pascale Meehan, Carla Klehm, Sarah Kurnick, and Catherine Cameron  
2021 Recommendations for Safety Education and Training for Graduate Students Directing Field Projects. *Advances in Archaeological Practice* 9:74–80.
- Eifling, Kurt P.  
2021a Mental Health and the Field Research Team. *Advances in Archaeological Practice* 9:10–22.  
2021b How to Prepare Your Team for an Emergency: A Preseason Planning Exercise in Four Parts. *Advances in Archaeological Practice* 9:56–60.
- Eifling, Kurt P., and Carla E. Klehm  
2020 CAMPS: Combined Anthropology Medical Preparation Survey, 2018. *Current Anthropology* 61:798–807. DOI:10.1086/712004.
- Emerson, Matthew C.  
2021 Toward a Safe Archaeology Field School: Insights into Policies, Procedures, and Team-Based Learning. *Advances in Archaeological Practice* 9:66–73.
- Fitzpatrick, Alex  
2018 Digging while Depressed: Struggling with Fieldwork and Mental Health. *Animal Archaeology* (blog), July 9. Electronic document, <https://animal-archaeology.com/2018/07/09/digging-while-depressed-struggling-with-fieldwork-and-mental-health/>, accessed June 20, 2020.
- 2019 #DiggingWhileDepressed: A Call for Mental Health Awareness in Archaeology. Public Archaeology Twitter Conference. DOI:10.17605/OSF.IO/AYZB8.
- Fraser, Meredith A.  
2008 Dis/abling Exclusion, En/abling Access: Identifying and Removing Barriers in Archaeological Practice for Persons with (Dis)Abilities. PhD dissertation, Department of Anthropology, American University, Washington, DC.
- GBD 2017 Disease and Injury Incidence and Prevalence Collaborators  
2018 Global, Regional, and National Incidence, Prevalence, and Years Lived with Disability for 354 Diseases and Injuries for 195 Countries and Territories, 1990–2017: A Systematic Analysis for the Global Burden of Disease Study 2017. *Lancet* 392:1789–1858.
- Hawkins, Seth C., and R. Bryan Simon  
2021 Ten Myths about Medical Emergencies and Medical Kits. *Advances in Archaeological Practice* 9:23–33.
- Hawkins, Seth C., and Corey Winstead  
2021 Wilderness Medicine Education: How to Choose the Right Resources for Archaeology Field Programs. *Advances in Archaeological Practice* 9:49–55.

- Hoppe, Silke  
2010 Visibility and Invisibility in Chronic Illness. *Medische Anthropologie* 22:361–373.
- Hsu, Joy, Kanta Sircar, Elizabeth Herman, and Paul Garbe  
2018 EXHALE: A Technical Package to Control Asthma. National Center for Environmental Health, Centers for Disease Control and Prevention, Atlanta, Georgia. Electronic document, [https://www.cdc.gov/asthma/pdfs/EXHALE\\_technical\\_package-508.pdf](https://www.cdc.gov/asthma/pdfs/EXHALE_technical_package-508.pdf), accessed June 13, 2020.
- Joachim, Gloria and Sonia Acorn  
2000 Stigma of Visible and Invisible Chronic Conditions. *Journal of Advanced Nursing* 32:243–248. DOI:10.1046/j.1365-2648.2000.01466.x.
- Leveque, Katia, Frederik Anseel, Alain De Beuckelaer, Johan Van der Heyden, and Lydia Gisle  
2017 Work Organization and Mental Health Problems in PhD Students. *Research Policy* 46:868–879.
- Mayo Clinic  
2020 Asthma Attack. Electronic document, <https://www.mayoclinic.org/diseases-conditions/asthma-attack/diagnosis-treatment/drc-20354274>, accessed June 13, 2020.
- McGladrey, Laura, and Catherine Campisi  
2018 Management of Behavioral Emergencies in the Wilderness. In *Wilderness EMS*, edited by Seth C. Hawkins, pp. 413–429. Wolters Kluwer, Philadelphia.
- Meyers, Maureen S., David Breetzke, and Henry Holt  
2021 Arsenic and Old Graves: A Method for Testing Arsenic Contamination in Historic Cemeteries. *Advances in Archaeological Practice* 9:34–40.
- Meyers, Maureen S., Elizabeth Horton, Edmond Boudreaux, Stephen Carmody, Alice Wright, and Victoria Dekle  
2018 The Context and Consequences of Sexual Harassment in Southeastern Archaeology. *Advances in Archaeological Practice* 6:275–287. DOI:10.1017/aap.2018.23.
- NACP (Centers for Disease Control and Prevention: National Asthma Control Program)  
2020 America Breathing Easier. Electronic document, [https://www.cdc.gov/asthma/pdfs/breathing\\_easier\\_brochure.pdf](https://www.cdc.gov/asthma/pdfs/breathing_easier_brochure.pdf), accessed June 13, 2020.
- Nall, Rachel  
2020 How to Create an Asthma Action Plan. *Healthline*, April 16. Electronic document, <https://www.healthline.com/health/asthma/asthma-action-plan>, accessed June 13, 2020.
- Natale, Ginny  
2019 Experiencing Invisible Chronic Illnesses at Work and in the Clinic: It's Almost Like People Have to Physically See It. PhD dissertation, Department of Sociology, Kent State University, Kent, Ohio.
- NCCDPHP (Centers for Disease Control and Prevention: National Center for Chronic Disease Prevention and Health Promotion)  
2020 About Chronic Diseases. Electronic document, <https://www.cdc.gov/chronicdisease/about/index.htm>, accessed November 1, 2020.
- Nelson, Robin G., Julienne N. Rutherford, Katie Hinde, and Kathryn B. H. Clancy  
2017 Signaling Safety: Characterizing Fieldwork Experiences and Their Implications for Career Trajectories. *American Anthropologist* 119:710–722.
- New Ethnographer  
2019 Towards a Compassionate Turn. *The New Ethnographer* (website), February 26. Electronic document, <https://www.thenewethnographer.org/the-new-ethnographer/2019/02/26/towards-a-compassionate-turn>, accessed June 26, 2020.
- NHLBI (National Institutes of Health: National Heart, Lung, and Blood Institute)  
2007 *Clinical Management of Asthma: Expert Panel Report 3*. U.S. Department of Health and Human Services, National Institutes of Health, Bethesda, Maryland. Electronic document, [https://www.ncbi.nlm.nih.gov/books/NBK7232/pdf/Bookshelf\\_NBK7232.pdf](https://www.ncbi.nlm.nih.gov/books/NBK7232/pdf/Bookshelf_NBK7232.pdf), accessed June 13, 2020.
- O'Mahony, Theresa  
2015 *Enabled Fieldwork*. BAJR Guides 41. British Archaeological Jobs and Resources, Dunbar, United Kingdom.
- Peixotto, Becca, Carla Klehm, and Kurt P. Eifling  
2021 Rethinking Research Sites as Wilderness Activity Sites: Reframing Health, Safety, and Wellness in Archaeology. *Advances in Archaeological Practice* 9:1–9.
- Phillips, Tim, and Roberta Gilchrist  
2012 Inclusive, Accessible, Archaeology: Enabling Person with Disabilities. In *The Oxford Handbook of Public Archaeology*, edited by Robin Skeates, Carol McDavid, and John Carman, pp. 673–693. Oxford University Press, Oxford.
- Phillips, Tim, Roberta Gilchrist, Iain Hewitt, Stephanie Le Scouiller, Darren Booy, and Geoff Cook  
2007 Inclusive, Accessible, Archaeology: Good Practice Guidelines for Including Disabled Students and Self-Evaluation in Archaeological Fieldwork Training. Higher Education Funding Council for England. Electronic document, [https://www.heacademy.ac.uk/system/files/Number5\\_Teaching\\_and\\_Learning\\_Guide\\_Inclusive\\_Accessible\\_Archaeology.pdf](https://www.heacademy.ac.uk/system/files/Number5_Teaching_and_Learning_Guide_Inclusive_Accessible_Archaeology.pdf), accessed June 26, 2020.
- Pollard, Amy  
2009 Field of Screams: Difficulty and Ethnographic Fieldwork. *Anthropology Matters* 11(2). DOI:10.22582/am.v11i2.10.
- Public Health Agency of Canada  
2020 Chronic Diseases. Electronic document, <https://www.canada.ca/en/public-health/services/chronic-diseases.html>, accessed September 8, 2020.
- Rocks-Macqueen, Douglas  
2016 Mental Health in Archaeology. *Doug's Archaeology* (blog), April 20. Electronic document, <https://dougсарchaeology.wordpress.com/2016/04/20/mental-health-in-archaeology/>, accessed June 26, 2020.
- Tucker, Faith, and John Horton  
2018 The Show Must Go On! Fieldwork, Mental Health and Wellbeing in Geography, Earth and Environmental Sciences. *Area* 51:84–93. DOI:10.1111/area.12437.
- US-FDA (United States Food and Drug Administration)  
2013 FDA Drug Safety Communication: FDA Approves Label Changes for Antimalarial Drug Mefloquine Hydrochloride Due to Risk of Serious Psychiatric and Nerve Side Effects. Electronic document, <https://www.fda.gov/media/86285/download>, accessed June 27, 2020.
- Valk, Thomas H.  
2019 Mental Health Issues of Travelers. In *Travel Medicine*, 4th ed., edited by Jay S. Keystone, Phyllis E. Kozarsky, Bradley A. Connor, Hans D. Nothdurft, Marc Mendelson, and Karin Leder, pp. 463–467. Elsevier, Edinburgh.
- VanDerwarker, Amber, Kaitlin Brown, Toni Gonzalez, and Hugh Radde  
2018 The UCSB Gender Equity Project: Taking Stock of Mentorship, Equity, and Harassment in California Archaeology through Qualitative Survey Data. *California Archaeology* 10:131–158.
- Vieth, Rine  
2019 Dis/ability to Do Fieldwork. *The New Ethnographer* (website), October 4. Electronic document, <https://www.thenewethnographer.org/the-new-ethnographer/2018/10/04/dis-ability-to-do-fieldwork>, accessed September 5, 2020.
- Wells, Diana K.  
2019 Asthma Classification. *Healthline*, January 10. Electronic document, [www.healthline.com/health/asthma/asthma-classification](http://www.healthline.com/health/asthma/asthma-classification), accessed June 13, 2020.
- White, William A., III  
2021 Applying Risk Management Concepts from CRM and the Outdoor Recreation Industry to Academic Archaeology Projects. *Advances in Archaeological Practice* 9:61–65.

## AUTHOR INFORMATION

**Carla Klehm** ■ Center of Advanced Spatial Technologies, University of Arkansas, 227 N. Harmon Avenue, Fayetteville, AR 72701, USA; Department of Anthropology, University of Arkansas, 525 Old Main, Fayetteville, AR 72701, USA ([cklehm@gmail.com](mailto:cklehm@gmail.com), corresponding author)

**Elisabeth Hildebrand** ■ Department of Anthropology, Stony Brook University, Circle Road, SBS Building S-501, Stony Brook, NY 11794, USA ([elisabeth.hildebrand@stonybrook.edu](mailto:elisabeth.hildebrand@stonybrook.edu))

**Maureen S. Meyers** ■ Department of Sociology and Anthropology, University of Mississippi, 510 Lamar Hall, 615 Grove Loop, Oxford, MS 38655, USA ([memeयरl@olemiss.edu](mailto:memeयरl@olemiss.edu))