

Addressing Climate Health and Your Health

*Building Resilience Against Climate Effects
in Jackson County, Illinois*



Public Health
Prevent. Promote. Protect.
Jackson County Health Department

Addressing Climate Health and Your Health

Purpose

This plan includes suggestions and resources to help you:

- Reduce climate impacts with a focus on those actions which reduce carbon footprint and improve health.
- Decrease health impacts associated with climate effects by addressing our top three priority issues: 1) chronic respiratory disease; 2) mental health and stress; and 3) medical care disruption. These priority issues were identified in 2016 by the Jackson County Public Health and Medical Preparedness Coalition.

Why must we address climate change now? Because extreme weather is becoming more common in southern Illinois, and these extremes are often linked to global climate change. Take note of the following:

- 2016 was the warmest year on record, making it the third year in a row to set a new record for global average surface temperature. Sixteen of the seventeen warmest years on record have occurred since 2001.
- The worst drought in many decades hit southern Illinois in 2012.
- Jackson County experienced major flooding in 2008 and 2011, with the threat of floods appearing almost every year.
- The May 2009 super derecho killed one person in Jackson County, and destroyed 69 homes in a six-county area, with another 191 homes with major damage.

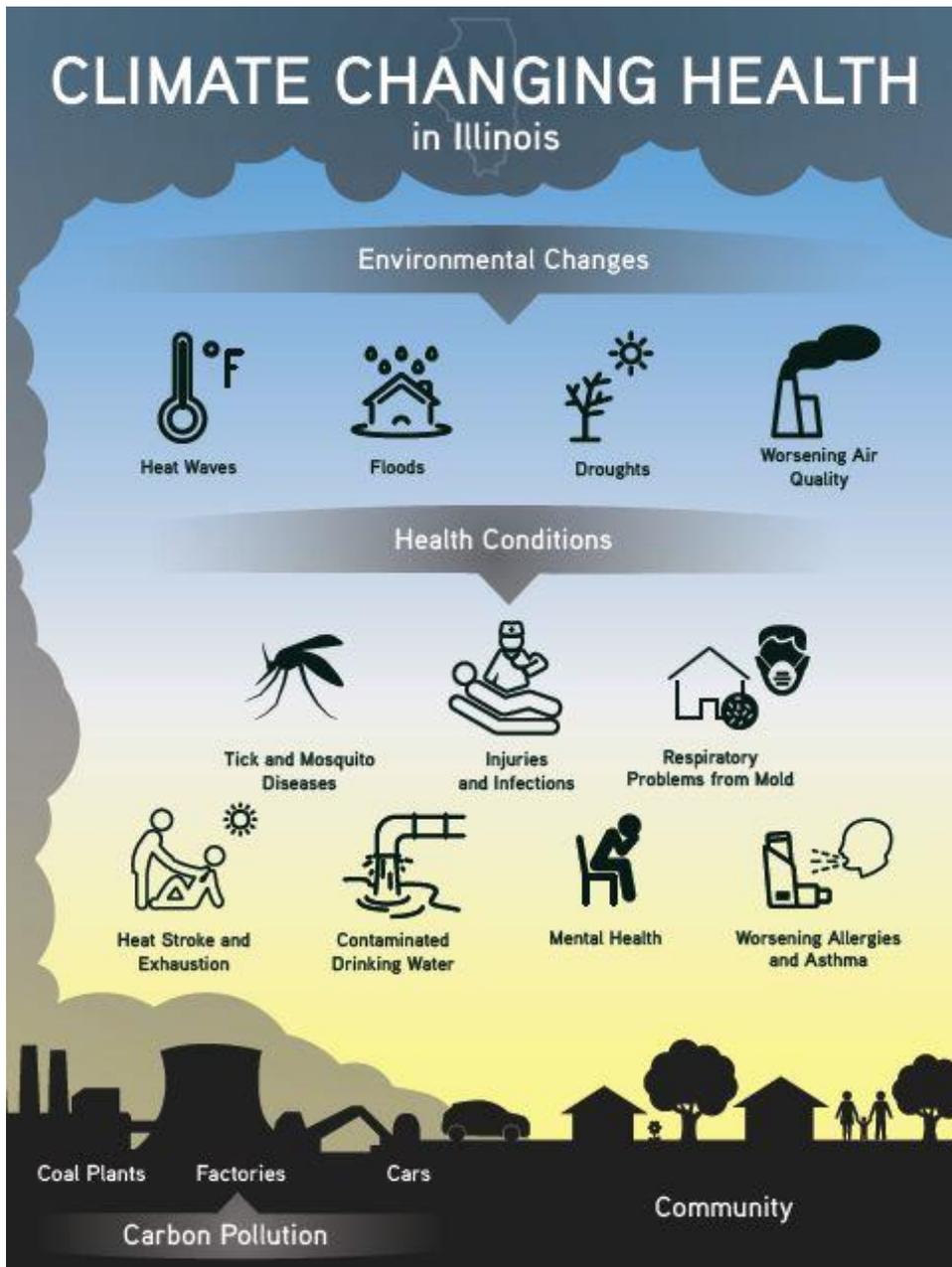
Introduction

In southern Illinois we face a variety of adverse climate impacts and the occurrence of extreme weather events has become more frequent and more severe. What is the relationship between climate disruption and health? As our climate changes, we are seeing warmer temperatures, more extremes in weather, increased flooding, and longer pollen seasons, to name just a few. Each of these changes has an impact on the health of our communities, our families, and ourselves. (See Graphic 1 for an illustration of several ways that climate change impacts health in Illinois). While our health does not rely completely on the environmental conditions in which we find ourselves, these conditions play a significant part.

All of these changes may seem inevitable, and some are. However, through the action of individuals, public agencies, businesses, community groups, and non-profit organizations, we can take actions to protect our communities from climate change. This action can take two forms:

- 1) Reducing our carbon footprint to reduce the production of greenhouse gases (also known as *mitigation*); and
- 2) Preparing to be more resilient to the impacts of climate change (also known as *adaptation*).

GRAPHIC 1.



Reducing Your Carbon Footprint to Lessen Climate Change

The good news is that many of the actions that can lessen the impacts on the climate can also have positive impacts on your health. Often, doing the right thing for the environment is also good for our own health. We reduce our carbon footprint and improve our health when we choose and promote:

- Active forms of transportation like walking and biking, or use of public transit. The good news here is that options for active transportation are becoming more accessible in our community.

- Healthy local foods from farmer’s markets or community gardens. Choosing locally grown and produced foods cuts down on fuel used in shipping.
- Energy efficient products in the home, such as those that meet EPA’s Energy Star standards, and use renewable forms of energy, through either on-site (distributed) systems, or by the purchase of renewable energy credits (RECs).
- Recycling of waste materials at home, school and work. Beyond saving natural resources, recycling saves significant amounts of energy needed to mine, harvest, process, manufacture and ship products made solely from virgin materials.
- Composting of landscape waste, instead of burning it, which creates carbon pollution, particulates in the air, and other air pollution. Composting of food waste at home reduces the production of methane, a potent greenhouse gas, in landfills. The resulting compost material can then be used as a soil amendment, creating less need to buy commercial soil additives manufactured in far-away locations.

Carbon Footprint means the amount of carbon dioxide or other carbon compounds emitted into the atmosphere by the activities of an individual, company, country, etc. over a designated period of time.

The burning of fossil fuels, such as gasoline for vehicular use, and coal for electricity generation, is largely credited as the culprit of human-caused climate change.

The larger the carbon footprint, the greater the negative climate change impact.

Another Suggestion...

•*Be an advocate for addressing climate change.* You can be a voice in your day-to-day roles, whether that is as a teacher, business owner, healthcare worker, student, etc. Educate and help your coworkers understand the effects of climate change, especially on their health, and what can be done to lessen the impacts. Form a Green Team to assess your current impact on the environment and make changes that reduce energy use, increase recycling, incentivize active transportation, and increase access to local foods. Also, educate your children, grandchildren, and other youth on the effects of climate change, so they have the tools and the desire to prevent the next generation from making the same climate mistakes of the past.

Building Resiliency to Climate Change

Reducing the causes of climate change, as discussed in the previous section, is one part of the approach. The other necessary part is to adapt to the impacts of climate change. No matter how successful our mitigation efforts, the harms already done to the Earth’s atmosphere will continue to play out, and significant carbon pollution will continue for the foreseeable future.

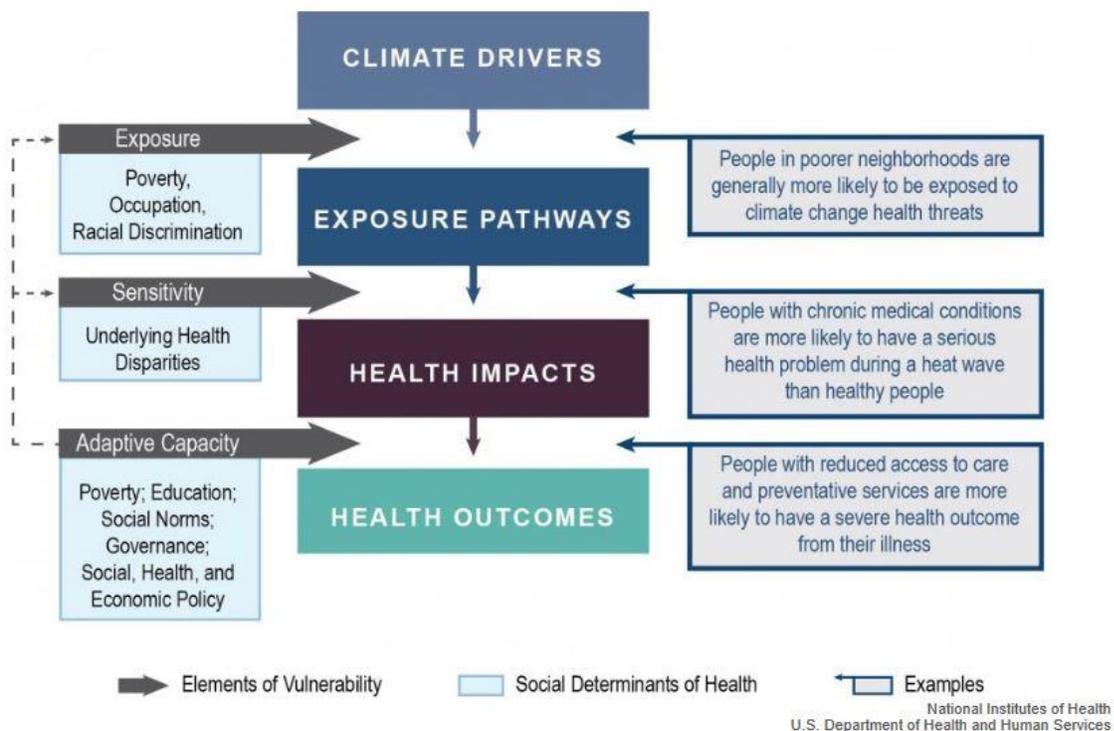
Resilience is the ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events.

Simply stated, resilience is being able to withstand and recover from stresses.

So how do we adapt to a climate that is changing, from a health perspective? By developing and implementing strategies to decrease health vulnerability to climate change. In other words, we look at how climate change will impact health, and we devise ways to live healthy lives, in spite of that impact. Adaptation efforts might include implementation of new regulations or policies, new uses for technology and data, undertaking education and outreach efforts, better managing chronic health problems, increasing access to health care, increasing social connectedness, decreasing poverty, and many other wide-ranging actions.

As some populations will be more vulnerable to decreased health due to climate change, it is important to focus more attention on these populations. Such populations might include, but aren't limited to, those with lower incomes, older adults, children, pregnant women, minorities, and non-English speakers. Actions to help vulnerable populations become more resilient to climate change, will have the greatest impact on community health. See Graphic 2 below for an illustration of how climate change impacts vulnerable populations.

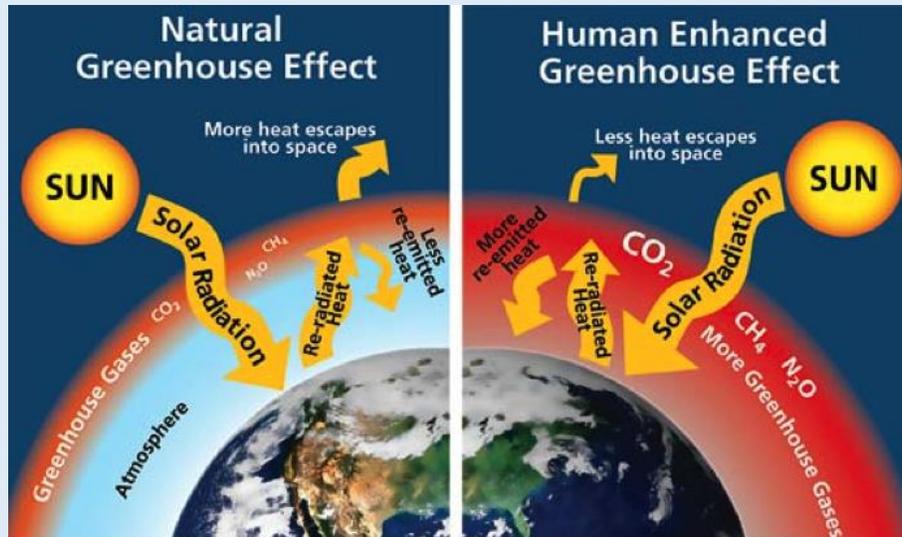
GRAPHIC 2.



Frequently Asked Questions On Climate Change

What causes climate change? Humans are releasing carbon dioxide and other greenhouse gases into the atmosphere. (Greenhouse gases are released during the burning of fossil fuels, which occurs during activities like driving or using electricity. Fossil fuels are also burned when energy is used to make new products. See Graphic 3 below for an illustration.) Greenhouse gases are causing the earth to warm and, as a result, the climate is changing around the world.

Graphic 3. Source: National Park Service



What is the difference between global warming and climate change? Global warming refers to the warming of the earth's surface and atmosphere due to human-caused greenhouse gas emissions. Climate change refers to all of the many changes to our climate, such as changes in temperature, rainfall, and wind, which result from the warming of the earth.

It's been really cold in some parts of the country recently. How can global warming be happening when it's so cold? The term global warming can be confusing. Global warming does not mean that all parts of the world will become warmer at all times. In fact, global warming changes the functioning of the varied and complex processes that determine our climate. These changes lead to impacts like more frequent and severe extreme weather, of which cold snaps and intense winter storms are just one example.

How do we know that climate change isn't just part of a natural cycle? It is true that our planet goes through natural cycles caused by things like volcanic activity or changes in the sun's intensity. This is because Earth's climate responds to whatever forces it to change. However, a great quantity of careful research has established that the global warming that we see today can only be explained by human activity, and not by other factors.

How can just one person make a difference when climate change is such a big problem? Climate change can feel overwhelming, but each person can make a difference by lessening his or her contribution to climate change. Doing so also has other important benefits for you, like improving your health and saving money.

Source: Los Angeles Department of Water and Power Climate and Health Series Report

Reducing the Health Impacts of Climate Change

Jackson County's Building Resilience Against Climate Effects (BRACE) Plan

In 2015, Jackson County Health Department joined forces with the University of Illinois-Chicago, School of Public Health to address the health effects of climate change in Jackson County. This effort was funded by a grant from the US Centers for Disease Control and Prevention, which developed the [BRACE framework](#) that allows local health officials to develop strategies and programs to help communities prepare for the health effects of climate change.

The Jackson County Public Health and Medical Preparedness Coalition ("the Coalition") conducted three planning sessions over a six-month period to identify the climate-related health priorities for our community and to develop a plan to address these. The Coalition is made up of representatives from public health, emergency management, hospitals, long-term care facilities, mental health, public housing, economic development, higher education and others. The group reviewed the data on climate effects for the nation, Illinois and, when available, this county.

The Coalition's mission was to select the top three health priorities impacted by climate change for inclusion in the initial BRACE Plan for Jackson County. While many other health issues are impacted by climate change, the top three were selected to keep the initial plan, and the resulting work in the community, focused and manageable. As work on this initial plan progresses, it is anticipated that additional health priorities will be added in future iterations of the plan.

The Coalition also felt that it was important to align with and enhance other community health efforts, to better achieve economies of scale and allow for collaboration of resources. The group reviewed the results of Jackson County Health Department's [Community Health Improvement Plan](#), Southern Illinois Healthcare's [Community Health Needs Assessment](#), the Healthy Southern Illinois Delta Network's [strategic plan](#), and others. By focusing on health issues deemed a priority by other organizations, the Coalition felt the BRACE plan would be more impactful, especially in a time of diminishing financial resources.



Participants at the October 2015 BRACE meeting

The following three climate-impacted health priorities were selected by the Coalition, and the strategies to address each priority were developed at the group's final meeting in March 2016.

➤ **Chronic Respiratory Disease**

Climate change impacts human health by making our air less healthy to breathe. Rising temperatures lead to an increase in allergens and harmful air pollutants. For example, longer warm seasons mean longer pollen seasons, resulting in more allergic sensitizations and asthmatic episodes and, thus, reduced health and diminished work and school productivity. In addition, higher temperatures from climate change can lead to an increase in the production of ground-level ozone, which diminishes lung function, increases premature death, and increases hospital admissions and emergency department visits for asthma. The need for clinical diagnosis and treatment of asthma, COPD, and other respiratory conditions will increase.

Our strategies include:

- Expand the opportunities for asthma education and policy development with a focus on schools, daycares, and emergency departments. Information on climate effects will be added to the current asthma curriculum and a focus will be on reducing exposure to asthma triggers.
- Improve air quality by reducing open burning of landscape waste and trash. Municipalities will be encouraged to adopt burning bans. Public education campaigns will emphasize the negative health impacts of burning and promote environmentally-friendly options, such as composting.

What the community can do to support this strategy:

- Offer asthma education at your workplace, school or daycare. Contact JCHD's Health Education Division for more information.
- Advocate for organizational policies that combat or mitigate exposure to asthma triggers (e.g. school policies on "no-idling" zones).
- Ensure your child's school has an asthma episode emergency response protocol modeled on the one available from the [Illinois State Board of Education](http://www.isbe.net/education/asthma), and follow the steps needed for your child to be able to carry and self-administer their asthma medication.
- Offer chronic disease self-management classes, which include suggestions for coping with asthma, COPD, and other respiratory diseases. More information at <http://www.hsidn.org/takecharge.html>.
- Educate patients on reducing exposure to asthma triggers. Materials available at www.cdc.gov/asthma.
- Receive air quality forecasts and current air quality conditions from USEPA's Air Quality Index, via their [website](http://www.epa.gov/airquality), free [email alerts](http://www.epa.gov/airquality), and the [AirNow](http://www.airnow.gov) smartphone app.
- Sign up for free email alerts on pollen levels from the National Allergy Bureau <http://www.aaaai.org/global/nab-pollen-counts.aspx>.

- Point children to the NASA [Climate Kids](#) page, so they can learn more about climate change.
- Start composting landscape waste at home, instead of disposing of leaves through burning. Materials available at <http://web.extension.illinois.edu/homecompost/>.
- Advocate for bans on municipal landscape waste burning to reduce airborne particulate matter, which aggravates asthma and other respiratory diseases.

Key resources on the relationship between climate change and chronic respiratory disease:

- [Climate Change Decreases the Quality of the Air We Breathe](#). American Public Health Association.
- The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment. [Chapter 3: Air Quality Impacts](#). U.S. Global Change Research Program.
- [Allergy and Asthma Statistics](#). Allergy & Asthma Network.
- [Sneezing and Wheezing: How Climate Change Could Increase Ragweed Allergies, Air Pollution, and Asthma](#). Natural Resources Defense Council.
- [Posters/Fliers on Climate Change, Allergies and Asthma](#). Public Health Institute.

➤ **Mental Health and Stress**

One in five people in the US has a diagnosable mental health condition. The impacts of climate change, and the accompanying severe weather extremes, impact mental health in a number of ways. First, following disasters, mental health problems increase, in both persons with a history of mental illness and in those with no such history. These reactions may be short-lived or, in some instances, last for long periods of time. Second, some people with mental illness are especially vulnerable to heat. Suicide rates rise with higher temperatures. Also, individuals with some conditions take medications which interfere with the body's ability to regulate temperature. Lastly, severe weather and disasters can leave residents temporarily displaced, or without electricity and potable water. Stress from these types of events, and anxiety over the possibility of the event occurring again, are both associated with increased incidence of mental illness. The need for clinical diagnosis and treatment of mental health conditions will increase. Severe weather and disasters also have impacts on mental health care providers, who may also be displaced and unable to provide their normal services, putting individuals with mental health issues at even greater risk.

Our strategies include:

- Increase the availability of information to the public on identifying signs of mental illness and linking to local resources. Train personnel in the region to be certified trainers in Youth Mental Health First Aid.
- Support development of a Regional Disaster Mental Health Team through the Shawnee Preparedness and Response Coalition (SPARC). This team would train and be ready to provide support as part of a disaster response.
- Promote awareness of crisis counseling resources and refer individuals needing diagnosis and care with mental health care providers.

- Work with faith-based organizations on organizational emergency preparedness, to ensure they are around to provide spiritual care to their members following disasters.
- Promote stress management techniques and mental health self-care to the public.
- Assist mental health care providers in planning to overcome disruptions in care due to disasters and other emergencies (*See Medical Care Disruption section*).

What the community can do to support this strategy:

- Sponsor a [Youth Mental Health First Aid](#) course for your school, faith community or other organization. Contact the JCHD Health Education Division for more information.
- Send staff to become a certified trainer for youth or adult [Mental Health First Aid](#).
- Identify clergy, social workers and psychologists to volunteer to become members of a Regional Disaster Mental Health Team. If you are interested in volunteering, contact the JCHD Emergency Preparedness Program.
- Identify faith-based organizations that would like emergency planning assistance. Contact the Jackson County Health Department’s Emergency Preparedness Program for more information.
- Refer staff, customers, and clients to [2-1-1](#), SAMHSA’s [Disaster Distress Helpline](#) (800-985-5990), [OK2TALK.org](#) and other services. Also, see [Mental Health Resources for Southern Illinois](#) at [www.hsidn.org](#).
- Help those suffering from mental health illness [locate](#) a mental health care professional. Use the guidance found in the Illinois Department of Insurance’s [toolkit](#) on navigating behavioral health care through your health insurance plan.
- Be prepared for emergencies at home and at work. Visit [ready.gov](#) for more information.
- Provide supportive assistance following a disaster to children, friends, neighbors and relatives who are having mental health impacts due to stress. How do you know? It all starts with a conversation.
- Provide mental health [self-care guidance](#) to those in your organization so they can ensure their own well-being following disaster, as well as be prepared to assist others.
- Learn [stress management techniques](#) so you can manage your stress levels and avoid associated health impacts.

Key resources on the relationship between climate change and mental health and stress:

- [Effects of Severe Weather on Behavioral Health](#). Substance Abuse and Mental Health Services Administration.
- The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment. [Chapter 8: Mental Health and Well-Being](#). U.S. Global Change Research Program.
- [Beyond Storms & Droughts: The Psychological Impacts of Climate Change](#). American Psychological Association.
- Mental Health and Our Changing Climate: Impacts, Implications, and Guidance. American Psychological Association.

➤ **Medical Care Disruption**

Severe weather and climate change will, at times, disrupt the provision of medical care due to interruptions in utilities, communications, supply chains, and transportation routes. Power outages, loss of potable water supply, phone line problems, delivery of medical supplies, and roadway infrastructure problems or failures can each individually be reason for medical care disruption. Severe weather and temperature extremes due to climate change may impact multiple systems at one time, multiplying the impacts exponentially. Healthcare facilities must place patient safety high among their priorities, and facility impacts from severe weather, or lack of qualified staff on-site due to road blockages, could temporarily impact their ability to provide for the safe care of patients. Thus, the need for facility evacuations may increase. In addition, following extreme weather is often when medical care is needed most in a community. Vulnerable populations are most likely to be the first to feel the impacts of severe weather and other climate change effects. Also, climate change will lead to increases in the spread of communicable diseases, making access to healthcare even more important. Reliable medical care is the foundation for the continued health of communities; climate change and severe weather undermine that foundation.

Our strategies include:

- Identify and develop a list of healthcare and lodging facilities that have generators and anticipate being able to continue services during large-scale power outages.
- Assist healthcare facilities with continuity planning and provide education on the new CMS emergency preparedness rule.
- Work with home medical equipment providers to prepare clients for power outages through the distribution of BREATHE materials.

What the community can do to support this strategy:

Healthcare Facilities

- Develop a continuity of operations plan (COOP) to ensure the continuation of medical services. Think through and document the steps you would take to get back to delivering services after a disaster. Resources to assist in the COOP planning process can be found at <http://bit.ly/2o3ivrO>. In addition, a continuity plan is one of the requirements for the 17 types of healthcare providers impacted by the new [CMS Emergency Preparedness Rule](#).
- Make use of the emergency planning and business continuity planning resource links in Jackson County Health Department's "[Survive & Thrive Guide](#)".
- Part of a healthcare facility's COOP should address utility failures, such as a power outage or water shortage. Resources on utility failures can be found at <http://bit.ly/2mJmZN>.
- Healthcare facilities should also plan for sheltering in-place and facility evacuation. Resources on these topics can be found at <http://bit.ly/2na7IXS>.
- The [Kidney Community Emergency Response](#) (KCER) Program provides technical assistance to End Stage Renal Disease Networks, kidney organizations, and others.
- FEMA offers free, online business continuity training, including a one-hour [awareness level course](#) and a two-hour [introduction to continuity course](#).

Patients

- Follow FEMA's general [emergency preparedness steps](#): 1) Get a Kit; 2) Make a Plan; 3) Be Informed; 4) Get Involved. FEMA also offers advanced guidance on [preparedness for individuals with disabilities](#).
- Be prepared for [power outages](#). If you use medical equipment that requires electricity, have a plan for what you would do in a power outage. Use the [BREATHE Program](#) resources, from Franklin-Williamson Bi-County Health Department.
- If you take medicine or use medical supplies on a daily basis, have what you need on hand to make it on your own for at least a week. Keep a copy of your prescriptions, as well as dosage or treatment information. If it is not possible to have a week-long supply, keep as much as possible on hand and talk to your pharmacist or doctor about what else you should do to prepare.
- Diabetics who take insulin should be aware of how to [store insulin](#) during power outages, and should have [extra supplies](#) on hand due in case of disruptions in medical care.
- If you undergo routine treatments at a clinic or hospital, or if you receive regular services at home such as home health care, meals, oxygen or door-to-door transportation, talk to your service provider about their emergency plans and contact numbers. Work with them to identify back-up service providers within your area and the areas you might evacuate to.

Key resources on the relationship between climate change and medical care disruption:

- [Sustainable and Climate Resilient Health Care Facilities Toolkit](#), Department of Health & Human Services.
- [Addressing Climate Change in the Health Care Setting: Opportunities for Action](#), Health Care Without Harm.
- The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment. [Chapter 4: Health Impacts of Extreme Events](#). U.S. Global Change Research Program.

Concluding Thoughts

The impacts of climate change are being felt now; we must move our talk about the issue from the future tense, to the present tense. While climate change impacts all sorts of industries (transportation, education, manufacturing, etc.), this plan serves as a starting point for looking at the health impacts on Jackson County residents. Focusing the climate discussion on the health of ourselves, our families, and our communities helps to bring the discussion down to a personal level. Even individuals that don't tend to exhibit care for their own health, are inclined to care about the health of their loved ones. Talking about climate change at the global or national level does not create the passion, nor the immediacy, needed to generate true concern and action on most people's part.

Discussion is needed, amongst a greater cross-section of the population, to achieve mass implementation of climate mitigation and adaptation efforts. However, every movement starts with small, but meaningful steps. It is the hope of the Jackson County Public Health & Medical Preparedness Coalition, and all of our participating partners, that this ongoing, local discussion about the health impacts of climate change will be the impetus for large-scale, meaningful action in the years to come.

Are you, or a group with which you are involved, interested in collaborating with others in Jackson County on addressing the health impacts of climate change?

If yes, please contact the Jackson County Health Department, Environmental Health & Emergency Preparedness Program, PO Box 307, Murphysboro, Illinois 62966; Ph: 618/684-3143, ext. 128; Email eh@jchdonline.org.

Your participation is greatly welcomed!

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