

## FLOOD DISASTER SPARKS IDEA FOR BIKE-POWERED EMERGENCY RESPONSE

BY JASON BLEVINS THE DENVER POST



*Jim Turner was stranded by floods last September. Neighbors were borrowing his small generator to charge phones. Roads were washed out, passable only on foot and bike. In the chaos, the Boulder creator of the popular Optibike electric bicycle sparked on an idea: a bike-pulled, emergency-response trailer that could swiftly bring help to people stranded by natural disaster. It would have batteries to charge electronics and filters to clean water, and it could, in a pinch, even extract injured people.*

*Jim Turner's ad hoc research design team presented potential ideas for the development of an emergency-response trailer that could convert his high-performance, off-road electric bikes into rescue vehicles. The innovative ideas flowed from two dozen Metro State students Metropolitan State University of Denver industrial design students who worked in teams to develop concept designs for Turner's Bicycle Emergency Response Trailer, or BERT.*

*They proposed solar panels on the*

*trailer to charge batteries that feed phones, emergency lights and the off-road Optibike. Removable battery packs provided mobile charging stations. On-board filters clean water. The trailer unfolds into a table, creating a workspace for emergency crews. Integrated tents provide weather protection. Modular drawers and bins hold medical supplies, electronics and equipment. Trailer rear walls become stretchers.*

*"It reminds me of the beginning of Optibike," Turner said, snapping photos of design features he hoped to adopt. "This is something that hasn't been done before. There's so much room to be creative. There's a freedom here." Optibikes, priced from \$2,800 to \$14,000, can be pedaled, but they feature motorized bottom brackets and lithium batteries that can climb hills and zip along at close to 25 mph. Off-road models can go anywhere a mountain bike can go and the motor can tow more than 200 pounds.*

*Turner was already planning to court both the Federal Emergency Management Agency and the military with potential uses for his e-bikes when Hurricane Sandy struck in October 2012, stranding thousands of East Coast residents without power or transportation. And then, a year later, his own family was trapped in Boulder by September's floods.*

*As stranded residents and rescuers turned to bikes to ferry supplies and help, Turner saw the need for a sturdy, solar-powered trailer that could reach suddenly isolated areas, delivering necessities and providing emergency power for residents to charge phones and lights.*

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### VOLUME 7 ISSUE 4 WINTER 2014

\* Our mission is to be dedicated to establish teams of local medical and public health professionals and lay volunteers to contribute their skills and expertise throughout the year as well as during times of community need.

## Emergency Response

*Continued from first page...*

He enlisted his pal David Klein, a professor of industrial design at Metro State who recruited students to develop concepts. Both Klein and Turner set guidelines that required solar power, a narrow width able to access trails, room for emergency shelter and supplies, and a weight limit that wouldn't bog down the Optibike.

Turner didn't initially envision the trailer coming apart into separate components. But most of the student designs had the top part of the trailer converting into a table, leaving the base free to roll away for hauling water or even injured people. Every team considered streamlining the trailers, with removable wheels and stackable features for transportation and storage. Turner said he found valuable elements in each of the seven designs he reviewed. "Everyone of them, I see something I like," he said. "I don't think any one is perfect, but that's the neat thing about different teams: Everyone has a different perspective."

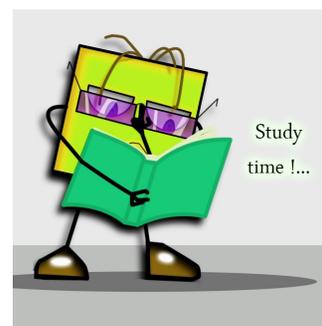
Disaster relief is only one potential for his e-bike trailers. Klein said future uses could include deliveries by urban grocers. Turner said international groups could use them to enable remote villages with power and transportation.

Student Patrick Quinn's team focused on medical care. Their trailer dismantled into litters that a crew could use to rush injured people to care. Compartments held containers that could collect, store and filter water. The swift-evacuation focus came from Quinn's military service in Iraq. "These are real-world ideas. They won't be able to do a whole lot, but you can get people out quickly," Quinn said. "I've got all sorts of ideas for this."

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## Independent Study Program Emergency Management



The Emergency Management Institute's (EMI) Distance Learning (DL) program offers the Independent Study Program (ISP). This is a distance learning program which offers training, **free of charge**, to the nation's emergency management network and the general public.

It serves as both an alternative to deliver valuable training to the professional and volunteer emergency management community, and an opportunity to improve public awareness and promote disaster preparedness nationally. The Independent Study Program offers over 180 training courses via their training website <http://training.fema.gov/IS/>.

Students are able to obtain continuing education units for all ISP courses. ISP also offers college credit for many of the courses through an agreement with the Frederick Community College in Maryland. Students who successfully complete courses can also request student transcripts be provided to institutions to assist students in obtaining continuing education units and/or to military institutions for military personnel to earn retirement points. In addition, the program offers a customer support center to assist students.

The customer support center can be reached through email at [Independent.Study@fema.dhs.gov](mailto:Independent.Study@fema.dhs.gov) or telephone at 301-447-1200. The hours of operation are Monday through Friday, 8:00am–6:00pm ET.

## Emergency Preparedness



Maya Haynes  
The Nation's Health Newsletter  
September 2014 vol. 44 no. 7 E35

Seniors can sometimes be forced to fend for themselves during disasters. However, they could be safer if they had better forms of communication and access to more resources, according to a new report from the New York Academy of Medicine.

The July report, "Resilient Communities: Empowering Older Adults in Disaster and Daily Life," was based on focus groups held with New York City seniors who had lived through 2012's Hurricane Sandy.

Because seniors are not often included in community decision-making during emergency planning, they are more at risk during crises, the report found. For example, of the 44 reported New York City deaths during Hurricane Sandy, 31 people, or more than 70 percent, were 55 or older. The majority drowned at home.

"Most older people, despite having chronic health care conditions, operate fine," said Lindsay Goldman, LMSW, project manager for health policy at the New York Academy of Medicine. "They don't require services; they're not connected to resources. Once the power is out they become vulnerable."

Some factors in seniors' lives can increase their vulnerability. Nearly one in five New York City seniors live in poverty, which means less access to resources, such as cellphones or tablets, that might be helpful during emergencies. The report showed that very few seniors use email or social media to stay connected with their community. More than a quarter of city seniors speak English "less than very well." Such barriers can further isolate them from emergency announcements and planning. For example, one focus group participant noted that seniors who could not speak English and could not afford cable television would not be able to watch news channels in their own language, which might alert them to storms or other danger.

The report stressed providing self-empowering resources specifically tailored to seniors, such as training them to identify vulnerable people in their community. The report recommended including senior training in disaster preparedness and teaching seniors how to

## SENIORS VULNERABLE IN TIMES OF DISASTER

use multiple forms of communication, such as cellphones and tablet devices. Also vital is linking seniors with access to health care, social services and food under both routine conditions and emergency conditions so they can stay healthy and prepared.

Goldman said that it is important to understand the culture of housing complexes where seniors often reside. Whether they live in high-rise apartments, senior living complexes or town homes, seniors can be left out during decisions to evacuate, such as one focus group member who woke to find his neighbors were gone without notice.

Stress and chaos in a disaster situation are especially difficult for seniors with mental health conditions such as dementia and those who have lived through some traumatic experience. Such seniors said they felt safest at home and therefore decided not to leave.

But many of the other seniors who lived in the area affected by Hurricane Sandy said they stayed because they thought they could help others who decided not to evacuate. One resident spoke about cooking for the young children in her building, while others made sure fellow seniors were safe. The report found that seniors with skills and experience took leadership roles after the hurricane by training volunteers, taking donations and identifying isolated neighbors. In fact, seniors with close ties to their community can make excellent volunteers, the report found. They were especially adept at identifying isolated seniors who might need extra help.

Social networks within neighborhood communities proved to be influential. Many seniors counseled each other to decide if they would leave or stay. Seniors were often skeptical about evacuating. For example, when one focus group participant was asked why he did not evacuate despite not having water for 10 days, he said it was because all his friends were still there.

The academy also recommended that landlords of buildings with high concentrations of seniors be supported in making plans to care for the populations, and making seniors more generally aware of services available to them, like churches and libraries during routine conditions so they know where to turn during emergency conditions.

## Getting Started in Community Health

### Public Health

#### Characteristics of a healthy community

- The physical environment is clean and safe.
- The environment meets everyone's basic needs.
- The environment promotes social harmony and actively involves everyone.
- There is an understanding of the local health and environment issues.
- The community participates in identifying local solutions to local problems.
- Community members have access to varied experiences, interaction and communication.
- The health services are accessible and appropriate.
- The historical and cultural heritage is promoted and celebrated.
- There is a diverse and innovative economy.
- There is a sustainable use of available resources for all.

Many factors determine the health both of individuals and of the communities in which they live. These factors include income, social relationships, access to and use of basic services such as water supply and sanitation, the quality of available health services, individual responsibility and the quality of the environment. These factors will vary in importance between communities, because of differences in the current services, facilities, priorities and needs of the communities, and because communities change over time. In order to understand the risks and health status of populations, monitoring of health hazards, including newly emerging diseases, and the creation of standards of protection are important functions of public health agencies.

Communities themselves play an important role in identifying problems, defining solutions, setting priorities, implementing solutions and in sustaining the improvements made. Interventions will require commitments from individual community members and households, in addition to commitments from a broader community that includes government and nongovernment public health agencies. Public health interventions focus on the health needs of the entire population or population groups, addressing issues through outreach, health education, transportation and translation services, and culturally sensitive provision of services.

Within the public health system, governmental health agencies have a legal and constitutional responsibility for protecting the health of the public. Historically, most health agencies have not been able to act consistently within their role, nor have they been funded to do so. To do so requires a three-pronged approach: developing appropriate social and public policies; developing community-based prevention activities; and assuring the delivery of comprehensive and high-quality personal preventive services.

Working at the community level to promote healthy living and prevent chronic disease brings the greatest health benefits to the greatest number of people in need. It also helps to reduce health gaps caused by

differences in race and ethnicity, location, social status, income, and other factors that can affect health.

Community leaders often start with different ways of understanding "community health." Coming together to create a vision of a healthy community involves learning about how other communities have approached similar change efforts, and to seek to better understand their own community's assets and challenges.

There needs to be enough structure to the leadership team to support the right amount of data flow, a diversity of ideas, a capacity to take action, and time for reflection. Most communities already have many people, organizations, and associated programs working to improve health outcomes. The next step is blend the vision and the programs in new creative ways.

Borrowing makes for believability. When people believe that the desired change is possible, they are more likely to engage in creating the change in their own community. Many participants are inspired to move into action because they see what members of another community have done and the results they have achieved.

At different times teams may find themselves serving as conveners, promoters, policy advocates, educators, and/or implementers. Most have found this versatility to be essential, and they have found it important that this versatility is also understood by their partners.

Having limited time and resources means that data collection and analysis needs to be focused. Perhaps less important is a traditional comprehensive needs assessment at the beginning of the process but on what data is presently available and what is specific to the proposed vision and goals. How the data is collected and used depends on the availability of the data, current understanding of issues among stakeholders, and the scope of the initiative.

Pioneering Healthier Communities  
Copyright 2009 By YMCA of the USA Publication available at [www.YMCA.net](http://www.YMCA.net)

The Role of Public Health in Ensuring Healthy Communities Jan 01 1995 Policy Number: 9521(PP) American Public Health Association.



## Cape Cod MRC Partners with Citizen Corps Council Agencies for Volunteer Reception Center Training

Cape Cod MRC partnered with the local Citizen Corps council to participate in a volunteer reception center drill for spontaneous volunteers on September 30 at the Barnstable County Complex. Participating agencies included the American Red Cross, Barnstable County Regional Emergency Planning Committee, the Community Emergency Response Team, and Senior Corps, and allowed volunteers to practice staffing the center in the event of a real world emergency where spontaneous volunteers would be looking for a way to offer their skills

Fourteen Cape Cod MRC volunteers participated in the drill, reviewing a training in the morning and interacting with volunteer actors in the afternoon. The drill incorporated a video about the various organizations and what they were looking for in volunteers, background check information, and the need to meet the criteria from the accepting organization. The drill concluded with a hot wash where participants identified what worked well and what needed improvement, including ways to ensure security of volunteers' information and logistical items such as signage and the optimal places to play the video.

Due to the complexity of the geography of Cape Cod, the Citizen Corps council has identified two additional sites that could serve as volunteer reception centers in the event of an emergency, including the Wampanoag Tribal Council in Mashpee in the Upper Cape and in the Lower Cape in Harwich. The Citizen Corps Council plans to discuss another drill at the Mashpee location in summer 2015.

From the In Touch MRC Newsletter  
December 2014



## Collin County MRC Conducts Contact Tracing and Monitoring for Ebola

Submitted to NACCHO  
By Rebecca Drekman  
Collin County MRC, Texas  
December 2, 2014

Collin County is a community 23 miles north of Dallas with a large population that regularly commutes into the Dallas metro area, and with that the potential for contact with a person with a possible Ebola case.

Thus, Collin County MRC Coordinator Rebecca Drekman reached out to the local health department, Collin County Health Care Services, to see how the MRC could assist with the response. Since the Collin County MRC is housed within the Collin County Homeland Security department, Collin County MRC does not have a formal relationship with their local health department. However, Collin County Health Care Services was happy for the additional help since they only have three epidemiologists on staff and knew they would be quickly overrun with the Ebola response. MRC volunteers were identified to assist with potential Ebola case tracking, and on October 2, the health department conducted a just in time training with 83 Collin County MRC volunteers in attendance.

The MRC volunteers were not officially activated until October 17 when their help was requested to run a call center to track 40 contacts on the airline with nurse Amber Vinson who had contracted Ebola. The majority of these contacts were children on a field trip, so there was only one contact for all 40 children, a teacher, making it difficult to get in touch with each child's parents. Thirty-two volunteers made calls to find the parents' contact information and finally reached all of them after three days.

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On October 22, Collin County MRC volunteers were requested to shift their focus from contact tracing to start monitoring the contacts of Thomas Duncan and the first infected nurse, Nina Pham. Centers for Disease Control and Prevention (CDC) guidance recommended home visits for contact monitoring, but given the high-risk nature of these cases, MRC volunteers used smartphones to conduct active monitoring. They used video calling capabilities on Skype and Tango to observe individuals taking their temperatures and to notice any Ebola symptoms; individuals also submitted photos of the temperature on their thermometers for record keeping. In instances where the individuals did not have the FDA-approved thermometers recommended by CDC, MRC volunteers delivered these thermometers to them. MRC volunteers continued to assist with monitoring through the end of the tracking period on November 7.

Overall, Collin County MRC volunteers donated 847 volunteer hours in the response to Ebola in Dallas. Several lessons learned emerged during their response, including the importance of conducting trainings earlier when the threat emerged rather than when it was already present in Dallas. Additionally, Collin County MRC found it necessary to have a backup in place for the MRC Coordinator, and has now identified a volunteer co-coordinator who has access to necessary items for the next public health emergency.

### **Volunteer Efforts Continue Local Preparedness Education**

Submitted By  
Margaret Wiley  
Orleans County Health Department,  
New York November 1, 2013

Orleans County VALOR MRC provides the only disaster risk reduction and community resiliency education in the

county since there is no additional paid support. Because the state of New York bases preparedness funding off of population size and Orleans County is a county of only 42,000 people, Orleans County receives minimum funding which does not provide for outreach activities.

“Orleans County VALOR MRC is the sole driving force in health department efforts to work towards disaster risk reduction and community resiliency,” said Margaret Wiley, Orleans County Public Health Emergency Preparedness Coordinator and Orleans County VALOR MRC unit leader. “There are no other resources to drive this effort.” However, as leaders in preparedness education throughout the community, MRC volunteers create events for the community based on local needs. Over the past few years, they have set up an informational “Pet Care, Share, Prepare” section in the annual Rabies Clinics in conjunction with Animal Control volunteers.



They hosted a community “Healthy Living” presentation to address local health issues such as obesity and lack of exercise.

In addition to these events, Orleans County VALOR MRC volunteers have taken steps to help reduce the risk of disaster locally. Since Orleans County shares a northern border with Lake Ontario, volunteers hosted a “Lakeshore Flooding” informational meeting for lakeshore residents and stakeholders. Many of those in attendance had not lived on the lake long enough to have experienced flooding. Because of this training, they are now more informed about what they can do to protect their families and property in a flooding disaster.

## OTHER INFORMATION

### Community Service, Meetings, Trainings and Other Announcements

#### **Toy Drive for Three Kings Celebration Cleghorn Neighborhood Center** 18 Fairmount Street, Fitchburg



On January 9th, the Cleghorn Neighborhood Center will hold its annual Three Kings Celebration, and they need your help to ensure there will be toys to distribute to all the children. Please bring new, unwrapped toys to the Cleghorn Neighborhood Center by Monday, January 5, to help ensure the children at the Cleghorn Youth Center are able to celebrate this very important holiday in Latino tradition. See website /facebook for additional details

#### **August 16 Like Motorcycles? Ride of Your Life “ Save the Date!**

Ride events benefit the Montachusett Suicide Prevention Task Force.  
RIDE - Three hour ride through North Central Mass with stops at local motorcycle shops. Ride registration begins at 8 am. Kick stands up by 10 am. \$20 for riders, \$15 for passengers (includes lunch, maps & on-route refreshments)  
WALK - 11 am. \$10 for walkers (includes lunch)  
CRUISE-IN - Antique & Classic Car Gathering. Come in and pull up to the curb at noon! \$10 voluntary registration includes admission for one to BBQ.  
BBQ - 1 pm. Open to all! \$10 for adults, \$6 for children under 12.  
See website /facebook for additional details

#### **Free Online Courses for Leaders**

We all want to keep our skills sharp and

learn the latest best practices in the non-profit sector, but webinars and conferences can be time-consuming and expensive.

Nonprofitready.org  
(<http://www.nonprofitready.org/>),  
is full of online training resources that can benefit nonprofit leaders at every level. Courses are free and self-paced.

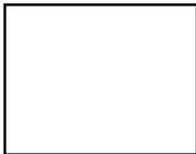
*Please check the website and your email for periodic updates. Have an idea or saw something that you would like to share, call or email. Would love to hear about it. Think of the positive effect 400 volunteers could have with 400 ideas!!*

***If your community is having an event, let us know. And of course we need volunteers to help cover the table display. Give us a call or email your idea or if you are available to help in your community or a nearby community and thank you everyone!***

*Is your youth group or Scout troop looking for a program that will help prepare them to help others in need? To learn a skill that they can share or use during an emergency? If you would like to teach a group for first aid or CPR or Babysitting for youth, let us know and we will support you. We have many ‘experts’ who can share their experience with you to help you in your planning.*

***And Finally...Do you have your winter supplies updated and together? Have that flashlight with fresh batteries? Have extra blankets and sweatshirts in your box of supplies for that cold winter night? Have a crank or battery radio ready, set, go? How about extra food supplies and water? Don't forget extra water for washing or for flushing the toilet.***

***Check the Ready.gov site for a great list of supplies, a list for special needs and of course a list for the dog or cat.***



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*Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it's the only thing that ever has.*

*Margaret Mead*

*Where does the MRC fit in under ICS? Don't know what ICS is? Check under FEMA.gov under training and Incident Command Structure or go to the Link on our website [www.wachusettmrc.org](http://www.wachusettmrc.org)*

