Disaster Resilience and People with Functional Needs

Sophia Jan, M.D., M.S.H.P., and Nicole Lurie, M.D., M.S.P.H.

When Hurricane Sandy pummeled the northeast and mid-Atlantic states in October, uprooting trees and causing massive flooding, at least three large hospitals were forced to evacuate after emergency generators failed. Governors of 10 states declared emergencies and requested federal aid. As in the super derecho that swept through the Midwest and mid-Atlantic 4 months earlier, millions of residents were left without power.

One alarming consequence of these storms was their effect on residents with functional needs — those who are dependent on home nursing, personal care attendants, or electric medical technologies. Some residents depend on the electrical grid for refrigerating critical medications or for powering lifesaving medical equipment. Many residents, particularly those requiring ongoing respiratory care, streamed into emergency rooms to receive respiratory treatments, refill oxygen tanks, or recharge batteries. Some residents whose medical needs had not escalated but who needed to recharge medical equipment were turned away from shelters whose operators believed their needs could not be met in a general shelter.

Through initiatives launched under the Affordable Care Act, our health care system will increasingly enable the 54.4 million Americans with functional needs to remain in their homes and social environments. Experts in disaster preparedness highlight the need to build community disaster resilience and reduce long-term vulnerability. They also emphasize that having strong systems in place for day-to-day use is essential for dealing with emergency situations. With or without a major emergency, the ability of people with functional needs to remain in their community setting depends on a stable electrical grid and a resilient system of service agencies, such as home health and hospice care agencies, personal care assistants, and suppliers of medical equipment. Numerous reports highlight the vulnerability of our physical and social infrastructure; some key policies can help to strengthen them.

The first strategy for building community resilience for people with functional needs is to continue to support the development of health information systems. For example, in 2011, using incentive payments authorized under the Health Information Technology for Economic and Clinical Health (HITECH) Act, St. John’s Regional Medical Center in Joplin, Missouri, converted to electronic health records. Three weeks later, a tornado severely damaged the hospital and forced it to evacuate. Yet dispersed patients continued to obtain prescriptions and receive scheduled treatments because their electronic health records remained accessible.

Residents with functional needs also have frequent engagement with nursing homes, independent living facilities, home health agencies, and suppliers of durable medical equipment, many of which continue to rely on paper medical records and forms. Supporting the development of interoperable electronic records for use among these agencies will not only allow them to obtain critical information in the event of a power outage, but also enhance routine coordination of care for people with functional needs.

Like smart phones and tablets, which have revolutionized the way people with disabilities communicate, new technologies can also substantially enhance quality of life for residents with functional needs, and they can be lifesaving in the event of a disaster, particularly for residents who cannot easily be moved. Through “innovation challenges” — which can leverage open innovation and the public’s broad knowledge to solve a defined problem — public and private organizations can support the development of technologies that contribute to resilience. Such technologies might include alternative power sources (e.g., manual cranks or batteries powered by human waste) for critical medical equipment, safer home generators, and signaling devices enabled by global positioning systems, which can let medical-equipment suppliers or emergency responders know when critical medical supplies or battery backups are running low.

Supporting the development of technologies that enhance social connectedness, which has been shown to improve survival during disasters, can also contribute to community resilience. One such effort is the Lifeline Facebook Application Challenge, sponsored by the Office of the Assistant Secretary for Preparedness and Response of the Department of Health and Human Services, which leverages social media by
ask your friends to check in on
each other and provide assistance
in the event of a disaster, formal-
ing these roles and responsi-
bilities through a Facebook app.

Another way federal, state, and
local municipalities can build
community resilience is to invite
residents with functional needs
to participate in the process of
emergency preparedness and re-
response planning and to view
such residents as community
assets rather than vulnerable pop-
ulations or liabilities. San Fran-
cisco, for example, regularly
partners with its Centers for In-
dependent Living on planning for
emergencies. The centers were
created by people with disabilities
and normally provide information
and referral services, peer coun-
seling, and training in skills for
independent living. The city also
integrated a position for a dis-
ability services coordinator into
the structure of its Incident Com-
mand System, a tool for the com-
mand, control, and coordination
of emergency response used by
nearly all disaster-response agen-
cies. The coordinator’s role is to
assess whether residents’ func-
tional needs are being met and
to draw on the expertise and re-
sources of the city’s large Human
Services Agency and its multiple
community partners through acti-
vation of memorandums of un-
derstanding.

Central to building community
resilience is the development of
strong partnerships between gov-
ernment and nongovernmental
organizations for planning, re-
response, and recovery. Many states
have established partnerships be-
 tween emergency management
teams and businesses to improve
situation awareness and re-
source sharing. California has
passed legislation requiring the
inclusion of private businesses in
governmental disaster planning
and has signed memorandums of
understanding with organizations
such as the California Grocers
Association, the California Utili-
ties Emergency Association, and
Walmart to provide critical sup-
plies and infrastructure during an
emergency. The American
Red Cross of New England part-
ners with Unitil, a regional pro-
vider of natural gas and electric-
ity, to issue joint messages about
safety and preparedness. Such
partnerships could be expanded
to include providers of services
for people with functional needs.
By sharing data, states could use
these partnerships to share and
jointly maintain registries of peo-
lies with functional needs, in or-
der to help in setting priorities for
emergency response and power-
restoration efforts. Such data
sharing may not only enhance
the ability of emergency manag-
ers to provide critical supplies
and services during emergencies,
but also help to improve more
routine coordination of the mul-
tiple services for these residents.

Finally, there are policies that
states and the federal govern-
ment could implement to pro-
mote community resilience with
regard to people with functional
needs. For example, government
could promote more widespread
adoption of both business-con-
tinuity plans for critical agencies
and data sharing among agen-
cies and emergency management
and utility companies by includ-
ing related provisions in both fed-
eral grant guidelines and publicly
reported quality measures. States
could use their licensure and cer-
tification processes to promote
more widespread adoption of re-
liable emergency power sources
by dialysis centers and acute and
long-term care facilities. Main-
tenance of emergency generators
and related equipment could also
be included as part of public-
reporting and quality measures
for hospitals and nursing homes.
Some states have such require-
ments now — Maryland and Texas, for instance, require that
dialysis centers have access to an
emergency generator.

As more and more people with
functional needs remain in their
homes and other noninstitution-
al settings, the strategic develop-
ment of technologies and poli-
cies that decrease our dependence
on traditional power sources and
enhance information sharing and
inclusionary planning will help
improve community resilience.

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