EDITORIAL

Creating a More Resilient Safety Net for Persons with Chronic Disease: Beyond the "Medical Home"

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Mega-disasters the scale and scope of Hurricane Katrina have been exceedingly rare in the USA. Nonetheless, careful study of such disasters can provide lessons learned that can lend essential insights to guide planning for future events of any size.[1] Such disasters can also expose previously under-recognized frailties in society that, like the under-built levees of New Orleans, readily buckle under stress. One such frailty exposed by the storm was the health care safety net.

Katrina was in many ways the "perfect storm" not only because of her meteorological characteristics but because she struck a portion of the world with high prevalence of chronic conditions, high rates of uninsured, and a geographically and financially consolidated safety net system.[2] At the heart of the devastated area was the Medical Center of Louisiana at New Orleans (formerly known as Charity Hospital), the primary source of first-contact and chronic disease care for hundreds of thousands of uninsured and underinsured persons in the Greater New Orleans area. Katrina's devastating flood rendered this Center completely inoperable. This confluence of events left hundreds of thousands of vulnerable patients with chronic conditions in the most densely populated hurricane-affected areas suddenly with no access to care.

In this issue of JGIM, the Hurricane Katrina Community Advisory Group present the findings of their telephone survey assessing the impact of Hurricane Katrina of survivors with chronic disease among a sample from New Orleans and other affected areas.[3] In their large representative sample, one in five persons reported having cut back or terminated treatment for a major chronic illness after the hurricane. Characteristics independently associated with treatment disruption included age younger than 65, having fewer relatives within and beyond hurricane-affected areas, and suffering two or more geographic relocations by early 2006, roughly 4–6 months after the disaster. Insurance was not an independent predictor in multivariable analysis, but this variable may have been difficult to disentangle from age, given the role of Medicare. Their complementary listing of respondents' self-reported reasons for treatment interruption highlighted limited access to physicians and medications, insurance/payment issues, and competing demands for patient's time and attention. These factors are strikingly similar to those reported in research among Americans experiencing homelessness in the absence of major humanitarian disasters.[4,5]

Minimizing disruption to the care of persons with chronic disease requires weaving a health care safety net resilient to the stress of disasters and to the more personalized disasters such as job loss or loss of one's home.[6] The design of a resilient health care safety net should pivot on recognition that continuing care for patients with chronic illness and their associated complex needs requires sufficiently nuanced policies. We posit that a health care safety net, capable of caring for patients with chronic disease during routine times and disasters, must take account not one, but three types of "homes", each interdependent and supporting the other. Health care policies to shore up the safety net should drive the development of a web-enabled "medical home",[4,5] a portable financing mechanism for their care, an "insurance home", and sufficient social support and resources to allow for self-care and management sufficient to help them respond to life's challenges, a "social home".

THE WEB-ENABLED "MEDICAL HOME"

Health outcomes and quality of care are typically better in health systems that emphasize primary care.[7] The "medical home" refers to the infrastructure capable of rendering that care effectively, i.e., the point of "first contact" for new problems while retaining the essential properties of comprehensiveness, continuity and coordination,[8] and capable of empowering patients for self-care. The terminology of the "medical home" speaks most directly to the physician practice model and the mechanisms to assure quality of care in the context of a particular practice location through team-based care.[9–11] However, the stability of a patient's connection to a particular practice location can be rendered ephemeral as acutely

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evidenced when Katrina destroyed the vast majority of the bricks and mortar of the New Orleans medical infrastructure.

As such, the "medical home" should be accessible virtually to both providers and patients to mitigate breaks in chronic disease care. An example is the web-based client–server technologies developed for the multisite program caring for Boston's homeless before the turn of the millenium.[12] Web-based, interoperable electronic medical records capable of population assessment would allow physicians to identify patients at greatest risk, even if the physician is displaced, and help direct them to nearby care. For example, countless physicians in the hurricane-affected areas fretted over remembering which patients in their panels were on chronic anticoagulation or undergoing cancer treatments. Similarly, patients require a virtual portal to their own records so that they can provide critical health information to new pharmacies and providers.

THE "INSURANCE HOME"

Outside of emergency rooms subject to EMTALA requirements, care rarely transpires without money to pay for it. In this regard, Katrina has offered up a particularly unfortunate lesson about the design of a health care safety net. The loss of the geographically centralized Charity Hospital and associated clinics due to Hurricane Katrina eliminated not just the structural medical home, but fully arrested the financing of care for nearly one in five persons the New Orleans region. This situation reflects a historic policy decision, one not unique to Louisiana, to finance the health care safety net through institutional payments that are fully tied to a designated set of safety net hospitals contained within the Charity system (complemented by relatively restrictive access to Medicaid).[2] As a result, nearly 2 years after Katrina hit, most safety net primary care in New Orleans continues to be delivered through voluntary organizations that enjoy only modest state support and rely on the largesse of the federal government, foundations, personal donors, and even the Middle Eastern nation of Qatar. Meanwhile, the state funds theoretically targeted to provide chronic disease care for the poor of New Orleans remain institutionally locked in the coffers of a health care delivery system that cannot deliver much primary care due to loss of a set of buildings.

An ideally resilient safety net necessitates an amicable departure from this notion of the safety net and depends upon each patient having an "insurance home." Ultimately, funds must follow the patient (not the building), a step that will likely require expanding insurance coverage either through Medicaid or other innovative programs.

THE "SOCIAL HOME"

The patients' reported barriers to care remind us that while the web-enabled "medical home" and the "insurance home" are necessary components of a more resilient health care safety net, they are not likely to be sufficient to assure successful continuing care for patients facing future disasters. Wang's data show the independent detrimental impact of social factors such as the experience of multiple relocations and the lack of relatives and other forms of social support, all of which were associated with disruptions to disease care. These findings point toward the third and important "social home," an expression we propose to encompass both the physical spaces in which people live and the social networks that buffer and protect individuals from disruptions to health care.[13] Sadly, the survivors of Katrina have discovered anew what was already well known from studies of North America's homeless, that homelessness ultimately pits competing needs against health care,[4] with complementary disruptions of primary care and increased reliance on emergency departments and hospitals.[14]

At first blush, some health care providers may shy away from considering the "social home" part of our proper terrain of work beyond influencing the design of delivery and financing of health care. In daily practice, the tools at our disposal include routine incorporation of social workers into medical home teams, reimbursement of the medical home for these services and strong, systematized partnerships between medical providers, and social service agencies.[8,10]

Beyond that, it should be remembered that a history of publications on the care of the homeless highlight the historic role of health care providers in grappling with these issues directly.[15] Housing itself is a recognized "structural intervention" for the care of patients with chronic disease such as human immunodeficiency virus.[16] Patients with a stable living environment demonstrate better adherence to chronic therapy and have lower unanticipated hospitalization and emergency room visits. Additionally, health care providers represent crucial witnesses and advocates for the provisions of more stable living arrangements, such as permanent modular housing, like Katrina Cottages, rather than FEMA trailers, for those suddenly homeless from disasters.[17]

Data from the survivors of Katrina help us to consider that the ideal health care safety net should be resilient enough to restore care relatively quickly, without leaving thousands at continuing risk of disruption for chronic conditions. The findings of the Hurricane Katrina Community Advisory Group suggest that the system available to citizens of the Gulf Coast was profoundly lacking in such resilience. This insufficient resiliency underlies much of the nation's entire health care safety net and needs to be addressed to avert the kinds of problems faced by Americans in the event of future massive disruptions in care systems. Policies are called for that support the development of web-enabled "medical homes", portable health care coverage, an "insurance home", and assure rapid reconstruction of the "social home" such as through stable domiciles. This will help to build a health care infrastructure that can provide care beyond clinics to ensure a resilient safety net for those with chronic illness, not only for disasters, but for everyday.

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REFERENCES

1. **Redlener I.** Americans at Risk: Why We Are Not Prepared for Mega-disasters and What We Can Do. Knopf; 2006.
2. **Rudowitz R, Rowland D, Shartzer A.** Health care in New Orleans before and after Hurricane Katrina. Health Aff. 2006;25(5):w393–w406.
3. **The Hurricane Katrina Community Advisory Group.** Hurricane Katrina's impact on the care of survivors with chronic medical conditions. J Gen Intern Med. 2007 (this issue).

4. **Gelberg L, Gallagher TC, Andersen RM, Koegel P.** Competing priorities as a barrier to medical care among homeless adults in Los Angeles. Am J Public Health. 1997;87(2):217–20.
5. **Kushel MB, Vittingoff E, Haas JS.** Factors associated with the health care utilization of homeless persons. JAMA. 2001;285(2):200–6.
6. **Link B, Phelan J, Bresnahan M, Stueve A, Moore R, Susser E.** Lifetime and five-year prevalence of homelessness in the United States: new evidence on an old debate. Am J Orthopsychiatr. 1995;65(3):347–54.
7. **Starfield B, Shi L, Macinko J.** Contribution of primary care to health systems and health. Milbank Q. 2005;83(3):457–502.
8. **Grumbach K, Bodenheimer T.** A primary care home for Americans: putting the house in order. JAMA. 2002;288(7):889–93.
9. **American College of Physicians.** The Advanced Medical Home: A Patient-Centered, Physician-Guided Model of Health Care. ACP; 2006 January 22.
10. **Goroll AH, Berenson RA, Schoenbaum SC, Gardner LB.** Fundamental reform of payment for adult primary care: comprehensive payment for comprehensive care [see comment]. J Gen Intern Med. 2007;22(3):410–5.
11. Joint Principles of the Patient-Centered Medical Home. (Accessed July 10, 2007 at http://www.medicalhomeinfo.org/Joint%20Statement.pdf.).
12. **Blewett DR, Barnett GO, Chueh HC.** Experience with an electronic health record for a homeless population. Proc AMIA Symp. 1999:481–5.
13. **Berkman LF, Kawachi I.** Social Epidemiology. New York: Oxford University Press; 2000.
14. **Kim TW, Kertesz SG, Horton NJ, Tibbetts N, Samet JH.** Episodic homelessness and health care utilization in a prospective cohort of HIV-infected persons with alcohol problems. BMC Health Serv Res. 2006;6:19.
15. **O'Connell JJ, Swain SE, Daniels CL, Allen JS, eds.** The Health Care of Homeless Persons: A Manual of Communicable Diseases and Common Problems in Shelters and on the Streets. 2nd edn. Boston: The Boston Health Care for the Homeless Program; 2004.
16. **Smith MY, Rapkin BD, Winkel G, Springer C, Chhabra R, Feldman IS.** Housing status and health care service utilization among low-income persons with HIV/AIDS. J Gen Intern Med. 2000;15(10):731–8.
17. Katrina Cottages. 2007. (Accessed at http://www.katrinacottages.com).