The Public Health Value of Hospitals

See also Morabia, p. 421, and Gabow, p. 454.

Simply put, the public health value—or risk—of hospitals is unknown. It is too late to invoke the precautionary principle in public policy decisions about the number and location of hospital beds, as hospitals have acquired a public policy and political life of their own. But it is the time to subject the public health impact of hospitals to the same scrutiny that has been used to assess and then champion the public health value of primary care.

HEALTH CARE SPENDING

Hospitals in the United States consume 30% to 40% of our health care spending, or more than $1 trillion per year, of which between 57% and 65%, or $570 to $650 billion or more, are public funds (https://go.cms.gov/2Siv5jJ; https://go.cms.gov/2ufvdbF).[1]

There were about 145 million visits to US hospital emergency departments in 2016, of which between 8% and 62% were ambulatory-sensitive, and 60% were paid for by public funds (http://bit.ly/2RuMpSh).[2] Of those people seen in hospital emergency departments, 86% were not admitted to a hospital (http://bit.ly/2RuMpSh).

Primary care consumes about 5% of our health care spending, or about $182.5 billion per year. Primary care supply (the number of primary care physicians per 100 000 population) is associated with lower costs, reduced health disparities, lower infant mortality, lower all-cause premature mortality, lower cause-specific premature mortality, lower all-cause mortality, and longer life expectancy for Medicare patients and for the nation as a whole.[3] But associations between the number and location of hospitals and total health care costs, health disparities, infant mortality, premature mortality, and life expectancy have not been rigorously studied.

DISTRIBUTION

In the United States, the number and location of hospitals resulted as much from happenstance as from epidemiologically driven health planning. Hospitals evolved from private physician practices or from almshouses, often stimulated by the charitable work of wealthy people concerned about the well-being of the poor, during a period when most wealthy people could afford physician care in their homes and when physician and nursing care was the most technologically advanced intervention medicine had to offer.[4,5] Some hospitals evolved out of tuberculosis sanatoriums, while others were created to isolate infected patients with leprosy, while still others were built by the US government to care for merchant seamen or veterans. But few were designed to address public health outcomes because most hospitals were founded before public health outcomes and costs were rigorously studied, but also before we understood that medical care generally has relatively little impact on public health outcomes and before we understood that hospitals care for only a tiny fraction of the population at risk for premature death.[6,7]

A HEALTH CARE SYSTEM

Still, hospitals are the closest approximation of a health care system—a single set of services, close to most communities and open to everyone—that exists in the United States. The Hill–Burton Act of 1946 required that any hospital accepting federal funding not discriminate among patients based on ability to pay (as it institutionalized segregation by race in hospitals!) and the Emergency Medical Treatment and Labor Act of 1986, which requires hospitals that accept Medicare to provide emergency services without regard to patients' ability to pay, together made hospital care the only health care service available to all Americans (https://go.cms.gov/36gmTWe; http://bit.ly/2sK2Y42). Hospitals are the site of virtually all graduate medical education, engage in research, and provide the clinical experience necessary for the teaching of all medical, nursing, and other health professional students. Hospitals have become community resources, and, from the public's perspective, the center of local health care systems and the health safety net. At the same time, hospitals became major employers—often the single largest employer in many communities and states—giving them political and social import far beyond any public health value they may or may not have.

Rural hospitals are often the only source of the inpatient and outpatient services in the communities they serve. Urban hospitals often duplicate services and compete for patients as they struggle to survive in a competitive marketplace.

But some hospital services may represent legacy technology or profit opportunities, as some services with healthy profit margins may be offered to subsidize other needed services. Most imaging and elective surgery is now done in the ambulatory arena. Many surgical procedures that once required a week or more of inpatient care can be done on an ambulatory basis or with a single night's inpatient stay. Most dialysis is done at outpatient facilities. Most antibiotics can be administered by the oral route, and with the evolution of home

ABOUT THE AUTHOR

Michael Fine is with Blackstone Valley Community Health Care Inc, Pawtucket, and the Cities of Central Falls and Pawtucket, RI.

Correspondence should be send to Michael Fine, MD, Chief Health Strategist, City of Central Falls, 580 Broad St, Central Falls, RI 02863 (e-mail: mfine@bvchc.org). Reprints can be ordered at http://www.ajph.org by clicking the "Reprints" link.

This editorial was accepted January 15, 2020.

doi: 10.2105/AJPH.2020.305583

health services and home infusion services, antibiotics and other medications that require intravenous delivery can now be administered in the patient's home.

PUBLIC HEALTH VALUE AND RISK OF HOSPITAL SERVICES

Hospitals likely have both public health value and public health risk. Emergency medical care and trauma care have likely contributed to the decline in the age-adjusted death rate from diseases of the heart, stroke, and motor vehicle accidents between 1958 and 2017, and to the significant improvement in the infant mortality rate in those years. But many other factors—the reduction in smoking prevalence, diagnosis and treatment of hypertension and hypercholesterolemia, improved safety features of motor vehicles and roads, the wide use of early prenatal care, and other medical and public health programs—have also contributed significantly (http://bit.ly/2TAoOSC).

The public health risks of hospitals include the risks of nosocomial infection, iatrogenic injury, and those associated with overtreatment, particularly the overtreatment that results from a competitive hospital environment, where perverse financial and malpractice risk incentives may cause hospital-based health professionals to overuse expensive imaging technologies and surgical and other invasive interventions. The impact of these risks has been widely reported, and is estimated to range from 100 000 to 250 000 premature deaths per year. But these premature deaths are not all attributable to hospital care and are not included as leading causes of death by the Center for Vital Statistics, so their importance cannot be weighed against other causes of premature death in assessing the public health risk of hospitals themselves.

SPENDING WISELY

We spend a trillion dollars a year on hospital care, money that could help improve public health outcomes by funding state and local departments of public health; by investing in lead poisoning prevention, smoking cessation, substance use disorder prevention and treatment, and HIV and hepatitis C screening and treatment; and by investing in public housing, public transportation, education, community development, and primary health care, if it were shown that hospital care does not have significant public heath value. Or, conversely, if the public health value of hospitals were established by rigorous epidemiological analysis, we could put those facts to work, reminding the public and policymakers of the huge costs of our collective failure to adequately address the social determinants of health. AJPH

Michael Fine, MD

ACKNOWLEDGMENTS

Alexandra Shute helped in the preparation of the article.

CONFLICTS OF INTEREST

The author has no potential conflicts of interest.

REFERENCES

1. Woolhandler S, Himmelstein DU. The current and projected taxpayer shares of US health costs. *Am J Public Health*. 2016; 106(3):449–452.

2. Uscher-Pines L, Pines J, Kellermann AM, Gillen E, Mehrotra A. Emergency department visits for non urgent conditions: systematic literature review. *Am J Manag Care*. 2013;19(1):47–59.

3. Woolf SH, Aron LUS. *Health in International Perspective: Shorter Lives, Poorer Health*. Washington, DC: National Academies Press; 2013: 4.

4. Starr P. *The Social Transformation of American Medicine: The Rise of a Sovereign Profession and the Making of a Vast Industry*. New York, NY: Basic Books; 1982: 146–179.

5. Stevens R. *In Sickness and in Wealth: American Hospitals in the Twentieth Century*. New York, NY: Basic Books; 1989: 17–51.

6. McGinnis JM, Williams-Russo P, Knickman JR. The case for more active policy attention to health promotion. *Health Aff (Millwood)*. 2002;21(2):78–93.

7. Green LA, Fryer GE, Yawn BP, Lanier D, Dovey SM. The ecology of medical care revisited. *N Engl J Med*. 2001;344(26): 2021–2025.

Patricia Gabow Comments

See also Morabia, p. 421, and Fine, p. 453.

American health care costs too much and delivers too little. Hospitals contribute to this problem, but the problems do not emanate primarily from hospitals lacking public health value—a possibility Michael Fine (p. 453) asks us to consider. Let us look through the World Health Organization definition of health as a "state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.[1] In aggregate, health care contributes 10% to 15% and the social determinants 50% to health. No part of the health care system alone or in combination can deliver population health. The central questions focus on hospitals' contribution to health care and social care and their role in linking the two.

HOSPITALS' CONTRIBUTION TO HEALTH

Hospitals' most obvious contribution is life-saving care. There is no health without life. Hospitals provide more than 70 million non–ambulatory-sensitive emergency department visits; 36 510 207 hospital admissions, including 3 693 124 births; and 730 292 547 ambulatory care visits per year.[2] Trauma is the top killer for people aged 1 to 45 years.[3] These young people depend on hospitals for survival. Hospitals stand in the breach in public health emergencies. What other component of the health system could provide these essential public health services? Could it be done better and less costly? Should their contributions be examined? Of course. All components should have those bars.

Income, education, behaviors, and resources such as housing and food are key social health determinants. Fine notes hospitals' role

ABOUT THE AUTHOR

Patricia A. Gabow is professor emerita of medicine at the University of Colorado School of Medicine, Aurora, CO.

Correspondence should be sent to Patricia A. Gabow, 141 Dahlia St, Denver, CO 80220 (e-mail: patriciagabow@gmail.com). Reprints can be ordered at http://www.ajph.org by clicking the "Reprints" link.

This comment was accepted January 15, 2020.

doi: 10.2105/AJPH.2020.305588