

of immune senescence, and greater transmission among children should prompt the targeting of younger age groups as the soundest policy in a 1918-like scenario. However, these attributes do not necessarily apply to other pandemics to the same extent.⁵

Nonmedical interventions — primarily social distancing — could be useful in staving off transmission. Simulation models suggest that such interventions would considerably decrease the incidence of infection only if the basic reproductive number was less than 2, a rate that is lower than that observed in past pandemics.³

Though the rapidity of transmission of influenza virus during pandemics necessitates immediate action, it can be hoped that close collaborations and lessons

drawn from previous pandemics will contribute to reducing national and global mortality. The documented relevant signature features can help health authorities prioritize national strategies and aid international collaborators in addressing the initial and successive waves of illnesses and deaths.

Dr. Miller reports being named on a pending patent held by the National Institutes of Health on a novel influenza vaccine; and Dr. Simonsen, receiving consulting fees from Merck and research support from Wyeth. No other potential conflict of interest relevant to this article was reported.

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Rescuing the Safety Net

Michael Spivey, J.D., and Arthur L. Kellermann, M.D., M.P.H.

As the recession deepens, layoffs are swelling the ranks of the uninsured. Despite federal stimulus support for state Medicaid programs, some cash-strapped states have cut Medicaid payments, and others are considering such cuts. As a result, many hospitals that treat large numbers of uninsured patients are struggling to survive.

In 2006, well before the recession began, U.S. hospitals provided more than \$28.8 billion worth of uncompensated care¹ — a burden that fell more heavily on some hospitals than on others. Hospitals that provide a large proportion of their inpatient care to the uninsured are called “safety-net” hospitals. Public safety-net hospitals typically shoulder the highest

burden of all. Although only 2% of U.S. hospitals are members of the National Association of Public Hospitals and Health Systems (NAPH), they account for 25% of the country’s uncompensated inpatient care.²

Safety-net hospitals are typically found in areas in which the uninsured are concentrated — inner-city neighborhoods and economically depressed rural communities. Unlike prosperous hospitals with a large base of paying patients, safety-net hospitals have little capacity to recoup their costs for uncompensated care by charging higher fees. As a result, most safety-net hospitals have negative operating margins (median, -3.0%³).

In addition to providing charity

care, many safety-net hospitals support medical education and vital but unprofitable services for their community. In many cities, large safety-net hospitals anchor their region’s disaster-response plan. When such hospitals are forced to close or to curtail key services, the spillover effects can reach far beyond the uninsured.

In 1981, the federal government allowed states to decouple their Medicaid payment rates from Medicare payments. To blunt the effect on safety-net hospitals, Congress directed the states to make supplemental Medicaid payments to facilities that provide a “disproportionate share” of care to Medicaid beneficiaries and the uninsured. When most states ignored their obligation to make

Federal Disproportionate-Share Hospital (DSH) Allotments for 2009, According to State.					
State	DSH Payment per Capita	DSH Payment per Uninsured Citizen	State	DSH Payment per Capita	DSH Payment per Uninsured Citizen
		<i>dollars</i>			<i>dollars</i>
Alabama	88.93	508.19	Montana	13.14	75.07
Alaska	31.13	177.88	Nebraska	22.32	127.55
Arizona	14.57	83.27	Nevada	17.54	100.22
Arkansas	15.68	89.59	New Hampshire	197.52	1128.68
California	29.22	166.95	New Jersey	85.75	490.01
Colorado	20.21	115.46	New Mexico	8.20	46.86
Connecticut	109.02	622.99	New York	110.44	631.09
Delaware	15.98	91.32	North Carolina	33.87	193.56
District of Columbia	182.29	1,041.67	North Dakota	24.69	141.08
Florida	9.54	54.51	Ohio	58.33	333.3
Georgia	28.72	164.14	Oklahoma	9.93	56.74
Hawaii	17.43	99.59	Oregon	12.39	70.8
Idaho	13.33	76.19	Pennsylvania	83.39	476.49
Illinois	22.05	126.01	Rhode Island	113.73	649.91
Indiana	51.99	297.11	South Carolina	82.92	473.83
Iowa	23.85	136.27	South Dakota	22.80	130.27
Kansas	21.61	123.49	Tennessee	63.59	363.4
Kentucky	42.61	243.49	Texas	29.27	167.24
Louisiana	156.00	891.44	Utah	8.90	50.87
Maine	156.15	892.29	Vermont	59.87	342.11
Maryland	17.62	100.68	Virginia	14.64	83.67
Massachusetts	109.49	625.66	Washington	44.39	253.66
Michigan	43.36	247.78	West Virginia	47.76	272.94
Minnesota	29.24	167.10	Wisconsin	35.82	204.68
Mississippi	47.48	271.33	Wyoming	0.55	3.13
Missouri	111.88	639.34	Average	51.20	292.57

“disproportionate-share hospital” (DSH) payments, Congress enacted the Omnibus Budget Reconciliation Act of 1987, which deemed certain hospitals to be DSH providers and established methods to force states to make DSH payments to those hospitals. Still, the states dragged their feet.

Matters changed in 1989, when enterprising budget experts discovered that they could claim federal DSH funds without expending general state funds. The hospitals that were slated to receive DSH funds were asked (or, sometimes, directed) to contribute the required state share; the state would then use this money

to draw down a large federal matching payment. The hospitals would get their contributions back and perhaps a bit more, but the states often kept the lion’s share of the federal payment. Some states even “recycled” a portion of their retained federal DSH funds and used it to draw down additional federal Medicaid dollars. With the DSH system effectively serving as a money pump that pulled federal funds into state coffers, the program experienced explosive growth. Between 1990 and 1996, federal DSH payments ballooned from \$1.4 billion to more than \$15 billion annually.

In 1991, Congress sought to

restrict states’ ability to tap provider funds in order to claim federal matching funds by enacting the Voluntary Contribution and Provider-Specific Tax Amendments. This law also capped the amount a state could spend on DSH payments. But it did little to slow recycling. Many states simply targeted their DSH payments to selected hospitals, paying them well above their costs for uncompensated care and then recovering most of the money for the state’s treasury.

To hinder this practice, Congress restricted states from making DSH payments in excess of a hospital’s unreimbursed costs —

not prohibiting recycling, but making the practice more costly for hospitals. In 1997, Congress and the Clinton administration cut federal DSH payments by 5% and limited their further growth. Despite these efforts, recycling persisted until the Centers for Medicare and Medicaid Services (CMS) began scrutinizing the practice on a state-by-state basis. By 2006, recycling had largely stopped.

Today, 50 states and the District of Columbia have DSH programs. Annual federal payments vary widely — from \$200,000 (in Wyoming) to more than \$1.5 billion (in New York), and they vary widely on per capita amounts and payments per uninsured citizen (see table). Ironically, early adopters of recycling and other now-outlawed schemes locked in large federal payments that persist to this day.

But recycling is not the only way in which states subvert the program. Although federal law requires states to make DSH payments to hospitals that provide a large proportion of their care to indigent patients, it sets no floor for such payments, and it gives states leeway to make payments to hospitals that provide little or no charity care. A hospital that provides as little as 1% of its bed-days to Medicaid patients can receive DSH money if its state sets the bar that low. But because each state's DSH program is capped at 12% of its total Medicaid budget, the only way to spread payments this widely is to sharply limit the amounts paid to the most deserving hospitals. It is impossible to determine how widespread this practice is, but as far back as 1993, a total of 37 states reported making DSH payments to hospitals that provided levels of Medicaid and charity care that were below the federal threshold.⁴

Notwithstanding the program's flaws, DSH funds that reach safety-net hospitals are vital to those hospitals' survival. A 1999 NAPH analysis showed that without DSH funds, these institutions would have had a -7% margin on operations.⁵ Even with DSH funds, safety-net hospitals face an uncertain future. In 2007, the Agency for Healthcare Research and Quality calculated that the median operating margin for patient care in public safety-net hospitals was -6.7%.³

In recent years, the CMS has repeatedly sought to eliminate the DSH program. Pronouncing it an inappropriate institutional subsidy, the agency proposed to reform the program by urging states to use their DSH funds to expand Medicaid eligibility or subsidize private insurance coverage for the poor. Tennessee tried this strategy in 1994, redirecting its DSH funds to expand Medicaid eligibility. Within months, safety-net hospitals were forced to curtail or eliminate vital programs. Faced with widespread disruptions of care, Tennessee reinstated the DSH program.

In December 2008, the Congressional Budget Office (CBO) proposed that the DSH program be converted into a state block grant. In exchange for budgetary flexibility, the CBO would cut each state's DSH allocation by 10% and index subsequent increases to inflation, minus 1%.

In our view, both the CMS and CBO approaches are misguided. With the number of uninsured Americans growing rapidly, cutting DSH funding would be foolish. Ending it could be disastrous. Instead, we believe that four changes to federal law would allow the program to achieve its original purpose.

First, DSH funding should be

restricted to truly disproportionate providers. The legislative clause that deems certain hospitals to be DSH facilities should be revised so that DSH payments can be made only to these facilities.

Second, the flexibility that is given to states to designate special classes of DSH providers should be eliminated. Federal law requires that DSH payments within a class be reasonably related to a hospital's proportion of care to low-income patients, but loopholes allow states to favor certain hospitals (especially state-owned hospitals) over those providing a greater proportion of uncompensated care. DSH payments should be based on a single, uniform method.

Third, to receive DSH funding, a hospital should be required to operate an emergency department and participate in its state's trauma system — services that are vital to the public's health.

Fourth, large DSH hospitals that anchor their region's disaster plan should receive supplemental funds, provided that they meet strict performance and readiness criteria. A portion of current federal DSH funds — perhaps 10% — should be held back and awarded for this purpose through competitive grants.

By allocating federal funds to hospitals that need them most, the reforms we propose would go a long way toward correcting the program's deficiencies. Our proposals do not correct historical inequities in the allocation of DSH funds among the states. Attempts to do so would probably trigger a legislative battle that would doom any chance for reform.

Until fundamental health care reform is achieved, millions of low-income Americans will remain dependent on safety-net facilities for care. Everyone — insured and uninsured alike — benefits from

the specialized services, medical education, and trauma and disaster care that many safety-net hospitals provide. Today, DSH providers are needed more than ever. The program is broken, but it can and should be fixed.

Mr. Spivey reports receiving consulting fees from various public hospitals including Grady Health Systems, where Dr. Kellermann is an emergency physician. No other potential conflict of interest relevant to this article was reported.

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Left Atrial Appendage Occlusion — Closure or Just the Beginning?

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More than 3 million Americans have atrial fibrillation, which increases their risk of stroke by a factor of 5.^{1,2} Patients with atrial fibrillation account for one of every six strokes, and thromboemboli originating from the left atrial appendage are the suspected culprit in the vast majority of these cases.^{1,2} Warfarin, a vitamin K antagonist, is the most commonly prescribed treatment for stroke prevention in patients with atrial fibrillation; yet despite warfarin's proven benefit, its effective delivery is challenged by a narrow therapeutic window and an increased risk of bleeding. Efforts have been made to develop alternative treatment strategies — including occlusion of the left atrial appendage. In August 2008, the Food and Drug Administration (FDA) granted expedited-review status to an application submitted by Atritech for the Watchman Left Atrial Appendage Closure Technology, recognizing that the device might represent a breakthrough technology.

Although ischemic stroke and

arterial occlusion in atrial fibrillation are generally attributed to dislodgement of thrombi from the left atrial appendage, the pathogenesis of thromboembolism is complex. Up to 25% of strokes in patients with atrial fibrillation may be due to intrinsic cerebrovascular disease or emboli from an atheromatous proximal aorta or other cardiac source.¹ Nevertheless, interest in removing or occluding the left atrial appendage for stroke prevention dates back to the 1930s.³ Many centers now routinely remove it during valve or arrhythmia surgery, and removal is recommended to reduce the risk of stroke in selected patients undergoing cardiac-valve surgery.⁴

Interest in nonsurgical closure of the left atrial appendage has spawned development of percutaneous devices, but no device has been approved by the FDA for this purpose. The Watchman device is a self-expanding structure made of nitinol (a nickel-titanium alloy) that is delivered percutaneously, with the use of femoral

venous access and a transseptal technique, to the left atrial appendage (see diagram).

The pivotal clinical trial evaluating this device was the Embolic Protection in Patients with Atrial Fibrillation (PROTECT-AF) trial (ClinicalTrials.gov number, NCT00129545), a multicenter, prospective, unblinded study of patients with nonvalvular atrial fibrillation who were deemed eligible for warfarin therapy.² Patients were randomly assigned to receive conventional warfarin therapy or the Watchman device plus short-term warfarin therapy (45 days). The primary effectiveness end point was a composite of the absence of ischemic and hemorrhagic stroke, cardiovascular and unexplained death, and systemic embolism. After 900 patient-years of observation, the rate of these events was 32% lower in the Watchman group than in the conventional-therapy group — a result that met the prespecified criterion for noninferiority. The interpretation of the data and the device's proper clinical role, how-