Caring for the Uninsured in Massachusetts:

What Does It Cost, Who Pays and What Would Full Coverage Add to Medical Spending?

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roadmap
TO COVERAGE

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Executive Summary

Today between 450,000 and 650,000 Massachusetts residents are without health insurance. A large body of research has documented the serious health and financial consequences associated with being uninsured. Compared to people who have health coverage, the uninsured receive less preventive care, are diagnosed at more advanced disease stages, and once diagnosed, tend to receive less therapeutic care and have higher mortality rates. Leaving a significant percentage of the state's population without health insurance affects not only the uninsured themselves, but the broader community as a whole. The Blue Cross Blue Shield of Massachusetts Foundation has initiated a project to study options to bring coverage to most, if not all, residents of the state of Massachusetts.

In this report we begin by estimating the cost of medical care for the uninsured (commonly referred to as uncompensated care) currently being borne in the state and who provides this uncompensated care. It is important to understand how much money currently supports the uninsured because an expansion of coverage would potentially use these resources together with new sources of revenue to finance the additional care. The more the current spending for uncompensated care could be reallocated, the less the new incremental cost of the coverage expansion.

In this report we examine a series of related questions:

- **How much uncompensated care is currently being provided to the uninsured?**
- **How much more would it cost to cover all of the uninsured?**
- **What are the economic and social benefits of covering the uninsured?**
- **How do the costs of expanding coverage compare to the benefits?**
- **How is care for the uninsured funded?**
- **How much is borne by each level of government, including the state, localities, the federal government, and by the private sector?**
- **How much of existing funding could potentially be used to support an expansion to universal coverage?**

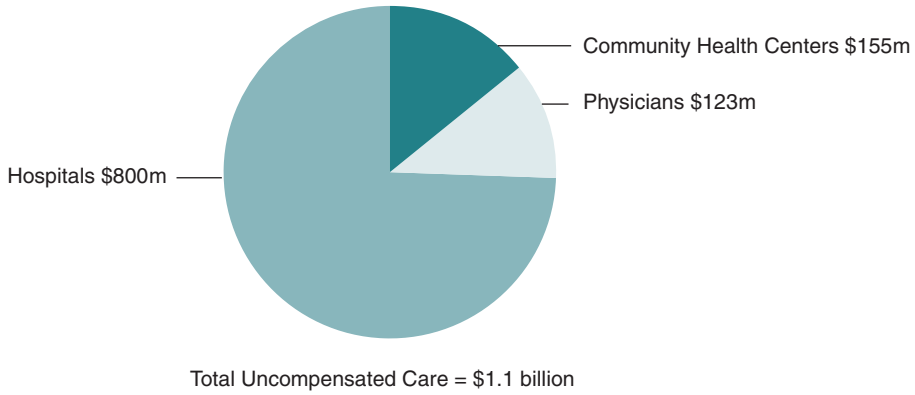
How Much Uncompensated Care Is Currently Being Provided to the Uninsured?

Uncompensated care is medical care received but not fully paid for out-of-pocket by the uninsured themselves or by private or public insurance payers. We estimate the costs of caring for the uninsured in two ways: first, by analyzing data on the cost of care reported by providers; and second, by analyzing data on the cost of care reported by individuals and families.

The cost of uncompensated care in the current system is about $1.1 billion. Data from these two separate sources—from providers and from households—are in agreement that the amount of uncompensated care is in this range.

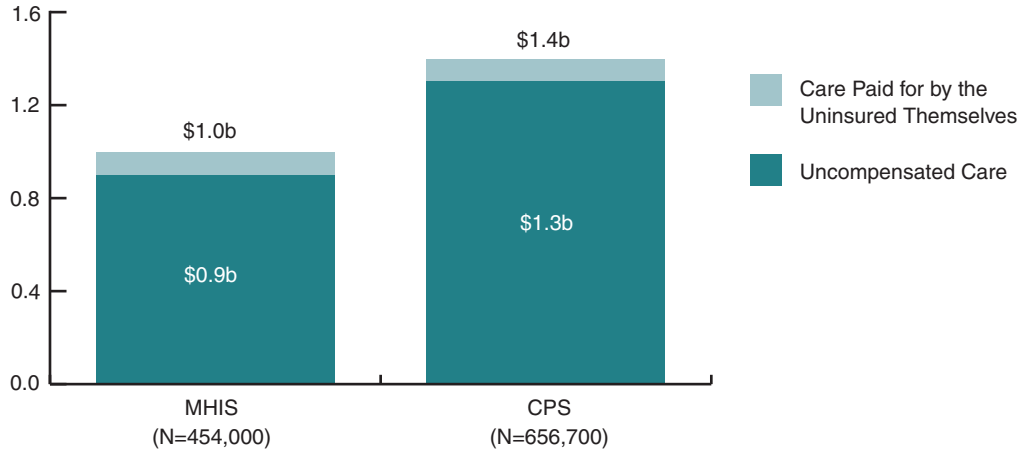
Data from hospital and community health center cost reports and physician surveys indicate that the amount of uncompensated care is about $1.1 billion. In 2004, hospitals provided about $800 million in uncompensated care. Community health centers provided another $155 million. The value of free care provided by physicians in 2004 was estimated to be $123 million.

Estimate of the Costs of Uncompensated Care in Massachusetts, 2004
Provider Data (in millions of dollars)



Data from household surveys show that the amount of care provided to the uninsured in Massachusetts ranges from $900 million to $1.3 billion, excluding the amounts the uninsured pay for themselves. The large difference results from relying on two different surveys that provide estimates of the uninsured, the state of Massachusetts biennial Survey of Health Insurance Status and the U.S. Census Bureau's Current Population Survey. The former estimates the number of uninsured in Massachusetts to be 454,000 while the latter estimates the number to be 656,700. To be comparable to the data from providers it is necessary to exclude the amounts spent out-of-pocket (assumed to be 10%) by the uninsured themselves. If we include the share contributed by the uninsured themselves, the uncompensated care provided to the uninsured in Massachusetts ranges from $1.0 billion to $1.4 billion, depending on the estimate of the uninsured used.

Estimate of the Costs of Uncompensated Care in Massachusetts, 2004
Household Survey Data (in billions of dollars)



Total Uncompensated Care = $900 million – $1.3 billion

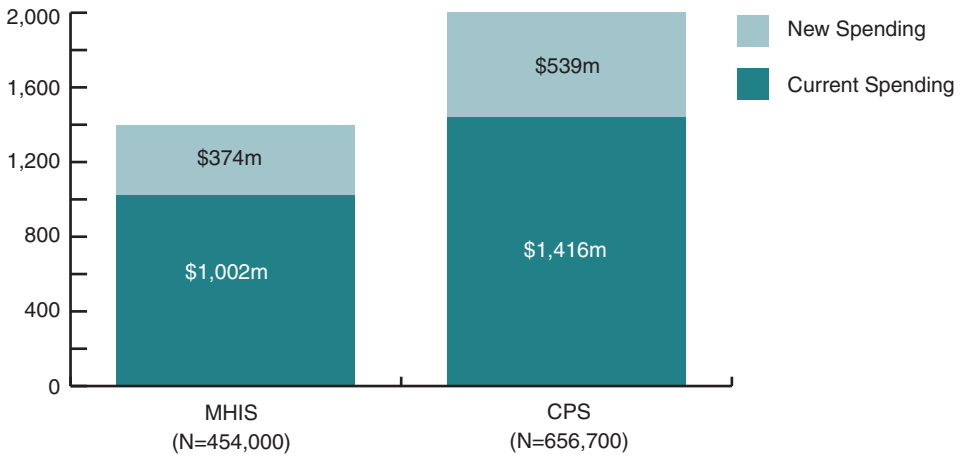
The lower estimates ($900 million to $1.3 billion) exclude 10% of care used by the uninsured that is assumed to be paid for by the uninsured themselves. This lower estimate is most comparable to the data reported by providers.

How Much More Would It Cost to Cover the Uninsured?

Having health insurance increases medical care use, so an important question is how much more will it cost to cover the uninsured over and above what is currently being spent on the cost of their medical care?

The costs of providing care to those who are now uninsured in Massachusetts would increase by 37% over what is now being spent. The incremental costs would be $374 million to $539 million depending on the estimate of the number of uninsured applied. These estimates are not the same as the cost of a new health coverage plan that would inevitably extend subsidies to many of those who currently have coverage in addition to the uninsured. It also assumes that all of the expenditures now devoted to the uninsured—all of the dollars now devoted to uncompensated care—could be reallocated to help fund the new coverage.

Incremental Costs of Covering the Uninsured
Cost of Care if Uninsured Had Coverage (in millions of dollars)

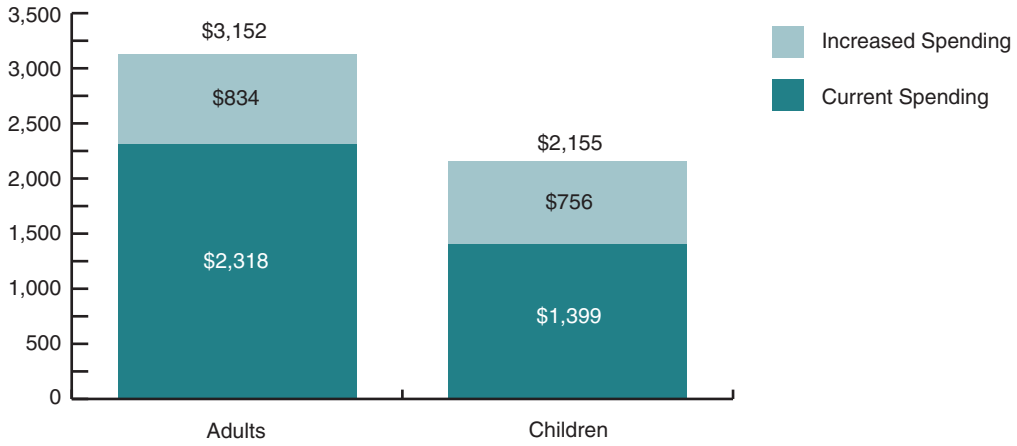


Extrapolating from the experience and behavior of people who are insured and have incomes in the low and lower-middle income range (below 400% of the poverty level), **if the uninsured had health coverage, their per person medical spending would increase from $2,318 to $3,152 for adults and from $1,399 to $2,155 for children.**

Looking at it in a broader context, the incremental costs of $374 million to $539 million would increase the share of the Massachusetts economy going to health care by less than one third of one percentage point—from approximately 12.2% to 12.5%.

Incremental Costs of Covering the Uninsured

Cost of Care per Capita if Uninsured Had Coverage (in dollars)



How Do the Costs of Expanding Coverage Compare to the Benefits?

The cost to society of an uninsured population extends beyond the cost of the medical care they receive. Research has shown that not having health insurance results in reduced health, which leads to reduced wages and productivity due to inability to work as much or as efficiently. Employers may have higher costs because of work disruptions and lost productivity.

Expanding coverage to the uninsured in Massachusetts would result in economic and social benefits due to improved health of $1.2 billion to $1.7 billion. These benefits are based on estimates of the effect of the lack of health insurance on health, including lower mortality and morbidity and lower wages and productivity. We relied on work conducted by the Institute of Medicine (IOM) that estimated the value of a year of healthy life as well as the number of years the uninsured would lack coverage. The IOM estimated the annual discounted present value of lost health up to age 65 due to lack of insurance ranged from $1,645 to $3,280 per uninsured person. Applying the midpoint of this range to the two estimates of the number of uninsured in Massachusetts results in an estimate of the total value in improved health from covering the uninsured in the range of $1.2 billion to $1.7 billion.

These estimates of economic and social benefits, *i.e.*, the value of better health, including the higher wages and productivity that the newly insured would experience if fully insured, exceed the incremental cost of expanding coverage by a ratio of about 3:1. The many other benefits that would come from universal coverage are difficult to quantify. They include reduced financial uncertainty and depletion of assets such as bankruptcy; improved workplace productivity and higher tax payments; improvement in the quality and availability of personal health services, particularly emergency room care; reduced pressure on the public health system; and lower costs of other public programs such as Medicare and state and federal disability programs.

How Is Care for the Uninsured Funded?

We estimate that over $2 billion currently flows through the health care system subject to state allocation in Massachusetts, either directly paying for the uninsured or supporting institutions that provide care to the uninsured. Care for the uninsured in Massachusetts is paid for through a complex set of transactions involving the Uncompensated Care Pool, MassHealth supplemental payment programs that operate both alongside and outside the Pool, and other direct subsidy programs that provide care to the uninsured or to safety net hospitals. This care is paid for through a combination of federal, state, hospital and insurer assessments, and intergovernmental transfer (mainly local) funds (IGTs).

The federal government contributes $803 million through federal matching funds for MassHealth disproportionate share hospital payments and supplemental rate payments to hospitals and some managed care plans. A large majority of all current state-local spending that address the uninsured is channeled through MassHealth (Medicaid)—either under the Section 1115 waiver, disproportionate share hospital (DSH) programs, or supplemental MassHealth payments that are made within the federal upper payment limits (UPL programs). This assures that the state-local funding attracts federal matching support under Medicaid that is extremely important to the scope of support now provided to those serving the uninsured.

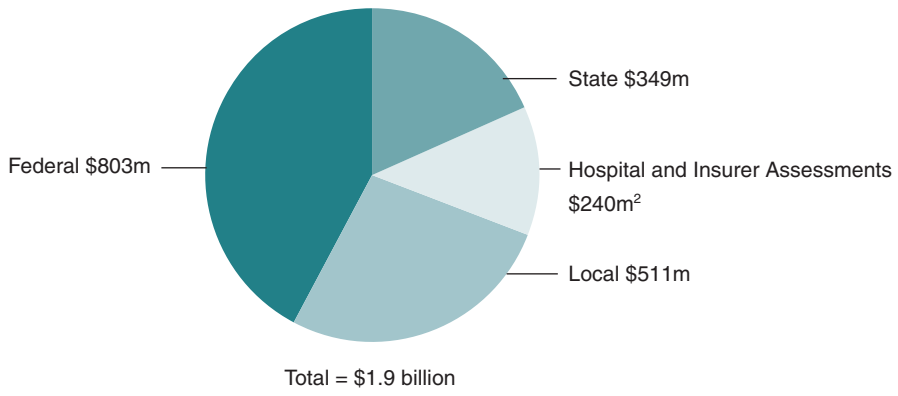
The state of Massachusetts currently spends about $349 million directly supporting care to the uninsured or institutions that provide care to the uninsured. This includes expenditures on the Pool and state contributions for supplemental MassHealth rate payments that operate both alongside and outside the Pool. Some smaller state coverage or public-health programs also wholly support some care that is provided to the uninsured.

Health insurers and hospitals provide another $320 million through mandatory assessments that are used to fund the Uncompensated Care Pool, although only $240 million is allocated to the uninsured in this analysis. Our accounting allocates $80 million of the total assessment as the non-federal share of the $160 million spent funding MassHealth Essential coverage that we regard as a form of insurance. Accordingly, the $80 million is not included as spending for the uninsured. (Private payers may also contribute through higher hospital charges and private insurance premiums that are higher because of the need to support uncompensated care, but those amounts are not state-allocated and are not estimated here.)

Local governments contribute $511 million through intergovernmental transfers for care provided alongside the pool and some care provided outside the Pool. These expenditures are large, but they are made because each 50 cents from IGTs has traditionally brought back an additional dollar in supplemental MassHealth payment, so that contributing local governments are clear net winners. The extent to which IGT or similar funding could continue if reallocated to support insurance rather than institutions serving the uninsured is an important consideration. If those contributions decline without being replaced by other sources, so too will the federal dollars that IGTs now draw into Massachusetts.

It is important to emphasize that far less than the $2 billion that flows through the health care system directly or indirectly supporting the uninsured actually results in payments to hospitals and clinics. First, $160 million supports the MassHealth Essential program, a form of insurance. Second, of the remaining $1.9 billion, an estimated $477 million of federal, state and local funds is spent on programs that only indirectly provide support to the uninsured. Third, of the remaining $1.4 billion, about $376 million is contributed through intergovernmental transfers from local providers and/or governments. These funds may not actually represent net payments to hospitals and clinics, but rather intergovernmental transfers that help leverage federal matching funds. The latter do represent payments to providers while the former may or may not.

Gross Expenditures Related to the Safety Net and Uninsured in Massachusetts, 2004[1]
(in millions of dollars)



1. Gross Expenditures are total flows of funds; these often reflect very complex transactions and these expenditures reflected should not be interpreted as actual payments to hospitals and clinics.

2. Excludes $80 million in MassHealth Expenditures.

How Much of Existing Funding Could Potentially Be Used to Support an Expansion to Universal Coverage?

Some of the support now given to institutions that serve the uninsured addresses needs that would not be supplanted by universal coverage. **An estimated $477 million of today's $1.9 billion in the total flow of funding does not directly target insurable services to uninsured people** but rather serves different purposes, including support to the institutions that serve the uninsured, public health services and wraparound assistance for low-income people already insured.

Beyond this, about $1.4 billion of today's funding flows is now targeted at uninsurance, of which just over $1.0 billion could likely be reallocated away from the current support of the uninsured to supporting new insurance. A big issue for estimation is the extent to which any reform can be designed to maintain or replace the currently high levels of local contribution that allow the state to maximize federal Medicaid funds in support of today's extensive safety net for the uninsured.

The $1.0 billion includes about $515 million of state, private, and local money that is potentially available to support a major coverage expansion. This estimated reallocable amount is far less than the total of current funding flows of $1.4 billion now directed at the uninsured. The reason for this is that the willingness to contribute IGTs will decline if not all federal dollars thereby attracted return to the locality or entity making the contribution (see below).

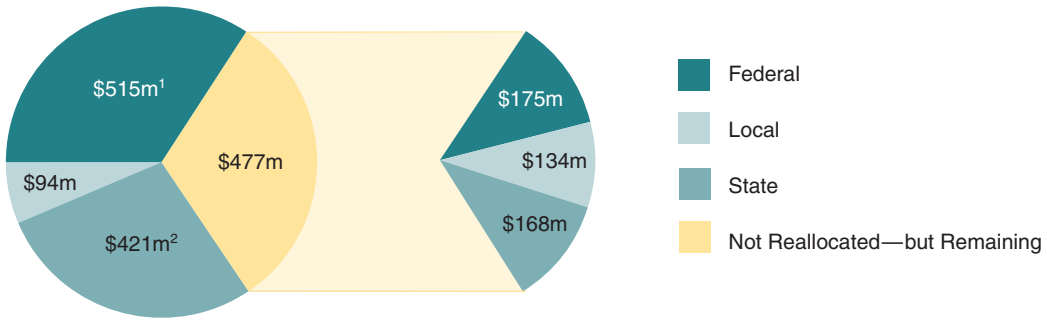
About $421 million in state own-source revenues could be reallocated as a source of revenue for expanded coverage. This includes the current $240 million in hospital and insurer assessments (after excluding the $80 million attributed to MassHealth Essential), less about $32 million of pool payments that we estimate go to people who have some insurance coverage. State funds ($206 million) that are now directed to the uninsured as opposed to say, public health or mental health in state hospitals, would presumably also be available.

Only about $94 million of current local revenues are likely to be available, but this amount could easily be higher or lower. Local governments now put up a large amount of money as the state share of supplemental payments because these programs provide revenues to local providers. Paying for insurance instead would still return money to localities, but in the form of insurance payments to medical care organizations and medical providers that the

newly uninsured choose to use. Those institutions that are now recipients of supplemental payments very likely would receive much but not all of the new business of their current safety-net clients. Nonetheless, the state could continue in one of several ways to induce or require local revenues, but the share used to fund new coverage is only estimated to be about 18% of today's contributions.

In addition to state and local funds, at least $515 million in federal dollars could potentially continue to be used to support care for the uninsured. We assume that a well designed expansion plan could continue to draw up to the same level of federal support as today, at a 1:1 matching rate. This figure could be higher or lower depending upon the state-local revenues. How the existing streams of federal funds could be used is complicated and some would require federal approval. First, federal DSH payments of about $235 million that went to acute care facilities would presumably still be available. There is clear federal precedent for reallocating DSH payments to provide coverage to childless adults not currently eligible for Medicaid through a well designed Section 1115 waiver. Second, the federal government would probably continue to match state-local funds so as to continue some level of supplemental rate payments, and some of this funding flow could be reallocated to pay for new coverage. Continuing to make supplemental rate payments to safety net hospitals serving fewer uninsured people would help meet other needs associated with a large low income clientele, including undocumented aliens and transients who might not be covered by the state's new plan. Third, if Massachusetts chose as part of its coverage strategy to expand coverage through Medicaid, the federal government would match state expenditures for this coverage as well.

Amount Potentially Available to be Reallocated for Covering the Uninsured in Massachusetts (in millions of dollars)



Amount Available for Reallocation = $1,029 million
Amount Remaining in Place Fullfilling Current Obligations = $477 million

1. These amounts could be larger depending on state policy toward coverage expansion; but greater federal payments would require higher levels of state/federal matching funds.

2. Includes hospital and insurer assessments.

I. Introduction

This paper provides estimates of how much medical care the uninsured use in Massachusetts and who pays for that care. This is important in the debate over extending health insurance coverage to the uninsured because it helps identify real resources that are already being used to provide care to the uninsured. An expansion of coverage could potentially use these resources together with new sources of revenues to finance the additional care. The greater the amount of resources already "in the system," the less the new incremental costs of a coverage expansion. Knowing how many real resources are already in the system also allows us to distinguish the cost estimates of a coverage expansion between: (1) the new resources going to the health care system because of the additional utilization by the uninsured from (2) transfers of existing costs from one financing source to another either because some individuals change the type of insurance they have in response to a new coverage initiative or because of a change in the mix of public and private sources that currently finance the cost of care to the uninsured. The new services used by the uninsured absorb resources from the rest of the state economy, while cost transfers represent shifts from those who currently pay for the care received by the uninsured to those who would pay if coverage were expanded.

In this paper we use two alternative methods to estimate the current costs of the uninsured.[1] One uses data obtained from providers in various ways. The second relies on expenditures reported by the uninsured themselves. We then estimate the cost of providing care to the uninsured under the assumption that a coverage expansion could be perfectly targeted to those who currently do not have coverage.

We do *not* in this paper make estimates of the costs of a health reform plan. In the last section of the paper we analyze who is paying for the care provided to the uninsured, how much is provided by government, and by which level of government, and by private sources.

Estimating the cost of care to the uninsured is not straightforward. Providers do not routinely keep careful accounting of the care that they provide to the uninsured. For both hospitals and community health centers the cost of the uninsured must be estimated from cost report data and depends on several assumptions. Changes to these assumptions could result in estimates being increased or decreased. The free care provided by physicians must be estimated from physician surveys, which are subject to sampling issues and the difficulty of assigning value to physicians' time.

An alternative way to estimate the cost of care the uninsured receive is to extrapolate from surveys of the uninsured about the amount and cost of care that they use. This

[1]"We follow the methods used in our previous work in which we made comparable estimates for the nation. Jack Hadley and John Holahan, "Covering the Uninsured: How Much Would it Cost?" *Health Affairs* web exclusive June 4, 2003, and Jack Hadley and John Holahan, "Who Pays and How Much? The Cost of Caring for the Uninsured," Kaiser Commission on Medicaid and the Uninsured, February 2003.

approach also has a number of problems including underreporting of care used by the respondents and determining the cost of services reported. In this paper we use both approaches and make several assumptions and adjustments to the data to derive the estimates that we think are needed. Using alternative approaches allows one to be a cross-check of the other.

In the next section of the report we estimate the cost of extending coverage to the currently uninsured population. These are the incremental costs associated with providing care to the uninsured; that is, the new resources that would be taken from somewhere else in the Massachusetts economy. We then provide estimates of the broad social costs to the state of an uninsured population, which can also be thought of as the benefits of universal coverage, relying on methods recently used by the Institute of Medicine. These estimates go beyond the cost of medical care used by the uninsured and include the costs of reduced mortality and morbidity as well as lost wages and productivity. We then discuss but do not estimate the variety of other benefits that would come from the provision of health insurance coverage.

Finally, we analyze the sources of payment for the care now in the system and how those payments are distributed among state, local, and federal governments as well as private payers. We also estimate how much of existing funds could be potentially available to help finance a coverage expansion.

II. The Costs of Uncompensated Care

Estimates from Massachusetts Provider Data: Hospitals

The Massachusetts Division of Health Care Finance and Policy (DHCFP) prepares an annual report on activities in the uncompensated care pool each year. The fiscal 2003 Annual Report reported costs of uncompensated care to be $536.6 million.[2] This figure excludes some costs borne by hospitals for uncompensated care but also includes some care provided to insured patients. To estimate the cost of care provided to the uninsured in Massachusetts by hospitals in 2004, we rely on cost report data provided by the DHCFP. Our estimates differ from data provided in the Uncompensated Care Pool FY2003 Annual Report issued in June 2004 in the following ways. The total allowable free care costs reported in the FY03 annual report are based on preliminary estimates of total free care and emergency bad debt charges and were adjusted by cost to charge ratios based on the 2001 cost report submission (2001 HCF-403). (Multiplying charges by a cost-to-charge ratio is a standard way of deriving hospital costs.)

In this report we used more current data on total free care and emergency bad debt charges provided to us by the DHCFP as well as cost-to-charge ratios computed from the 2003 cost report (HCF-403).[3] Furthermore, the cost-to-charge ratios used in the Annual Report are subject to the application of two efficiency standards.[4] Hospitals that have high costs relative to the efficiency standard have those costs reduced for the purpose of calculating the allowable costs. There are two efficiency standards, one for operating costs and a second for capital costs.[5] Hospitals are allowed the lower of the actual costs or the efficiency standard (as adjusted by case mix and wage indices in the case of operating costs and by case mix in the case of capital costs). Both of these adjustments have the potential to reduce the cost-to-charge ratio for any given hospital. In our calculations we do not use the efficiency standard in order to fully account for costs borne by hospitals for caring for the uninsured.

The Uncompensated Care Pool does not also consider the costs of nonemergency bad debt. Much of this care is thought to go for care provided to the uninsured but excluded from reimbursement by the pool because of a lack of documentation of income or insurance coverage. In our estimates we include each hospital's charges for nonemergency bad debt as adjusted by that hospital's cost to charge ratio.

[2] "Uncompensated Care Pool FY03 Annual Report," Massachusetts Division of Health Care Finance and Policy, June 2004.

[3] Data provided by the Massachusetts Division of Health Care Finance and Policy, July 27, 2004.

[4] "Uncompensated Care Pool FY03 Annual Report," Massachusetts Division of Health Care Finance and Policy, June 2004.

[5] Massachusetts Regulation 114.6 CMR 11.00; Regulations Affecting the Administration of the Uncompensated Care Pool (http://www.mass.gov/dhcfp/

We then adjust the 2003 data for inflation and growth in the uninsured to derive 2004 estimates. This adjustment is fairly large (1.257) because of the large increase in uncompensated care costs in 2004.[6] Finally, we adjust for the share of the uncompensated care in the state provided to individuals with insurance coverage. Information provided by the DHCFP indicates that the free care provided to the insured accounts for 7.2% of costs.[7] There is no available data on the share of bad debt charges attributable to insured persons, but most is thought to be attributable to the uninsured. We make the assumption that one-quarter (25%) of bad debt is attributable to those with insurance.

Table 1 provides a summary of these calculations. Total free care charges amount to $926.5 million and bad debt charges to an additional $446.9 million. After adjusting by the cost-to-charge ratio for each hospital (direct expenses divided by gross patient service revenue), we arrive at allowable free care costs of $501.9 million in free care and $227.6 million in bad debts. The total cost of care to the uninsured is $729.5 million. Adjusting for inflation and growth in the uninsured bumps the total for 2004 to $917.0 million—$630.9 million in free care and $286.1 million in bad debt. After netting out the share attributable to insured patients, we estimate hospital uncompensated care costs provided to the uninsured in 2004 to be $800.1 million—$585.5 million in free care and $214.6 million in bad debt.

Table 1. Estimates of Costs of Hospital Care to the Uninsured, 2004 (dollars in millions)

Charges for Free Care (2003)		**926.5**
Charges for Emergency and Non Emergency Bad Debt (2003)		**446.9**
Total Direct Expense (2003)	$12,319.8	
Total Gross Patient Service Revenue (2003)	$26,312.5	
Cost to Charge Ratio	*0.47*	
Free Care Costs (2003)		**501.9**
Bad Debt Provisions (2003)		**227.6**
Total—Free Care and Bad Debt (2003)		**$729.5**
Adjustment for Inflation and Growth in Uninsured (2003-2004)	*1.257*	
Free Care Costs (2004)		**630.9**
Bad Debt Provision (2004)		**286.1**
Total—Free Care and Bad Debt (2004)		**$917.0**
With Adjustment for Free Care Provided to Insured Patients (.072)		**585.5**
With Adjustment for Bad Debt Attributable to Insured Patients (.25)		**214.6**
Total—Free Care and Bad Debt (Uninsured, 2004)		**$800.1**

[6] Data on the growth in hospital allowable free care costs provided by the DHCFP.

[7] Personal Communication, Amy Lischko, Division of Health Care Finance and Policy; September 1, 2004.

Estimates from Provider Data: Community Health Centers

Community Health Centers (CHCs) in Massachusetts also provide cost reports to the DHCFP.[8] In 2003 CHCs reported $265.8 million in medical care costs (Table 2). There was an additional $30.7 million in costs for nonmedical services. The latter are not shown in Table 2 and are not included in the estimates provided below. CHCs received revenue from patients, either direct payments or payments by third-party payers, of $137.7 million, and this yields $128.1 million in costs of care to the uninsured that is not paid for directly that must be financed from other sources. These costs were offset by $28.9 million (not shown) in revenues from the pool and various grants and donations from the federal, state, and local government as well as private sources.[9] Inflating the $128.1 to 2004 by reported increases in free care charges results in an estimate of cost of uncompensated care provided by clinics to $167.3 million. Because there is no data readily available to provide estimates of care provided by CHCs to insured patients, we use the same 7.2% of costs that we assumed for hospitals; we thus reduce the estimate of costs provided to the uninsured to $155.3 million in 2004.

Table 2. Uncompensated Care Provided by Community Health Centers (CHCs), 2004 (dollars in millions)

Medical Costs Reported by CHCs, 2003		$265.8
Patient Revenue (Excluding Pool Revenue), 2003		$137.7
Cost of Uncompensated Care, 2003		$128.1
Adjustment for Inflation and Growth in Uninsured, 2003–2004	*1.306*	
Estimated Cost of Uncompensated Care, 2004		$167.3
Estimated Share Provided to Insured Patients, 2003	*0.072*	
Medical Costs of Care Provided to Uninsured Patients		$155.3

Estimates from Provider Data: Physicians

Table 3 shows how we estimated the amount of charity care provided per physician for four major specialty groups in Massachusetts in 2004. The primary source of information is the Community Tracking Study Physician Survey, conducted by the Center for Studying Health System Change.[10] The survey conducted telephone interviews with 12,389 office-based physicians nationally in 2000/2001, including 397 physicians in Massachusetts. Physicians were randomly selected from sampling frames provided by the American Medical Association and the American Osteopathic Association. The survey's response rate was 58.6%. The survey excluded physicians in specialties that typically do not have direct contact with patients (anesthesiology, radiology, and pathology), physicians who reported spending fewer than 20 hours per week in direct patient care, and physicians in residency training.

[8] Data provided by the Massachusetts Division of Health Care Finance and Policy, July 27, 2004.

[9] Data on the growth in hospital allowable free care costs provided by the DHCFP.

[10] "Community Tracking Study 2000-01 Physician Survey: User's Guide and Codebook," Technical Publication No. 51. Washington DC: Center for Studying Health System Change, September 2003.

Table 3. Value of Charity Care Provided per Physician by Office-Based Physicians, by Specialty, 2004

		GIM/GFP	PEDS	MED SP	SRG SP
1	Hours per month of charity care, from the CTS Physician Survey	4.68	2.92	7.01	6.07
2	Number of months worked per year, from the CTS Physician Survey	10.85	10.69	10.83	10.76
3	Hours of charity care per year (the product or row1 x row2)	50.78	31.21	75.92	65.3
4	Annual hours worked, from the CTS Physician Survey	2,482	2,155	2,477	2,642
5	Percent of annual effort devoted to charity care (row3/row4)	2.04%	1.45%	3.06%	2.47%
6	Net income per physician in 2000, from the CTS Physician Survey	$135,435	$140,378	$193,927	$239,640
7	Adjustment factor for converting net income to gross billings, from *Medical Economics*	1.85	1.82	2.21	1.95
8	Gross billings (product of row6 x row7)	$250,555	$255,488	$428,579	$467,298
9	Gross amount of charity care provided per physician (product of row5 x row8)	$5,111	$3,705	$13,115	$11,543
10	Assume that uninsured pay 35.2% of charges out-of-pocket (Hadley and Holahan 2004, Table 3)	$3,312	$2,401	$8,499	$7,480
11	Inflate to 2004 $s by the change in physician median incomes in New England (1.157)	$3,832	$2,778	$9,833	$8,654

The survey collected information on the number of hours per month of charity care (defined as care provided to people for whom the physician received no payment or a reduced fee, excluding discounts from insurance plans), the number of hours worked per month and months worked per year, and net income from medical practice in the prior year. These estimates are shown in the first six lines of Table 3 for four groups of specialties: general internal medicine and general and family practice; pediatrics; medical specialties; and surgical specialties.

We also used information obtained from *Medical Economics* (Nov. 7, 2003) on practice expenses as a share of gross income by specialty (line 7).[11] We used this information to inflate physicians' reported net income to an estimate of their gross billings and then calculated the gross amount of charity care provided per physician (lines 8 and 9). Since the question about charity care included care to reduced-fee patients, who pay some of the cost of the care, we also adjusted the estimate to account for payments made by uninsured people (line 10). Finally, we adjusted the estimate in line 10 by an adjustment factor using the change in physician median incomes in New England to derive an estimate for 2004. Data from the American Medical Association shows that between 2000 and 2003 median

[11] G. Weiss, "Exclusive Survey: Practice Expenses," *Medical Economics*, November 7, 2003 (accessed on August 17, 2004, www.memag.com).

incomes of physicians in New England grew by 11.6%, an average of 3.7% per year. Making an assumption of another 3.7% growth in 2004 would result in an adjustment of physician incomes by 15.7%.[12]

To estimate the total amount of charity care provided by physicians in Massachusetts, we multiplied each of the estimates in Row 11 by the number of office-based physicians in the state in each of the four specialty groups. We obtained data from the American Medical Association on actively practicing physicians, either office-based or in HMOs.[13] We have made a further adjustment for the fact that anesthesiologists, radiologists, and pathologists provide some services to uninsured patients for which they are not compensated. We assume that they provide one-half as much care as the average office-based physician under the assumption that they provide much of the care for the uninsured in institutional settings that would be accounted for in our estimates for hospital care. Table 4 provides our calculations of the amount of charity care provided in the state by specialty. The total comes to $122.6 million (column 3).

The advantage of relying on the Community Tracking Survey (CTS) is the random selection of physicians and the high response rate in the survey. The disadvantage is that the survey was conducted in 2000/2001. In the late summer of 2004, the Massachusetts Medical Society (MMS) conducted a survey of free care in Massachusetts. Although this survey provides current data, it has the disadvantages of a low response rate and an ambiguous respondent group. The survey was sent by email to 3,750 physician practices, rather than to individual physicians, in the state. Responses were received from 115 group practices (representing 2,452 physicians) and 184 solo physicians.[14] Thus, the survey achieved an 8% response rate. The low response rate raises the question of response bias, that is, those practices that provide more free care may exhibit a greater concern with this issue and be more likely to respond.

Columns 4 and 5 of Table 4 show estimates using the results of the MMS survey. The hours of free care provided by each specialty are shown below and are considerably higher than the CTS survey:

General Practice/Internal Medicine	14.5
Pediatrics	4.6
Medical Specialties	8.7
Surgical Specialties	8.1
Other	6.8

If we use these estimates to replace the numbers in row 1 of Table 3, then we increase the amount of charity care provided per physician. Making the same assumptions about the share that is paid by the uninsured, we also arrive at higher estimates of the charity care net of out-of-pocket payments. Multiplying by the number of physicians in each specialty yields a much higher estimate of the amount of free care of $200.1 million, which could either reflect the growing number of uninsured or be an indication of response bias.

[12] Physician Marketplace Statistics and Physician Socioeconomic Statistics, 1993 to 2003, American Medical Association. Estimates based on that from Medical Group Management Associations Physician Compensation and Production Surveys, 1992-2003.

[13] Author's tabulations from the "AMA Physician Masterfile" database.

[14] Data provided by the Massachusetts Medical Society, October 12, 2004.

Table 4. Charity Care Provided by Primary Specialty, by Speciality, 2004

	Practicing Physicians*	Value of charity care per physician (CTS)	Total value of charity care (CTS) (millions)	Value of charity care per physician (MMS)	Total value of charity care (MMS) (millions)
GIM/GFP	4,016	$3,382	$15.4	$11,879	$47.7
Pediatrics	1,775	2,778	4.9	4,449	7.9
Med Spec	6,167	9,833	60.6	12,292	75.8
Srg Spec	3,602	8,654	31.2	10,001	36.0
Other	2,765	3,791	10.5	11,812	32.7
TOTAL	18,325	$6,837	$122.6	$9,979	$200.1

Source: Physicians Data Base, Massachusetts Health Data Consortium, 2004
Notes: Physicians with no specialty reported were divided proportionally among specialties.
* Practicing physicians include only those with office-based and HMO practice types. Med school, hospital or other practice types not included.

In summary, the primary results from the provider data suggest uncompensated care spending of about $1.1 billion—$800.1 million from hospitals, $153.3 million from clinics, and $122.6 million from physicians. We were not able to include data from other providers, e.g., pharmacists, which could make the estimate somewhat higher. Using data from the MMS increases the amount of charity care provided by physicians by $77.5 million and the estimate of total uncompensated care to $1,138 million.

Estimates of Uncompensated Care from the Medical Expenditure Panel Survey

An alternative to using provider data to estimate the cost of care received by the uninsured is to extrapolate from survey data collected from the uninsured themselves. The Medical Expenditure Panel Survey (MEPS), conducted annually by the Agency for Health Care Policy and Research, is the best available household survey for this purpose. It obtains information on services used by respondents and then contacts providers to collect data on both charges and payments received by various sources of payment.[15] We used data from the 1999, 2000, and 2001 surveys, which we inflated to 2004. We used the sample of individuals under age 65 excluding people under 65, who are covered by Medicare because they are disabled or have end-stage renal disease and thus their medical care is not likely to be typical of either the uninsured population or of those with private insurance coverage. Newborns, people who died during the year, and people who were institutionalized for part of the year were included for the portion of the year that they satisfied the basic MEPS' criteria for inclusion.

The MEPS definition of expenditures is payments made for health care services. MEPS does not capture the cost of services for which no explicit and identifiable payment is received and for which there was no bill or charge unless the service is provided by a public hospital or clinic. For example, MEPS does not count provider revenues from government appropriations or Disproportionate Share Hospital (DSH) payments by Medicare and Medicaid.

MEPS' definitions and methods for measuring expenditures lead to estimates of national health expenditures that are significantly and systematically lower than those reported in

[15] J. W. Cohen, 1997. "Design and Methods of the Medical Expenditure Panel Survey Household Component," MEPS Methodology Report No. 1, Agency for Health Care Research and Policy, Rockville, MD, AHCPR Publication No. 97-0026.

the National Health Accounts compiled by the Centers for Medicare/Medicaid Services.[16] Thus, it is necessary to make an upward adjustment to arrive at an estimate of full expenditures for any group of individuals.

In addition, MEPS is a national survey that is not intended to be directly used for state-specific estimates. In order to generate estimates for Massachusetts we used data for respondents living in the Northeast (New England and Mid-Atlantic states) and re-weighted the sample of individuals in the northeast to reflect the characteristics of individuals in Massachusetts. The reweighting was based on comparisons between Northeast and Massachusetts residents from the Current Population Survey, which has a sufficiently large sample to permit state-specific estimates.[17] Characteristics included age, urban/rural residence, race, marital status, education, insurance coverage, and income. These adjustments account for differences in utilization of services that result from the characteristics of the population being different in Massachusetts than the rest of the Northeast. But it does not fully account for differences between expenditures in Massachusetts and the rest of the Northeast, or for the expenditure undercount in the MEPS in general.

To make an adjustment for this spending undercount we made a comparison between an estimate of expenditures of privately insured persons (with group policies) in Massachusetts with expenditures for the same group (privately insured with group coverage) in the MEPS. We obtained 2004 private insurance premiums for both large and small firms as reported to the Division of Insurance (DoI) in Massachusetts.[18] To derive a weighted average premium, we adjusted the DoI premiums by using data on the number of people in Massachusetts reporting having employer-sponsored insurance in large and small firms from the National Survey of America's Families.[19] To obtain a measure of expenditures for those with private insurance, we netted out administrative costs from the premiums using data on administrative load factors.[20] This provided an estimate of private insurance expenditures per person of $2,951. We compared this with data on MEPS private insurance spending per person covered by group insurance in 2004 dollars. The resulting figure was $2,188, or 35% less. In other words, using the non-loaded private insurance premium per person as the benchmark, we estimate then that the MEPS understates spending in Massachusetts by 35%.[21]

In 2004 the state of Massachusetts conducted a household survey, The Survey of the Health Insurance Status of Massachusetts Residents (hereafter referred to as the

[16] Jack Hadley and John Holahan, "Who Pays and How Much? The Cost of Caring for the Uninsured," Kaiser Commission on Medicaid and the Uninsured, February 2003; T.M. Silden, K.R. Levit, J.W. Cohen, S.H. Zubekas, T.F. Moeller, D. McKasish, and R.H. Arnett, 2001. "Reconciling Medical Expenditure Estimates from the MEPS and the NHA, 1996," Health Care Financing Review, Fall 23(1): 161-178.

[17] Reweighting is a procedure for adapting the MEPS sample of Northeast residents to be a more accurate representation of a sample of Massachusetts residents. This procedure is necessary because there are too few Massachusetts residents in the MEPS sample for statistical reliability. We follow the reweighting procedure described by Barsky, et al. ("Accounting for the Black-White Wealth Gap: A Nonparametric Approach," *Journal of the American Statistical Association*, September 2002), who applied the methodology developed by Rosenbaum and Rubin ("The Central Role of the Propensity Score in Observational Studies for Causal Effects," *Biometrica*, 1983; "Reducing Bias in Observational Studies Using Subclassification on the Propensity Score," *Journal of the American Statistical Association*, 1984).

[18] Rates filed with the Massachusetts Division of Insurance in April 2004.

[19] Author's calculations from the 2002 National Survey of America's Families.

[20] Linda J. Blumberg, Len M. Nichols, Yu-Chu Shen, and Matthew Buettgens. "The Health Insurance Reform Simulation Model (HIRSM): Methodology Report," Report submitted to the US Department of Labor, PWBA, August 2002.

[21] In addition to adjusting for the MEPS undercount, the 35% adjustment would also account for any underestimate of health care inflation in Massachusetts.

Massachusetts Health Insurance Survey), which asked respondents information about their current health insurance coverage. The major issue with this survey is that it was a telephone only survey and might have missed those individuals without telephones, a group that is more likely to lack health insurance. This survey found that there were 454,000 uninsured non-elderly individuals in 2004 in Massachusetts.[22] Because the survey asked about coverage at the time of the interview, it would include both individuals who were uninsured for the full year and for part of the year. To obtain estimates from MEPS for a population that includes both full year and part year uninsured individuals, we used expenditures for those who reported being uninsured for at least eight months. This resulted in an estimate, with the 1.35 adjustment, of $2,318 per adult and $1,399 per child. Multiplying these amounts by the number of uninsured adults and children (400,000 and 54,000 respectively) yields estimates of $927.2 million for adults and $75.5 million for children (Table 5). Some share of this total of $1.0 billion is being paid out of pocket by the uninsured. Nationally, we estimated that about 25% of care provided to the uninsured was paid out of pocket.[23] This is undoubtedly too high for Massachusetts because of the prominence of the uncompensated care pool. The best estimate is probably that the out of pocket share is in the 10% range, leaving an estimate from the MEPS based approach of $900 million. (The uncompensated care pool may also induce greater use by the uninsured in Massachusetts relative to the reweighted MEPS sample of northeast residents.)

The Current Population Survey (CPS) also provides estimates of insurance coverage for Massachusetts. The CPS is a national in-person survey that provides state representative data on insurance coverage. To increase sample size, researchers often use a combined two-year average. We follow this approach and use a merge of two years (2002-2003) of the CPS. The disadvantage of the CPS is that it may overstate the number of uninsured because of recall problems, e.g., individuals fail to remember some coverage that they had in the past year.[24] The CPS may also understate coverage (overstate the uninsured) in states with low uninsurance rates (such as Massachusetts) because of their methods of imputing coverage when values are missing.[25]

There is also some debate over whether the CPS provides estimates of those uninsured for the entire year or whether its estimates are more reflective of point in time coverage. The evidence seems to clearly suggest the latter because the survey is close to point in time estimates from other surveys.[26, 27] If we use the CPS as an alternative source of point in time

[22] Massachusetts Division of Health Care Finance and Policy; Press Release: 460,000 Massachusetts Residents Have No Health Insurance (6,000 are over age 65).

[23] Jack Hadley and John Holahan "Covering the Uninsured: How Much Would It Cost?" *Health Affairs* web exclusive June 4, 2003 and Jack Hadley and John Holahan "Who Pays and How Much? The Cost of Caring for the Uninsured," Kaiser Commission on Medicaid and the Uninsured, February 2003.

[24] John Holahan, Genevieve Kenney, and Len Nichols, "Towards a Federal Survey of Health Insurance Coverage and Access", Urban Institute Working Paper, May 2004.

[25] Michael Davern, Lynn A. Blewitt, Boris Bershadsky, and Noreen Arnold, "Missing the Mark? Possible Imputation Bias in the Current Population Survey's State Income and Health Insurance Coverage Estimates," *Journal of Official Statistics*, forthcoming.

[26] John Holahan, Genevieve Kenney, and Len Nichols, "Towards a Federal Survey of Health Insurance Coverage and Access," Urban Institute Working Paper, May 2004.

[27] Assuming that the CPS provides an estimate of people uninsured for the full year would mean that there are an additional undetermined number of people who are uninsured for part of the year; this would yield point in time estimates that are well above other national surveys.

coverage, and use a combination of 2002 and 2003 CPS data in order to increase the sample size for Massachusetts to 6,976 non-elderly persons, we obtain estimates of 115,700 uninsured children and 541,000 uninsured adults. These numbers still yield a low rate of uninsurance in Massachusetts relative to the nation, but higher than in the state of Massachusetts survey. If we use these numbers to derive an alternative set of estimates we estimate that spending on the uninsured in Massachusetts would be $1.4 billion (Table 5). Adjusting by the likely out-of-pocket share to make the household based estimates comparable to the provider based estimates reduces these estimates to $1.3 billion.

Thus, the range of estimates based on these two surveys would be $1.0 to $1.4 billion; netting out the amount paid by the uninsured themselves reduces the costs borne by other sources to $900 million to $1.3 billion, varying with the number of uninsured. These latter numbers are consistent with the estimates obtained from providers—about $1.1 billion.

Table 5. Estimated 2004 Spending for Medical Care Received by the Uninsured

	Adults	Children	All Nonelderly
	Massachusetts Health Insurance Survey		
Number of Uninsured	400,00	54,000	454,000
Cost Per Person	$2,318	$1,399	$2,209
Total Cost, In Millions	$927.2	$75.5	$1,002.7
	Current Population Survey		
Number of Uninsured	541,00	115,700	656,700
Cost Per Person	$2,318	$1,399	$2,156
Total Cost, In Millions	$1,254.0	$161.9	$1,415.9

III. The Incremental Medical Care Cost of Complete Insurance Coverage

In order to estimate how much more medical care the uninsured would use if they had full-year insurance coverage, we estimated a two-part statistical model of medical care spending using data from the Medical Expenditure Panel Survey (MEPS). The MEPS data are for residents of the northeast census division reweighted to be representative of the Massachusetts population. We combined data from the 1999, 2000, and 2001 MEPS to increase sample size and inflated all medical care spending figures to 2004 dollars using the annual increases in national health expenditures. The data were further adjusted to reflect systematic under-reporting of medical expenditures in the MEPS relative to the National Health Accounts and to independent estimates of medical care costs in Massachusetts (as noted above).

The two-part model of medical care spending consists of: 1) a logistic regression model of the probability of having any medical spending, and 2) a model of the amount of medical spending for people who have positive expenditures. This is a standard approach for estimating a statistical model on expenditure data that do not have a normal distribution because of a large number of people with no expenditures and a small number of cases with very high expenditure levels (skewed to the right).

The sample is limited to low- and lower-middle-income people (income up to 400% of the federal poverty level) with full-year insurance coverage plus people who are uninsured for some portion of the year. We limit the sample of insured people to a low/lower-middle-income population to reflect the average benefit levels of insurance coverage for this population and on the assumption that their behavior under full insurance coverage is a closer approximation to how the uninsured would respond to full-year coverage than the behavior of higher-income people with full-year coverage. The statistical model controls for the effects of age, gender, race and ethnicity, age, education, income relative to poverty, marital status, residence in a metropolitan statistical area, self-reported health status, and the presence of a number of chronic health conditions.[28] Separate models were estimated for children (up to age 18) and non-elderly adults (ages 19-64).

Insurance status is measured by the proportion of the year that the person has insurance coverage. (Values of this measure range from 0, which represents uninsured all year, to 1 for people insured all year.) Additional medical care spending by the uninsured was simulated by setting the variable for insurance coverage to full-year coverage, using the models' coefficients to predict the level of medical spending due to both a higher probability of having any spending and a higher level of spending if insured, and then calculating average per capita spending for the samples of uninsured adults and children. These per capita

[28] For details on model specification and statistical estimation method, see Hadley and Holahan ("Covering the Uninsured: How Much Would It Cost: Statistical Appendix," Kaiser Family Foundation, Washington DC, June 2003; available at http://www.kff.org/content/2003/4119/4119.pdf).

figures were then multiplied by the numbers of uninsured adults and children in Massachusetts to compute projected total spending by the uninsured under the assumption that they have full-year insurance coverage.

Incremental medical care spending is then defined as the difference between projected spending if fully insured and the estimated cost of the amount of medical care currently used by the uninsured. The results are presented in Table 6. Again we make alternative estimates based on the two different surveys of the number of uninsured. The upper panel provides estimates based on the number of uninsured from the state of Massachusetts survey and the lower panel estimates from the Current Population Survey. In each case the predicted per capita medical care spending assuming the uninsured had full coverage was the same. The total spending differs because of the different estimates of the number of uninsured. Using the data from the state of Massachusetts survey we estimate that medical spending would increase by $333.6 million or about 36.0% for adults and $40.8 million for children or about 35.1%. Total spending would increase by $374 million or 37.3%. Using data from the Current Population Survey, spending would increase by $451.2 million for adults, $87.5 million for children, and overall $538.6 million. The increases in percentage terms were the same. Thus, the overall increase in health care spending if the currently uninsured were given coverage ranges from $374 million to $539 million.

Table 6. Impact of Insurance Coverage on Medical Care Spending for the Uninsured in Massachusetts (2004)

Number of Uninsured Based on Massachusetts Household Survey	Adults (N=400,000)		Children (N=54,000)		All Nonelderly (N=454,000)	
	Per Capita	Total (millions)	Per Capita	Total (millions)	Per Capita	Total (millions)
Estimated Current Spending for Medical Care Received by the Uninsured	$2,318	$927.2	$1,399	$75.5	$2,209	$1,002.7
Predicted Medical Spending If the Uninsured Have Full-Year Coverage	3,152	1,260.7	2,155	116.4	3,033	1,377.1
Increase in Spending (Predicted – Current)	834	333.6	756	40.8	825	374.4
Number of Uninsured Based on Current Population Survey	**Adults (N=541,000)**		**Children (N=115,700)**		**All Nonelderly (N=454,000)**	
	Per Capita	Total (millions)	Per Capita	Total (millions)	Per Capita	Total (millions)
Estimated Current Spending for Medical Care Received by the Uninsured	$2,318	$1,254.0	$1,399	$161.8	$2,156	$1,415.8
Predicted Medical Spending If the Uninsured Have Full-Year Coverage	3,152	1,705.1	2,155	249.3	2,976	1,954.5
Increase in Spending (Predicted – Current)	834	451.1	756	87.5	820	538.6

Note: Spending estimates derived from the MEPS (1999–2001) Massachusetts-reweighted Northeast population

Any new program designed to expand coverage to the uninsured would undoubtedly result in some displacement of private coverage. To the extent to which any new coverage expansion does substitute for existing coverage, the overall cost to the state of the program will be higher, perhaps considerably. Thus, these numbers should not be taken as the estimate of the cost to the state of expanding coverage, but rather an indicator of the new real resources that would be brought into the healthcare system from elsewhere. Actual estimates of the cost of expansion depend critically on the design of those expansions and the incentives to retain existing coverage or to take advantage of new subsidy arrangements that are made available.

The incremental cost estimates also assume that the existing spending that is in the system now ($2,318 per capita for adults and $1,399 per capita for children) would be made available. These dollars represent a combination of out-of-pocket spending by the uninsured and payments from federal, state, and local governments to support the uninsured. The incremental costs are the additional payments over and above these existing payments. To the extent that some of these existing payments cannot be made available, the additional costs of covering the currently uninsured would be higher.

IV. The Economic and Social Costs of an Uninsured Population

The estimates of the cost of the uninsured from both the MEPS and provider data focus only on the cost of medical care used by the uninsured. To the extent that those costs are paid for by society through taxes, private charity (in whatever form), and, to a limited extent, higher prices paid by the insured, they represent a cost of the uninsured borne by society at large. On average, we have estimated that this amounts to between $1.0 to $1.4 billion in Massachusetts in 2004 (Table 5).

Clearly, however, the cost to society of an uninsured population goes beyond the cost of the medical care they receive. In particular, if lack of insurance leads to reduced health as the literature clearly suggests,[29] then uninsured people will lose income through their greater likelihood of not being able to work as much or as effectively as healthier, insured people. Employers may have higher costs because of disruptions and increased inefficiency when employees miss work. But even beyond work and wages, poorer health reduces longevity, increases morbidity and discomfort, and reduces the ability to enjoy life outside of work. In the broadest sense then, the value of a lost year of healthy life reflects both lost wages, reduced productivity, increased inefficiencies for employers, and the physical and emotional costs of being in poor health.

A recent report by the Institute of Medicine (IOM) conducted an extensive review of the literature on the value of a year of healthy life and concluded that $160,000 is a reasonable, mid-range estimate that would be appropriate to use in trying to assess the broader social costs of reduced health due to a lack of insurance.[30] This includes lost productivity but also reflects the value individuals place on good health. The estimate reflects the results of many prior studies and the practices of several government agencies that must use a figure for the value of a healthy year of life in assessing various risks and benefits associated with government regulations and programs.

In order to use this figure to estimate the value of lost health among the currently uninsured, it is also necessary to come up with a measure of the number of years of healthy life (that include adjustments for the quality of life) that the uninsured lose because of the lack of insurance. This is obviously a complex task that requires information on differences in mortality and morbidity between the insured and the uninsured at different ages. This calculation also requires making assumptions about how much of the difference in health is due to lack of health insurance, the probability of being insured at various ages, and what discount rate to use in converting the value of future health losses to current dollars.

[29] J. Hadley, "Sicker and Poorer: The Consequences of Being Uninsured," *Medical Care Research and Review 60* (Supplement 2, 2003): 3S-75S; Institute of Medicine, *Care without Coverage: Too Little, Too Late*, Washington DC: National Academies Press, 2003.

[30] W. Miller, E. Vigdor, and W. Manning, "Covering the Uninsured: What Is It Worth," *Health Affairs Web Exclusive*, March 31, 2004.

Relying on accepted methods and prior estimates from the literature, the IOM developed a range of estimates for the annual discounted present value of lost health (up to age 65) due to the lack of insurance of $1,645 to $3,280 per uninsured person in 2001.[31] The smaller value assumes that lack of health insurance affects only mortality, while the larger value assumes that lack of insurance also increases morbidity. Both estimates also weight the population by the average probability of being uninsured at various ages (as opposed to assuming that a person remains uninsured until age 65). Taking the midpoint of this range and updating by the rate of general inflation to 2004 produces an average estimate of $2,635 for the annual discounted present value of lost health over time due to being uninsured.

If this estimate is applied to the 454,000 uninsured people in Massachusetts, based on the state's own survey, the total value of lost health due to uninsurance is $1.2 billion. If applied to the 656,700 from the two-year combined CPS, the total value of lost health due to uninsurance is $1.7 billion. These figures should be thought of as the benefit to society in terms of the value of better health, including higher wages and productivity, that the uninsured would experience if they were fully insured. The loss of this benefit or value is a cost over and above what Massachusetts spends to pay for medical care used by the uninsured. Recall that we estimated that the incremental cost of new coverage of between $374 million (Massachusetts state survey) and $539 million (CPS), depending on the number of uninsured. These numbers correspond to the estimates of social benefits above $1.2 billion (Massachusetts state survey) and $1.7 billion (CPS), respectively, thus a ratio of benefits to costs of greater than 3 to 1.

There are many other costs potentially associated with the lack of insurance. Figure 1, adapted from the Institute of Medicine report on the consequences of uninsurance, identifies these additional costs.[32] Some may not be as applicable in Massachusetts as the rest of the nation, but we have no way of estimating their importance. There is the greater morbidity and premature mortality for which quantitative estimates are discussed above. Other costs identified that affect individuals, families, and firms directly begin with the developmental losses for children. Children lacking health insurance are less likely to receive preventive care and services for asthma and other conditions. This affects the ability to progress in school and ultimately can limit future opportunities in later life. Families face greater risk of severe financial problems, including bankruptcy, because of the lack of insurance. Families with an uninsured worker in poor health not only lose income but also have more stressful lives. Firms have a less productive workforce with more absenteeism and a less efficient work place.

[31] Ibid., p. W4-161.

[32] Institute of Medicine, Committee on the Consequences of Uninsurance, "Hidden Costs, Value Lost: Uninsurance in America," Washington, DC: National Academies Press, 2003.

Figure 1. Costs Consequent to Uninsurance

Internal or private costs (for individuals, families, and firms)	External or spillover costs
• Greater morbidity and premature mortality	• Diminished quality and availability of personal Health services, e.g., emergency rooms
• Developmental losses for children	• Diminished public health system capacity because of diversion of resources for acute care services for the uninsured
• Family financial uncertainty and stress,depletion of assets including bankruptcy	• Diminished population health (such as higher rates of vaccine-preventable disease)
• Lost income of uninsured breadwinner in ill Health	• Higher public program costs connected with worse health (Medicare, disability payments) (primarily transfer costs)
• Lower business productivity (absenteeism, reduced efficiency on the job)	• Diminished workforce productivity, lower tax payments

SOURCE: Adapted from Institute of Medicine Committee on the Consequences of Uninsurance, *Hidden Costs, Value Lost: Uninsurance in America* (Washington: National Academies Press, 2003), 31, Figure 2.2.

Some of the costs of uninsurance may affect others, including those with insurance. Because of the demands placed by the uninsured on the health care system, particularly on emergency rooms, access to these services even for insured patients can be impaired. High rates of uninsurance can affect the capacity of the public health care system because many of these systems have begun to provide acute care services to uninsured populations, crowding out resources for basic public health functions. High rates of uninsurance also have the possibility of affecting population health by reducing the rates of vaccination for preventable diseases and increasing the likelihood of the transmission of these diseases to others.

Another way in which the number of uninsured spills over to affect the larger community is by reducing provider revenues. To avoid the burden of uncompensated care, health providers may cut back on services and or reduce staffing levels. In other words, as hospitals' and clinics' financial margins deteriorate, their ability to finance care in general can be affected and the range of services that they provide can be curtailed. One example is the highly resource-intensive and expensive care provided by trauma centers associated with emergency rooms. If growing numbers of uninsured put pressure on emergency rooms, their ability to continue to finance trauma care can affect patients whether insured or uninsured.

Finally, public program costs other than those directly related to serving the uninsured can be affected because of worse health outcomes due to the lack of insurance. There is some evidence that those who enter Medicare at age 65 are in worse health if they lacked insurance for some period of time prior to age 65.[33] By being in worse health they increase the costs of the Medicare program and thus costs borne by taxpayers. Similarly, individuals without health insurance are more likely to experience some form of disability and to receive benefits from the Social Security Disability Insurance or Supplementary Security Income programs. The Institute of Medicine stated that while evidence on the link between the lack of insurance, increased disability, and income support payments was limited, they concluded that some portion of the disability insurance claims would be eliminated if the uninsured had continuous coverage. Finally, lower work force productivity means not only lower earnings to the uninsured worker, but it also means lower levels of state and federal payroll and income taxes.

[33] J. Hadley and T. Waidmann, "Health Insurance and Health at Age 65," *Health Services Research*, forthcoming, April 2005.

V. Sources of Funds That Pay for Uncompensated Care

The largest item of Massachusetts expenditure on health care for the needy is the MassHealth (Medicaid) family of coverage programs, which uses a combination of state and federal funds to prevent a great deal of uninsurance. Beyond this, Massachusetts government now allocates additional large sums to support safety-net programs and institutions that aid the uninsured. As with MassHealth, this additional safety-net spending is heavily supported by federal Medicaid matching aid, "drawn down" by a combination of state own-source revenues and intergovernmental transfers (IGTs) to the state from localities with big safety-net institutions.

What current spending on the uninsured would become unnecessary or less necessary if every resident had an acceptable level of private or public coverage? What state-allocated funds supporting this spending could be reallocated to support coverage? To what extent could those reallocated funds continue to "draw down" federal matching payments? This section considers these issues, which are important for feasibility of funding universal coverage.

Our analysis starts by listing all state programs and items of expenditure that are now needed in whole or in part because some residents lack insurance. The initial listing includes *overall* fund flows, which are very large, such that a casual observer would conclude that there is more than enough funding already "in the system" to fund universal coverage (Table 7, page 47). However, some of this funding is for programs that support more than medical care for the uninsured. Moreover, much of this funding will not be reallocable either because it now serves purposes that will not be supplanted by universal coverage or because intergovernmental transfers will not continue at the same level. Subsequent adjustments accordingly lower the total estimated to remain available to reallocate.

Second, we describe what current revenues to support Table 7's spending come from what sources—state, private, intergovernmental (mainly local), and federal—and how some uninsured resources have already been reallocated to a form of insurance, the relatively new MassHealth Essential program (Table 8, page 47).

We next adjust revenues downward to account for the extent to which some current spending are targeted to purposes other than providing insurance-like services to the uninsured. These include services to the already insured and higher MassHealth payments for the uninsured to reflect more severe case mix (Table 9, page 48). Thereafter, we adjust these targeted amounts further downward where they come from intergovernmental transfers, as IGTs will drop in the future if reallocated away from the safety-net institutions that are now assured of higher funding because today's IGTs attract federal match into the contributing communities, and we add an estimate of future federal match (Table 10, page 48).

For federal funding, we also discuss mechanisms for draw-down in preliminary fashion. Final design is a task for subsequent work on a state roadmap to universal coverage. New

federal funding patterns will require federal agreement either by waiver or by legislation and will also be dependent on state funding decisions.[34] Information supporting these analyses comes from various sources, as indicated in notes below.

Four types of current spending directly or indirectly support care for those without public or private coverage:

- Free-care funding of medical providers based on their services to the uninsured
- Funding of safety-net and other institutions, only indirectly tied to serving the uninsured
- Insurance-like coverage programs for the uninsured
- Public health hospitals and programs that assist the uninsured in various ways

Taken together, the four program categories account for large total flows of funds, about $2 billion for SFY 2005 (Table 7).[35] We list a program here as relevant to this analysis if either: (1) its legislative policy rationale or (2) its practical effect is to help the uninsured or to help those who serve the uninsured cope with the burdens of uninsurance. Not all of this spending *directly* relates to services to the uninsured, and not all revenues would necessarily be available to reallocate under universal coverage. Subsequent estimates adjust these figures downward.

Free-care Funding That Is Directly Related to Uninsurance

This program category consists of the Uncompensated Care Pool (Pool) plus closely associated spending on parallel support for free care at two large safety-net institutions. Category 1 totals $909 million for SFY 2005 (Table 7).[36] Its first and larger subcategory itself has two parts, the Pool and paying for a new MassHealth Essential program that had the effect of moving some people out of the Pool. The Pool makes payments to hospitals and community health clinics (CHCs) to cover the allowable costs of delivering free-care, medically necessary services not covered by insurance to people with low incomes. To a lesser extent, it also pays for reduced-fee care for those with moderate incomes.[37] The Pool also covers institutions' uninsured emergency bad debt. Free care dominates spending, however, and the Pool is often called the Free-Care Pool.

The main beneficiaries are low-income state residents. (Until October 1, 2004, institutions could also be paid for emergency costs to non-residents.[38]) Pool beneficiaries may have

[34] The existing federal waiver underlying MassHealth required periodic renewal, which has been granted once to date. The following descriptions of funding flows assume continuation of the existing waiver, which is not guaranteed.

[35] Some information in this presentation relates to a time period other than the state fiscal year. The Pool fiscal year, for example, starts in October so as to match hospital fiscal years. For funding flows, the timing does matter somewhat, as first-quarter qualifying state spending can begin to draw down federal match before the start of the Pool year funded by that state fiscal year's budget.

[36] Slightly higher spending levels were legislatively appropriated for SFY 2005, about $926 million rather than $909 million. The higher amount was based on assumptions in the summer of 2004 about how much federal Medicaid match could be drawn down to support Category 1 and 2 spending. The figures in Table 7 are the amounts subsequently estimated by administration officials.

[37] The Pool traditionally repaid institutions for current-year allowable costs of free care, often with a long lag for cost accounting, auditing, and determining allocations across institutions. It has just moved to making allocations prospectively, based on prior-year patterns of costs. This discussion draws upon Pool annual reports, accessible from DHCFP's web page "Uncompensated Care Pool." <http://www.mass.gov/dhcfp/pages/dhcfp_22.htm#gen_info>, outside reports, and interviews.

[38] Massachusetts residents with family incomes of 200% or below of the federal poverty level (FPL) qualify for free care; those from 201% to 400% qualify for "partial free care." Even higher-income beneficiaries may qualify as "medical hardship" beneficiaries if extremely high medical expenses sufficiently deplete their resources. For hospital care, moderate-income beneficiaries must meet an annual income-related deductible; for clinic care, they pay income-related sliding fees. See eligibility regulations, 114.6 CMR 10.00, 114.6 CMR 12.00. About 80% of Pool spending is for full-free-care recipients, those with incomes under 200% FPL, according to the Report of the Special Commission on Uncompensated Care, Dec. 27, 2002, fig. 32.

private insurance, MassHealth, or Medicare, but the Pool pays only after other coverage.[39] The Pool's main subcategory of spending consists of payments to hospitals and CHCs, $539 million for 2005 (including $15 million in associated spending on administration, demonstrations, and similar activities).

The other Pool subcategory consists of spending for a $160 million new coverage program called MassHealth Essential. It covers the long-term unemployed with family incomes under 100% of the federal poverty limit (FPL) and also imposes an asset test and other limitations on eligibility. It provides benefits slightly less generous than the preceding MassHealth coverage it replaced and is subject to a caseload and funding cap.

Category 1 spending also includes parallel support for Pool-eligible care at the state's two largest safety-net, hospital-centered medical delivery and financing systems. Funds actually flow through supplemental rate payments under MassHealth, not allocations from the Pool, but this spending offsets free-care claims by these providers that might otherwise be made against the Pool. This "program" began with the MassHealth Section 1115 waiver in 1997 ($70 million in Pool-eligible services included in Category 1, with another $70 million in supplemental payment not offset against the Pool, in Category 2). Another increment of such supplemental-rate spending was legislated in the SFY 2004 budget, again offsetting a reduced access in Pool support, then expanded for 2005 (to $140 million in services). This subcategory thus contributes $210 million of uninsured-related spending.[40]

Revenues for Category 1 free-care funding come half from state and some local sources, half from federal financial participation (FFP) under MassHealth. Some of the federal funds come under the DSH program (Disproportionate Share Hospital), which allows bulk payments to qualifying institutions up to annual federal ceilings for each institution and for the whole state. Other federal funds result from making supplemental payments (higher rates than usual rates) to some institutions under Medicaid, which are typically called UPL payments, as they are allowed so long as they do not exceed the Upper Payment Limits set by federal law.

Institutional Support That Is Indirectly Related to Uninsurance

Category 2 of spending is assistance to specific categories of medical provider institutions. These are mainly safety-net providers that heavily serve the uninsured, but this category of funding is not directly tied to the amounts of service they provide to the uninsured. The estimated total is $891 million for 2005.[41] The biggest subcategory here is $610 million in supplemental MassHealth payments made to managed care organizations (MCOs) operated by local entities affiliated with the state's two largest safety-net institutions—that is, the Boston Public Health Commission and the Cambridge Public Health Commission. A small share is the half of the 1997-waiver-based supplementals not required to be offset against Pool claims. Most consists of similar supplemental-rate payments legislated later. These funds are not offset against free care under the Pool; hence they are presented here in program Category 2 rather than in Pool-related Category 1 above.

[39] See program regulations, Services Eligible for Payment from the Uncompensated Care Trust Fund, 114.6 CMR 12.00, Division of Health Care Finance and Policy, Emergency Amendments, adopted September 27, 2004 <http://www.mass.gov/dhcfp/pages/pdf/114.6_12.pdf>.

[40] The 1997 waiver arrangement provided a direct, dollar-for-dollar reduction of $70 million in claims against the Pool, whereas the 2004 legislation limited aggregate reimbursement to the Pool to 85% of allowable uncompensated care, and in each case the reduced Pool support was offset by new supplemental MassHealth payments.

[41] As for Category 1, the Table presents administratively projected spending, not the slightly higher legislated appropriations.

For this program category as for the first one, each total amount includes spending from all sources of revenue, and all spending is federally matched.[42] Unlike for the Pool, most of the state share consists of *intergovernmental transfers* of local revenues to the state (IGTs) rather than the state's *own-source* revenues. The extent to which localities may have recouped their IGTs from the institutions is difficult to determine but it is likely that some or most of these expenditures may not all have ended up supporting the local medical providers, as described further below. The IGTs are not mandatory like the Pool assessments, but they are legislatively required for the recipient institutions to receive the supplemental MassHealth funding that the IGTs help fund.

The second subcategory of institutional funding consists of $31 million legislatively appropriated to about 30 different institutions across the state. For 2005, this is called the Distressed Provider Expendable Trust Fund; in 2004, it was the Essential Community Provider Expendable Trust Fund. The legislature directed that this funding flow in ways that qualify for federal matching, but administrators believe this is not possible.

The final subcategory is a collection of DSH-UPL programs that channel funds to specific categories of institutions. Notably included here are "high public payer" DSH, acute hospital DSH, non-acute hospital DSH, safety net DSH, DSH for UMass-associated teaching hospitals, public health DSH, and DSH for institutions for treatment of mental disease. Final spending for this category is dependent on agreement with federal authorities, for which there is a lag and considerable uncertainty. Table 7 estimates a total of $250 million here, but the total might eventually prove to be higher.

Coverage Programs

Numerous, but small, insurance-like coverage programs are funded for some categories of residents not eligible for MassHealth, mainly low-income residents. These programs are state funded and receive no federal match or IGT support. Six such programs are listed in the state's catalog of assistance for the uninsured.[43] Most do not have their own line item in the state budget. The largest appears to be the Children's Medical Security Program within the Department of Public Health (DPH), whose SFY 2005 appropriation is just over $20 million. We estimate about $50 million in such spending.[44]

[42] Again, actual spending is yet finally determined because it depends on the amount of federal match that will be achievable in practice. Here, as elsewhere, Table 7 presents the latest administrative estimate rather than the legislative levels. Legislation for 2005 lumps together those supplemental-rate payments that are tied to the Pool and those not so tied, probably because the same revenue requirements apply to both (as discussed in the next section). Table 7 separates them because they differ in their ties to free care.

[43] The catalogued programs are the Children's Medical Security Program, Special Kids/Special Care Pilot Program, the Massachusetts Insurance Connection, CenterCare, the Comprehensive Health Insurance Initiative, and Mental Health Treatment and Support Services. See MDHCFP. 2004. Access to Health Care in Massachusetts: A Catalog of Health Care Programs for Uninsured and Underinsured Individuals, Massachusetts Division of Health Care Finance and Policy, Executive Office of Health and Human Services, Third Edition, May 2004 http://www.mass.gov/dhcfp/pages/pdf/access.pdf

[44] The ostensibly similar Medical Security Plan for the unemployed run by the Division of Unemployment Assistance cost about $58 million in SFY 2004. Though run separately and listed outside MassHealth in the catalog, it receives federal Medicaid match under the state waiver. We believe that enrollees would answer that they are insured if surveyed, and we consider it insurance rather than assistance for the uninsured and so do not include it in these estimates.

Public Health Hospitals and Programs

This final category of spending is estimated at $213 million. It includes four hospitals run by DPH that serve the uninsured along with other needy clients.[45] Help for the uninsured also comes from many state public-health programs, including grants to local-level entities, and some similar programs exist within other state agencies. The four hospitals' SFY 2005 appropriation is $112.5 million, and grant programs total some $100 million.[46]

A final note on Table 7: Some of this spending is appropriated through state budgetary line items, some in outside sections, some in trust funds, some in separate legislation, some in supplemental appropriations. Revenues likewise flow through various channels: Some revenues come from state general funds, some from trust funds, some from intergovernmental transfers, some from federal financial participation in MassHealth by federal law or federal waiver. This section's assessment of costs of uninsurance includes only funds that flow through state-level decision making. Not included are in-kind charity provided by providers themselves, out-of-pocket spending by the uninsured, and federal grant support, such as Maternal and Child Health and the Ryan White AIDS program.

Revenues Supporting Today's Spending

To estimate how much of today's revenue is reallocable under universal coverage, we begin by identifying current sources of revenue for each type of program—state own-source, IGT (mainly local government), and federal (Table 8). This table's column on total revenues (left side) aligns with the figures on total program spending just presented (Table 7) because revenues must equal spending. One adjustment to these totals is made at the very start, however, because this section begins the process of estimating what revenues can be shifted from supporting the uninsured to supporting new insurance. The adjustment relates to MassHealth Essential. By funding this program from the Pool budgetary accounts, Massachusetts has *already* shifted some funds from uninsurance to insurance.[47] Accordingly, Table 8 removes MassHealth Essential's $160 million from the Pool's total revenue, matching this reduction by also removing $80 million each from its two main underlying sources of funding, that is, state own-source revenues and federal match (Table 8). The revised totals are thus $539 million for the Pool, $749 million for all Category 1 programs, and $1,903 million for total uninsurance-related spending and revenues.

[45] The DPH Bureau of Hospitals runs Lemuel Shattuck Hospital, Massachusetts Hospital School, Tewksbury Hospital, and Western Massachusetts Hospital. They are described in the Bureau's web page at <http://www.mass.gov/dph/hosp/wmh.htm>.

[46] Using the DHCFP catalog, we identified 18 such programs whose combined budgets we estimate at $60 to 140 million, with the upper estimate being half of the non-hospital, non-federal DPH spending (most of these programs do not have their own budgetary lines). Table 7 presents the midpoint of this range. The programs are Community Health Centers, ACT Now, Catastrophic Illness in Children Relief Fund, Early Intervention, Family Planning Program, Rape Crisis Centers, F.O.R. Families Program, Growth and Nutrition Program, Massachusetts Men's Health Partnership, Massachusetts Women's Health Network, Organ Transplant Fund, School-Based Health Centers, STD Prevention Clinics, Special Medical Fund, Substance Abuse Prevention and Treatment, Tuberculosis Clinical Services, and Universal Newborn Hearing Screening.

[47] It may be argued that Essential is not "really" insurance because it is not an entitlement, is funded only year to year, and provides lesser benefits than most of MassHealth. Other health plans, especially private ones, share these characteristics. Essential is run by the MassHealth agency, operates under MassHealth rules and processes, and is surely perceived by beneficiaries and providers alike as part of MassHealth coverage, not part of the Pool. Moreover, Essential coverage is a new guise for the former coverage of the long-term unemployed MassHealth Basic program before the latter was downsized two years ago. Essential beneficiaries are recognized to be the same people who were formerly covered by Basic. Elsewhere, this paper compares the costs of the uninsured in part estimated in this section with other estimates of what it would cost to insure the estimated number of uninsured people in Massachusetts. The uninsurance rate is based on household surveys in which any respondents now on Essential would have been on Basic and hence have said that they were insured. Even if it were not insurance in its own right, Essential would still constitute insurance for purposes of analyses of this kind.

We discuss each program category in turn, but the categories 1 and 2 are closely interrelated in revenues because their component programs all contribute federal match that is shared across the two categories.

Free-Care Support: Uncompensated Care Pool and Associated Safety-Net Rate Supplements

Free care funding for the uninsured is supported both through the state's Uncompensated Care Pool and through supplemental rate payments to the two major safety-net institutions. Pool-related revenues flow in the most complex ways of all the programs included in this analysis. They total $749 million for 2005. Of this total, state own-source revenues contribute some $264 million, consisting of General Fund and similar contributions ($24 million) plus assessments on hospitals and on health plans making payments to hospitals that are ear-marked for the Pool ($240 million, reduced from $320 million by the transfer to MassHealth Essential).

State resources from intergovernmental transfers (IGTs) are contributed on behalf of the two largest safety-net institutions by their associated localities ($112 million for Category 1). Federal Medicaid matching revenue accounts for 50% of virtually all Pool and Pool-related revenue ($373 million).

The key role of federal funding deserves emphasis here; it is even more important in Category 2 below. The Pool was created in the 1980s using wholly state-level resources, with the goal of assuring funding for hospitals' free-care obligations met by moving resources to high-free-care hospitals from low-free-care hospitals. The Pool's current design and operations, however, are very influenced by the availability of federal funding since the early 1990s (the small CHC share was also added in the 1990s). The state today encourages contributors of IGTs to supply exactly the amounts of revenues needed to increase the state's own-source funding so as to maximize available federal funding for the Pool and the other, similar Category 1 and 2 programs.

Federal funding that can be made to support free care for non-MassHealth enrollees is more constrained than is funding for conventional MassHealth beneficiaries. The two mechanisms used to draw down federal match both have limits. Disproportionate Share Hospital (DSH) payments flow to qualifying hospitals as periodic, grant-like blocs of funding (as under monthly allocations from the Pool), and federal funds have annual caps per hospital and for the state. Supplemental rate payments above standard MassHealth rates may also be created for qualifying MassHealth providers. These rates must not exceed federal Upper Payment Limits either in aid to a particular provider or statewide by class of provider, so state payment rules that allocate funding in this way are called UPL programs. The Pool was formally all covered under DSH; because it has grown so large, some of its payments now flow "on the rate side" as UPL monies.

Supplemental rates may apply either to some hospitals or to some managed care organizations (MCOs) participating in MassHealth. Unlike DSH payments, UPL supplements are paid as part of MassHealth rates to MassHealth enrollees. Thus, actual levels of hospital service utilization and MCO enrollment affect the flow of funds. State changes in either DSH or UPL allocations require federal approval. The approval process is complex and often protracted. All states' DSH and especially UPL programs are under strong scrutiny today from federal policymakers concerned about their cost to federal budgets.[48]

[48] Teresa A. Coughlin, Brian K. Bruen, and Jennifer King. 2004. "States' Use of Medicaid UPL and DSH Financing Mechanisms," *Health Affairs*, 23(2, Mar-Apr):245-57.

The descriptive revenue analysis here lumps together DSH and UPL funding for purposes of understanding funding flows (Tables 8-10). Both DSH and UPL mechanisms contribute federal revenues in response to state choices, which administrators make jointly for the two programs.[49] It appears that DSH is somewhat larger. The statewide DSH cap for Massachusetts was $574 million for 2004 (combining state and federal revenues), and administrators report using virtually all of that amount. Total federal support for helping meet the burdens of uninsurance in 2005 is estimated at $803 million (Table 8).

The Pool and the state's Pool-related supplemental spending methods are designed to obtain federal revenues totaling 50% of program annual spending (with the small exception of $3 million spent by the Pool on demonstration projects). The state must of course contribute up-front funding to cover the full amount of annual spending, but those amounts and state-level sources are not presented here. Half of program spending is federally reimbursed as it is made, and what matters for aggregate resource cost is the net budgetary results for the year, which are what is presented (Table 8). To draw down federal revenues, the state must pay 100% of DSH or UPL amounts "up front" and is only thereafter reimbursed for 50% by federal fiscal participation (FFP) under Medicaid—the same as for any other Medicaid spending. However, in practice, a state may have tax, assessment, or IGT funding for half of its DSH/UPL payout, add an equal amount drawn temporarily from some other state account, then immediately repay the other account when the associated FFP arrives—which can be very quickly once the DSH or UPL arrangement has federal approval. Over time, in net terms, virtually half of revenues are federal, and what state decision makers mainly focus on is where to raise the state-local matching half.

Consider first the subtotal of all Pool revenues net of the MassHealth Essential transfer out of the Pool, or $539 million for 2005 (sixth row of Table 8). Almost half of this total amount is federal, or $268 million (Table 8, far right column).

For the Pool, the largest amount of non-federal revenue comes from mandatory state assessments on hospitals and health plans that pay for hospital services. For 2005 these legislated assessments total $320 million. This is a slight rise in nominal terms from most of the 1990s, when the total was $300 million, all from hospitals. Table 8 subtracts $80 million of assessment revenue to pay for the state share of MassHealth Essential's $160 million total, leaving $240 million.

An additional revenue source is a small share of intergovernmental transfers (IGTs) mainly associated with the supplemental payment programs categorized elsewhere in this Table. The Pool sliver of IGT revenue is expected to be $7 million.

Total revenues less federal, IGT, and assessment revenues are equal to net general-fund support needed for the year; for 2005 this amount is $24 million.[50] This net General Fund outlay is small relative to total current Pool spending, but it still represents a far greater commitment of the state's general resources than in years past, when the state *gained* annual net revenue of over $100 million from federal reimbursement for running the Pool. Formerly, the state made a small initial appropriation to the Pool, but all federal match drawn down by Pool spending went into the General Fund (including that generated by the much larger assessments), creating the large net gain.

[49] Disentangling DSH from UPL funding would require laborious examination of payments to each participating institution, yet would add little useful information about how much federal funding is used to some extent to pay for uninsurance.

[50] Again, we note that appropriations of state-controlled resources are far higher because they must cover the full cost of spending up front, being federally reimbursed thereafter.

A second subcategory of Category 1's Pool-related spending is managed by the state outside the Pool itself. This consists of supplemental MassHealth payments made to the state's two biggest safety-net institutions, supported by IGTs from the associated local governmental agencies. These payments constitute free-care related expense rather than supplemental payments to institutions (program Category 2) because the payments included here are specifically tied to the hospitals' provision of free care otherwise chargeable to the Pool.

The history of these "side" payments is rather complicated, but its details offer insight into interaction among Pool-related revenue sources, and the growing importance of IGTs and federal match over time. Before 1997, all free care at the hospitals was in the Pool.[51] Because Pool rules disproportionately allocated available funds to safety-net institutions with high relative burdens of free care, the state's two largest safety-net hospitals got most Pool dollars. The growth in their free care over time "crowded out" Pool support for other hospitals, as Pool funding was not rising along with hospital costs.

Waiver-related supplemental payments with a tie to free care

With the MassHealth waiver in 1997, the state was able to effectively increase Pool financing by creating a parallel mechanism to pay for free care under conventional Medicaid. The 1997 approach was to have the two largest safety-net institutions agree not to bill the Pool for their first $70 million in free care each year. Instead they received a combined net $70 million in supplemental MassHealth payments, made to their affiliated MCOs under the waiver.

This expansion of Medicaid payouts was funded by IGTs and federal match, but orchestrated by the state: The state made supplemental MassHealth payments of $140 million to the MCOs, then the state received $70 million in intergovernmental transfers plus $70 million in federal reimbursement under the waiver. The state's net revenue burden was zero, and the institutions and their localities together received a net $70 million supplement under the waiver ($140 in supplemental, minus initial $70 in IGT). This new $70 million offset the hospitals' $70 million in claims against the Pool that they agreed not to make in exchange (which is why Table 8 includes only $70 million of the supplemental as Pool-related). These new revenues freed up Pool funds to be allocated to other hospitals that provide free care. Funding some of the largest safety-net institutions' claims through the waiver freed up $70 million in Pool resources, which the state could allocate across all hospitals, thus covering in full aggregate statewide hospital free-care "bills" to the Pool for two years. Thereafter, however, continuing inflation in free-care spending created new and growing revenue shortfalls.

[51] On the evolution of the Pool and Pool-related funding, see the following reports, which cite numerous state sources: John Holahan, Randall Bovbjerg, Allison Evans, Joshua Wiener, and Susan Flanagan, *Health Policy for Low-Income People in Massachusetts* (Washington, DC: Urban Institute/Assessing the New Federalism, November 1997); accessible at <http://www.urban.org/UploadedPDF/Hp_mass.pdf>; Randall R. Bovbjerg, Alison Evans Cuellar, and John Holahan, *Market Competition and Uncompensated Care Pools* (Washington, DC: Urban Institute/Assessing the New Federalism, Occasional paper no. 35, March 2000), accessible at <http://www.urban.org/UploadedPDF/occa35.pdf>; Randall R. Bovbjerg, Jill A. Marsteller, and Frank C. Ullman, *Health Care for the Poor and Uninsured after a Public Hospital's Closure or Conversion* (Washington, DC: Urban Institute/Assessing the New Federalism, Occasional paper no. 39, September 2000), accessible at <http://www.urban.org/UploadedPDF/309647_occa39.pdf>; Randall R. Bovbjerg and Frank C. Ullman, *Recent Changes in Health Policy for Low-Income People in Massachusetts* (Washington, DC: Urban Institute/Assessing the New Federalism, State Update No. 17, March 2002), accessible at <http://www.urban.org/UploadedPDF/310431.pdf>; and Bovbjerg, "Mass" in Kaiser 2004.

Legislated supplemental payments related to free care

The SFY 2004 budget likewise freed up Pool resources by adding an additional increment of supplemental funding for the two big safety-net institutions based on a new $50 million in IGT revenues plus federal match, this time by legislation rather than under the waiver. The increment was made possible at least in part by a rise in federal DSH limits over time. This time, in place of a direct offset against Pool claims, the two biggest safety-net institutions were limited to getting 85% of all their allowable claims reimbursed by the Pool (other hospitals' shares of Pool spending were increased), and this reduction in potential Pool support to the two safety nets was evidently almost exactly matched by the new supplemental payments. For 2005, these supplemental payments rose to $140 million, which were financed by $70 million in IGTs and $70 million more in federal match (Table 8). The creation of such Pool-related revenues has used the availability of federal match and IGTs to respond to the rapid growth in Pool claims, first in 1997 then again in 2004.

During the past three years, recession and state budgetary stringency under MassHealth have created more uninsured people, and free-care claims on the Pool have risen accordingly; institutional costs per service have also risen. The connection between reduced insurance and rising Pool claims was highlighted in April 2003 when the state cut most long-term unemployed adults from MassHealth Basic coverage; following the cut, free-care claims rose. That summer the state allotted $160 million within the larger Pool budget to cover the same group of people through MassHealth Essential. MassHealth Essential funding is tied to the Pool, but the new program provides coverage, not free care to the uninsured, so is removed from uninsured revenues, as explained above.

Pool spending has grown beyond federal DSH caps, so some of the Pool allotments are routed through supplemental MassHealth payments, either to hospitals or to the MCOs of the two big safety-net institutions. These "rate side" Pool payments are allowable up to the UPL limits, as noted above. State administrators report that they maximize federal participation, right up to the various DSH and UPL ceilings—which requires a complex rate-making process and continuing renegotiation with federal officials about rate methodology. This complexity complicates estimation of funding flows, both those linked to free care and others, which are discussed below.

Supplemental Funding of Institutions, Not Linked to Free Care

The institutions supported here are largely but not solely safety-net institutions. For 2005, this program category is expected to total $891 million in spending and in revenues (Table 8). As for the Pool, federal match is the largest source of revenue ($430 million), but IGTs are nearly as large ($399 million). Net state own-source revenue is much smaller; no ear-marked assessments support the three components of Category 2.

The largest subcategory is IGT-supported, non-Pool-related supplemental MassHealth payments to the two largest safety-net institutions. This includes the $70 million half of the waiver-based supplemental from 1997 that was *not* linked to free care claims, as well as about $540 million of additional supplemental payments authorized in legislative budgetary enactments, which require IGTs to cover the state share of MassHealth spending. By explicit design, all state-local spending is federally matched.[52]

[52] The final 2005 legislative enactment called for $800 million in supplemental payments to the two largest safety-net institutions, up from $700 million in the conference budget that was partly rejected by the governor in July 2004. This included the $140 million in Pool-related funds in Category 1 above. Administrators report that they expect to achieve somewhat less than the original $700 million, estimated in Table 8 as $680 million; accordingly the amount in category 2 is $600 million less $140 million of Category 1, or $540 million.

Traditionally, supplemental payment arrangements were very generous to the safety-net institutions, owing to the state custom of allowing any entity contributing the state share of a Medicaid expansion via an IGT essentially to keep all the extra federal money thereby drawn into the state. On net, the cost of such new Medicaid payments to institutions prior to the 2005 budget was borne 50% by IGT and 50% by federal match. Starting under the 2005 budget, however, the local IGT obligation has risen to 55% of the total supplemental spending. The "extra" 5% is a kind of new assessment on top of the traditional contribution, and is retained by the state. The institutions and their localities are not required to comply, but not complying would cost them a lot of money. For 2005, the extra 5% is expected to yield $38 million,[53] of which $7 million is to serve as Pool revenues (Table 8).

The legislature assigned the other $31 million to a "Distressed Provider Fund" that supports grant-like allotments to about 30 institutions across the state (funding varies from $200 thousand to $5.5 million each). The $31 million doubles the corresponding 2004 allotment of $14.5 million to "essential community providers."[54] The Distressed Provider Fund is the second subcategory of support for institutions. The $31 million all comes from local IGT funds (Table 8).[55]

The third and final subcategory of support for institutions is the set of DSH/UPL programs targeted to eight or more subsets of institutions described above (Table 7). Many are relatively small (e.g., $200 thousand in DSH for non-acute hospitals), but several seem to account for $100 million or more annually, at least in some years. Some of these programs now pay in part through supplemental rate payments, as the Pool does in part. Determining allowable amounts and allocating them across institutions is particularly laborious and generally occurs only after the budget cycle is complete, and negotiations with federal officials often continue into subsequent years. One of the largest programs here is DSH for "institutions for mental diseases" (IMD), expected to get about $105 million for 2005, just under the IMD-specific cap of about 18% of the statewide DSH amount. Another is about $125 million for a UPL rate supplement for acute-care, non-profit teaching hospitals affiliated with a state-owned medical school, namely that of the University of Massachusetts, which contributes an IGT to support the program. For this entire subcategory of programs, we estimate a total of $250 million, further estimating that half of revenues are federal, the other half split evenly between the state General Fund and IGTs. (Individual component programs are not presented in Table 8.)

Coverage Programs Outside MassHealth

These programs were described above (Table 7), with total spending of $50 million (Table 7), all from state general funding (Table 8). All revenues from similar federal grants are excluded, as we judge that such funds could not be reallocated to support universal coverage.

[53] The legislature expected the extra 5% to yield $40 million, or 5% of the $800 million legislated for such payments (note [52] above). Legislators assigned about $9 million to serve as Pool revenues and $31 million for Distressed Hospitals. Administrators believe that a somewhat lower match will be achievable in practice, so they expect Pool revenues to be over a million dollars less, as shown in Table 8.

[54] The legislature directed the administration to craft implementing policies that would draw down federal match for the $31 million, which they also assigned to help finance the Pool. Administrators believe that matching is not possible for this program design and are expecting to reduce Pool spending because resources will drop. This is another shortfall that makes the figures in Tables 7 and 8 lower than those legislated, as described in notes above.

[55] The legislature often labels General Fund contributions as a share of federal matching funds. Once drawn down as federal match, however, these revenues become state general funds. There are two reasons that Table 8 shows no matching federal revenue to offset the state's initial $31 million contribution. First, the legislature assigned an assumed match to the Pool. Second, administrators say there will be no federal match, as already noted.

Public Health Hospitals and Programs

Support for the four DPH hospitals and for numerous but relatively small DPH programs described above (Table 7). All comes from state general funding (Table 8). The totals are $113 and 100 million, respectively.

Adjusting for the Share of Current Funding that Meets Non-Insurance Needs

Some current funding is targeted to needs other than those met by insurance. This step in the analysis adjusts for this need to continue a share of current program effort even after universal coverage by estimating a "targeting ratio" for each program.

These ratios reflect the extent to which current spending is targeted to (a) the same people and (b) the same services as could be covered by insurance. The population focus is analogous to the eligibility determinations of an insurance plan, and the service focus is similar to specification of insurance-covered benefits. Where programs have other purposes than helping the uninsured, universal coverage will probably not address those purposes, so some current revenues will need to remain allocated to funding those non-insurance purposes.

Similarly, current benefits may or may not correspond to what is likely to be covered under universal insurance. (We assume that new coverage will resemble current MassHealth or mainstream, workplace private policies.) To the extent that currently funded programs cover services outside the scope of insurance plans, the need for current services will continue even under universal coverage, and that amount of revenue will be not be reallocable to help pay for universal coverage. A ratio of 0.8, for example, means that 2/10ths of program spending meets non-insurance needs and cannot be reallocated, and that 8/10ths can potentially be reallocated to help pay for universal coverage without harm to existing clients of these programs.

Quantifying the Targeting Ratios

Estimated targeting ratios are presented by program in Table 9 (column 2).[56] Category 1 programs are assigned the high targeting ratio of 0.9. These programs mainly provide free care to low-income uninsured people and they fund medically necessary institutional services that would be supplanted by universal coverage.[57] The reduction from 1.0 reflects that some Pool spending covers some insured people. We expect that, even under universal coverage, a small Pool or Pool-like program will likely survive to help hospitals serve people who "slip through the cracks" or whose out-of-pocket costs beyond insurance are very high relative to their resources.

Supplemental MassHealth payments (Category 2) are assigned a moderately high ratio of 0.75 because they are targeted to safety-net institutions that serve the uninsured and that provide services similar to those of insurance. The reduction from 1.0 reflects that supplemental payments have no direct tie to uninsurance and may meet other needs than care for the uninsured, including making up for unusually high severity of illness in the case

[56] Table 9 shows only those categories of program needed to show the applicable targeting ratios. Thus, some subprograms of Tables 7 and 8 are not broken out, e.g., the distinction between waiver-based and legislated supplemental rate payments in program Category 1.

[57] Under insurance, the pattern of services demanded and supplied will differ from free care available only at hospitals and community health clinics. Arguably, coverage will provide more value because it allows the full spectrum of medical treatment, including early intervention in illness through access to community primary care and subsequent access to community-based specialty care.

mix of safety-net institutions and also supporting institutions of broader importance to their community.[58] (As a practical matter, the ability of these institutions to generate IGT to draw down federal support is also a key rationale for funding them; the persistence of IGT funding is considered below.) The ratio of 0.75 suggests that maintaining one quarter of these program funds even after universal coverage would be adequate to meet the non-safety-net goals of this funding.

The Distressed Provider Fund is scored at 0.5. The program bears some relation to helping uninsured people, as the burdens of serving them indeed may cause hospital distress. However; there is no direct connection to the uninsured, what services are provided with the funds is unknown, and the general importance of institutions to their communities seems as important as safety-net services. The supplemental DSH/UPL funds for institutions are scored at 0.5 as well. Not all of these institutions are safety net hospitals, and some services, like institutional mental health, will probably not be covered to nearly the degree that they are available through these programs.

State-funded coverage programs (Category 3) have a ratio of 1.0 because they are already very much like insurance and could readily be supplanted by universal coverage.

The four DPH hospitals (Category 4) have the lowest ratio, 0.25. These institutions treat not only the uninsured but also long-term institutionalized mental health and other patients,[59] and some of the insurance-coverable services they provide are already billed to MassHealth. In contrast, this category's large variety of public health programs (Table 9, final row), very often list low-income or uninsured people as a target population and seem to provide medical services often covered by insurance.[60] They are assigned a ratio of 0.75.

Applying the Targeting Ratios to Estimate Potentially Reallocable Revenues

The amount of today's funding that is potentially reallocable is the product of the targeting ratios (Table 9, column 2) times the current total funding (column 1, from Table 8). For all four program categories combined, this is some $1.4 billion (column 3, bottom row). The balance, or $477 million, can remain in place to continue meeting needs not directly related to insurance (column 7, bottom row). Each row of Table 9 presents detail for a different program category or subcategory, based upon application of ratios ranging from 0.25 to 1.0 (above). The weighted average ratio across all programs is almost exactly 0.75 (1,425/1,903). So one quarter of current spending will be likely to continue to flow just as it does now, through the same programs as now, and with the same funding sources.

[58] The subcategory of supplemental payments presented here composed of four parts, one of which is intended to act as a case-mix adjustor. The other three relate to burdens of caring for the uninsured.

[59] According to DPH web-page descriptions, The Shattuck is a general hospital that "provides a comprehensive set of services to some of the Commonwealth's most disadvantaged and needy clients." The Massachusetts Hospital School provides "medical, rehabilitative, recreational and educational services to children and young adults who are physically disabled, assisting them to achieve their maximum level of independence in all aspects of life." Tewksbury Hospital provides "comprehensive treatment, care, and comfort to adults with chronic medical and mental illnesses." Western Massachusetts Hospital is a 100 bed long term medical and specialty care hospital owned and operated by the Commonwealth of Massachusetts, Department of Public Health. Western Massachusetts Hospital is "the only public hospital operating in the western region of Massachusetts" and serves "as a medical safety net for many uninsured and underinsured citizens residing in the region." It "provides both acute and chronic hospital care to patients with a variety of chronic diseases and complicated medical conditions."

[60] For example, support for Community Health Centers funds comprehensive primary and preventive health care for anyone, but most clients are believed to be uninsured.

Three quarters of current program effort is estimated to be supplantable by universal coverage, that is, the functions of these programs could be replaced by insurance. Current revenue sources differ by program, in the same proportions as in Table 8. Today's sources of funds are important for the next stage of the analysis, so they are broken out here. The subtotals of the potentially reallocable $1.4 billion by source are $421 million of state own-source funds (combining general revenues with hospital and insurer assessments), $376 million of IGT/local funds, and $628 million of federal funds (Table 9, bottom row). The corresponding subtotals for the $477 million that are not reallocable are $168 million (state own source), $134 million (IGT/local), and $175 million (federal).

The next step of the analysis considers whether all of the $1.4 billion targeted to the current uninsured would continue to flow from current funders if retargeted to support universal coverage. The main issue is the persistence of IGT/local contributions, on which the state now relies to attract so much federal match into Massachusetts.

Estimating the Share of Today's Revenues Likely to be Reallocable to Expansion of Coverage

This section estimates what share of revenue currently targeted to the uninsured (Table 9) could be reallocated to support universal coverage. We begin by estimating "revenue persistence percentages" for state and local contributions. The persistence of state-local funding is important in its own right as a source of support for new coverage. It also matters because any future federal support will presumably continue to be based upon the level of state-local funding. Maintaining as much as possible of the current federal funds will be vital to the success of any universal-coverage initiative. (The next section briefly notes possible arrangements for continuing federal participation under a new waiver. Just how and at what level federal funds can flow is dependent on the final design of a roadmap toward universal coverage, including federal participation.)

Quantifying Revenue Persistence Percentages

This percentage is the share of any given revenue stream that now supports targeted program activities that is deemed likely to persist if reallocated to providing coverage rather than continuing to cover uninsured costs. Persistence is a concern mainly for intergovernmental transfers, which are not mandatory nor directly controlled by the state. A percentage of 20%, say, means that 80% of the IGT/local funding now flowing would not be available for new universal coverage, only to continue to support current programs. Persistence percentages are estimated by revenue source and applied in Table 9).

The percentage for state own-source revenues is set at 100% (both for the General Fund and for the Pool-earmarked assessments, which are not broken out in Table 9). The rationale is straightforward: Such monies are completely under state control. They can readily be reallocated away from supporting services for currently uninsured people and toward supporting new insurance for them. Indeed, reallocative changes routinely occur during each budget season.[61] Moreover, the legislature has already, in SFY 2005, reallocated funds from the Pool to support new coverage—the MassHealth Essential program.

[61] It may be argued that if federal matching rules were to become less generous, the state's willingness to contribute own-source funds would decline. However, Massachusetts was setting high private-sector assessments and taxing itself to fund the Pool, for example, well before federal DSH funding was found to be available. Moreover, although federal DSH funds were actually used to reduce the net state contribution in the 1990s, in recent years, the state has put in more net own-source funding, in response to Pool needs that have risen along with uninsurance as well as inflation in medical costs.

Funds provided on a non-mandatory basis through intergovernmental transfers are different, and determining their appropriate persistence percentage is less straightforward. The percentage is clearly under 100%; IGTs are not under direct state control and cannot be immediately reallocated by the state. Estimating their persistence if reallocated to pay for insurance rather than safety-net support calls for considering the incentive structure of IGT/local funding now and potentially in the future. The level of IGT contributions has traditionally been related to the amount in return funding that the IGT contributor knows will flow directly back as higher MassHealth payments, and funding for universal coverage would alter that automatic return.[62] There are nonetheless reasons to believe that such funds could still be made to flow, and we estimate an IGT persistence percentage of 25%, for all programs. Our reasoning is more easily explained in conjunction with estimating dollar levels (below).[63]

Applying the Persistence Percentages to Estimate Likely Availability of Future Funds

Estimated future state-local revenues are the product of currently targeted amounts, by program and funding source (Table 9), times the applicable persistence percentages of 100% and 25% (Table 10, bottom row), with federal match added on top. State own-source revenue totals $421 million, IGT revenue $94 million, and federal match $515 million (column 8) for an estimated future total of $1,029 million (column 2). The decline from current targeted revenues of $1,425 million (Table 10, column 1, bottom row) comes from a $268 million drop in IGT plus similarly lower federal match. The federal match estimated simply assumes a continued 1:1 match across all program categories. We assume that a well-designed waiver would allow matching of funds from Categories 3 and 4 because they would be channeled into a public coverage expansion or subsidies for private coverage.

These estimates do not include IGT/local and matching federal funds that would continue to support non-targeted activities (the $477 million above). Possible approaches for shifting federal funding to universal coverage are discussed below.

The IGT/local targeted revenue estimate of $94 million is just over one sixth of the current $511 million in IGTs (Table 8, bottom line) because most current IGTs are not fully dedicated to the uninsured and under current rules are only voluntary. Some may even argue that future willingness to contribute IGTs will drop to zero if supplemental payment funds are shifted to universal coverage, away from current support for institutions, especially from the localities affiliated with the two large safety-net institutions.[64]

However, we believe that at least a modest share of IGT or IGT-like funding would be reallocable. First, institutional self-interest should still encourage contributions to support new coverage because universal coverage will bring new benefits to these hospitals and medical systems. Probably 40% or more of all new insurance funding will flow to hospitals

[62] Another source of complexity is that rules on IGT contributions and the resulting flow of funds back into localities differ across programs. As explained above, within Category 1, Pool offsets are different for the wavier and the legislative programs, and the level of IGT contribution is different for these supplemental rate payments not tied to the Pool (Category 2). Presentation in Table 9 gives reasonable point estimates, but a slightly higher or lower persistence percentage could reasonably be estimated as well.

[63] Given the difference in incentives to contribute current IGT funding (prior note), one could estimate somewhat different IGT persistence by program, but this would increase complexity without adding precision or much affecting the bottom line estimation of available future revenues.

[64] University of Massachusetts Medical School affiliated teaching hospitals are recipients as well, under a supplemental rate funding (Category 2).

to provide care, and uncompensated care will fall dramatically.[65] Even though there will be new competition to serve the newly insured patients, the institutions now serving the uninsured with Pool or MassHealth rate-supplement dollars will likely attract much of the same people's future insured spending. In short, universal coverage has value to hospitals, and today's IGT contributors might be willing to make some modest level of net future contribution toward coverage.[66]

Second, there is precedent for reallocating some IGT. The legislature for SFY 2005 made the two biggest IGT payers provide more funds—by continuing to make supplemental MassHealth payments supported by IGTs and federal funds to safety-net-affiliated MCOs (thereby motivating IGTs), but also requiring the IGTs to be larger than the traditional half.[67] This year, the required IGT contribution was 55%. This percentage could be increased further, perhaps a step at a time, in light of the new benefits of universal coverage just noted. To simplify, consider that the two biggest IGT payers formerly got back a dollar for contributing only 50 cents and that they now have to contribute 55 cents. For 2005, the "extra" nickel was reallocated to other uninsured spending, a total of $38 million.[68] In estimating $94 million of IGT reallocable for universal coverage, Table 10 essentially suggests that another dime or 15 cents could be generated.[69] IGT-contributors and affiliated safety net institutions would still get substantially more back than they put in.

This future scenario assumes that any expansion to universal coverage would include additional MassHealth coverage, so that it would be feasible to maintain supplemental Medicaid rate payments to the big safety-net institutions that serve so many MassHealth beneficiaries, to the extent that UPL rules continue to allow such supplementation. Under these circumstances, voluntary IGT contributions could still be expected, as just described. If IGTs are not maintained in this or some other way, some alternative sources of state-local revenue will be needed to keep federal matching funds available to support coverage expansion.

Federal Revenues

Federal revenues provide a large share of support for the uninsured today, about $803 million (Table 8). The persistence of current federal revenues in a shift of much funding from supporting the uninsured to supporting insurance coverage depends on two factors—(a) federal agreement to continue today's matching amounts under a future state system and (b) the state's ability to match each federal dollar allowed with a dollar of state own-source or IGT funding.

[65] Under universal coverage, hospitals will plausibly also benefit from reduced administrative costs relative to the complexity of safety net financing in Massachusetts. Doing business with insurance plans carries administrative costs, but hospitals already have to deal with all insurers in the state and would continue to do so, but with more insured patients.

[66] The state could motivate cooperation if it could plausibly threaten to exclude non-contributing institutions from preferred provider status under a revised system, but this negotiating club seems implausible.

[67] This "requirement" is a *contingent* requirement, not a mandate. *If* the IGT contributors want their institutions to benefit from supplemental payments essentially financed by IGTs plus federal match, then they must contribute a higher IGT.

[68] This was $31 million for the Distressed Hospital Fund, $7 million for the Pool, per discussion of Table 7 above.

[69] Not all of today's IGTs are subject to the new 55% contribution rule, evidently only those related to the two largest safety-net institutions. How much more than 5% would be needed depends in part upon how much of the current $38 million would need to remain in current uses after universal coverage.

We assume that federal agreement to shift current uninsurance dollars to insurance dollars can readily be achieved for current federal DSH support. Federal DSH financing has already been comprehensively reformed. Reforms cut total DSH allowances below the rapidly growing levels of the early 1990 to mid-1990s, but for Massachusetts and many other states, federal DSH support is now specified to rise over time. The 2004 Massachusetts state DSH cap was $574 million (state and federal combined), of which about $105 million goes for IMDs—institutions for treatment of mental disease. Half of the difference, or some $235 million in general DSH funds should remain available to Massachusetts so long as the state contributes a like amount of matching funds. Federal authorities have in the past granted waivers to states that essentially swapped current federal DSH funding for future federal participation in expanded Medicaid coverage. The expansions cover non-traditional categories of eligible people, notably able-bodied adults without dependent children. In this way, current levels of DSH could be converted to support future coverage expansion as a building block toward universal coverage.

Maintaining today's federal matching rates for UPL funding may be less easy to achieve. Federal matching for state supplemental rate payments is likely to decline from current levels, as the pressures for further federal reform do not seem to have abated. We have no direct figure for today's total of UPL funding, but it must be close to total DSH-UPL amounts less DSH, or about $578 million ($803 million - $235 million). All or part of this level of supplemental rate payments could readily be maintained by voluntary IGTs from the entities that receive these payments. Maintenance of this aspect of the current funding flows could lessen sudden shocks to affected hospitals of fiscal transition to coverage-based funding for all providers under universal insurance. Continuing IGT-supported supplemental payments would also raise net state revenues if the IGT percentage were kept above 50%, as just described. Whether this particular arrangement is politically feasible and socially desirable is an implementation question for further study.

Alternatively, current supplemental rate payments could be part of any future baseline used for budget neutrality calculations under a Section 1115 waiver request and thus would be used to help finance a coverage expansion. Beyond these federal funds, there would be additional federal matching payments that would cover half of the cost of any coverage expansion through Medicaid if the state chose to implement such an expansion.

In sum, Massachusetts spends a large amount of state, local, and federal dollars on programs directed in whole or in part to provide the uninsured with access to medical care. The current overall total of funding flows is about $2 billion (for SFY 2005). About $477 million of this serves other purposes than giving the uninsured access to services covered by insurance. These funds would remain in place performing essentially the same functions as today; of this amount, $168 million is state own source revenue, $134 million is local/IGT revenues, and $175 is federal matching payments.

Moreover, not all the $1.5 billion now targeted to insurance-like support would persist if the state shifted from supporting the uninsured to supporting insurance coverage. We estimate that $1,029 million can be reallocated to support a major coverage expansion; of this $421 million is state own source revenues (primarily hospital and insurer assessments), $94 million is local/IGT revenues and $515 million is federal matching payments. Additional federal funds would also be forthcoming to finance a coverage expansion to parents and children but would require additional state-local matching funds.

Table 7. Massachusetts Spending with Some Tie to Uninsurance (SFY 2005, Estimates)

Program Category	Estimated Total Spending (millions)
1. Free Care Funding, Directly Tied to Uninsured	**909**
Uncompensated Care Pool and MassHealth Essential Coverage	699
Pool Support for hospitals & commun. clinics, admin.	*539*
Transfer from Pool to Pay for MassEssential	*160*
Supplemental MassHealth Payments Tied to Free Care[1]	210
waiver-based (starting 1997)	*70*
legislation-based (starting with 2004 budget)	*140*
2. Funding of Institutions, Indirect Tie to Uninsured	**891**
Supplemental MassHealth Payments Untied to Free Care[1]	610
waiver-based, untied half of payments (of above, from 1997)	*70*
supplemental MassHealth payments	*540*
Distressed Provider Fund (aka Essential Community Provider in '04)	31
Supplemental Funds for Institutions (MassHealth DSH & UPL)[2]	250
3. Coverage Programs (outside MassHealth)	**50**
4. Public Health Hospitals & Programs (targeting poor, uninsured)	**213**
State DPH Hospitals	113
DPH Programs Targeted in Part at Uninsured	100
TOTAL	2,063

Note: [1] Involves localities affiliated with the state's two largest safety net institutions.
[2] Involves many institutions, not the two largest safety net institutions exclusively

Table 8. Current Massachusetts Revenues Related to Uninsurance (SFY 2005, dollars in millions)

Program Category	Total Current Spending (= Revenues)	State Own-Source Revenue: General Fund & Similar	State Own-Source Revenue: Asses. Hosp's, Payers	State Own-Source Revenue: State from IGT/local	Federal Matching Revenue
1. Free Care Funding, Directly Tied to Uninsured	**749**	**24**	**240**	**112**	**373**
Uncompensated Care Pool and MassHealth Essential Coverage	699	24	320	7	348
Pool Support for hospitals & commun. clinics, admin.	*539*	*0*	*0*	*0*	*0*
Transfer from Pool to Pay for Essential	*160*	*0*	*0*	*0*	*0*
Remove Essential revenues from Pool Accounting	*-160*	*0*	*-80*	*0*	*-80*
Revised Pool Subtotal without Essential	539	24	240	7	268
Supplemental MassHealth Payments Tied to Free Care	210	0	0	105	105
waiver-based (starting 1997)	*70*	*0*	*0*	*35*	*35*
legislation-based (starting with 2004 budget)	*140*	*0*	*0*	*70*	*70*
2. Funding of Institutions, Indirect Tie to Uninsured	**891**	**63**	**0**	**399**	**430**
Supplemental MassHealth Payments Untied to Free Care[1]	610	0	0	305	305
waiver-based, untied half of payments (of above, from 1997)	*70*	*0*	*0*	*35*	*35*
supplemental MassHealth payments	*540*	*0*	*0*	*270*	*270*
Distressed Provider Fund (aka Essential Community Provider in '04)	31	0	0	31	0
Supplemental Funds for Institutions (MassHealth DSH & UPL)	250	63	0	63	125
3. Coverage Programs (outside MassHealth)	**50**	**50**	**0**	**0**	**0**
4. Public Health Hospitals & Programs (targeting poor, uninsured)	**213**	**213**	**0**	**0**	**0**
State DPH Hospitals	113	113	0	0	0
DPH Programs Targeted in Part at Uninsured	100	100	0	0	0
TOTAL	1,903	349	240	511	803

Note: Tracks categories of Table 7, showing the source of funding for each spending category.

Table 9. Shares of Current Revenues that Are Reallocable for Universal Coverage and Not Reallocable (SFY 2005, dollars in millions)

Program Category	Total Current Spending (= Revenues)	Program Targeting Ratio
1. Free Care Funding, Directly Tied to Uninsured	**749**	**—**
Revised Pool Subtotal without Essential	539	0.90
Supplemental MassHealth Payments Tied to Free Care	210	0.90
2. Funding of Institutions, Indirect Tie to Uninsured	**891**	**—**
Supplemental MassHealth Payments Untied to Free Care	610	0.75
Distressed Provider Fund	31	0.50
Supplemental Funds for Institutions (DSH & UPL)	250	0.50
3. Coverage Programs (outside MassHealth)	**50**	1.00
4. Public Health Hospitals & Programs	**213**	**—**
State DPH Hospitals	113	0.25
DPH Programs Targeted in Part at Uninsured	100	0.75
TOTAL	**1,903**	

Note: [1] Analogous to insurance and hence reallocable because no longer needed after universal coverage
[2] Reserved for other purposes, to continue as now after universal coverage

Table 10. Estimated Future Availability of Revenues to Fund Universal Coverage (SFY 2005, dollars in millions)

Program Category	Total Current (Reallocable) Revenues	Total Future Revenues
1. Free Care Funding, Directly Tied to Uninsured	**674**	**523**
Revised Pool Subtotal without Essential	485	476
Supplemental MassHealth Payments Tied to Free Care	189	47
2. Funding of Institutions, Indirect Tie to Uninsured	**598**	**200**
Supplemental MassHealth Payments Untied to Free Care	458	114
Distressed Provider Fund	16	8
Supplemental Funds for Institutions (DSH & UPL)	125	78
3. Coverage Programs (outside MassHealth)	**50**	**100**
4. Public Health Hospitals & Programs	**103**	**206**
State DPH Hospitals	28	56
DPH Programs Targeted in Part at Uninsured	75	150
TOTAL	**1,425**	**1,029**

Note: [1] Current revenues come from Table 9.
[2] Persistence percentages are explained in text.
[3] Federal matching revenue is assumed to continue to be 1:1 with state plus local revenues and to apply regardless of current program category; in the future, the categories would no longer apply, as all persisting state-local funds would support coverage expansion. This level assumes successful federal waiver negotiations (see text).

Reallocable Revenues[1] by Source				Non-Reallocable Revenues[2] by Source			
Total	State Own-Source	State from IGT/Local	Federal Matching	Total	State Own-Source	State from IGT/Local	Federal Matching
674	**236**	**101**	**337**	**75**	**28**	**11**	**36**
485	236	6	243	54	28	1	25
189	0	95	95	21	0	11	11
598	**31**	**276**	**291**	**293**	**31**	**123**	**139**
458	0	229	229	153	0	76	76
16	0	16	0	16	0	16	0
125	31	31	63	125	31	31	63
50	50	**0**	**0**	**0**	0	**0**	**0**
103	**103**	**0**	**0**	**109**	**109**	**0**	**0**
28	28	0	0	84	84	0	0
75	75	0	0	25	25	0	0
1,425	**421**	**376**	**628**	**477**	**168**	**134**	**175**

Estimated Revenues by Source					
State Own-Source		IGT/Local		Federal	
Current Reallocable[1]	Future (100% persistence)[2]	Current Reallocable[1]	Future (25% persistence)[2]	Current Reallocable[1]	Future Match[3]
236	**236**	**101**	**25**	**337**	**261**
236	236	6	2	243	238
0	0	95	24	95	24
31	**31**	**276**	**69**	**291**	**100**
0	0	229	57	229	57
0	0	16	4	0	4
31	31	31	8	63	39
50	**50**	**0**	**0**	**0**	**50**
103	**103**	**0**	**0**	**0**	**103**
28	28	0	0	0	28
75	75	0	0	0	75
421	**421**	**376**	**94**	**628**	**515**

VI. Medicare and Other Federal Payments

Like Medicaid and other state programs, the Medicare program also makes substantial payments to hospitals intended to offset some of the costs of uncompensated care. Under Medicare's prospective payment system for hospital inpatient services there is an adjustment to the basic payment rate for hospitals that serve a large share of low-income patients. These payments, known as Medicare Disproportionate Share Hospital (DSH) Payments, amounted to $164 million in fiscal 2004.[70] These payments are justified because of the need to protect those hospitals that serve a large share of low-income patients and are financially stressed and at risk of closing.[71] By helping these hospitals the DSH payments are intended to preserve access for Medicare beneficiaries.

Medicare also makes adjustments for the direct and indirect costs of graduate medical education. The indirect medical education (IME) adjustment is intended to recognize the extra costs incurred by hospitals with graduate medical education programs. The IME adjustment is determined by a measure of teaching intensity, which is based on residents per bed. Studies have shown that the empirical relationship between Medicare costs per care and teaching intensity was only about half of the magnitude implied by the payment adjustment.[72] The adjustment has been reduced somewhat over time—to about one-third—but is largely maintained to recognize that teaching hospitals perform other missions such as care for the poor that should be supported.

If we accept the one-third to one-half estimate, then $88 to $131 million of IME payments can be viewed as additional, subsidies for teaching hospitals' social missions. Medicare also made payments of $119 million for direct costs of graduate medical education programs in teaching hospitals. Because these payments are tied directly to physician training, we do not include them in the estimates of hospital payments for the care to the uninsured. Together the DSH and IME payments would bring an additional $233 to $277 million in payments to Massachusetts hospitals.

[70] Data on Medicare DSH, IME, and GME payments were provided by MedPac, October 8, 2004.

[71] Congressional Budget Office (CBO), "Medicare's Disproportionate Share Adjustments for Hospitals," (Washington, D.C., May 1990); Medicare Payment Advisory Committee (MedPAC), Report to Congress, (Washington, D.C.: March 2001); Prospective Payment Assessment Commission (ProPAC), Report and Recommendations to the Congress, (Washington, D.C.: March 1997).

[72] Prospective Payment Assessment Commission (ProPAC), Medicare and the American Health Care System, (Washington, D.C.: June 1997); ProPAC, Report and Recommendations to the Congress, (Washington, D.C.: March 1997).

There are a number of other federal programs that potentially provide support to the uninsured. This includes veterans programs, the Ryan White program, maternal and child health programs, community health centers, and national health service corps. We do not have estimates for most of these programs for the state of Massachusetts, but we do have information from the DHCFP that shows federal grants to the state's community health centers were $47.1 million in 2004.[73]

[73] Data provided by the DHCFP, July 30, 2004.

VII. Private Payments for Uncompensated Care

Private payers may pay for some of the cost of uncompensated care through higher health care prices and health insurance premiums. In Massachusetts, some shifting of costs to private payers is institutionalized through payments from hospitals and insurers to the Pool and has been discussed above.[74] It is also clearly possible that hospitals in Massachusetts, particularly the large teaching hospitals and other key local hospitals, have the kind of market power that results in increases in hospital payments in direct response to increases in the uninsured.

But how much more shifting of costs to private payers takes place is unclear and hard to estimate. It seems to be widely believed that hospital payments by insurers and ultimately by employers and individuals are significantly higher because of the presence of an uninsured population. But for higher hospital payments to be truly attributable to the uninsured they must be higher than they otherwise would have been except for the need to provide care for the uninsured. Further, the cost shifting argument implies that these higher payments would be lower if the uninsured were to disappear. The use of market power in itself to increase hospital payments may not necessarily be related to the uninsured, but may have happened without an uninsured population and may not change much if the uninsured problem were solved.

The evidence on cost shifting in general is weak and that which exists may not apply to Massachusetts.[75] The Institute of Medicine concluded, "There is mixed evidence that uncompensated care is subsidized by private payers. The impact of any such shifting of costs to privately insured patients and insurers is unlikely to be so large as to affect the prices of health care services and insurance premiums."[76] They reach this conclusion for two reasons. One is that aggressive purchasing by employers and insurers and excess capacity in the hospital industry has reduced the relative market power on the part of hospitals. While this may not be true of all hospitals, it is true for most, and limits the ability to shift costs to payers. The exception would be the highly regarded teaching hospitals that are typically considered so indispensable that the ability to market a health insurance policy would be constrained with the absence of that hospital in the network.

But the main reason that cost shifting is likely to be restricted is that most acute care for the uninsured is provided by public hospitals and some non-profit hospitals. These hospitals typically have relatively few privately insured patients, and thus do not have surpluses from private patients to subsidize the costs of uncompensated care. In contrast, those hospitals that have a large private revenue base typically have relatively few uninsured patients. But once again whether the conclusions reached by the IOM apply to Massachusetts is not knowable.

[74] "Uncompensated Care Pool FY03 Annual Report," Massachusetts Division of Health Care Finance and Policy, June 2004.

[75] Institute of Medicine, op. cit., pp. 55-58.

[76] Ibid.

About the Authors

John Holahan, Ph.D., is Director of the Health Policy Research Center at The Urban Institute. He has managed numerous health research projects in the last 25 years and authored many books and papers on health policy. His recent work has focused on the Medicaid program, as well as state health policy more broadly, and issues of federalism and health. These include analyses of the recent growth in Medicaid expenditures, variations across states in Medicaid expenditures, and the implications of block grants, and expenditure caps and changes in matching formulas on states. He has also published research on the reasons for the growth in the uninsured over the past decade and on the effects of proposals to expand health insurance coverage on the number of uninsured and the cost to federal and state governments. He has recently completed work on the costs of the uninsured and on differences in the costs of health coverage between Medicaid and private insurance. Other research interests include health system reform, managed care, physician payment, and hospital cost containment.

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Jack Hadley, Ph.D., is a Principal Research Associate with The Urban Institute's Health Policy Center and a Senior Fellow at the Center for Studying Health System Change. He is a past President of AcademyHealth (the Association for Health Services Research) and a former Editor of Inquiry, a professional journal devoted to health services research and policy. Dr. Hadley's research has emphasized statistical analysis of various issues in health care organization and financing: determinants of health insurance coverage, the consequences of lack of health insurance, access to care, physician and hospital payment, medical education financing, hospital efficiency, assessment of the outcomes of medical treatment, and the effects of managed care on health care delivery systems. Much of his work has analyzed large data bases such as national household and physician surveys, Medicare claims and national hospital data in order to understand patient, provider, or system responses to policy changes. He is currently conducting research on the determinants of health insurance coverage, the costs to society of having a large proportion of the population uninsured, the effects of the safety net on access to care, and the determinants and effects of physicians' financial incentives.