HEALTH POLICY

Access to Care After Massachusetts' Health Care Reform: A Safety Net Hospital Patient Survey

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BACKGROUND: Massachusetts' health care reform substantially decreased the percentage of uninsured residents. However, less is known about how reform affected access to care, especially according to insurance type.

OBJECTIVE: To assess access to care in Massachusetts after implementation of health care reform, based on insurance status and type.

DESIGN AND PARTICIPANTS: We surveyed a convenience sample of 431 patients presenting to the Emergency Department of Massachusetts' second largest safety net hospital between July 25, 2009 and March 20, 2010.

MAIN MEASURES: Demographic and clinical characteristics, insurance coverage, measures of access to care and cost-related barriers to care.

KEY RESULTS: Patients with Commonwealth Care and Medicaid, the two forms of insurance most often newly-acquired under the reform, reported similar or higher utilization of and access to outpatient visits and rates of having a usual source of care, compared with the privately insured. Compared with the privately insured, a significantly higher proportion of patients with Medicaid or Commonwealth Care Type 1 (minimal cost sharing) reported delaying or not getting dental care (42.2 % vs. 27.1 %) or medication (30.0 % vs. 7.0 %) due to cost; those with Medicaid also experienced cost-related barriers to seeing a specialist (14.6 % vs. 3.5 %) or getting recommended tests (15.6 % vs. 5.9 %). Those with Commonwealth Care Types 2 and 3 (greater cost sharing) reported significantly more cost-related barriers to obtaining care than the privately insured (45.0 % vs. 16.0 %), to seeing a primary care doctor (25.0 % vs. 6.0 %) or dental provider (58.3 % vs. 27.1 %), and to obtaining medication (20.8 % vs. 7.0 %). No differences in cost-related barriers to preventive care were found between the privately and publicly insured.

CONCLUSIONS: Access to care improved less than access to insurance following Massachusetts' health care reform. Many newly insured residents obtained Medicaid or state subsidized private insurance; cost-related barriers to access were worse for these patients than for the privately insured.

KEY WORDS: access to care; health insurance; health disparities; health care reform; health care policy.
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INTRODUCTION

In the fall of 2006, Massachusetts enacted health care reform legislation designed to achieve universal coverage and make health insurance more affordable.[1] The reform law expanded coverage through several mechanisms, including an individual mandate to purchase insurance, a Medicaid expansion, and the provision of subsidized insurance to low-income residents through a new insurance exchange.

The law has reduced the number of uninsured residents in Massachusetts from a maximum of 10.4 % in 2006, before the reform, to between 4.8 % and 2.7 % in 2009, depending on the source of the estimate.[2–4] This improvement in coverage, however, may not have resulted in similar improvement in access to care, particularly in reductions in cost-related barriers to care.[3,5] One potential explanation is that the types of insurance provided to the newly insured do not facilitate access comparably to employer-sponsored insurance.

A quarter of the newly insured acquired private insurance, while 41 % were enrolled in the state subsidized plans, known as Commonwealth Care, and 34 % were enrolled in one of Massachusetts' Medicaid plans.[5] While Medicaid plans typically cover a wide range of services, and patients with this coverage are known to have better access to medical and dental care than the uninsured,[6,7] studies comparing Medicaid to private insurance have provided more mixed results.[6,8,9]

Commonwealth Care plans were designed to be affordable, but little is known about whether the degree of cost sharing in these plans impedes access to care for the low-income population for whom these plans were intended. To examine the effect of insurance type on access to care, we compared self-reported access for patients with private insurance to that of patients with Medicaid, Commonwealth Care, or no insurance presenting to the Emergency Department of a major Massachusetts safety net hospital.

Coverage Under the Massachusetts Reform

In Massachusetts, Medicaid is called MassHealth. There are seven separate MassHealth plans, with varying eligibility requirements (MassHealth Standard, Basic, Limited, CommonHealth, Prenatal, Family Assistance and Essential). There is also some variability in the benefits and cost sharing among types. MassHealth Standard, the predominant type, covers a wide range of services, with the only cost sharing consisting of $1–3 copayments for medications and a $3 copayment for hospital admissions. Several types, however, have significantly restricted covered benefits.[10]

Commonwealth Care plans are a group of publicly subsidized, private insurance plans for residents with incomes below 300 % of the federal poverty level who are not eligible for MassHealth. There are three types of Commonwealth Care available to residents, based on income. Residents with incomes below 150 % of the federal poverty level are eligible for fully premium-subsidized insurance (Type 1), whereas residents with incomes between 150 % and 300 % of the federal poverty level pay a sliding scale premium (Types 2 and 3). Copayments vary by plan type, as well.[11] Supplementary Table 1 (available online) illustrates the major covered benefits, premiums and cost sharing for MassHealth and the three types of Commonwealth Care.

Before reform, many low-income uninsured patients received free or nearly free care at designated safety net hospitals and community health centers.[12] A state-administered uncompensated care pool reimbursed providers for this care. After passage of the reform law, a limited version of this program called the Health Safety Net (HSN) continues, but is not considered insurance by the state of Massachusetts and does not meet the individual mandate requirement.[13]

HSN primary and HSN secondary (for low-income residents with gaps in their insurance coverage) are available to residents with incomes below 200 % of the federal poverty level and reimburse providers for medically necessary outpatient services at Massachusetts community health centers and hospital clinics only. HSN partial is available to those with incomes 201–400 % of the federal poverty level, and carries a sliding scale deductible that can be substantial. All HSN plans have copayments of $1–3 for medications.[14]

METHODS

Study Design and Setting

We interviewed a convenience sample of patients presenting to the Emergency Department of the state's second largest safety net hospital, located in Cambridge, Massachusetts, between July 25, 2009 and March 20, 2010. The Cambridge Health Alliance Institutional Review Board approved the study protocol.

We interviewed patients with private (commercial) insurance, Medicaid and Commonwealth Care. We also interviewed two categories of uninsured patients: those with HSN and those who were self-pay.

Insurance status and type were determined by electronic querying of a continuously updated insurance database maintained by a consortium of all Massachusetts health insurers, including public payers.[15] This database allows real-time determination of insurance type and status with nearly 100 % accuracy. We recorded patients as having Medicaid if they were covered by any subtype of MassHealth; similarly, we recorded patients as having HSN if they had any subtype of HSN. Patients with more than one type of insurance were excluded to allow us to isolate the impact of each insurance type.

Study Subjects

We included all patients aged 18–64 years, the age range directly affected by the Massachusetts health reform law. We excluded subjects with altered mental status or inability to speak. We did not ask patients about their legal immigration status. We also excluded patients with the highest severity of illness, i.e those with an Emergency Severity Index Score of 1. This score is a validated emergency department triage algorithm that stratifies patients into five groups from 1 (most urgent) to 5 (least urgent).[16] We also excluded patients whose primary language was other than English, Spanish, Portuguese or Haitian Creole.

Study Recruitment and Survey Procedure

Trained research assistants stationed in the Emergency Department reviewed the demographic and insurance information of all patients presenting for care. For patients meeting study entry criteria, the research assistant approached the patient to invite participation, obtain informed consent and verbally administer the survey. For patients whose primary language was Spanish, Portuguese or Haitian Creole, an interpreter was used for study consent and survey administration. All interviews were conducted between 9:00 am and 6:00 pm.

Survey Development

We developed a survey instrument to assess various dimensions of health care access and affordability, as well as demographics and health status. Specifically, we obtained data on patient age, race/ethnicity, income, primary language spoken at home, employment status, education level, self-rated health, number of chronic medical conditions and the Emergency Severity Index. We also asked questions about utilization of and access to outpatient visits, and about affordability and cost-related barriers to care, such as whether the respondent experienced difficulty obtaining care due to out-of-pocket costs, or delayed or avoided primary care, specialist care, preventive care, medications and dental care, due to cost. Most questions were taken verbatim from a prior survey, the Massachusetts Health Reform Survey, which in turn was derived from well established federal surveys, such as the National Health Interview Survey and the Medical Expenditure Panel Survey, among others.[17] Trained medical interpreters translated the survey into Spanish, Portuguese and Haitian Creole.

Statistical Analysis

The outcomes of interest were the multiple measures of utilization of and access to outpatient visits, and cost-related barriers to care. For each outcome, we calculated the percentage of respondents answering "yes" to the question, according to insurance status and type. For all analyses, private insurance was the reference group and was compared with Medicaid, Commonwealth Care, HSN and self-pay using chi-square tests. In analyzing cost-related barriers to care, we analyzed Commonwealth Care Type 1 plans separately from Types 2 and 3 plans combined, because Types 2 and 3 have significantly greater cost sharing.

In order to assess potential non-response bias, we compared the mean ages and distribution of Emergency Severity Index scores between respondents and non-respondents using the Student's t-test and chi-square tests respectively.

All analyses were performed using SAS software version 9.2 (SAS Institute, Cary, North Carolina).

RESULTS

We interviewed 431 out of 549 patients invited to participate in the study (response rate 78.4 %). There were no statistically significant differences between study subjects and those declining to participate with regard to age or Emergency Severity Index score.

Table 1 shows the characteristics of the study population by insurance type. The privately insured were largely white, English-speaking and employed, and most likely to report excellent or very good health status. Patients on Medicaid were more likely to be poor, black and unemployed, and equally likely to report their health status as fair or poor as they were to report it as excellent or very good. Patients insured by Commonwealth Care were more likely than those on Medicaid to be white and employed with higher incomes, but reported similar health status.

Table 2 shows measures of utilization of and access to outpatient visits by insurance type. The uninsured were significantly less likely than the privately insured to report a usual source of care other than the emergency department and to report having a primary care doctor. Unlike patients with HSN, self-pay patients were also significantly less likely than the privately insured to have visited either a primary care provider or a specialist within the past year. For enrollees in Commonwealth Care and Medicaid, there were no statistically significant differences in measures of use and usual source of care compared with the privately insured, except for higher rates of multiple primary care visits and, for enrollees in Medicaid, higher rates of an Emergency Department visit in the past year; however, both Medicaid and Commonwealth Care enrollees reported substantially more difficulty finding a provider who accepted their insurance.

In Table 3, we report measures of health care affordability and financial barriers to care. For nearly all measures, the uninsured experienced significantly greater cost-related barriers to care than the privately insured. A significantly higher proportion of patients with Medicaid reported delaying or not seeing a specialist, getting dental care, getting a recommended test or getting medication due to cost, compared with the privately insured. Those with Commonwealth Care Types 2 and 3 (greater cost sharing) reported significantly more cost-related barriers than the privately insured to obtaining care, to seeing a primary care doctor or dental provider, and to obtaining medication. Patients with Commonwealth Care Type 1 (minimal cost sharing) reported more cost-related barriers than the privately insured, but this was statistically significant only for delaying or not getting dental care or medication due to cost. They experienced fewer barriers than those with Types 2 and 3, with the exception of cost-related barriers to dental care and medications. No differences in cost-related barriers to preventive care were found between the privately and publicly insured.

DISCUSSION

In this study of a cohort of patients receiving care in the Emergency Department of a large safety net hospital following the landmark Massachusetts health care reform, we find that insured patients, regardless of insurance type, had significantly

Table 1. Baseline Characteristics of the Study Sample According to Insurance Status and Type

Characteristics	Type of insurance					
	Private (n=86) %	Common-wealth care (n=66) %	Medicaid (n=91) %	HSN (n=104) %	Uninsured self-pay (n=84) %	p-value
Age (years)						
18–30	41.0	29.5	38.6	35.7	51.9	0.02
31–50	41.0	45.9	37.5	51.0	34.2	
51–64	18.1	24.6	23.9	13.3	13.9	
Race/ethnicity						
White/non-Hispanic	61.3	49.2	38.4	18.9	36.4	<0.001
Black/non-Hispanic	13.8	18.0	33.7	18.9	26.0	
Hispanic	12.5	26.2	17.4	56.7	27.3	
Other	12.5	6.6	10.5	5.6	10.4	
Income (percent of federal poverty level)						
0–150 %	6.9	40.9	67.7	54.1	44.8	<0.001
151–300 %	16.7	34.1	22.1	37.7	34.5	
>300 %	76.4	25.0	10.3	8.2	20.7	
Language						
English	100.0	92.4	96.7	61.0	90.5	<0.001
Portuguese	0.0	1.5	1.1	32.4	3.6	
Spanish	0.0	1.5	1.1	3.8	4.8	
Haitian-Creole	0.0	4.6	1.1	2.9	1.2	
Employment status						
Employed	72.3	66.1	27.3	67.4	64.2	<0.001
Unemployed	27.7	33.9	72.7	32.7	35.8	
Education level						
<High school	2.4	11.3	24.1	17.4	15.4	<0.001
High school	18.1	33.9	28.7	44.9	42.3	
Some college or graduate school	79.5	54.8	47.1	37.8	42.3	
Self-rated health						
Excellent/ or very good	61.2	36.9	33.7	33.0	46.9	<0.001
Good	24.7	33.9	32.6	35.9	33.3	
Fair or poor	14.1	29.2	33.7	31.1	19.8	
Chronic medical conditions*						
None	62.4	65.6	56.0	67.0	62.7	0.51
One or more	37.7	34.4	44.0	33.0	37.4	
Emergency Severity Index†						
1	0	0	0	0	0	0.3
2	4.8	6.1	1.1	5.9	10.0	
3	47.6	53.0	46.7	36.6	32.5	
4	36.9	31.8	38.0	46.5	40.0	
5	10.7	9.1	14.1	10.9	17.5	

HSN Health Safety Net
Includes the following conditions: heart disease, cancer, arthritis, hypertension, diabetes, asthma and obesity
†*The Emergency Severity Index is a validated measure of severity of illness at the time of presentation to an emergency department, and is used to stratify patients into five groups (Level 1 = most severe; Level 5 = least severe) for triage priority*

higher levels of utilization and access to outpatient visits than the uninsured. However, we also found that cost-related barriers to care varied substantially among the insured. Patients with Medicaid and Commonwealth Care, the two forms of insurance provided to low-income residents under the reform, accounting for 75 % of the newly insured, had significantly greater cost-related barriers to care than the privately insured and for some measures, these cost-related barriers were similar to those experienced by the uninsured.

Previous studies have shown significant but modest population-wide improvements in measures of access, use and cost-related barriers to care following reform.[2–4] However, no previous published studies have examined whether these measures vary by insurance type. In particular, there have been no comparisons of how the predominant forms of insurance acquired by the uninsured as a result of the reform compare with private insurance.

Our study suggests that at least in a safety net hospital setting, the Massachusetts health reform may have succeeded in allowing many residents that were newly insured through state subsidized health insurance plans to access physicians at rates similar or higher to the privately insured, and in improving cost-related barriers to preventive care. This is a notable accomplishment, given prior data on comparisons of Medicaid and privately insured patients in other states.[7,9] However, ease of access does not appear comparable, with patients insured by Medicaid and Commonwealth Care reporting difficulty finding providers that accepted their insurance. Our results also suggests that the reform may have left those with publicly subsidized insurance facing substantial cost-related barriers to care, most notably to getting recommended medications, specialist care and dental care.

The cost sharing in Commonwealth Care Type 1 plans is low and is similar to that in most Massachusetts Medicaid plans, with medication co-pays of $1 to $3 and maximum limits on annual outlays for medications of $200 (see Supplementary Table 1, avialable online). Our finding that a substantially higher proportion of patients with these plans

Table 2. Health Care Access and Use: Overall and According to Type of Insurance

	Overall (n=431) %	Type of insurance				
		Private (n=86) %	Common-wealth care (n=66) %	Medicaid (n=91) %	HSN (n=104) %	Self-pay (n=84) %
Access to and use of health care						
Has a usual source of care (excluding emergency department)	63.4	76.5	76.2	75.0	60.2*	30.0†
Has a primary care physician	68.8	84.9	80.3	83.7	62.9†	34.5†
Any primary care visit in the past 12 months	88.9	89.0	92.3	92.2	93.7	60.7*
Multiple primary care visits in the past 12 months	66.6	56.2	75.0*	72.7†	69.8	53.6
Any specialist visit in the last 12 months	43.8	54.1	54.7	52.2	41.4	19.1†
Any emergency department visit in the last 12 months	65.8	57.7	63.6	81.3†	67.7	56.6
Could have been treated in the office if primary physician available	52.5	48.2	37.5	56.8	64.6*	50.0
Difficulty obtaining care						
Due to inability to find a provider accepting insurance type	14.8	4.7	27.3†	13.3*	N/A	N/A

Reference group for all comparisons is private insurance
HSN Health Safety Net
**Denotes statistical significance at p≤0.05. †Denotes statistical significance at p≤0.01*

experienced cost-related barriers to filling prescriptions than did privately insured patients is likely due to the finding of numerous prior studies that cost sharing at even very low levels impedes access to care for low-income patients.[18–22] A different explanation may hold for our finding that more patients with Medicaid and Commonwealth Care Type 1 than with private insurance reported delaying or not getting dental care due to cost, as these publicly subsidized plans cover basic preventive dental services, but not more extensive dental work. Our finding that Medicaid patients also reported cost-related

Table 3. Financial Barriers to Care and Health Care Affordability: Overall and According to Type of Insurance

	Overall (n=431) %	Type of insurance					
		Private (n=86) %	CWC Type 1 (n=41) %	CWC Types 2 and 3 (n=24) %	Medicaid (n=91) %	HSN (n=104) %	Self-pay (n=84) %
Cost-related problems obtaining care							
Difficulty obtaining care due to out-of-pocket cost	34.5	16.0	32.3	45.0*	27.3	36.8†	61.7†
Delayed or did not see primary care doctor due to cost	17.4	6.0	14.6	25.0†	8.9	19.2†	34.9†
Delayed or did not see specialist due to cost	15.4	3.5	12.2	8.3	14.6†	16.8†	30.1†
Delayed or did not get preventive care due to cost	12.9	4.7	2.4	12.5	5.6	15.5*	31.3†
Delayed or did not get a recommended test due to cost	17.8	5.9	14.6	4.2	15.6*	19.4†	36.1†
Delayed or did not get medication due to cost	29.3	7.0	26.8†	20.8*	30.0†	35.6†	47.0†
Delayed or did not get dental care due to cost	44.4	27.1	51.2†	58.3†	42.2*	48.5†	51.8†
Out-of-pocket health care spending							
Spending >5 % of family income	12.6	14.5	9.2	20.7	10.4	14.2	20.4
Mean out-of-pocket expenses in the prior year (+/− SD)	\$850 (1970)	\$1334 (2864)	\$607 (1630)	\$1446 (1791)	\$333 (641)	\$1016 (2353)	\$616 (1071)
Median out-of-pocket expenses in the prior year	\$200	\$450	\$60.0	\$600	\$68	\$200	\$250
Considered canceling insurance due to cost	8.2	8.3	10.0	17.4	4.8	N/A	N/A

Reference group for all comparisons is private insurance
CWC Commonwealth Care; HSN Health Safety Net
**Denotes statistical significance at p≤0.05. †Denotes statistical significance at p≤0.01*

barriers to seeing specialists may reflect the fact that some Medicaid plans, such as MassHealth Limited, do not cover physician visits, or may reflect a limited availability of specialists accepting Medicaid plans, potentially necessitating out of pocket costs for specialist visits.

For patients with Commonwealth Care Type 2 and 3 plans, cost sharing can be more substantial and indeed, we found cost-related barriers to care for services where cost sharing was particularly high. Our finding that these patients reported cost-related barriers to obtaining medications, seeing a primary care doctor or getting dental care is likely related to the co-pays of $25 for preferred medications, co-pays of $10–$15 to see a primary care provider and the absence of dental coverage. A notable exception was preventive care, for which few patients with any insurance type reported delaying or forgoing due to cost; this likely reflects the state requirement that preventive care visits be fully covered in public plans.

Some proponents of the reform hoped that the expansion of publicly subsidized insurance would largely do away with the need for the state's uncompensated care pool. However, in HSN fiscal year 2010, demand for HSN services increased by 15 % while HSN payments decreased by 2 %, leaving safety net providers with a funding shortfall of $70 million.[23] This shortfall may have impaired the ability of safety net providers to provide the same level of services they had previously provided. This may in part explain the barriers to access reported in our study by patients with HSN, who reported high rates of not having a usual source of care or a primary care provider. HSN patients also experienced financial barriers to accessing care for each measure we examined.

The major limitation of our study is that the sample is drawn from a single safety net Emergency Department in a community with a high level of economic and educational diversity. Thus, our results may not be representative of the state as a whole, nor of residents who do not require urgent care. However, patients with publicly subsidized forms of insurance are more likely to seek care in safety net institutions, so this strategy allowed us to locate such patients efficiently and to focus our investigation on persons actually requiring medical care. Our sampling frame also resulted in a substantially higher response rate than previously published population-based surveys, decreasing the chance of non-response bias. The availability of primary care and specialist physicians, and the proportion accepting various insurance types, are likely to be different in other parts of the state. Therefore, utilization of and access to outpatient visits could be either greater or less in regions outside Cambridge. However, cost-related barriers to care of the type we identified are unlikely to vary substantially across different regions of the state. Our sample size was also limited and this decreased our power to detect additional differences among insurance types, if present. Lastly, we could not determine from our data whether the care patients in our study reported receiving or delaying/forgoing was appropriate.

These limitations suggest that the impact of insurance type on access to care should be studied on a wider scale. Nonetheless, our preliminary findings have important implications for both state and national health care policy. The Patient Protection and Affordable Care Act (ACA), the national health care reform bill signed into law by President Obama in March 2010, is similar in many respects to the Massachusetts reform. The ACA uses the same mechanisms as the Massachusetts reform to expand access to health insurance nationally; of the 32 million Americans projected to be newly insured as a result of the law, it is estimated that 16 million will acquire Medicaid and the other 16 million will get publicly subsidized private insurance, similar to Commonwealth Care.

Our findings suggest that access to insurance may not be equivalent to access to care. In Massachusetts, it is likely that state resource limitations and not a lack of awareness is the main obstacle to parity between benefit levels in private versus publicly subsidized coverage. Nonetheless, those charged with continued implementation of the Massachusetts health reform, as well as national health policy makers, should carefully evaluate the impact of various levels of cost sharing on access to care, and should design and offer forms of insurance that will not discourage the receipt of useful health care services by the working poor and other vulnerable populations.

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