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Massachusetts Health Insurance Reform

Impact on Insurance Markets, Pricing and Profitability

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Abstract

Many years of bipartisan health insurance reform attempts in Massachusetts culminated with the passage of Chapter 58 of the Acts of 2006, the legislation that designed and implemented Massachusetts health insurance reform. The objectives of this study were to analyze (to the extent possible with the available data) aspects of the financial and actuarial effects of Massachusetts reform between 2006 and the passage of the Affordable Care Act (ACA) in 2010, including access, cost, utilization and risk profile of individual insureds. Financially the reform was successful, with premiums changing only moderately year-to-year. The risk-sharing mechanism, popularly known by its abbreviation[1] the "3 R's," as implemented in Massachusetts played only a minor role in providing financial stability to the market. Despite its success in the subsidized market, the Connector, managed by the Massachusetts Health Insurance Connector Authority, enrolled few insureds in the unsubsidized nongroup and small group markets and was unable to exercise much influence on the merged market. The uninsured in Massachusetts represented a relatively small population prior to reform; after reform, which was widely supported, the uninsured rate dropped to the 2–3% range (although the exact percentage is the subject of dispute). Many of the features of the Massachusetts reform (expansion of Medicaid, individual mandate to purchase health insurance enforced with a penalty, risk-mitigation provisions for the participating insurers, subsidized coverage for low earners not eligible for Medicaid) were incorporated in the ACA, and the perceived success of the Massachusetts reform arguably was a factor in gaining political support for the law's passage.

Executive Summary

Structure of the Executive Summary:

- The first section is a discussion of the background to Massachusetts reform and the nine hypotheses that we analyzed for this study.
- In the next section we report the summary results of the nine hypotheses.
- We then move to a discussion of more detailed results by program: The Massachusetts reform resulted in establishment of two programs: Commonwealth Care (subsidized) and Commonwealth Choice (unsubsidized). In Section A, we compare cost and utilization in Commonwealth Care with Medicaid (MassHealth); in Section B we compare cost and utilization in Commonwealth Choice with Commercially insured lives; in Section C we compare cost and utilization of newly insured Commercial members with existing members.

[1] Risk Adjustment, Risk Corridors and Reinsurance.

- In Section D we discuss the cost of reform and the sources of funding.
- Finally in Section E we propose some lessons for states operating their own exchanges.

Background

Many years of bipartisan health insurance reform attempts in Massachusetts culminated with the passage of Chapter 58 of the Acts of 2006. Massachusetts had a relatively low number of uninsured prior to reform; after reform, which was widely supported, the uninsured rate dropped to the 2–3% range (although the exact percentage is the subject of dispute). Many of the features of the Massachusetts reform (expansion of Medicaid, individual mandate to purchase health insurance enforced with a penalty, risk-mitigation provisions for the participating insurers, subsidized coverage for low earners not eligible for Medicaid) were incorporated in the ACA. There were both some important structural differences and some that are more subtle:

- Unlike the unified approach of the ACA with its sliding scale of subsidies, Massachusetts implemented two separate programs: Commonwealth Care, a subsidized program for those citizens earning between 100% and 300% of the Federal Poverty Level (FPL), and unsubsidized Commonwealth Choice for citizens earning over 300% FPL.

- A new government body, the Massachusetts Health Insurance Connector Authority, was responsible for administering both programs. Access to insurance (subsidized and unsubsidized) was through a new website, www.mahealthconnector.org. The Connector Authority established minimum creditable coverage, chose participating insurers and health plans that met certain quality standards (the "seal of approval") and determined the Affordability Schedule.

- MassHealth, the state's Medicaid program, was also expanded to some previously ineligible citizens (although subject to different income limits than the ACA).

- The ACA provides a continuously decreasing amount of subsidy as income increases. Subsidized Connector plans, however, provide a fixed subsidy by category (making the Massachusetts reform arguably easier to administer). Connector plans divide citizens into five income categories and determine contributions by category and geography (and later health plan).

- Although the Connector operated a system of risk mitigation through revenue transfers between plans (the "3 R's") that is similar in principle to the federal

ACA version, there were some differences of specifics. For example, risk mitigation applied only to subsidized plans.

As we discuss in Chapter 1, the context in which Chapter 58 was implemented in Massachusetts was different from that of the ACA in most states. Massachusetts has historically had a high percentage of the population covered by insurance and a relatively robust (although complicated and confusing)[2] range of coverage for those eligible for Medicaid and other state support programs. For example, in 2006 (the last year prior to the introduction of the reform) U.S. Census data show that the national uninsured rate among the under-65 population was 17.1%, compared with 10.9% in Massachusetts.[3]

Eligibility for different programs is illustrated in Table E.1.

Table E.1 Key Features of Different Massachusetts Programs[4]

Program	Eligibility	Subsidized/ Unsubsidized	Benefit Plans	Administration
Commonwealth Choice	18+; Income > 300% FPL; no affordable ESI	Unsubsidized	Commercial; 3 benefit tiers (Gold/Silver/Bronze); contributory	Connector contracts with "seal of approval" Commercial insurers
Commonwealth Care	100% ≤ Income ≤ 300% FPL and not eligible for a MassHealth program	Subsidized (sliding scale)	Medicaid-type copayments; contributions vary by income category	Connector contracts with Medicaid Managed Care Organizations
MassHealth (Medicaid)	Income ≤ 100%; pregnant; children < 18 etc. (see Fig. 1.9)	Subsidized	Medicaid-type copayments; noncontributory	MassHealth (EOHHS) contracts with MMCOs and also administers Fee-for-Service program

The Nine Hypotheses

The objectives of this study were to analyze (to the extent possible with the available data) the following aspects of the financial and actuarial effects of reform:

[2] The complicated benefit structure of MassHealth contributed to the difficulties programming the ACA-compliant website that the state designed to implement the ACA. In its first implementation of the ACA in 2010–2013, the Commonwealth attempted to build flexibility to encompass this complicated set of programs into its website, so that eligible citizens could enroll in both the exchange and MassHealth. The complicated enrollment algorithms proved the undoing of the website, and the first enrollment under the ACA in 2013 was completed largely manually. A second website was finally launched successfully in time for the 2016 enrollment season.

[3] See Table 1.2; for Medicaid programs available to different classes of beneficiaries, see Figure 1.9.

[4] A glossary of abbreviations is provided at the end of this study.

1. Whether reform of the individual market **improved access and reduced cost** for individual insurance.
2. Whether reform of the individual market had a **negligible or possibly positive effect on the small group market** (premium rates and scope of benefit) following the merger of the two markets.
3. Whether mandating coverage to individuals **improved the risk pool in individual and small group markets as young or healthier adults who were previously uninsured** took up coverage.
4. Whether mandating coverage to individuals **increased the premium-paying pool of healthy previously uninsured lives** in the individual and small group pool.
5. Whether on balance the additional lives added to the pools **contributed more in premiums than the additional costs imposed**, resulting in a net decrease in premiums and possible better benefits (reduced out of pocket costs for care) for prior pool participants.
6. Whether standardizations of benefits helped **offset risk-selection among plans**.
7. Whether younger/healthier lives (under age 30) eligible for Young Adult Plans **subsidize the rest of the pool**.
8. The extent of the **change in premiums since reform** and whether this has reflected underlying changes in contractual arrangements with providers.
9. The extent to which previously uninsured members enrolled in subsidized plans reacted to changes in the relative prices of their insurance (i.e., their elasticity of response to changes in relative prices).

To analyze the effects of Massachusetts reform, we obtained detailed claims and eligibility data for Commercial and Connector insured members from the Massachusetts Health Care Quality & Cost Council (QCC)[5] and Medicaid data from Massachusetts Medicaid (MassHealth). We also obtained financial information about the performance of the Connector plans from the Connector Authority. Because we were unable to obtain premium or benefits information to analyze relationships between claims and premiums

[5] The Health Care Quality and Cost Council was eliminated by the state in response to the Affordable Care Act and replaced by the Center for Health Information and Analysis (CHIA). At the time of writing the legal status of the QCC's data is unclear.

for Commercial plans, we were not able to address all our original objectives. Results of our analyses are summarized (by objective) in this Executive Summary.

Approval for the study protocol was obtained from the Georgetown University and Massachusetts Connector Institutional Review Boards.

Summary of Findings and Conclusions

Below, we address the nine objectives (hypotheses) of the study separately. Some analyses address more than one of the original objectives.

1. Hypothesis 1:[6] Reform of the individual market **improved access and reduced cost** for individual insurance.

   Result: The merger of the individual and small group markets simultaneously with the introduction of the Massachusetts Connector resulted in a reduction in individual market premiums.

   Discussion

   A goal of the reform, one that became a guiding principle of the Connector Authority, was the simultaneous achievement of improved access to, and reduced cost of, care. Actuaries and others may consider these two goals as potentially contradictory: How can access increase without driving up the cost of insurance? Economic theory would suggest that without an increase in the supply of services, an insurance-promoted increase in demand for services will drive up prices. There is some evidence of this happening in Massachusetts, although we should note that state officials took a number of steps to control both prices and cost of insurance.

   Our analysis of the Massachusetts data shows a significant increase in the numbers of newly insured lives: The authors' estimate of total new enrollment in Medicaid, the Connector's Commonwealth Care and Commonwealth Choice programs, and Commercial insurance amounts to approximately 540,000 lives. Almost half of this number enrolled in Medicaid coverage; 76% of the newly enrolled Medicaid lives enrolled in existing Medicaid categories for which the member was eligible prior to reform. Commonwealth Care enrolled 38% of the new lives, and the remaining 15% enrolled in Commercial coverage, split approximately evenly between the Connector channel and other (mainly employer) plans. The authors' data show

[6] This study is organized around eight hypotheses as originally proposed to the Society of Actuaries, plus a subsequently added hypothesis about response to changes in member costs. The available data do not always allow us to draw conclusions on all hypotheses.

approximately 3 million enrolled lives in Commercial insurance at year-end 2010 (the last year for which we have data). At this time, 40,000 members were enrolled through the Connector (5,209 of whom were in “Young Adult Plans”).

The Connector exercised considerable influence over the market that it managed and funded (Commonwealth Care). This influence was not matched in the Commercial market, reflecting the Connector’s low enrollment numbers.

Although the Connector achieved its primary mission of expanding coverage, it was less successful in its secondary mission of reforming the combined Small Group and individual market and reducing rates. For example, continued rate increases in the Commercial market after reform culminated in the intervention of the governor in the market in February 2010 to freeze rate increases. The administrative cost of the Connector was also non-negligible: While the more recent budgets are inflated by the resources needed to implement the ACA, budgets prior to the implementation of the ACA exceeded $40 million annually.

Table E.2a Newly Insured Populations as a Result of Massachusetts Reform

	Total Enrollment	
MassHealth[a]	252,000	
- Prereform categories		190,000
- Expansion categories		62,000
Commonwealth Care[b]	206,394	
Commonwealth Choice[b]	41,788	
- Nongroup		36,742
- Small Group		5,046
Other Commercial Enrollment[c]	42,212	
Total	542,394	

[a]At December 2010.
[b]At June 30, 2013.
[c]Authors’ estimates using QCC data.

The highest enrollment achieved by the Connector (individual and small group) during the period for which we have data amounted to 43,734 (November 2012). Of

this enrollment, nongroup (individual) amounted to 36,515, and group, 7,219. As a percentage of the total nongroup enrollment, the Connector's market share, while growing, only exceeded 10% in 2012. In Table E.2b, we show estimates of the total individual insurance enrollment in the state between 2008 and 2012, together with corresponding Connector enrollments and market share.

Table E.2b Connector Market Share: Individual (Commercial) Market

Year	Massachusetts Population ('000)	Individual %	Total Individual (Est.)	Commonwealth Choice (Indiv.)	Market Share: CC/Total
2012	5,584	4.6%	256,864	32,083	12.5%
2011	5,587	6.9%	385,503	31,578	8.2%
2010	5,595	5.8%	324,510	28,917	8.9%
2009	5,622	5.3%	297,966	19,559	6.6%
2008	5,533	4.0%	221,320	15,991	7.2%

Massachusetts population and individual market size are estimated from Health Insurance Historical Tables—HIB Series: US Census. http://www.census.gov/hhes/www/hlthins/ data/historical/ HIB_tables.html. Connector enrollment data were supplied by the Connector; see Chapter 3. The number of nongroup insureds is higher than that reported in Gorman et al. [1] who reported 66,000 nongroup and 112,000 one-life small group members in a sample of 2005 enrollments.

2. Hypothesis 2: Reform of the individual market had a **negligible or possibly positive effect on the small group market** (premium rates and scope of benefit) following the merger.

   Results: The Connector's Exchange website offered Commonwealth Choice (unsubsidized) access to nine health plans and four (later five) Managed Care Organization health plans for Commonwealth Care. The Connector improved access to nongroup plans and provided education about health care choices and the ability to comparison shop. The website was so successful that it provided the model for healthcare.gov. Simultaneously with the launch of the Chapter 58 reforms, the state also merged the individual and small group markets. The merger reduced premiums for individual purchasers by 20–33% but raised premiums in the merged markets by 3.4%,[7] primarily impacting small employers.

3. Hypothesis 3: Mandating coverage to individuals initially **improved the risk pool in individual and small group markets as young or healthier adults who were previously uninsured** took-up coverage. However, younger/healthier lives (26 and

[7] See Welch and Giesa [91].

under) eligible for Young Adult policies did not join in sufficient numbers to **subsidize the rest of the individual and small group pool**.

Result: The population enrolling in both Commonwealth Care and Commonwealth Choice initially skewed younger than the state age distribution. Following the passage of the ACA extension of parent insurance to age 26, enrollment of younger members in both programs fell, relative to older members, to the point where it is unlikely that younger members are providing a significant subsidy to either pool.

Discussion

The Commonwealth Care population represents a block for rating purposes; rates are established based on the experience of that program only. Commonwealth Choice members, on the other hand, are a small population within each carrier's larger merged market block. Within the Commonwealth Choice program the relatively older enrollment could tend to raise rates, although the enrollment is too small to affect this pool.

Table E.3 Commonwealth Care Enrollment by Age vs. Massachusetts Population

Fiscal Year	18–26	27–39	40–49	50+	Total
FY 2007	35.8%	20.9%	17.8%	25.5%	100.0%
FY 2008	29.1%	23.0%	19.6%	28.3%	100.0%
FY 2009	25.5%	23.5%	20.3%	30.7%	100.0%
FY 2010	25.8%	22.0%	19.5%	32.7%	100.0%
FY 2011	23.8%	22.0%	19.3%	34.9%	100.0%
FY 2012	19.3%	23.5%	19.6%	37.6%	100.0%
FY 2013	17.2%	24.9%	19.9%	38.0%	100.0%
Massachusetts Population*	19.90%	25.80%	23.30%	31.00%	100.00%

Table E.4 Commonwealth Choice Enrollment by Age vs. Massachusetts Population

Year	<18	18–26	27–34	35–44	45–54	55–64	65+	Total
December 2007	0.5%	26.8%	17.3%	22.6%	20.6%	12.0%	0.2%	100.0%
December 2008	0.4%	24.7%	16.8%	21.9%	22.1%	13.7%	0.4%	100.0%
December 2009	0.3%	24.8%	17.0%	20.0%	22.1%	15.5%	0.4%	100.0%
December 2010	0.4%	16.2%	17.0%	21.0%	26.9%	18.1%	0.5%	100.0%
December 2011	0.4%	8.6%	18.6%	22.1%	28.9%	21.0%	0.5%	100.0%
December 2012	0.3%	6.6%	19.1%	21.6%	29.7%	22.1%	0.6%	100.0%
June 2013	0.3%	5.9%	18.5%	21.7%	29.8%	23.3%	0.6%	100.0%
Massachusetts Population[a]	-	19.9%	15.9%	21.1%	24.1%	19.1%	-	100.0%

[a]Massachusetts Population 18–64, 2010 U.S. Census.

4. Hypothesis 4: The **previously uninsured** that took up coverage **were healthier than the previously insured, increasing the premium-paying pool of healthy previously uninsured lives** in the individual and small group pool.

   Result: The effect of enrollment differs according to population and the risk profile of the newly insured, relative to the existing insureds and the pools' premium rates. Some groups were healthier than the previously insured; other groups appear to be less healthy and could potentially have the opposite effect on rates.

Discussion

Access to detailed claims data from the QCC allows us to apply risk adjustment[8] to the cost and utilization outcomes of each program.[9] Risk adjustment is a relatively new actuarial technique that allows populations to be compared based on their relative risk. "Relative risk" is calculated as a function of age, sex and conditions (diagnoses) present in the population. Risk adjustment allows us to compare quantities between two different populations with different risk profiles. Two models are used in this study: financial risk, in which the dependent variable is member cost (i.e., the model is predicting the relative cost of each member), and utilization risk, in which the dependent variable is a measure of utilization. Two models are used because financial and utilization risk are not necessarily the same, because of the relative costs of treatment of different conditions, the actual treatment received by the patient, the provider(s) that the patient uses, etc. Risk adjusting the populations (relative to the either the Commercial population or MassHealth population as the benchmark, depending on whether we are analyzing the unsubsidized or subsidized program, respectively) allows us to compare utilization and cost of each population relative to each other and to the respective benchmark populations.

Table E.5a Comparative Risk Scores for Newly Enrolled Members by Population

Commonwealth Care			Financial Risk Score		Utilization Risk Score	
Fiscal Year	Member Months	Mean Age	Comm Care	Mass Health	Comm Care	Mass Health
2007	711,203	42.9	1.020	1.917	0.627	1.266
2010	2,011,326	42.5	1.566	2.706	0.997	2.008
Annual Percentage Change			15.3%	12.2%	16.7%	16.6%

[8] We used the DxCG Commercial condition-based concurrent risk adjuster from Verisk Health.

[9] Risk adjustment of cost measures is performed using the DxCG Financial risk model; risk adjustment of utilization measures is performed using the DxCG utilization model.

Commonwealth Choice			Financial Risk Score		Utilization Risk Score	
Fiscal Year	**Member Months**	**Mean Age**	**Comm Choice**	**Comm-ercial**	**Comm Choice**	**Comm-ercial**
2008	37,582	42.6	1.159	1.960	0.858	1.432
2010	167,268	40.8	0.816	1.521	0.558	1.088
Annual Percentage Change			−16.1%	−11.9%	−19.4%	−12.8%

Commercial Newly Insured			Financial Risk Score		Utilization Risk Score	
Fiscal Year	**Member Months**	**Mean Age**	**Comm-ercial New**	**Comm-ercial**	**Comm-ercial New**	**Comm-ercial**
2007	1,317,118	50.3	2.349	1.716	1.449	1.214
2010	1,398,440	57.4	2.800	1.521	1.863	1.088
Annual Percentage Change			6.0%	−3.9%	8.7%	−3.6%

The effect of enrollment differs according to population and the risk profile of the newly insured, relative to the existing insureds and the pools' premium rates. Below, we report key measures of risk and cost from the Commonwealth Care and Commonwealth Choice programs and the Commercial newly insured members and compare these with the measures for the corresponding insured populations.

In Table E.5b we compare the risk-adjusted utilization and cost of three populations (CommCare, CommChoice and newly enrolled Commercial members) over time.

Table E.5b Comparative Utilization and Cost for Newly Enrolled Members by Population

Commonwealth Care	Comm Care	Mass Health	CommCare	Mass Health	Ratio CommCare/ MassHealth	
	Risk-Adjusted		Risk-Adjusted			
Fiscal Year	Inpatient /1,000	Inpatient /1,000	Total Net Paid Amount	Total Net Paid Amount	Inpatient /1,000	Total Net Paid Amount
2007	57.2	49.0	$ 219.40	$ 309.30	116.7%	70.9%
2010	98.2	40.5	$ 358.56	$ 370.74	242.5%	96.7%
Annual % Change	19.7%	−6.1%	17.8%	6.2%	27.6%	10.9%

Commonwealth Choice	Comm Choice	Comm-ercial	Comm Choice	Commercial	Ratio CommChoice/ Commercial	
	Risk-Adjusted		Risk-Adjusted			
Fiscal Year	Inpatient /1,000	Inpatient /1,000	Total Net Paid Amount	Total Net Paid Amount	Inpatient/ 1,000	Total Net Paid Amount
2008	62.9	84.4	$ 270.87	$ 226.86	74.5%	119.4%
2010	47.2	58.2	$ 229.68	$ 171.08	81.1%	134.3%
Annual % Change	−13.4%	−17.0%	−7.9%	−13.2%	4.3%	6.0%

Commercial Newly Enrolled	Comm New	Comm-ercial	Commercial New	Commercial	Ratio Commercial New/ Commercial	
	Risk-Adjusted		Risk-Adjusted			
Fiscal Year	Inpatient /1,000	Inpatient /1,000	Total Net Paid Amount	Total Net Paid Amount	Inpatient/ 1,000	Total Net Paid Amount
2007	89.5	84.7	$ 132.11	$ 211.51	105.7%	62.5%
2010	56.3	58.2	$ 84.51	$ 171.08	96.7%	49.4%
Annual % Change	−20.7%	−17.1%	−20.0%	−10.1%	−4.3%	−11.1%

5. Hypothesis 5: The balance of the additional lives contributed more in terms of premiums than the additional claims imposed.

Result: We were able to study the relative **premiums and costs** of the Commonwealth Care population but not the Commercial populations (because we were unable to obtain premium revenue information). In aggregate over the seven years the Commonwealth Care Managed Care Organization (MCOs) experienced a loss of 0.5% of capitation payments after expenses that averaged 8.6% of capitation.

Discussion

The Commonwealth Care program was financially stable during the period Fiscal Year (FY) 2007–2013. The state paid approximately $4.8 billion in net capitation payments to participating MCOs, who experienced an average loss ratio of 91.3%. Over the seven-year period, MCOs (in aggregate) made a small profit in the early years, which became a loss after the Connector assumed a more aggressive contracting strategy in FY 2011. In aggregate over the seven years the MCOs experienced a loss of 0.5% of capitation payments after expenses that averaged 8.6% of capitation. It is important to note in this context that the Commonwealth Care block is a relatively small portion of the business that an MCO has with the state: The number of MCO Medicaid lives in the MassHealth program significantly exceeds its Commonwealth Care enrollment, allowing the MCO to tolerate small losses on Commonwealth Care to retain its MassHealth business.

Although the Connector operated a "3 R's" risk mitigation program (similar to that under the ACA) the net amount of stop-loss payments (premiums paid by plans less stop-loss reinsurance payments received by the plans) and Risk Corridor payments (referred to as Aggregate Risk Share) was small on an annual basis and in total. The Reinsurance program was designed to be self-sustaining, but some volatility (due to catastrophic claims) was to be expected. As it was, the reinsurance pool was relatively stable. Prospective Risk Adjustment of capitation rates was applied quarterly at the point that rates were paid to the MCO, so a retrospective Risk Adjustment reconciliation was unnecessary. The Risk Corridor program experienced the largest variation in experience, with large payments being allocated from one plan to another. The net amount of these payments may be seen in the line "Aggregate Net Share" in Table E.6. Aggregate Risk Share payments to/from individual plans are shown in Chapter 5.

Table E.6 Commonwealth Care (Subsidized) Program Financial Results 2007–2013

	$ Millions							
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
	Oct. 1,2006– June 30, 2007	July 2007– June 2008	July 2008– June 2009	July 2009– June 2010	July 2010– June 2011	July 2011– June 2012	July 2012– June 2013	Total
TOTAL								
Capitation	$ 129.4	$ 625.9	$ 806.3	$ 748.4	$ 805.0	$ 803.4	$ 863.3	$ 4,781.7
Net Stop-Loss	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ (0.0)	$ (0.0)	$ 0.5
Revenue	$ 129.5	$ 626.0	$ 806.5	$ 748.5	$ 805.0	$ 803.4	$ 863.2	$ 4,782.2
Total Medical Costs	$ 111.1	$ 555.1	$ 693.6	$ 712.2	$ 722.4	$ 737.5	$ 860.1	$ 4,392.0
Expenses	$ 16.8	$ 55.3	$ 72.8	$ 58.3	$ 59.5	$ 67.5	$ 79.6	$ 409.8

Profit/(Loss)	$ 1.5	$ 15.6	$ 40.2	$ (22.0)	$ 23.0	$ (1.5)	$ (76.5)	$ (19.7)
Aggregate Risk Share	$ 0.3	$ (1.1)	$ (14.9)	$ 7.3	$ (9.9)	$ (0.5)	$ 15.4	$ (3.5)
Profit/loss after Risk Share	$ 1.8	$ 14.5	$ 25.3	$ (14.7)	$ 13.1	$ (2.0)	$ (61.1)	$ (23.1)
Expenses/Capitation	13.0%	8.8%	9.0%	7.8%	7.4%	8.4%	9.2%	8.6%
Profit (Loss)/ Capitation	1.4%	2.3%	3.1%	-2.0%	1.6%	−0.2%	−7.1%	−0.5%

6. Hypothesis 6: Standardization of benefits helped **offset risk selection among plans**.

   Result: Commonwealth Care offers only a single standard design, so consumers were able to choose an MCO but not benefit plan. Competition among MCOs resulted in varying member contributions because the Connector pegged contributions to the lowest capitation rate in a geographic area and charged members the difference between this premium and the MCO's premium. To the extent that variation in financial results of different MCOs was reduced this was likely the result of the 3 R's program rather than standardized benefits. The Connector standardized benefits to some extent in the Commonwealth Choice market, which resulted in a simpler shopping experience online. However, the Connector's block of enrollees was too small to affect Commercial rates.

   <u>Discussion</u>

   Competition among MCOs also resulted in significant swings in relative member contributions by MCO in different years. Members responded to changes in contributions by switching MCOs at open enrollment, although member response was less sensitive than has been reported in the literature for employee groups. We did not have benefit information for Commercial plans. Although the Connector attempted to limit plan choices offered to Commonwealth Choice enrollees initially, the wider array of choices available directly from insurers outside of the Exchange, and the demands of the marketplace led, over time, to the Connector expanding its range of choices.

7. Hypothesis 7: Younger/healthier lives subsidized the remainder of the pool.

   Result: There were insufficient numbers of **young adults** (particularly following passage of the ACA), and the pricing of Young Adult Plans was too low to **subsidize the Commercial pool**. Although Commonwealth Care plans were paid a capitation rate, these rates were effectively based on expected claims of the MCO's entire

membership, so there was no "margin" in premiums of younger adults to subsidize older adult coverage.

Discussion

We performed additional analysis of the relative risk and utilization of the newly insured populations. In particular, we looked for evidence to test two competing hypotheses about the newly insured that have significant implications for the new ACA exchanges. One hypothesis, the "pent-up demand hypothesis" predicts that the newly insured will be relatively high users of services because of their pent-up demand due to years of foregoing services. An alternative hypothesis (which we name the "conservative consumer hypothesis") predicts that the newly insured will have *lower* utilization and cost than existing insured lives because they have had to be conservative users of medical services while uninsured.[10]

- The Commercial populations (Commonwealth Choice and new-entrant Commercial members) provide some support for the conservative consumer hypothesis. For example, despite being between 12 and 13 years older, and having a higher average risk score than the existing Commercially insured block, new entrant Commercial members use fewer services (on a risk-adjusted basis). The same is true of inpatient utilization (at least initially) of the Commonwealth Choice block, although by 2011 the utilization of Commonwealth Choice was similar to that of other Commercial members. The Commonwealth Care population, by contrast, demonstrates clear pent-up demand. The unsubsidized (and therefore more affluent) populations are the ones that appear to have been conservative consumers—these consumers *could* have afforded to purchase insurance prior to the mandate but chose not to for whatever reason. The Commonwealth Care population, which by definition could not afford to purchase insurance, is a heavy user of services once they have access.

Overall, we conclude that there is support in the data for both hypotheses; some populations in some years show evidence of conservative utilization; other populations show evidence of pent-up demand. The numbers are, however, volatile on a year-by-year basis. Table E.7a provides a broad guide to the findings by program; the reader should consult the analysis of each program for the specifics, however.

[10] We associate this hypothesis with Prof. Jon Gruber of the Massachusetts Institute of Technology, who first brought it to our attention.

Table E.7a Population Utilization and Cost, vs. Comparison Population, Risk-Adjusted Basis

n		Utilization			
Population	Comparison Population	Inpatient	Emergency Room	PCP	Cost
Commonwealth Care	MassHealth	>>	initially = incr. to >	>>	Initially < incr. to =
Commonwealth Choice	Commercial	<	>	=	> Incr. to >>
Newly enrolled Commercial	Commercial	=	<	<	<

Legend:
>>: Population numbers are considerably higher than Comparison Population
>: Population numbers are higher than Comparison Population.
=: Population numbers are approximately equal to Comparison Population.
<: Population numbers are lower than Comparison Population.

8. Hypothesis 8: **Changes in premiums since reform** may reflect underlying changes in contractual arrangements with providers

   Result: We do not have data on provider contracts. To the extent that changes have occurred, these may be a consequence of the Connector's more active contracting policy after 2011.

   Discussion

   The Connector had authority to contract with MCOs for the Commonwealth Care plan, and its active management of the procurement process resulted in moderate rate increases and, in recent years, decreases in rates. In the first year of the program the rates were established actuarially based on MassHealth (Medicaid) experience, and thereafter in the first few years of the program certified as being actuarially sufficient. This resulted in rates that were based on the prior year's experience, trended. With the exception of 2010, this methodology resulted in increasing rates. After 2011 the Connector changed its contracting policy and encouraged competitive bids. The effect of this change is seen in the 2012–2013 rates. Table E.7b shows that between FY 2007 and FY 2013 rates increased by only 0.6%. The Connector's active procurement process resulted in a decrease in average capitation rates of 16.5% between FY 2011 and FY 2013.

Table E.7b Average Commonwealth Care Capitation Rates FY 2007–2013

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Capitation Rate	$354.07	$351.62	$400.70	$396.36	$426.71	$403.95	$356.21
Rate Trend		−0.7%	14.0%	−1.1%	7.7%	−5.3%	−11.8%

Hypothesis 9: Members reacted to changes in the relative prices of different subsidized plans by moving to lower-cost plans.

Result: We analyzed Elasticity of Response of Member Choice to Changes in Premiums (Commonwealth Care). Premiums in the Commonwealth Care (subsidized) program were changed annually at July 1, and members were eligible to move to a different plan at this date; a number of members migrated each year. We quantified the effect of this premium-induced switching behavior and estimated the elasticity of response[11] to changes in member contributions. We find elasticity at −0.21 in 2013 to be somewhat lower than previous studies of employer populations, which is in the range of −0.30 to −0.60.

Discussion

The Massachusetts mandate was unique at the time (so being uninsured was not an option), and members were able to choose an insurer but not a benefit plan. Thus a study of migration in Massachusetts is uniquely able to quantify the effect of price (contribution rates) on member switching behavior. We find elasticity at −0.21 in 2013 to be somewhat lower than previous studies of employer populations. Elasticity for some plans (Neighborhood Health, CeltiCare and Fallon) is not significantly different to zero. Overall, elasticity has also been increasing with time, perhaps indicating increasing comfort on the part of the newly insured with the insurance process and a willingness to seek out lower-cost options. There are no studies, to our knowledge, of elasticity of demand within government programs. The closest similar studies are those performed on employee choice within benefits plans. Prior studies of employer populations have estimated higher elasticities in the range −0.3 to −0.6. The data contained a number of outliers in terms of both changes in contributions and percentage of members switching plans. The effect of outliers was moderated by the use of a

[11] Elasticity of response to a change in price is defined as $\frac{\partial y / y}{\partial p / p}$ or the relative change in enrollment (y) divided by the relative change in price.

robust regression model for analysis, leading us to question whether previous studies may have been affected by outliers, resulting in overestimates of the elasticities.

Summary of Results by Program

- Commonwealth Care member cost is initially lower than that of Medicaid members, although cost increases over time. On a risk-adjusted basis, once the Commonwealth Care population matures, the costs of the two populations are almost the same, supporting the Conservative consumer hypothesis.
- The small Commonwealth Choice population uses relatively costly inpatient and physician services at a lower rate than the Commercial population as a whole, tending to support the Conservative consumer hypothesis. The newly insured use about the same amount of emergency room and prescription services as those with a history of insurance. On a risk-adjusted basis the cost of the Commonwealth Choice population exceeds that of the Commercially insured block, supporting the pent-up demand hypothesis.
- New entrants within the Commercial block (those that obtain insurance through an employer or directly from an insurer) in each year are older than the existing Commercial members; they are also increasing in age over time (while the age of existing Commercial members remains relatively stable). The age/gender risk score for the Commercial new entrants is higher than that of the existing members, as is the Condition Risk/Age-Sex Risk ratio, which suggests that the new entrant population has a higher disease burden in some years. This conclusion is counter to the relative cost of the new entrant cohort, which (despite its higher disease burden) is lower than that of the existing members, supporting the Conservative consumer hypothesis.

A. The Commonwealth Care Program (Subsidized Coverage)

A.1. Experience of the Commonwealth Care Program

The Connector controlled the Commonwealth Care program and Capitation rates paid to MCOs reflected the experience of the population. As we have already noted, enrollment initially skewed heavily younger. With the passage of the ACA, many of the previously insured young people found coverage elsewhere (for example, on a parent's plan), and the younger age categories (under 39) are now underweighted in Commonwealth Care relative to the state age distribution. We would expect the rise in the average age of the Commonwealth Care group to increase the average risk of this population and therefore their average claims and premiums. Between FY 2007

and FY 2011 (the last year for which we have detailed data that allow us to calculate risk scores) the average DxCG risk score for the Commonwealth Care population increased significantly (+48.6%). All things being equal we would expect the claims and therefore capitation rates to follow the average risk of the population.

Table E.8 Average DxCG Condition risk of Commonwealth Care Population

Fiscal Year	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Average DxCG risk score	1.020	1.137	1.455	1.556	1.516	N/a	N/a

A.2. Utilization and Cost within the Commonwealth Care Program

Detailed claims data allowed us to analyze service cost and utilization on both an unadjusted and risk-adjusted basis, for the Commonwealth Care program between FY 2007 and FY 2011 (through Calendar Year-end 2010). All Commonwealth Care members are by definition newly enrolled in that program (although they could have had insurance previously from another source); we compare their utilization to that of the existing MassHealth population. Utilization (inpatient admissions, emergency room visits, primary care physician visits/1,000, total scripts, generic percentage and total days' supply per member) is reported for the Commonwealth Care population, compared with the MassHealth (Medicaid) population.

Table E.9 Commonwealth Care Program Utilization Compared with MassHealth—Unadjusted

Commonwealth Care							MassHealth					
Fiscal Year	Risk Score	IP/1,000	ER/1,000	PCP/1,000	Rx Scripts/ Member	Generic Rx	Risk Score	IP/1,000	ER/1,000	PCP/1,000	Rx Scripts/ Member	Generic Rx
2007	1.020	28.3	232.1	864.9	0.5	86.7%	1.917	49.0	465.7	1,549.9	1.0	85.0%
2008	1.137	38.8	295.6	1,193.3	0.8	87.5%	1.950	50.2	479.1	1,535.7	1.1	85.1%
2009	1.455	46.7	335.0	1,309.6	0.9	87.6%	2.267	42.0	533.9	1,566.2	1.2	85.3%
2010	1.556	48.8	341.5	1,378.1	1.0	87.9%	2.706	40.5	550.4	1,603.3	1.3	85.5%
2011[12]	1.516	45.4	329.9	1,311.4	0.5	88.5%	2.798	42.0	532.8	1,492.6	0.7	86.1%
Comparison (National)		43.2	567.6	2,227.4	n/a	n/a		43.2	567.6	2,227.4	n/a	n/a

Utilization of Commonwealth Care members was initially low and increased rapidly, to the point where inpatient admissions/1,000 exceeded that of the MassHealth population in later years. The Commonwealth Care population uses

[12] Note that data for FY 2011 are through December 2010, i.e., a half-year.

somewhat fewer primary care provider (PCP) services and significantly fewer ER services. However, the relative risk profiles of the two populations are sufficiently different, and on a risk-adjusted basis a different picture emerges—one in which the newly enrolled Commonwealth Care population is a heavier utilizer of all services than the MassHealth population.

A similar picture emerges from an analysis of cost per member per month: Table E.11 shows that Commonwealth Care member cost is initially lower than that of Medicaid members, although it increases over time. On a risk-adjusted basis, once the Commonwealth Care population matures, the costs of the two populations are almost the same.[13]

Table E.10 Commonwealth Care and MassHealth Utilization[14]—Risk-Adjusted

Commonwealth Care		Risk-Adjusted			MassHealth			
Fiscal Year	Risk Score	IP/1,000	ER/1,000	PCP/1,000	Risk Score	IP/1,000	ER/1,000	PCP/1,000
2007	0.627	57.2	468.9	1,747.1	1.266	49.0	465.7	1,549.9
2008	0.687	75.5	575.0	2,321.4	1.336	50.2	479.1	1,535.7
2009	0.903	85.4	612.5	2,394.1	1.650	42.0	533.9	1,566.2
2010	0.997	98.2	687.4	2,773.8	2.008	40.5	550.4	1,603.3
2011	0.971	97.9	711.8	2,830.0	2.096	42.0	532.8	1,492.6

Between 2007 and 2011the average risk scores of both the Commonwealth Care and MassHealth populations increase significantly, at a compound annual rate of 11.6% (Commonwealth Care) and 13.4% (MassHealth). As Table E.5a shows, enrollment in Commonwealth Care increased at an annual rate of 41% between 2007 and 2010; MassHealth enrollment actually fell slightly between 2007 and 2010, although with new enrollments as a result of Chapter 58, the reduction was due to churn in the underlying population. With regard to the increase in average risk of the Commonwealth Care population, some of this is likely due to enrollment of more-risky lives later, and some due to the increase in identified conditions in the newly enrolled over time. Differentiating between the two is possible but outside the scope of this study. The newly enrolled MassHealth population is difficult to identify because of churn; the 2007 cohort is analyzed in Chapter 6. This cohort represents a small fraction of the overall MassHealth population and so is unlikely to influence the average risk score much. The increase in risk score for the MassHealth population is therefore more

[13] It is not technically correct to risk-adjust the member cost-sharing amount. However, for the MassHealth and Commonwealth Care programs member cost sharing is very low, and we have risk-adjusted the cost sharing to allow readers to compare the net paid claims of the two populations.
[14] For this table, as with other utilization tables, the DxCG utilization risk model has been used.

likely to be due to increased services generating more recorded conditions. Once again further analysis is outside the scope of this study.

In the MassHealth population for 2009–2010 there is some evidence of reduced utilization (inpatient admissions are 16% lower in 2009 than 2008 and fall further in 2010). A reviewer has suggested that this may be due to the effect of the recession that was experienced, beginning in 2008. Whatever is causing the decline in inpatient admissions, it did not appear to affect ER or PCP utilization; nor did it reduce the increasing trend in utilization in the Commonwealth Care population. The evidence for the potential effect of the recession on utilization is much stronger in the Commercial populations (see Table E.14 and Figures 6.3a and 6.3b).

Table E.11 Commonwealth Care Cost Compared with MassHealth (Unadjusted and Risk-Adjusted)[15]

CommCare

FY	Member Months	Mean Age	% Male	Total Allowed Amount	Total Member Amount	Total Net Paid Amount	Medical Allowed Amount	Med Member Amount	Med Net Paid Amount	Rx Allowed Amount	Rx Member Amount	Rx Net Paid Amount
2007	711,203	42.9	n/a	$139.36	$4.87	$134.49	$120.16	$3.42	$116.74	$19.20	$1.44	$17.75
2008	2,309,819	43.0	n/a	$208.38	$8.55	$199.83	$176.71	$5.49	$171.22	$31.68	$3.07	$28.61
2009	2,175,009	43.1	n/a	$249.22	$10.62	$238.60	$208.60	$5.88	$202.72	$40.62	$4.74	$35.88
2010	2,011,326	42.5	n/a	$251.75	$9.95	$241.80	$210.91	$4.73	$206.18	$40.84	$5.21	$35.62
2011	955,660	42.0	n/a	$228.99	$7.88	$221.12	$209.49	$5.14	$204.35	$19.50	$2.73	$16.77

MassHealth

FY	Member Months	Mean Age	% Male	Total Allowed Amount	Total Member Amount	Total Net Paid Amount	Medical Allowed Amount	Med Member Amount	Med Net Paid Amount	Rx Allowed Amount	Rx Member Amount	Rx Net Paid Amount
2007	13,706,431	36.3	n/a	$386.46	$29.44	$357.03	$337.68	$28.39	$309.30	$48.78	$1.05	$47.73
2008	14,207,179	35.3	n/a	$415.95	$34.83	$381.12	$367.94	$33.66	$334.28	$48.01	$1.17	$46.84
2009	14,165,600	34.6	n/a	$440.05	$41.80	$398.25	$388.09	$40.34	$347.75	$51.96	$1.46	$50.50
2010	13,409,365	34.3	n/a	$496.49	$58.06	$438.43	$426.98	$56.24	$370.74	$69.51	$1.82	$67.69
2011	6,543,438	34.2	n/a	$468.94	$61.67	$407.27	$434.07	$60.53	$373.54	$34.87	$1.14	$33.73

CommCare Risk Adjusted

FY	Member Months	Mean Age	% Male	Total Allowed Amount	Total Member Amount	Total Net Paid Amount	Medical Allowed Amount	Med Member Amount	Med Net Paid Amount	Rx Allowed Amount	Rx Member Amount	Rx Net Paid Amount
2007	711,203	42.9	n/a	$261.91	$9.14	$252.76	$225.83	$6.43	$219.40	$36.08	$2.71	$33.36
2008	2,309,819	43.0	n/a	$357.38	$14.67	$342.72	$303.06	$9.41	$293.65	$54.33	$5.26	$49.07
2009	2,175,009	43.1	n/a	$388.30	$16.55	$371.76	$325.01	$9.16	$315.85	$63.29	$7.39	$55.91
2010	2,011,326	42.5	n/a	$437.81	$17.30	$420.51	$366.79	$8.23	$358.56	$71.02	$9.07	$61.95
2011	955,660	42.0	n/a	$422.64	$14.54	$408.10	$386.64	$9.49	$377.15	$35.99	$5.04	$30.95

A.3. Implications for Rating

Initially the Commonwealth Care population was relatively low risk and low utilizing, as reflected in the gain/(loss) analysis in the early years. Risk and utilization both increased rapidly to the point that, on a risk-adjusted basis, the Commonwealth Care population utilization exceeded that of the Medicaid population. Following losses in FY 2010 the Connector contracted more aggressively with MCOs, favoring the lowest-cost plan in a geographic region. We do not have data on MCO provider

[15] Costs of the Commonwealth Care population are adjusted to the same risk basis as the MassHealth population by multiplying by the ratio MassHealth Risk Score/Commonwealth Care Risk Score. For financial comparisons, the DxCG Financial (Cost) risk-adjuster was used.

contracting strategies, but it is reasonable to assume that the reductions in capitation rates were shared with providers.

B. The Commonwealth Choice Program (Unsubsidized Coverage)

Although the Connector Authority met a number of its policy and business objectives through the Commonwealth Choice (unsubsidized) program (Consumer education, improved shopping experience), it did not become the distribution channel of choice for buyers and sellers of nongroup and small group coverage because it was never able to establish more than a small degree of penetration of the small group market, and its total Commercial enrollment was small.

Table E.12a Enrollment in Commonwealth Choice by Year and by Plan Tier

Year	Gold	Silver	Bronze	YAP[a]	Total
December 2007	926	3,135	6,590	3,002	13,653
December 2008	1,370	4,835	7,851	3,739	17,795
December 2009	1,503	6,376	9,469	4,687	22,035
December 2010	3,084	14,710	17,072	5,209	40,075
December 2011	3,277	14,255	20,935	2,865	41,332
December 2012	3,315	14,184	23,360	2,260	43,119
June 2013	3,271	13,784	22,787	1,946	41,788

[a]Young Adult Plans available to citizens 26 and under.

Table E.12b Metallic Tier Share of Enrollment in Commonwealth Choice by Year

Year	Gold	Silver	Bronze	YAP	Total
December 2007	6.8%	23.0%	48.3%	22.0%	100.0%
December 2008	7.7%	27.2%	44.1%	21.0%	100.0%
December 2009	6.8%	28.9%	43.0%	21.3%	100.0%
December 2010	7.7%	36.7%	42.6%	13.0%	100.0%
December 2011	7.9%	34.5%	50.7%	6.9%	100.0%
December 2012	7.7%	32.9%	54.2%	5.2%	100.0%
June 2013	7.8%	33.0%	54.5%	4.7%	100.0%
Average Growth Rate	2.6%	6.8%	2.2%	−24.6%	

Tables E.12a and E.12b show the plan (metallic tier) choices made by those members who enrolled through the Connector. Enrollment in the highest (Gold) and lowest (Bronze) tiers has remained relatively stable, growing at less than 2% annually. The Silver tier is the most popular choice, growing at an annual rate of over 6%.

Despite its advantages in the market, the Connector had at least one disadvantage: Although it was able to risk-adjust premiums and transfer revenue between MCOs in the Commonwealth Care program, it did not have this role in the Commercial market. With a maximum enrollment of only 43,119 members, spread among nine insurers, the Connector had limited market influence other than its regulatory authority. It was able to influence plan design through the "Seal of Approval" program, under which only plans that met certain value criteria relative to price were offered on the Exchange. Over time the Connector gradually increased the number and range of plans offered on its "shelf," in response to market demand for more choice and flexibility, particularly from employers.[16] The Connector's inability to influence market pricing meant that it could not offer more favorable terms than the insurers whose products it sold, which in turn limited its market penetration.

One of the innovative ideas introduced by the Connector—the Choice program—was unsuccessful and was subsequently terminated. The Connector had reason to assume that the Choice program would be a success: It was modeled on the highly

[16] Following the introduction of the ACA, Massachusetts consumers were offered a broader range of plans than before because the ACA plan ranges are Platinum, Gold, Silver, and Bronze, versus the Massachusetts range of three designs (Gold, Silver, and Bronze). The Massachusetts plan range maps (approximately) to Platinum, Gold, and Silver benefits under the ACA. The ACA introduced a new plan range: Bronze. Significantly, approximately 40% of initial enrollments in the new ACA-compliant exchange were in the "new" Bronze plan range, indicating that there was some unmet demand for a lower-value plan under the former Connector design.

successful federal employee benefit program. This program allowed the employer to offer a fixed (although age-adjusted) contribution to employees who could then choose between different plans at a given metallic level. Despite its theoretical appeal, maximum enrollment reached only 388 lives.

Why the Connector was not more successful at attracting Commercial lives, reengineering the market, and in particular reducing premiums is open to debate. In part, Massachusetts may have been a victim of its own success with a comparatively high percentage of its population covered by insurance prior to reform. In this environment, the introduction of a new distribution channel meant that the Connector would largely have had to gain market share from other Commercial intermediaries. The power of the existing market participants and the lack of the type of subsidies available through the ACA for Commercial purchasers meant that the Connector made only small gains in the Commercial market.

B.1. Utilization and Cost within the Commonwealth Choice Program

In terms of unadjusted utilization, the small Commonwealth Choice population uses relatively costly inpatient and physician services at a lower rate than the Commercial population as a whole, tending to support the Conservative consumer hypothesis. The newly insured use about the same amount of ER and prescription services as those with a history of insurance. However, the Commonwealth Choice population is considerably lower-risk than the Commercial population. On a risk-adjusted basis the utilization picture changes.

Table E.13 Commonwealth Choice (Unsubsidized) Utilization vs. Massachusetts All-Commercial Insureds—Unadjusted

Commonwealth Choice						Commercial* (with BCBSMA ASO Removed)				
FY	IP/1,000	ER/1,000	PCP/1,000	Rx Scripts/ Member	Generic Rx	IP/1,000	ER/1,000	PCP/1,000	Rx Scripts/ Member	Generic Rx
2007	-	-	-	-	-	84.7	184.9	1,199.80	1.4	88.70%
2008	37.7	162.5	748.4	1.3	88.90%	84.4	186.6	1,210.80	1.5	86.90%
2009	24.2	98.8	460.9	1.7	89.60%	56.2	131.1	881.1	1.6	89.30%
2010	24.2	90	392.4	1.8	90.20%	58.2	128.6	856.7	1.7	89.80%
2011	45.2	128.8	689.8	1	90.00%	73.8	140.5	1,235.50	0.9	90.10%
National Comparison	66	191	2,427.70	n/a	n/a	66	191	2,427.70	n/a	n/a

Table E.14 Commonwealth Choice Utilization vs. Commercial (Utilization Risk-Adjusted)[17]

	Commonwealth Choice				Commercial* (with BCBSMA ASO Removed)			
Fiscal Year	Risk Score	IP/1,000	ER/1,000	PCP/1,000	Risk Score	IP/1,000	ER/1,000	PCP/1,000
2007	-	-	-	-	1.214	84.7	184.9	1,199.8
2008	0.858	62.9	271.2	1,249.1	1.432	84.4	186.6	1,210.8
2009	0.668	41.0	167.4	781.0	1.132	56.2	131.1	881.1
2010	0.558	47.2	175.5	765.1	1.088	58.2	128.6	856.7
2011	0.952	77.5	220.9	1,183.2	1.633	73.8	140.5	1,235.5

On a risk-adjusted basis, inpatient utilization in the Commonwealth Choice population is initially lower than that of the Commercial population, although by 2011 utilization has increased to be comparable. PCP service utilization is comparable, but the Commonwealth Choice population uses significantly more ER services than the comparable Commercial population.

On a risk-adjusted basis the cost of the Commonwealth Choice population exceeds that of the Commercially insured block.[18]

Above, we noted an apparently weak effect of the recession of 2008–2009 on demand for health care services and utilization. Evidence for the effect of the recession on the Commercial blocks is stronger: Utilization of all services falls between 35% and 40% in the Commonwealth Choice population, and by slightly smaller amounts in the Commercial block. By 2011, as the recession was ending, utilization was returning to close to its prerecession levels.

[17] Risk adjustment using the DxCG utilization model.
[18] We do not have information on benefit differences or unit prices, which could also influence this result.

Table E.15 Commonwealth Choice[19] (Unsubsidized) Cost vs. Commercial

Comm Choice

FY	Member Months	Mean Age	% Male	Total Allowed Amount	Total Member Amount	Total Net Paid Amount	Medical Allowed Amount	Med Member Amount	Med Net Paid Amount	Rx Allowed Amount	Rx Member Amount	Rx Net Paid Amount
2007	-	-	-	-	-	-	-	-	-	-	-	-
2008	37,582	42.6	55.5%	$833.38	$630.29	$203.09	$774.26	$614.09	$160.17	$59.12	$16.20	$42.92
2009	90,082	41.8	52.0%	$543.82	$376.58	$167.24	$473.70	$355.34	$118.36	$70.11	$21.24	$48.87
2010	167,268	40.8	52.4%	$215.67	$46.21	$169.46	$148.17	$24.95	$123.22	$67.50	$21.26	$46.24
2011	80,514	41.2	51.7%	$314.66	$48.44	$266.22	$274.37	$39.21	$235.17	$40.29	$9.23	$31.06

Commercial* With BCBSMA ASO lives removed

FY	Member Months	Mean Age	% Male	Total Allowed Amount	Total Member Amount	Total Net Paid Amount	Medical Allowed Amount	Med Member Amount	Med Net Paid Amount	Rx Allowed Amount	Rx Member Amount	Rx Net Paid Amount
2007	33,217,502	42.6	47.5%	$307.53	$45.89	$261.64	$246.78	$35.27	$211.51	$60.75	$10.62	$50.13
2008	32,577,385	42.2	47.5%	$327.61	$47.40	$280.21	$263.44	$36.58	$226.86	$64.18	$10.82	$53.36
2009	30,018,412	41.6	46.9%	$260.66	$39.17	$221.49	$193.72	$25.63	$168.09	$66.95	$13.55	$53.40
2010	29,057,070	40.8	47.1%	$251.44	$25.31	$226.13	$184.00	$12.93	$171.08	$67.43	$12.38	$55.05
2011	10,981,720	42.1	47.3%	$268.98	$24.40	$244.57	$233.67	$18.78	$214.89	$35.31	$5.63	$29.68

CommChoice Risk Adjusted

FY	Member Months	Mean Age	% Male	Total Allowed Amount	Total Member Amount	Total Net Paid Amount	Medical Allowed Amount	Med Member Amount	Med Net Paid Amount	Rx Allowed Amount	Rx Member Amount	Rx Net Paid Amount
2007	-	-	-	-	-	-	-	-	-	-	-	-
2008	37,582	42.6	55.5%	$1,409.35	$1,065.89	$343.45	$1,309.36	$1,038.49	$270.87	$99.98	$27.40	$72.58
2009	90,082	41.8	52.0%	$906.36	$627.63	$278.73	$789.51	$592.23	$197.27	$116.86	$35.40	$81.45
2010	167,268	40.8	52.4%	$402.00	$86.13	$315.87	$276.18	$46.50	$229.68	$125.82	$39.63	$86.19
2011	80,514	41.2	51.7%	$518.49	$79.82	$438.67	$452.10	$64.60	$387.50	$66.39	$15.22	$51.17

C. Commercial Insurance (Unsubsidized)

C.1 Relative Risk and Cost of New and Existing Commercial Members

We identified a cohort of newly enrolled lives at January 1, 2007, by comparing the Commercially enrolled population at December 2006 with the same population at January 1, 2007; any member who was not in the database at December 31, 2006, is deemed to be newly enrolled. This date saw a net gain of 84,000 newly insured lives in Commercial insurance. This number comprised a reduction of 143,000 members from December 2006 whose Commercial coverage did not continue and a total of 227,000 newly enrolled Commercially insured lives with no prior history. The mandate was not effective until July 1, 2007 (and the penalty was only assessed at year-end 2007), so there may have been additional new entrants later than January

[19] Member cost in the first two years appears to be inconsistent with subsequent years; we note that the number of members covered in these two years is low. The data do not allow us to explore further what is causing these anomalous observations.

2007. The Commercial enrollment at July 1, 2007 (3.433 million) is slightly lower than the enrollment at January 1, 2007 (3.436 million), whereas that at December 31, 2007, is only marginally higher than that of January 1, 2007 (3.455 million).

Therefore, in constructing a cohort of newly enrolled members for the purpose of analyzing utilization and experience, it is reasonable to identify the new entrants at January 2007. Available data allow us to calculate comparative DxCG risk scores to assess the risk of the new entrants, relative to that of existing members. Significantly, the new entrants in each year are older than the existing Commercial members; they are also increasing in age over time (while the age of existing Commercial members remains relatively stable). The age/gender risk score for the Commercial new entrants is higher than that of the existing members; the relativity (between 27% and 55% higher) reflects the higher average age of the new entrant cohort. The Condition Risk/Age-Sex Risk ratio is also higher than that of the existing members, which suggests that the new entrant population has a higher disease burden in some years. This conclusion is counter to the relative cost of the new entrant cohort, which (despite its higher disease burden) is lower than that of the existing members.

Table E.16 Relative Financial Risk of New and Existing Commercial Members

	New Entrants Financial Risk Scores				Existing Member Financial Risk Scores				New Entrant/ Existing Age/Sex Ratio	New Entrant/ Existing Risk Ratio
	Commercial Cohort				Commercial Cohort					
Fiscal Year	Mean Age	Age/Sex	Condition	Ratio	Mean Age	Age/Sex	Condition	Ratio		
2007	50.3	1.667	2.349	1.409	42.6	1.313	1.716	1.306	1.270	1.369
2008	51.8	1.731	2.501	1.445	42.2	1.304	1.960	1.503	1.327	1.276
2009	54.5	1.854	2.480	1.338	41.6	1.288	1.605	1.246	1.439	1.545
2010	57.4	1.987	2.800	1.409	40.8	1.263	1.521	1.204	1.573	1.841
2011	58.8	2.053	3.378	1.645	42.1	1.321	2.180	1.650	1.554	1.550

The relative risk/disease burden and utilization of the newly enrolled population is higher than that of the existing population. On an adjusted basis, inpatient utilization of the newly enrolled Commercial population is similar to that of the existing Commercial population. Both PCP and ER utilization is lower in the newly enrolled program, however, suggesting that this population is a more conservative utilizer of care.

Table E.17 Comparative Adjusted Utilization of New and Existing Commercial Members

	Commercial Newly Enrolled					Commercial (with BCBSMA ASO Removed)				Commercial Newly Enrolled Risk Adjusted[20]		
Fiscal Year	Mem. Mos.	Risk Score	IP/ 1,000	ER/ 1,000	PCP/ 1,000	Risk Score	IP/ 1,000	ER/ 1,000	PCP/ 1,000	IP/ 1,000	ER/ 1,000	PCP/ 1,000
2007	227,886	1.449	106.9	103.5	1,097.7	1.214	84.7	184.9	1,199.8	89.5	86.7	919.4
2008	207,613	1.573	98.3	107.0	1,172.2	1.432	84.4	186.6	1,210.8	89.5	97.4	1,067.5
2009	172,006	1.561	75.4	71.2	975.0	1.132	56.2	131.1	881.1	54.7	51.6	707.0
2010	124,232	1.863	96.4	70.4	1,087.0	1.088	58.2	128.6	856.7	56.3	41.1	634.8
2011	107,379	2.381	100.2	87.0	1,576.7	1.633	73.8	140.5	1,235.5	68.7	59.7	1,081.5

On a risk-adjusted basis the cost of the newly insured Commercial population is for the most part lower than that of the Commercial population as a whole. The cost of the newly insured population is also lower than the existing insured, significantly so when the costs are risk-adjusted. These results are very consistent with the Conservative consumer hypothesis: These members represent a population that, for whatever reason (cost, absence of employer-sponsored health care), did not choose to purchase insurance prior to the Massachusetts mandate. (Their relative age, coupled with the modified community rating prevalent in Massachusetts and the rates in the nongroup market prior to the merger with the small group market, would have resulted in rates that were relatively high for these members.) The newly insured population is older than the existing insured block and higher risk. Once this population is covered by insurance, however, their relatively low utilization (and cost) persists, in contrast to the experience of other populations (Commonwealth Care and Commonwealth Choice, both of whose costs grew rapidly once they obtained insurance coverage). Overall, it is reasonable to hypothesize that this population contributes more in terms of premiums than it uses in services, but since the dataset lacks premium information, this hypothesis is untestable.

[20] Using the DxCG utilization model.

Table E. 18 Comparative Cost of 2007 Newly Insured Cohort and Existing Commercial Population

Enrollment and Cost of Newly-insured Cohort, Commercial 2007

FY	Members	Member Months	Mean Age	% Male	Total Allowed Amount	Total Member Amount	Total Net Paid Amount	Medical Allowed Amount	Med Member Amount	Med Net Paid Amount	Rx Allowed Amount	Rx Member Amount	Rx Net Paid Amount
2007	227,886	1,317,118	50.3	45.9%	$233.17	$37.01	$196.16	$214.17	$33.32	$180.84	$19.00	$3.69	$15.32
2008	207,613	2,283,184	51.8	45.6%	$251.11	$41.97	$209.14	$230.31	$38.23	$192.09	$20.80	$3.75	$17.05
2009	172,006	1,801,671	54.5	44.9%	$183.55	$28.35	$155.19	$164.99	$24.99	$140.00	$18.55	$3.36	$15.19
2010	124,232	1,398,440	57.4	44.3%	$181.17	$12.46	$168.71	$165.29	$9.72	$155.57	$15.88	$2.74	$13.14
2011	107,379	616,450	58.8	44.1%	$192.60	$11.44	$181.16	$186.12	$10.40	$175.72	$6.48	$1.04	$5.44

Commercial* With BCBSMA ASO lives removed

FY	Member Months	Mean Age	% Male	Total Allowed Amount	Total Member Amount	Total Net Paid Amount	Medical Allowed Amount	Med Member Amount	Med Net Paid Amount	Rx Allowed Amount	Rx Member Amount	Rx Net Paid Amount
2007	33,217,502	42.6	47.5%	$307.53	$45.89	$261.64	$246.78	$35.27	$211.51	$60.75	$10.62	$50.13
2008	32,577,385	42.2	47.5%	$327.61	$47.40	$280.21	$263.44	$36.58	$226.86	$64.18	$10.82	$53.36
2009	30,018,412	41.6	46.9%	$260.66	$39.17	$221.49	$193.72	$25.63	$168.09	$66.95	$13.55	$53.40
2010	29,057,070	40.8	47.1%	$251.44	$25.31	$226.13	$184.00	$12.93	$171.08	$67.43	$12.38	$55.05
2011	10,981,720	42.1	47.3%	$268.98	$24.40	$244.57	$233.67	$18.78	$214.89	$35.31	$5.63	$29.68

Enrollment and Cost of Newly-insured Cohort, Commercial 2007 (Risk-adjusted)

FY	Members	Member Months	Mean Age	% Male	Total Allowed Amount	Total Member Amount	Total Net Paid Amount	Medical Allowed Amount	Med Member Amount	Med Net Paid Amount	Rx Allowed Amount	Rx Member Amount	Rx Net Paid Amount
2007	227,886	1,317,118	50.3	45.9%	$170.34	$27.04	$143.30	$156.46	$24.34	$132.11	$13.88	$2.70	$11.19
2008	207,613	2,283,184	51.8	45.6%	$196.79	$32.89	$163.90	$180.49	$29.96	$150.54	$16.30	$2.94	$13.36
2009	172,006	1,801,671	54.5	44.9%	$118.79	$18.35	$100.44	$106.78	$16.17	$90.60	$12.01	$2.17	$9.83
2010	124,232	1,398,440	57.4	44.3%	$98.41	$6.77	$91.65	$89.79	$5.28	$84.51	$8.63	$1.49	$7.14
2011	107,379	616,450	58.8	44.1%	$124.29	$7.38	$116.91	$120.11	$6.71	$113.40	$4.18	$0.67	$3.51

D. Cost of Reform

It should be obvious that it is not possible to add over a half million newly insured individuals to the health insurance rolls without incurring additional cost. As we discuss in the body of the report, the reform was initiated in part because the Commonwealth was threatened with a loss of federal funds for earlier Medicaid expansions that were expiring. Supporters of reform also believed that the reform would "pay for itself" because the Commonwealth would be able to end its uncompensated care program for the newly insured. (As an example of this theory, see the 2004 editorial by Governor Romney in the Boston Globe [2].) In fact, both of these sources of funding became important offsets to the state's gross cost of its expanded insurance. Table E.17 shows our estimates of the additional cost of the program, the offsets available to the Commonwealth and the manner in which the share of the additional cost borne by different agents. Figure E.1 shows the breakdown of the overall estimated cost of $2.7 billion between the Commonwealth,

employers, the federal government and the insured themselves. Significantly the Commonwealth (and its taxpayers) incurred relatively minor additional cost (with the exception of smokers), with the major additional cost being borne by the federal government, employers and the newly insured.

Figure E.1

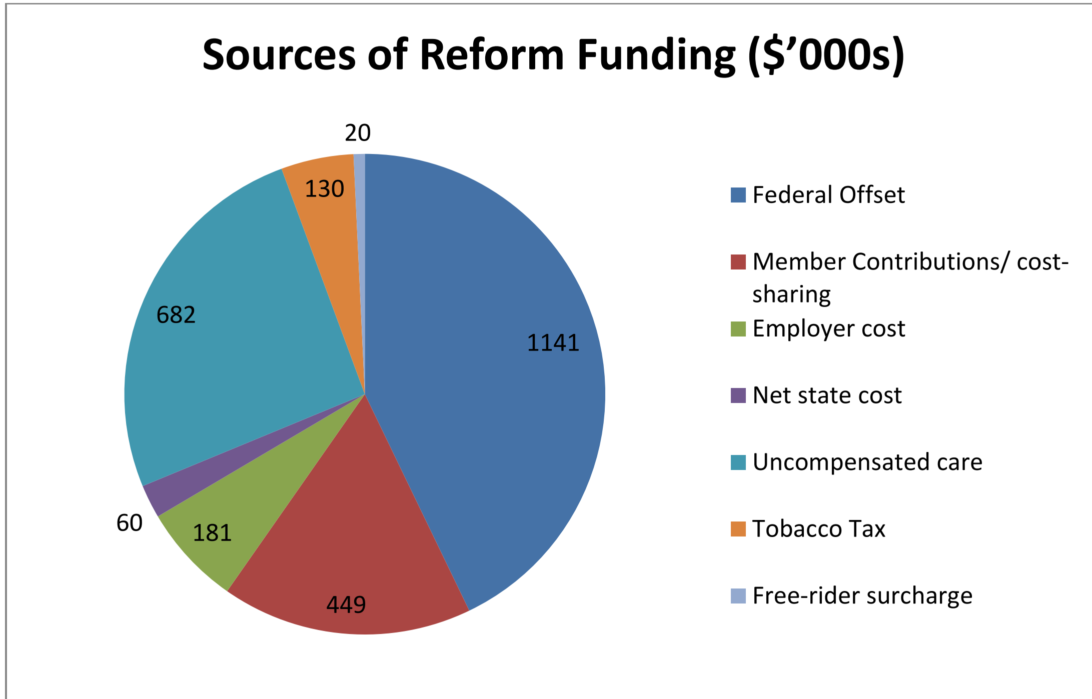


Table E.19 Estimated Costs Imposed by Reform

	Gross Cost	Federal Offset	Member Contributions/ cost-sharing	Net Cost (State)	Member /Employer Cost
MassHealth (those previously eligible who had not enrolled);	1,069,183,200	(534,591,600)	(140,607,600)	393,984,000	140,607,600
MassHealth expansion categories;	348,891,360	(174,445,680)	(45,882,480)	128,563,200	45,882,480
Commonwealth Care (newly-enrolled in the program);	865,012,000	(432,506,000)	(63,000,000)	369,506,000	63,000,000
Newly-enrolled lives who had previously declined employer group insurance;	-	-	-	-	-
Newly-enrolled lives in employer groups not previously offering insurance;	224,044,518	-	(43,345,704)	-	224,044,518
Newly-enrolled lives in Commonwealth choice; and	155,691,953	-	(155,691,953)	-	155,691,953
Newly-enrolled lives in non-group insurance who purchased directly from an insurer;	-	-	-	-	-
Additional cost imposed on existing employers and members by the requirements of Minimum Creditable Coverage.	-	-	-	-	-
	$ 2,662,823,031	$ (1,141,543,280)	$ (448,527,736)	$ 892,053,200	$ 629,226,551
Offsetting Amounts:					
- Reductions in Uncompensated Care (HSN)*	(682,388,000)				
- Tobacco Tax Revenue **	(130,000,000)				
- Free-rider Surcharge***	(20,000,000)				
Net Cost	$ 1,830,435,031	$ (1,141,543,280)	$ (448,527,736)	$ 59,665,200	$ 629,226,551
* Estimated as difference in costs between FY 2006 and FY 2012					
** Estimated from change in gross receipts FY 2008 and FY 2012					
*** Actual receipts not available; projected from prior years					

E. Lessons for States Managing Exchanges under the ACA

Massachusetts is a unique state with a history of a relatively high rate of health insurance coverage. The environment in which Massachusetts reform was implemented as well as specific features of the reform itself are likely different from other states under the ACA. Nevertheless there are some important lessons:

1. The largest subpopulation to gain insurance was those citizens already eligible for Medicaid who had not previously enrolled. Although Massachusetts was successful enrolling those citizens who received a subsidy, the Connector was less successful at enrolling unsubsidized lives, many of whom found insurance through their employers or direct from insurers.

2. The Connector's inability to penetrate the Commercial market did not change over time. The two-program nature of the Massachusetts reform is different from the ACA; within an ACA exchange all members purchase from a common set of plans, with subsidies varying continuously up to a higher percentage of FPL. Therefore, ACA exchange operators should be able to exert an influence over the Commercial market that is more consistent with the Connector's influence over the Commonwealth Care market.

3. The Connector's attempts to penetrate the unsubsidized market were largely unsuccessful: Its small group enrollment at FY-end 2013 amounted to slightly more than 5,000 (and this in partnership with an outside organization), while its attempt to introduce a federal employee–type plan, allowing employees to choose between carriers and different plans, was less successful than other Connector innovations. The Connector improved the shopping experience for the nongroup market, but in the broker-dominated small group market, the Connector adds an additional layer of complexity and competes with powerful intermediaries and insurers. The Connector was not able to gain market share in the small group market, and its market share in the nongroup market did not exceed 10% until 2012.

4. The risk profile of the newly enrolled is a critical factor. Initial appearances may be deceptive: The subsidized population initially appeared to be a relatively low utilizer (both in absolute terms and relative to the Medicaid population) of some services, particularly in the early years following inception. On a risk-adjusted basis, however, this is not the case, and the newly enrolled subsidized population was a high utilizer of services relative to its risk profile (particularly of emergency room services). The only population that, on a risk-adjusted basis, is a comparatively low utilizer of services is the newly enrolled Commercial population (those that enroll through an employer

or direct through an insurer). This population is relatively older than existing Commercially insured members and has a higher risk score (as we would expect, given the relative ages) but is both a low utilizer of services and a relatively low-cost population. The Conservative consumer hypothesis (that the newly insured would be conservative utilizers of services) appears to be confirmed only by the newly enrolled Commercial (unsubsidized) population. Managers of Exchanges, in addition to performing risk adjustment, will need to closely monitor enrollment and utilization of the newly insured.

5. A conclusion from the risk profile analysis of Massachusetts insureds is that there are different subpopulations within the newly insured, and these populations have different experience and will behave differently. For a state operating an exchange it will be important to identify and manage the mix and utilization of subpopulations.

6. Analysis of member-switching behavior in the subsidized Commonwealth Care program shows lower elasticity of response by members to changes in price than has been reported in the employer market literature. This behavior suggests that members are less likely to react to price changes than their counterparts with employer-provided insurance. The lesson for plans on the Exchange is to gain market share early, in the expectation that through inertia, those members will stay with their original plan.

7. The cost of the ACA will largely be borne by the federal government at least initially, as was the case with the Massachusetts reform. Because Massachusetts was able to divert funds from its existing uncompensated care pool and increase its tobacco tax, the state's cost was limited. Not all states will be in this fortunate position. The cost imposed on the insureds themselves (and to a lesser extent employers) is also not insignificant, and as medical trends increase costs in the future as they inevitably will, this will become a source of friction between states and their insureds.

Close management of the financial aspects of the Exchange is important. Massachusetts achieved very good, stable financial results with the average capitation rate paid to participating MCOs varying very little over seven years (although with volatility within this period) by following an active negotiating strategy and working closely with the MCOs. The "3 R's" as practiced in Massachusetts made a minor contribution to the financial stability of the program with reinsurance being a net positive contributor and the Risk Corridor being a net contributor to the state. (The third element of the 3 R's is not reported separately because Massachusetts adjusted capitation rates prospectively each quarter according to an MCO's enrollment risk profile.)

Introduction

Despite the implementation of the Patient Protection and Affordable Care Act (ACA), and the development of regulations to implement the provisions within the law (Public Law 111-148), the lessons of Massachusetts health reform remain important for policymakers and stakeholders to understand, not to mention the interaction between the two regulatory efforts. Aspects of the Massachusetts model (referred throughout this text as the "Chapter 58 Reforms" after the chapter of the Massachusetts Legislative Acts that enacted these reforms) have been replicated in many elements of national reform, so it is very timely and relevant to better understand the impact of the Massachusetts reform experiment conducted between 2007 and 2014 on risk selection, cost and other factors. In particular, both the Massachusetts reform model and ACA include provisions to mandate the purchase of health insurance and to establish state-administered health insurance exchanges, which are intended to create an organized and competitive market for health insurance by offering a choice of plans, establishing common rules regarding benefits and pricing, and providing information to help consumers better understand their options [3].

Health insurance reform in Massachusetts and at the national level was promoted in part on a belief that coverage would be more affordable if the pool of premium-paying lives was expanded to include those uninsured with the ability to participate. This argument has three aspects:

- A belief that a substantial portion of the uninsured consists of healthy individuals (particularly relatively young consumers) who elect not to prepay for coverage but instead obtain services as and when required, often from walk-in clinics, urgent care centers and hospital emergency departments. The failure of this group of consumers to enter the insurance pool, it is believed, deprives the pool of the subsidy that these otherwise healthy consumers would provide for other pool participants.
- At the same time, this consumer behavior results in a charge to the public purse when the consumer is unable to pay for care out of pocket but instead requires the public provision of catastrophic or uncompensated care, often for preventable acute episodes.
- Extensive literature demonstrates that insured consumers are more likely to seek early and preventive treatment, as well as follow wellness and chronic disease management strategies, and thus avoid (or at least postpone) the more costly complications that arise from untreated conditions.

Demand by the (previously) uninsured for health care services is an important area of analysis for our study. One hypothesis, which we refer to as the "conservative consumer hypothesis" and is associated with Jon Gruber of the Massachusetts Institute of Technology and the intellectual father of Massachusetts reform, is that the uninsured are conservative users of health care services and that this behavior persists once the consumer obtains health insurance. The conservative consumer hypothesis predicts, therefore, that a previously uninsured consumer will use fewer health care resources than a previously insured consumer with the same risk profile. An alternative hypothesis (which we will call the pent-up demand hypothesis, which has been proposed by actuaries who are responsible for pricing Exchange insurance products) is that the previously uninsured represent a source of pent-up demand, and therefore the previously uninsured consumer will use more resources than a corresponding previously insured consumer.

The response of consumer behavior to insurance has been the subject of considerable study, and we will not survey the literature in depth here. Rather, we will point to some representative studies. For example, Hadley and Cunningham [4], in an Issue Brief for the Center for Studying Health System Change, write that

> While considerable research shows that uninsured people are less likely to seek and receive medical care, some contend that the uninsured are uninsured by choice and can obtain care when needed … there is no difference between insured and uninsured people's perception of the need to see a medical provider when they experience a serious new symptom. However, among people who believed that they needed medical care, the uninsured were less than half as likely to see or talk to a doctor, indicating that lack of insurance is a major barrier to uninsured people getting needed medical care.

This study is based on survey data from the Community Tracking study and does not adjust for potential confounding due to the greater likelihood of insurance purchase by sicker individuals or the lower likelihood of sicker individuals to be employed and therefore eligible for employer-provided health insurance. An Urban Institute Policy Brief, "Why Health Insurance Is Important" [5], by Randall Bovbjerg and Jack Hadley lists six arguments in support of providing health insurance for the uninsured; most of these factors point to the additional burden borne by the uninsured (both with respect to health and financially). Because we lack access to data on the utilization of the previously uninsured prior to reform, we are unable to study those factors that require access to

historical data, although numerous studies demonstrate the effects of uninsurance (for example, that of Hadley and Cunningham [3]). One of Bovbjerg and Hadley's arguments, however, is capable of some testing and was a factor in convincing Massachusetts (and federal) policymakers to expand insurance to the uninsured: "the benefits of expanding coverage outweigh the costs for added services."

A much-cited survey article on the effect of insurance on medical care utilization is a paper published in 2005 by Buchmueller, Grumbach, Kronick and Kahn [6]. This study aims to quantify the relationship between insurance and health care utilization, as documented in credible studies. Buchmueller et al. summarize the differences in outpatient visits (between one and two additional visits per year when the consumer has insurance) and inpatient days (between 0.16 and 0.24 additional days per year for insured consumers).

Health insurance is an expensive commodity. Depending on plan design, the program in which the consumer is enrolled and the consumer's age, monthly premiums during the period covered by this study[21] could amount to between $400 and $600 per month. The existence of the safety net and other programs in Massachusetts for the uninsured made it possible to obtain services (albeit with some difficulty) when needed. Thus the decision to remain uninsured (on purely economic grounds) was a rational one. Since certain uninsured consumers had demonstrated that they would not readily purchase coverage, or worked for employers who did not provide the opportunity to purchase employer-sponsored insurance (ESI), Massachusetts deemed that these consumers (and their employers, where applicable) required inducement to acquire or provide coverage. This led in Chapter 58 to the imposition of an individual insurance purchase mandate. Imposing the mandate and expanding the market, it was believed, would in turn allow policymakers to redirect existing state expenditures for uncompensated care to subsidize those new consumers who were unable, due to low income, to afford the insurance products available in the market. Policymakers also expected to use resources more effectively and efficiently, as many of the previously uninsured would shift from higher cost interactions with emergency rooms and outpatient facilities, to more primary care–based health management and preventive care services, potentially offsetting some of the overall costs to the system.

[21] Some commentators have noted that the cost of individual policies in some states has increased as a result of the ACA.

Both the diversion of uncompensated care funds and the increased efficiency that was expected from an insured population, while important sources of financing for the expanded market, were unlikely on their own to make coverage affordable for the newly insured. Therefore, Massachusetts obtained a waiver under Section 1115 (Research and Demonstration projects) of the Social Security Act as a Medicaid expansion program that provided matching funds for the state's cost of covering those newly insured lives with incomes between 100% and 300% of the federal poverty level ($11,170 and $33,510 for an individual in 2012). The federal matching funds represent the single largest source of financing for the Massachusetts insurance expansion.

To deliver the subsidy to newly covered lives, as well as to increase choice among consumers and the efficiency of the insurance system, Massachusetts established an Exchange (the "Connector") managed by a newly established state authority, the Commonwealth Health Insurance Connector Authority. To address concerns about inadequate coverage—or the "underinsured"—the Massachusetts reform set a floor or minimum standard for creditable insurance coverage. This applied to all markets, including plans selling through the Exchange, the small and large group coverage outside the Exchange, and nonresident self-insured plans that may have covered only a few Massachusetts residents but that nevertheless were subject to the Minimum Creditable Coverage requirements. Only insurance plans that are approved by the Connector[22] as meeting "minimum creditable coverage" standards are allowed to be sold on the Exchange, and plans that do not meet minimum creditable coverage standards do not satisfy the insurance mandate. The American Academy of Actuaries has discussed the topic of "insurance" and the "uninsured" in an issue brief, "Health Coverage Issues: The Uninsured and the Insured" [7].

Not long after its April 2006 reform efforts, Massachusetts merged its small group and individual insurance markets (July 1, 2007) to better promote stability, subsidies and access to those citizens who, previously unable to obtain employer insurance, were often forced to purchase insurance through the individual market or go without coverage. Although Massachusetts reform has been studied from the perspectives of improvement in access to insurance and providers, there has been no comprehensive, multipayer data-driven actuarial study of the effect on the market, pricing or profitability of insurance companies and of its effect on consumer behavior (adherence, quality of care and utilization of health care resources). Thus any study of reform must seek to understand

[22] Both the insurance exchange and the authority, somewhat confusingly, are referred to as "the Connector."

the interaction between the individual and small group market merger and other reform elements such as the mandate.

Health Insurance Reform, whether at the state or federal level, raises many issues. The Massachusetts initiative, both as an experiment in providing affordable insurance to the previously uninsured and as a predictor for how the ACA might impact health care and health insurance markets nationally, provides an important source of data for those who wish to understand the implications of reform. The analytical phase of this study examines the cost and utilization of previously uninsured citizens and allows us to test hypotheses such as the Conservative consumer hypothesis (above). First, however, we discuss the context for Massachusetts reform and the differences between reform as embodied in Chapter 58 in Massachusetts and the federal version, the ACA.

As discussed in Chapters 5 and 6, data for this study come from the Connector Authority and from the Massachusetts Quality and Cost Council, part of (what is now) the Massachusetts Center for Health Information and Analysis. Approval for the protocol of this study was obtained from the Georgetown University Institutional Review Board.

Chapter 1: Background to Reform

Background

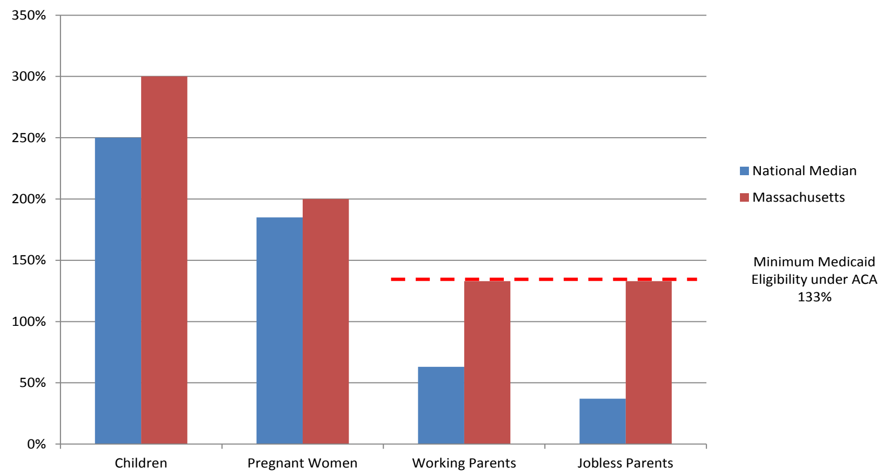
Massachusetts Population Demographics and Health Coverage

The Commonwealth of Massachusetts' unique demographic, geographic, political, academic and health care landscape combined to provide the impetus for health insurance reform, making it a suitable testing ground for a comprehensive overhaul. If universal coverage was to be achieved in any state, Massachusetts, with its history of bipartisan efforts at reform and relatively low uninsured percentage, was a likely candidate. (The fact that Massachusetts was so favorably positioned relative to other states prior to its reform, and the contribution that this may have made to the reform's success, may have been overlooked by commentators and the designers of the ACA.)

According to Families USA, elements conducive to health reform in Massachusetts included a high level of funding, uniquely strong public programs for low-income people and a highly regulated insurance market [8], [3]. The 2010 U.S. Census [9] indicates that Massachusetts had the 14th largest population of the 50 states with more than 6.5 million residents and was the third most densely populated state, with around 810 residents per square mile. The majority of the population lives within the Boston Metropolitan Area, and the remaining population live in a mix of urban, suburban and rural areas in eastern and western Massachusetts. Further, prior to reform in 2006 Massachusetts adults were healthier than the rest of the United States: 12.4% of all Massachusetts adults described their overall health as fair or poor, a significantly lower percentage than the national average of 14.7%.

The Massachusetts health care landscape comprises an extensive health services infrastructure, widespread employer-provided insurance and one of the more generous state Medicaid programs (called, in Massachusetts, MassHealth) in the nation from the perspective of eligibility, which contributed (prior to reform) to the relatively low uninsured rate in the state [8]. As we shall see, these factors, plus a history of attempts at expanding coverage, made the passage of reform in Massachusetts easier than in probably any other state. For comparative state adult Medicaid and child CHIP eligibility requirements see the Kaiser Family Foundation's "Key Facts about the Uninsured Population" [10] and "Performing under Pressure: Annual Findings of a 50-State Survey of Eligibility, Enrollment, Renewal, and Cost-Sharing Policies in Medicaid and CHIP, 2011–2012" [11].

Figure 1.1 Income Eligibility Levels for MassHealth, Compared with National Median Medicaid Eligibility



Sources: Kaiser Commission on Medicaid and Uninsured [5] and Center for Health Law and Economics University of Massachusetts Medical School [12].

Figures 1.2 and 1.3 show comparative eligibility by state and provide a sense of the relative generosity of Massachusetts [13].

Figure 1.2 Comparative Medicaid Income Eligibility by State: Adults

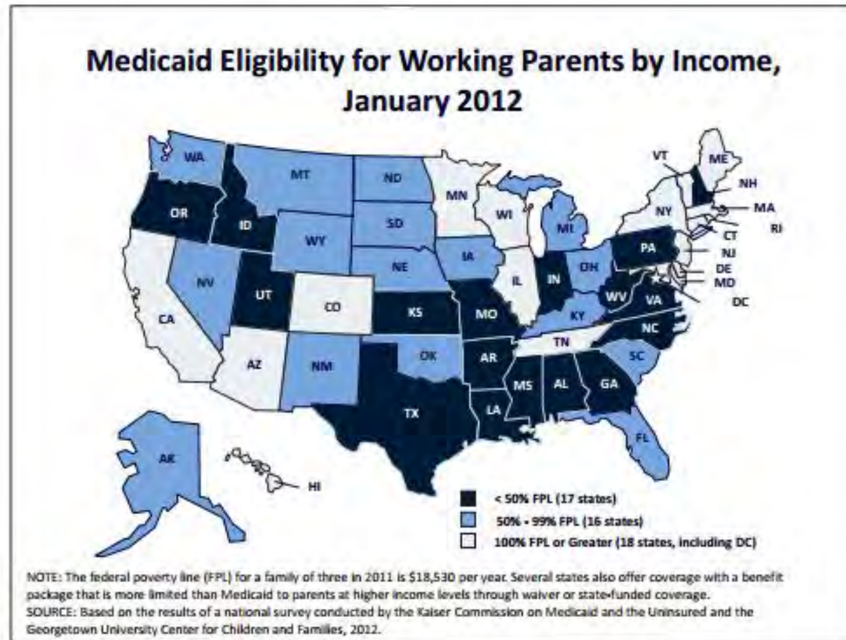
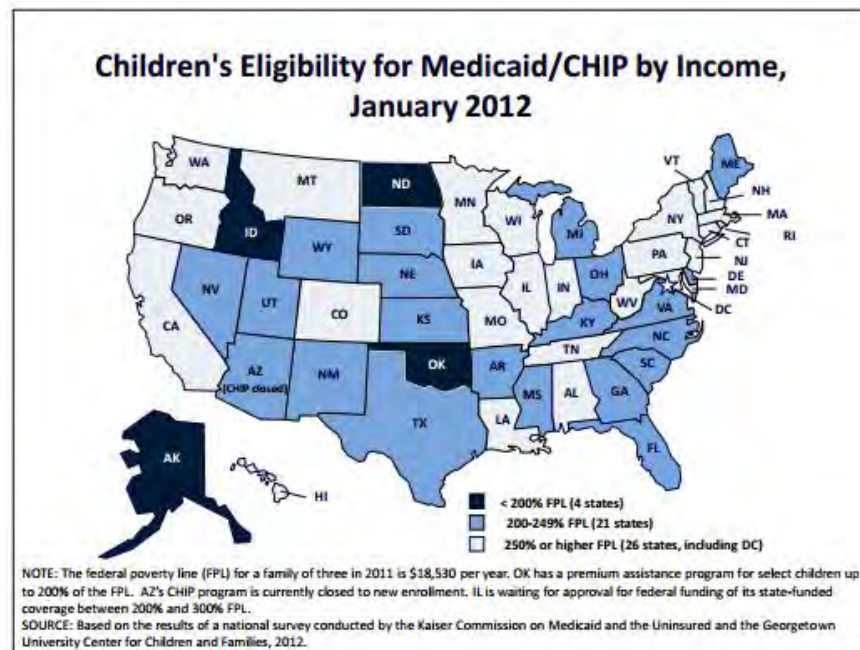


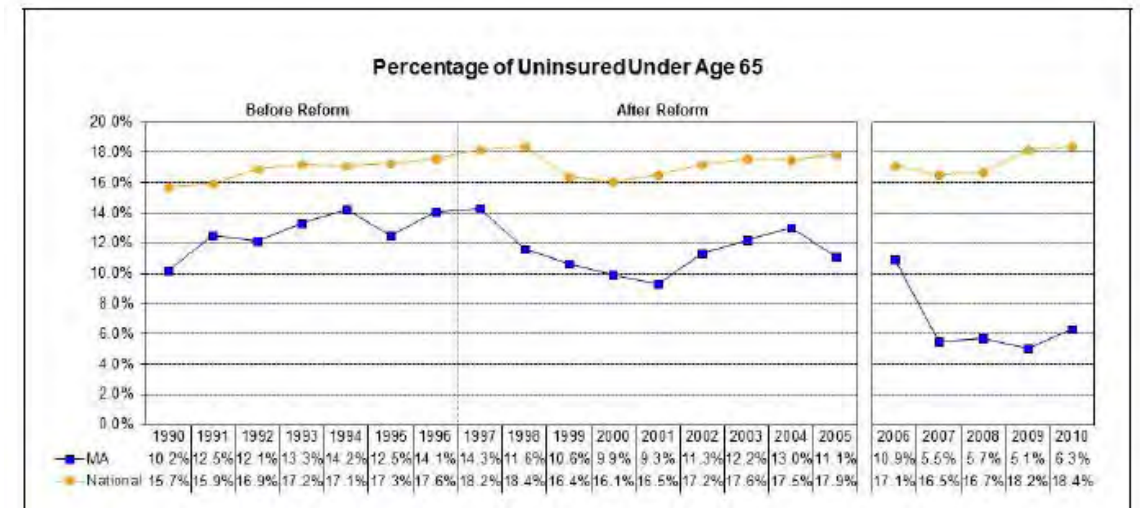
Figure 1.3 Comparative Medicaid Income Eligibility by State: Adults



Massachusetts has traditionally maintained a relatively low rate of uninsured residents compared to the national average; however, during the five-year period prior to the 2006 health insurance reform efforts, the percentage of uninsured adults 18–64 years of age increased from 6.7% to 8.9%[23] [14]. Wachenheim and Leider, in a 2012 paper for America's Health Insurance Plans [15] comparing the effect of guaranteed issue and community rating reforms in different states, report comparative uninsured numbers for adults 18–64 from Census data (see Figure 1.4). Their data show a decline in Massachusetts from a high of 14% uninsured in 1996, immediately prior to the introduction of Guaranteed Issue, to 11.1%, the rate reported immediately before the introduction of the 2006 reforms.

Comparatively, the national average rate of uninsurance for 2005 for all age groups was 15.9% [16]. In 2005 younger adults in Massachusetts (18–24 years) were the population subgroup most likely not to have insurance (13%) or not to have seen the doctor due to cost (10%), while black and Hispanic adults were particularly vulnerable with rates of uninsurance of 11% and 23%, respectively [14].

Figure 1.4. Uninsured Adults (18–64) in Massachusetts vs. United States



Source: Wachenheim and Leider [15].

Table 1.1 shows the percentages of different racial populations without insurance by year.

[23] As we shall see in Chapter 4, there has been considerable disagreement about the measurement of the uninsured.

Table 1.1 Uninsured Adults (18–64) in Massachusetts by Race

Race	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
White	6.2	6.1	6.0	6.8	6.7	7.0	6.9	6.7	3.0	3.2	2.6	3.4
Black	11.7	10.9	11.5	15.6	9.6	11.5	15.1	18.0	4.7	3.3	1.9	6.8
Hispanic	8.3	15.1	20.7	21.0	22.7	23.8	20.3	18.4	12.6	8.4	7.3	10.6
Asian	9.4	10.6	14.2	11.5	8.0	[a]	[a]	[a]	[a]	[a]	[a]	3.1

Source: Derived from Massachusetts Dept. of Public Health Annual Reports 2000–2011 See, for example, [14], [17].
[a]Denotes insufficient data.

Note that data in Table 1.1 are derived from telephonic sample surveys of relatively small numbers of citizens (in 2011, 15,428 total responses were obtained). The confidence interval for the reported data varies between 1 and 4 percentage points, depending in the size of the racial sample.

More Hispanics report fair or poor health (25%) than any other racial/ethnic group in Massachusetts [18], [19], [20], although the Hispanic composition of the Massachusetts population is relatively low (6.75% of the population according to the 2000 census vs. 12.5% nationally). After reform (2010) the percentage of all Massachusetts adults who considered their health to be fair or poor had fallen to 10.9%, although a higher percentage of Hispanics reported fair or poor health compared to 2006 (26.6%) [20].

As Figure 1.4 shows, the number of uninsured in the Commonwealth, which had been increasing slowly between 1990 and 1997, declined after 1998. This reduction in the uninsured (which mirrored national reductions) coincided with two factors: the passage of regulatory changes to the underwriting and pricing of small group insurance (beginning nationally in 1992, adopted in Massachusetts in 1996) and the robust economy and low premium trend increases of the second Clinton presidential term. We will examine the influence of the regulatory changes below. Although the introduction of Guaranteed Issue expanded coverage between 1996 and 2006, it had other consequences.

Although the Commonwealth's percentage of uninsured was lower than the national percentage, providing health care for the uninsured represented a significant expense for the state budget. Another key contributor to Massachusetts' traditionally generous benefits for the uninsured was the Uncompensated Care Pool (hereafter Pool; now the Health Safety Net [HSN] trust fund), which reimburses hospitals and community health centers for care provided to lower-income uninsured people [21]. Created in 1985, the Pool is a health care safety net program whose comprehensiveness and generosity distinguishes Massachusetts from most other states [22], [21]. The HSN does not provide insurance per se. Rather, it provides funding for safety net providers that treat the

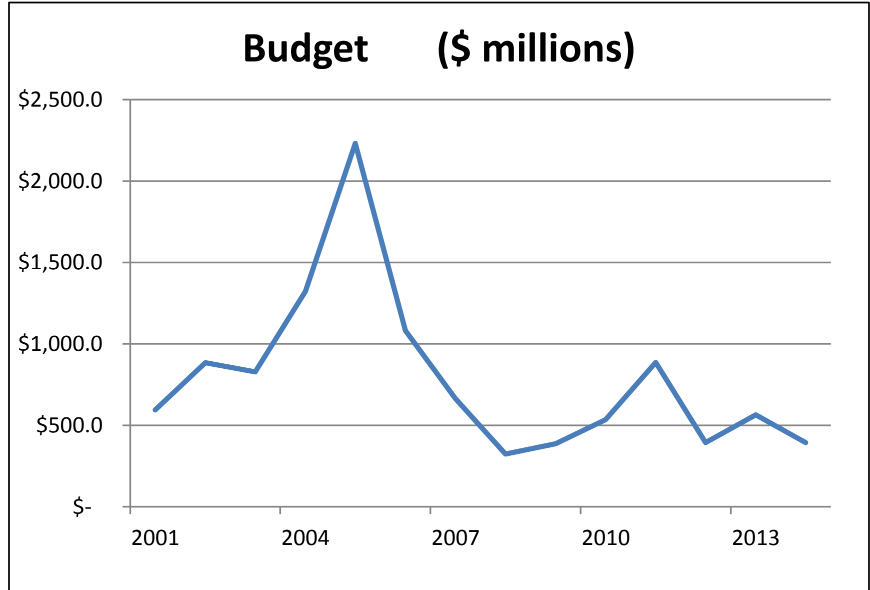
uninsured, ensuring access to care. The HSN is now funded by an assessment on acute care hospitals' private sector charges; a surcharge on payments made to hospitals and ambulatory surgical centers by HMOs, insurers, third-party administrators and individuals; an annual appropriation from the Commonwealth's General Fund; and funding for uncompensated care from the Medical Assistance Trust Fund.

The number of uninsured residents began to rise again in 2001. Prior to 2006, the financial pressure on those hospitals that provided the bulk of uncompensated care increased, as did the risk to the Pool's revenues [21]. During the early 2000s, Massachusetts threatened to raise assessments on hospitals and insurers to support the Pool. Since these assessments are passed on to purchasers in the form of higher insurance premiums, businesses that provided health insurance coverage to their employees were becoming increasingly concerned with this trend toward increasing uncompensated care costs. At the same time, increasing health care costs also contributed to the difficulties financing the Pool. Other states undertook funding experiments during the same time period as the Pool and prior to 2006, including Wisconsin's General Assistance Medical Program, the Georgia Indigent Care Trust Fund and the Michigan Muskegon County Access Health program [23]. Since 1983, New York State has set aside a pool of money to underwrite a portion of uncompensated care costs incurred by hospitals. The New York Hospital Indigent Care Pool distributes around $1 billion in Medicaid funds to public and voluntary hospitals through a major public hospital pool, voluntary and minor public hospital pool, voluntary high-need reserve pool, supplemental voluntary hospital pool, supplemental indigent care pool and rural grant pool. All hospitals report bad debt and charity care using hospital charges, and the state "converts" these to costs, covering around 63% of hospital losses in 2006 [24].

The rapid rise in the cost of uncompensated care in Massachusetts between 2001 and 2007 is shown in Figure 1.5.

Figure 1.5 Uncompensated Care/Medical Assistance Trust Fund Budgets 2001–2014

Fiscal Year	Budget ($ millions)
2001	$ 594.0
2002	$ 884.1
2003	$ 827.9
2004	$ 1,323.0
2005	$ 2,232.2
2006	$ 1,082.4
2007	$ 665.6
2008	$ 324.3
2009	$ 386.0
2010	$ 534.0
2011	$ 886.1
2012	$ 394.0
2013	$ 565.0
2014	$ 394.0



Source: Massachusetts Budget and Policy Center Budget Browser (www.massbudget.org/browser/index/php).

Following Health Care Reform, funding of the HSN pool was reduced to reflect the increased insurance of previously uninsured lives. HSN payments in FY 2006 amounted to over $1 billion; a year later this had fallen to $665 million and by FY 2008 to $335 million, a significant reduction. However, the initial optimism about the potential reduction to the uncompensated care budget due to reform did not translate into actual reductions in payments, and the amount paid increased between 2007 and 2011. A funding shortfall has also emerged in these years, with demand for reimbursement exceeding funding by $69 million and $84 million in 2010 and 2011, respectively[24] [25]. The passage of the ACA allowed the Commonwealth to reduce its budget after 2011, although the number continues to be unpredictable.

The reduction in uncompensated care represents a source of funding for the newly insured, but only a partial source.

[24] Annual numbers can be found in Chapter 5.

The Massachusetts Insurance Market

The Massachusetts non-Medicare insurance market consisted of the same mixture of individual, government, and small and large group coverage that prevailed in other states until the reform of 1996 (the Non-Group Health Insurance Reform Act), which imposed guaranteed issue and modified community rating on Massachusetts insurers. Table 1.2 shows comparative enrollment data for Massachusetts and the United States for individuals aged 18–64.

Table 1.2 paints a very different picture for Massachusetts compared with the nation as a whole. As we have noted, Massachusetts' rates of uninsurance are comparatively low, both before and particularly after reform. Massachusetts also has a very low rate of "other government" insurance (primarily Medicare for disabled individuals and military insurance). What is particularly noticeable about the Massachusetts data is the comparatively high rate of Medicaid coverage, which is in part due to the classification of the Commonwealth Care program as a Medicaid program. The effect of reform can be seen in the jump in Medicaid enrollment in 2007 (5.7%), about 3.6% of which is due to the Commonwealth Care program. Interestingly, despite the Massachusetts individual mandate, the rate of "Direct Purchase" or individual insurance in Massachusetts is lower than in the United States as a whole, presumably reflecting wider availability of subsidized coverage, higher rates of employer coverage and the absence of low-cost, slimmed-down coverage in Massachusetts.

Table 1.2 Sources of Health Insurance for Adults 18–64: National vs. Massachusetts

Year	Total Population ('000)	Not Insured	Employ ment Based	Direct Purchase	Medicaid	Other Govern ment	Covered by multiple plans
2012	267,829	17.7%	58.4%	7.3%	17.7%	5.2%	-6.2%
2011	267,320	17.9%	58.3%	7.1%	17.6%	5.2%	-6.1%
2010	266,776	18.4%	58.6%	7.1%	16.8%	5.0%	-6.0%
2009	265,667	18.2%	59.4%	6.9%	16.6%	4.8%	-6.0%
2008	263,695	16.7%	62.3%	6.9%	14.9%	4.8%	-5.7%
2007	262,316	16.6%	63.4%	7.2%	13.9%	4.7%	-5.7%
2006	260,789	17.1%	63.5%	7.3%	13.4%	4.4%	-5.7%
2005	258,330	16.5%	64.0%	7.4%	13.5%	4.5%	-5.9%
2004	255,957	16.1%	64.5%	7.5%	13.6%	4.4%	-6.0%
2003	253,621	16.4%	65.0%	7.4%	12.4%	4.5%	-5.7%
2002	251,700	15.7%	66.6%	7.5%	11.5%	4.4%	-5.7%
2001	248,312	15.2%	67.7%	7.3%	10.9%	4.3%	-5.4%
2000	245,952	14.7%	69.2%	7.2%	10.2%	4.4%	-5.7%
1999	243,427	15.3%	68.2%	7.7%	10.2%	4.2%	-5.6%
Year	Total Population ('000)	Not Insured	Employ ment Based	Direct Purchase	Medicaid	Other Govern ment	Covered by multiple plans
2012	5,584	4.8%	69.5%	4.6%	25.5%	1.7%	-6.2%
2011	5,587	3.8%	72.1%	6.9%	21.5%	1.6%	-5.9%
2010	5,595	6.2%	68.9%	5.8%	21.7%	1.4%	-4.0%
2009	5,622	5.1%	71.4%	5.3%	22.4%	2.4%	-6.5%
2008	5,533	5.7%	74.3%	4.0%	18.2%	2.9%	-5.0%
2007	5,495	5.5%	71.7%	5.3%	19.6%	2.0%	-4.1%
2006	5,500	10.9%	70.8%	5.6%	13.9%	1.9%	-3.1%
2005	5,578	9.8%	71.4%	5.6%	15.2%	2.3%	-4.3%
2004	5,645	10.9%	70.6%	5.1%	14.9%	2.2%	-3.7%
2003	5,535	11.5%	71.4%	6.3%	11.3%	2.6%	-3.1%
2002	5,615	10.8%	71.6%	4.9%	12.0%	2.9%	-2.2%
2001	5,515	7.8%	73.9%	5.0%	13.4%	3.0%	-3.1%
2000	5,495	8.2%	74.4%	5.4%	13.6%	3.2%	-4.7%
1999	5,466	8.8%	72.3%	6.2%	14.3%	4.2%	-5.8%

Source: Data from Health Insurance Historical Tables—HIB Series: US Census (http://www.census.gov/hhes/www/hlthins/data/historical/HIB_tables.html).

Small Group and Individual Health Insurance Regulation: National

As Table 1.2 indicates, the vast majority of Americans obtain their health insurance coverage from either an employer or a government payer or are uninsured. The most recent Census number for those covered by individual insurance is 7.7% of adults 18–64, or 19.4 million individuals (although this number double-counts some individuals who have coverage elsewhere and choose to purchase individual coverage in addition).

Nationally, a high proportion of the uninsured work for small employers or are self-employed. It is generally believed by health policy experts that the individual and small group health insurance markets (prior to the enactment of the ACA) failed consumers, provided them with inadequate coverage, denied coverage to many

applicants,[25] and terminated the coverage of those who had insurance and who then made a claim. Small employers and the self-insured who frequently operate on thin margins also find the absolute cost of health insurance unaffordable. Table 1.3 compares percentages of employers with fewer and more than 50 employees who offer health insurance in Massachusetts and nationally in 2012. Smaller Massachusetts employers are more likely to offer health insurance, although fewer than half of all Massachusetts employers offer coverage, even after the Massachusetts reforms of 2006.

Table 1.3 National and Massachusetts Employers Offering Health Insurance

Percentage of Employers offering Health Insurance		
	Firms with Fewer than 50 Employees	Firms with 50 Employees or More
United States	35.2%	95.9%
Massachusetts	44.8%	98.9%

Source: State Health Facts. Kaiser Family Foundation (http://kff.org/other/state-indicator/firms-offering-coverage-by-size/#)

Insurance has traditionally been regulated at the state level, a practice that was reinforced by the McCarran-Ferguson Act in 1945. (A good summary of state and federal regulation of insurance is that by Jost [26].) The original concern of state insurance regulators was the financial solvency of insurers. Over time regulators came to be concerned as well about consumer issues, such as access to and pricing of insurance. Blue Cross and Blue Shield plans were regulated somewhat differently (for example, they did not pay premium taxes—or, until 1986, federal income tax) in exchange for fulfilling an "insurer of last resort" function, which in some states included open enrollment periods in which underwriting standards were relaxed, and even community-rated premiums. The loss of Blue Cross Blue Shield plans' exemption from federal income tax in 1986 and increasing regulation of plans' rates and network in the 1980s and early 1990s resulted in financial challenges for a number of plans in the early 1990s (including Blue Cross Blue Shield of Massachusetts). As a result, they became less willing to act as insurers of last resort.

[25] However, a study by America's Health Insurance Plans (AHIP 2007) reports that only 11.3% of individual applicants are denied coverage, whereas 2.0% of applicants are denied for nonmedical reasons, implying that fewer than 10% of applicants are medically denied.

In response to the perceived problems of the small group[26] and individual markets, states started to enact market reforms. In 1991 the National Association of (State) Insurance Commissioners issued a small group model bill that aimed to address access to insurance with guaranteed issue (irrespective of state of health), guaranteed renewability, limitation of health exclusions for preexisting conditions, and regulation of rate setting in the small group market. In this section we are concerned with the changes that were introduced to small group insurance in the 1990s and that were in place in Massachusetts prior to the enactment of Chapter 58. The ACA obviously enacted further changes to small group and individual insurance but (coming as they did some years after the Massachusetts reforms) are out of scope for this study.

A concern of the regulators was the segmentation of the "pool" of small employers and their insured lives; regulations have frequently been aimed at preventing this segmentation and limiting insurers' ability to rate according to the risk of a group (effectively spreading the cost of high-risk groups to other, lower-risk employers).

Regulations implemented at the state level varied significantly. In the small group market, nearly all states have enacted some form of rate regulation. Rating bands are the most prevalent form of regulation in this market, with most states basing their statutes on the National Association of Insurance Commissioners' (NAIC's) 1993 Small Employer Health Insurance Availability Model Act. Nine states (AL, CT, MA, MD, ME, NH, NJ, OR, WA) utilize adjusted community rating, and two states (NY, VT) employ community rating. Three states (HI, PA, VA) plus the District of Columbia have not enacted legislation regulating premium variation in the small group market. By 1996, 46 states had enacted laws to stop what they felt was a rapid deterioration of the market for small group insurance. Specific small group insurance reforms included the following:

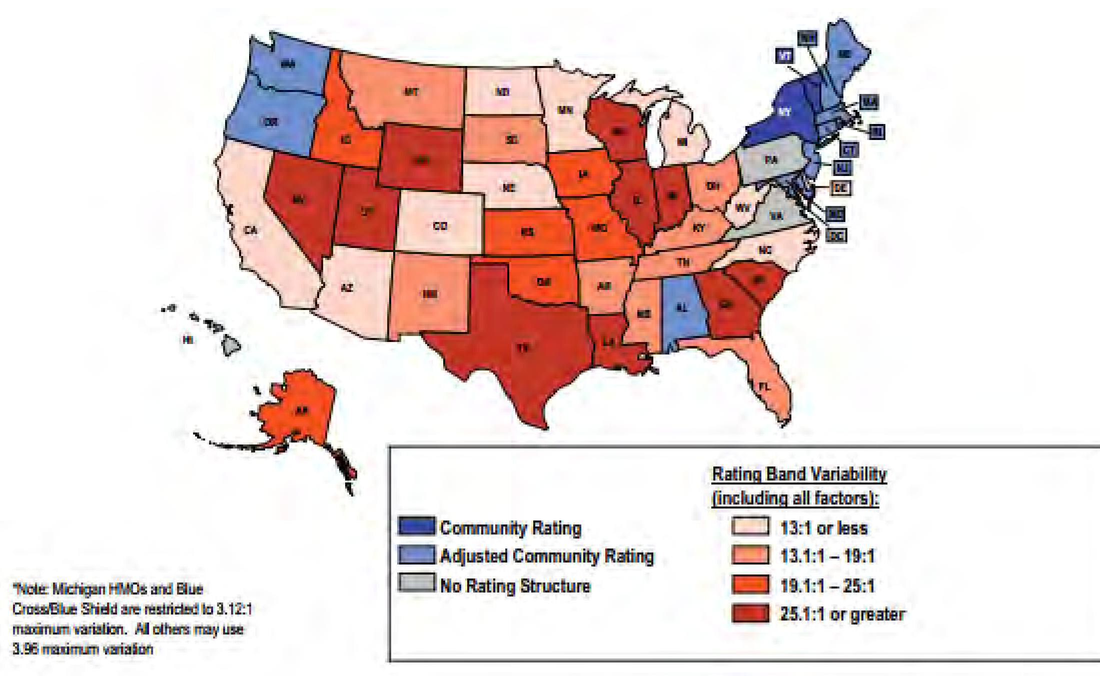
- Rating reforms that limited insurers' ability to use health status and certain other characteristics of employees in setting premiums or that limited the spread of premiums due to age.
- Guaranteed issue laws that required insurers to accept every small group that applies.
- Guaranteed renewal laws that forbade the insurer from refusing to renew a policy at the end of the year.

[26] In the United States for historical reasons, health insurance has generally been contracted and purchased on behalf of groups of employees by employers. In this study we shall refer to employer groups as "group" plans.

- Preexisting conditions exclusion laws that limit the time insurers can refuse to cover illnesses present before the current policy started.
- Portability laws that allow an insured to move between two jobs which offer health insurance without being subject to additional preexisting condition exclusion periods by the new insurer.

Figure 1.6 shows state small group law variability: Community-rated and adjusted community-rated states are reported separately, and states that permitted variation in rates by group show the degree to which rates are allowed to vary.

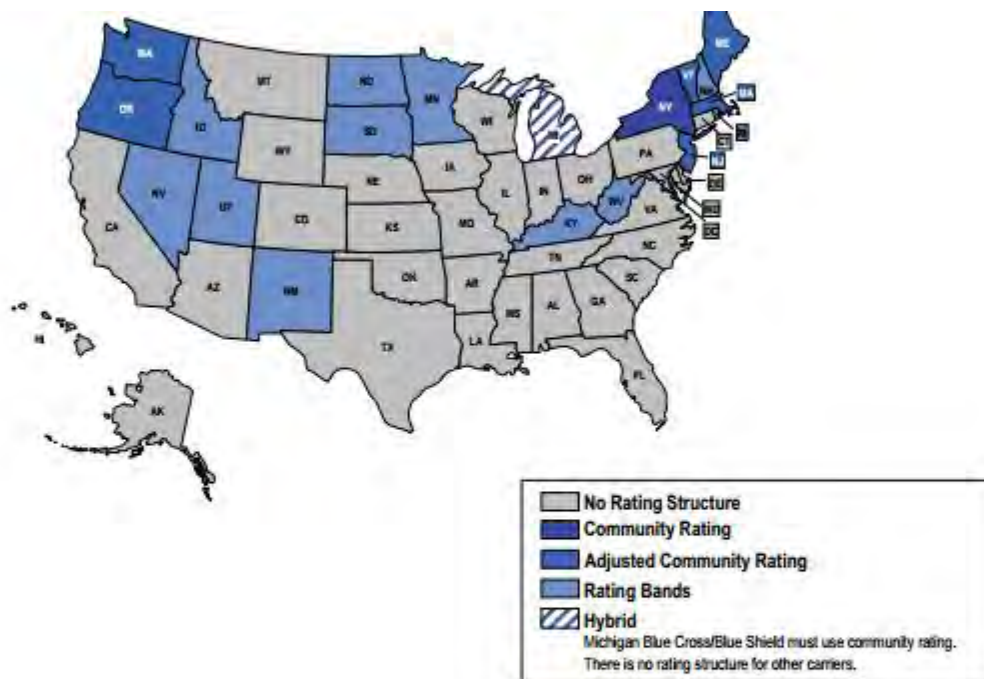
Figure 1.6 State Small Group Rating Variation



Individual Market: Rate regulation in the individual market was far less prevalent than in the small group market. Although states introduced Guaranteed Issue in the small group market, this was not extended to the individual market. States had long prohibited the cancellation of individual insurance policies or the implementation of rate increases (except by class). In return for the imposition of limits on preexisting condition exclusions, states also established voluntary or mandatory high-risk pools to accept some of the high-risk individuals that insurers otherwise would have to cover at normal rates. One state (NY) enacted community rating, six (MA, ME, NJ, OR, WA, VT) implemented

adjusted community rating, and 11 implemented rating bands (ID, KY, MN, ND, NH, NM, NV, RI, SD, UT, WV). The remaining 32 states plus the District of Columbia did not enact rating restrictions in the individual market. Instead, these states relied upon actuarially justified rating. Rating restrictions were particularly challenging to implement in the nongroup market due to the increased risk of adverse selection that results from a voluntary market in which every individual is rated on his or her own characteristics and is paying the full cost of coverage, without outside subsidy or tax deduction. State variations in the individual market at the time of Massachusetts reform are shown in Figure 1.5.

Figure 1.7 State Variation in Individual Market Regulation



Although federal regulators were slower to become involved in the Small Group and Individual insurance markets, prior to the passage of the ACA in 2010, several important laws were passed by Congress. In 1986, the Consolidated Omnibus Budget Reconciliation Act (COBRA) contained a provision that allowed employees (and their dependents) to continue as participants under an employer's group plan in the event of termination of employment. COBRA may somewhat have contributed to the financial stability of the small group and individual markets (although resulting in fewer enrollments) because it allowed sick members of a plan to continue in that plan rather than seek coverage on the private market.

In reaction to the failure of the Clinton health insurance reform effort of 1993, Congress in 1996 passed the Health Insurance Portability and Accountability Act, which (among other things) limits the use of preexisting condition exclusions (to 12 months, or less if the insured had a prior period of "creditable coverage"). Insurers in the small group market are required to guarantee policy issue and renewability. Insurers in the individual market are required to accept individual applicants with prior "creditable coverage."

One earlier federal law that is worth mentioning is ERISA, passed by Congress in 1974. One of the key effects of ERISA is its preemption of state law relating to employee benefit plans, except with respect to state laws that regulate insurers. Thus insured health plans (such as individual and small group insurance) is subject to state regulation while self-insured plans are not. This is an important provision that led to the rapid growth of self-insured employer plans. The interaction of ERISA and Massachusetts health care reform is important, and we will return to this topic later.

Small Group and Individual Health Insurance Regulation: Massachusetts

Historically in Massachusetts, until the passage of the 1996 act, underwriting was permitted and there was no limit on the rate structure, except for Blue Cross Blue Shield of Massachusetts (BCBSMA). As was typical of other Blues plans at the time, BCBSMA acted as insurer of last resort (selling insurance to applicants who were unable to obtain coverage elsewhere on account of health). Because of the antiselection risk in their last-resort status, BCBSMA effectively imposed a waiting period (240 days) for all new entrants (for nonemergency coverage and (consistent with individual insurance practice throughout the country) limited or excluded coverage for preexisting conditions for up to three years). Despite these underwriting practices, BCBSMA began experiencing financial difficulties that it attributed in part to its role as insurer of last resort (as well as additional requirements not imposed on other insurers, including a requirement to community rate and subject proposed rate increases to public rate hearings). However, the history of reform attempts in Massachusetts predates other efforts in the rest of the country.

History of Reform Efforts in Massachusetts

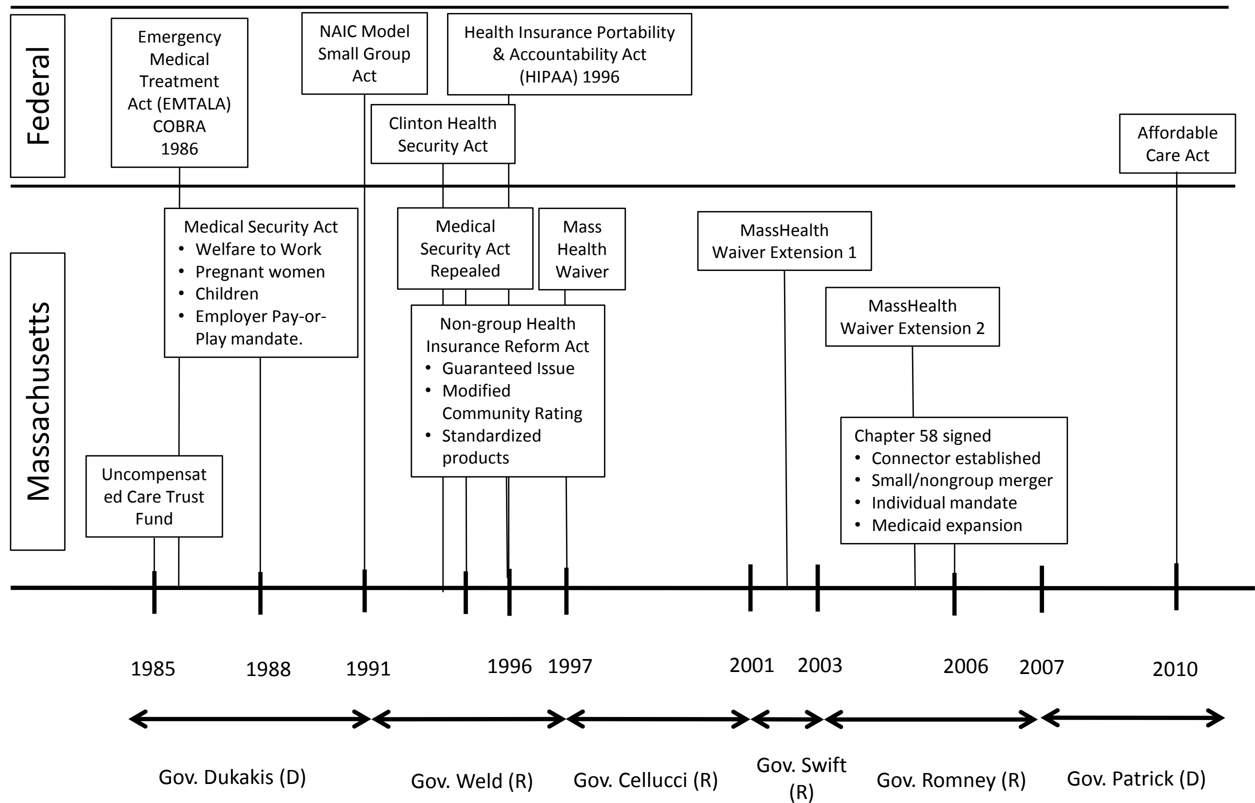
The 2006 Massachusetts health reform effort represents an evolution from proposals that originated in the 1970s and 1980s. We have already noted that over time regulators came to expand beyond their concern with insurer solvency to focus on consumer issues, access and market conduct. Greg Scandlen, a national commentator on

health insurance, has noted a shift over the last 40 years in U.S. health insurance policy discussion from concern about cost to concern about coverage. In the 1970s, albeit a time of rapid inflation, policymakers were concerned about increasing costs, which they tackled with a number of initiatives including payment reforms (for example, shifting from a billed charge basis to a bundled Diagnosis-Related Group [DRG] payment) and regulating the growth of hospital beds through certificates of need.[27] Massachusetts passed a temporary Certificate of Need Law (Chapter 1080 of the laws of 1971) in part because of concern about a 15% increase in hospital rates [27]. This temporary law was succeeded by a permanent one in 1972. In the 1980s, when arguably insurance rates were increasing faster than ever, discussion shifted to the 35 million uninsured and ways to expand coverage, which ultimately led, in the 1980s, to COBRA legislation and in the 1990s to the expansion of Medicaid through S-CHIP (both of which expansions affected a small portion of the uninsured). Other health care experts have highlighted this notable change in policy focus [28].

We will examine attempts at market reform by "era" or periods of governorship of Massachusetts's six governors between 1985 and 2013. Figure 1.8 traces the key national and state legislative accomplishments during this time.

[27] A well-known hypothesis called Roemer's law, and, in a different form, associated with Dr. Jack Wennberg, is that the supply of medical services creates demand for medical services: "supply-induced demand." Roemer's law is best summed up as "A hospital bed built is a filled bed."

Figure 1.8 Federal and Massachusetts Small Group and Individual Regulatory Changes



The Dukakis Era

Michael Dukakis, a Democrat, was governor of Massachusetts twice: from 1975 to 1979 and again from 1983 to 1991. Efforts to cover the uninsured became a focus of Dukakis' second time in office. Although the focus of government intervention has more recently been on the uninsured, government intervention in the medical market in Massachusetts arguably began, as Scandlen noted in the national context, with the objective of regulating hospital costs. In 1974 Massachusetts was one of several states (New York, New Jersey and Maryland being others) that implemented annual revenue caps for acute care hospitals. Concern with the uninsured, as Scandlen notes, became a focus in the 1980s, and Congress passed the Emergency Medical Treatment and Active Labor Act in 1986 to require hospitals to provide care for any patient, irrespective of resources or insurance. Because this legislation was an unfunded mandate, Massachusetts created the Uncompensated Care Pool to cover the hospital costs of the uninsured.

Arguably, therefore, although concern for the uninsured was a convenient rationalization for the state to intervene in the market for health insurance, these actions appear to be as much caused by financial and budgetary concerns and a desire to capture new sources of funding for health insurance, either from federal government sources or from employers (and the uninsured themselves) who, for whatever reason, elected not to participate in the market.

Concern with the number of the uninsured using safety net facilities funded by the uncompensated care pool led to pressure to force employers to pay for the care of their uninsured employees. Mirroring some national proposals and under the guidance of Governor Dukakis, in 1988, Massachusetts enacted legislation that sought to control costs by reducing the construction of new provider facilities through certificate of need guidelines, and then using expected savings to expand coverage [29], [30]. The legislation that passed was the Medical Security Act, Chapter 23 of the laws of 1988, which established the following:

- CommonHealth, "Welfare to Work" covering pregnant women and the Children's Medical Security Plan
- A health plan for the unemployed and
- A "Pay or Play" employer mandate.

Although the Dukakis-backed bill became law, it passed the Massachusetts House and Senate by a combined margin of only six votes [31]. The most controversial provision of the "universal health care" law was a specific coverage expansion provision, referred to as pay-or-play, which required businesses with more than six employees to provide health insurance or pay an annual per-employee tax of 12% of wages to a maximum of $1,680 to fund coverage expansions for the uninsured [31], [32]. Employers who contributed to employee coverage could deduct their contributions from the maximum. This provision was never implemented (and was repealed in 1996).

Despite being passed in 1988, the implementation of the employer mandate was not planned to go into effect until January 1992 (coincidentally, Governor Dukakis left office in 1991). This delay allowed opponents to mobilize against the legislation. Until 1992, when the legislation was to have been fully implemented, only small numbers of people would have benefited from the legislation, such as the disabled and the unemployed. "Because so few people benefited from the law … the law never created a substantial constituency of people with something to lose from its repeal" [33]. (The failure to implement the law and its immediate benefits to the newly insured were "mistakes" made in the 1988 legislation that were not repeated in the 2006 legislation [33].) The legislation also incorporated important new provisions, including the

requirement that college students be insured, that the unemployed receive health insurance coverage and that hospitals continue to pay into the Pool.

These reform measures came with many challenges during a critical time between 1988 and 1992. The business community, which faced legislative reaction to shrinking tax revenues, was collectively opposed to the employer mandate. In addition, the state's deficit and recession presented new financial challenges [31].

Furthermore, Governor Dukakis lost the 1988 presidential election and was replaced by a Republican governor, William Weld, who had opposed the employer mandate [31]. Since the law relied heavily on the employer mandate for universal coverage to become a reality, the legislation lost much of its impact and the employer mandate was eventually repealed before its full implementation. Despite the failed attempt to completely overhaul health care, the effort expanded Medicaid, which allowed Massachusetts to offer more coverage to the uninsured, providing one explanation for the state's lower uninsured rates than the national average [31]. A December 1990 report in the *Boston Globe* stated that "Although Massachusetts' universal health care law has been widely written off as a doomed remnant of Dukakis era, there are growing signs the landmark experiment will be retooled … by the incoming Weld Administration" [34].

The Weld Era

Governor Weld, who succeeded Governor Dukakis in 1991 and remained in office until 1997, took a different approach, shifting responsibility for financing health care for the uninsured from employers to the federal government. The three major legislative achievements of the Weld era were the repeal of the (Dukakis) Medical Security Act, the passage of the Non-group Health Insurance Reform Act and the grant of a Section 1115 Medicaid waiver. Arguably, the effect of the last of these regulations is the most long-lasting, forming as it does the basis for the Chapter 58 reforms.

Section 1115 of the Social Security Act allows for federal Medicaid Demonstration (waiver) projects. The Weld administration repealed the 1988 employer mandate and instead captured hundreds of millions of federal dollars to subsidize coverage for lower-income workers. The Massachusetts legislature did not immediately act on the state reforms that had been introduced by the NAIC. Instead, Massachusetts was one of the last states to enact legislation (in 1996). Guaranteed Issue was introduced as a result of the passage of the Non-Group Health Insurance Reform Act, which also

introduced modified community rating.[28] Any insurer with more than 5,000 members in the small group market was required to offer standardized products, which (among other things) offered richer benefits than had heretofore been the norm in the market. The law required that the Division of Insurance review rates that fell more than two standard deviations above the mean for all insurers.

The Medicaid demonstration waiver was approved in 1996 and implemented in 1997. As a result of the waiver, Medicaid covered lives grew from 670,000 in 1995 to more than 1 million by 2001 [35]. The expansion in Medicaid coverage coincided with a revival in cost inflation (which had been low during much of the mid-1990s), leading to further pressure on the legislature.

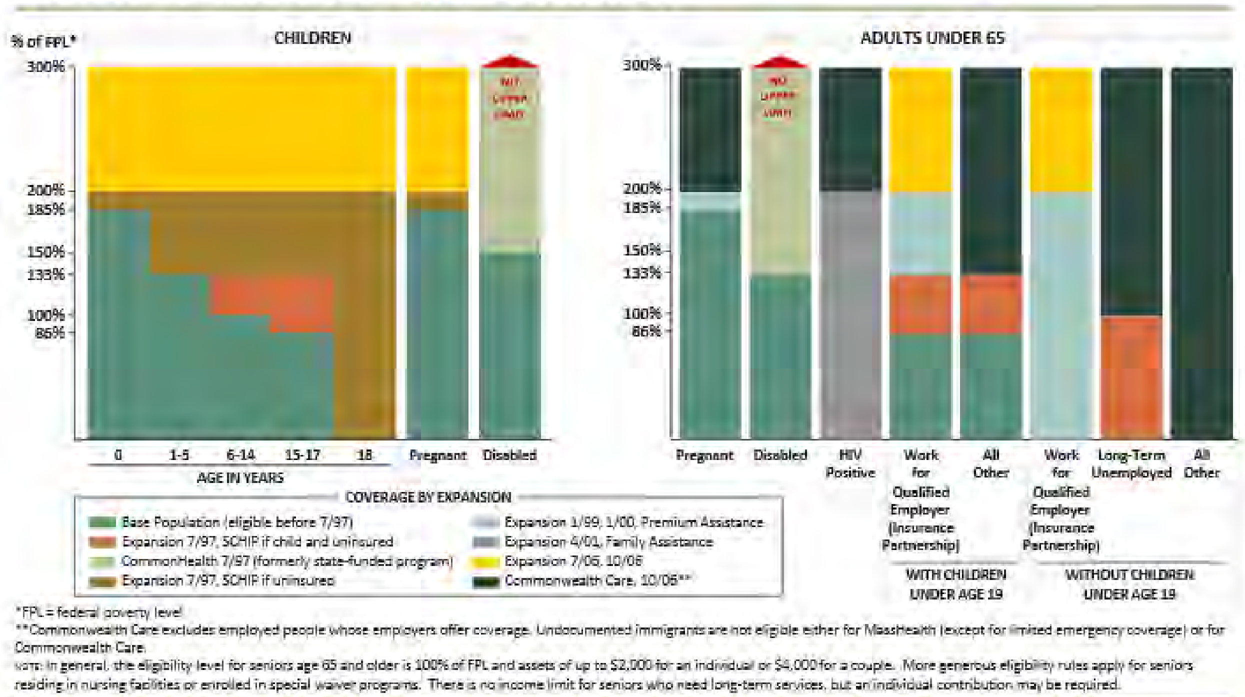
Medicaid waivers—indeed, Medicaid financing generally—are a two-edged sword for states. Because the Medicaid match is approximately 50% of the state's gross expenditure, expansion of coverage is (relatively) painless, because states are able to offset their own cost with federal funds. However, reduction in cost (due to either changes in benefits, coverage or more efficient management of care) does not net the state the expected budget savings, because 50 cents of every gross dollar saved is effectively returned to the federal treasury. Thus to achieve a reduction of $1.00 for the Massachusetts treasury, a program needs to be cut by $2.00.

By the beginning of the Romney era, MassHealth had succeeded in assembling a patchwork of different types of coverage with many, often confusing rules of eligibility. Figure 1.9 (from the Massachusetts Medicaid Policy Institute) illustrates well the different eligibility criteria, programs and years in which different expansions of coverage occurred, which, by 2006, had resulted in a patchwork of overlapping and confusing coverage and programs.[29]

[28] Under true Community Rating (as applicable, for example, in New York State), a single rate applies to all purchasers in the market. Under Modified Community Rating, rates are allowed to vary by age but within a compressed band that deviates from the actuarial risk structure by age. In Massachusetts rates could not vary by more than 2:1 by age or 1.5:1 by area.

[29] In its first implementation of the ACA in 2010–2013, the Commonwealth attempted to build flexibility to encompass this complicated set of programs into its website, so that eligible citizens could enroll in both the exchange and MassHealth. The complicated enrollment algorithms proved the undoing of the website, and the first enrollment under the ACA in 2013 was completed largely manually. A second website was finally launched successfully in time for the 2016 enrollment season.

Figure 1.9



Source: Center for Health Law and Economics, University of Massachusetts Medical School [36].

Another important law passed during the Weld era was the Non-Group Health Insurance Reform Act of 1996. A number of events culminated in the passage of this act. Following the 1996 reform, underwriting was no longer permitted, and rate compression was introduced, permitting only a 2:1 ratio between the highest and lowest rates offered. At the same time the range of policies offered in the market was also limited to three (with a grandfathering provision permitted for existing policies). As Figure 1.4 shows, following these reforms the percentage of uninsured in the Commonwealth fell (although the corresponding national percentage fell at the same time). Key provisions of the 1996 reform included the following changes:

- The law applied to all insurers with more than 5,000 enrollees.
- The only products permitted in the nongroup market were one of three standard products that varied in their degree of managed care: HMO, PPO or a traditional indemnity plan. Insurers subject to the law had to offer at least one type of product, but they could offer two or all three. The standard products established a floor for benefits and cost sharing, and insurers could offer additional benefits or

lower cost sharing if they wished, but they could offer only one product of each type. From July 2000 only standard plans could be offered or renewed.

- Only eligible individuals were able to purchase products in the nongroup market, and only during specified time periods. Individuals eligible to purchase in the group market could not purchase a nongroup product. There was a two-month annual open-enrollment period, except for certain categories (such as job changers).
- Insurers could not impose exclusions or waiting periods for coverage on eligible individuals.
- The law imposed Modified Community Rating: Insurers could vary rates only based on the insured's age, geographic region and family composition and not on health, experience or duration of coverage. Age adjustments were limited to a 2:1 compression. The law reduced this compression to 1.5:1 after December 1999, but this requirement was later repealed. Rates could not vary based on geographic region by more than ± 20%.
- The commissioner of insurance could subject rates to further review if they exceeded the average rate for all guaranteed-issue plans of that type by more than two standard deviations.

Passage of the Massachusetts law coincided with the Federal Health Insurance Portability and Accountability Act of 1996 (HIPAA). In 1997 the Massachusetts House passed a bill implementing HIPAA and making changes to the 1996 law. Specifically, the House bill attempted to reintroduce insurance market provisions (for example, permitting the sale of short-term products that did not meet the benefit requirements of the standard products and permitting the use of exclusions and waiting periods for preexisting conditions in such products). The Senate was unwilling to permit the short-term product provision and as a result, no legislation was passed. The result of the Massachusetts 1996 reforms was a smaller individual market, in terms both of participating insurers and of purchasers, more rate variation (initially) and ultimately high rates that, after 2000, increased at a rapid rate (see Figures 1.13 and 1.14).

New York employs true community rating (single rate for all insured lives), while Massachusetts, which was scheduled to introduce 1.5:1.0 rate compression in 1999, left its rate relativity at 2.0:1.0.[30] The similar reform that was introduced in New York in 1993 had the opposite results: The uninsured percentage, which was about the same as that of Massachusetts at inception, increased from about 15% prior to the reform to a high

[30] A greater degree of compression than that permitted by the Affordable Care Act, which permits 3:1.

of about 20% in 1997, before following the national trend downward (Wachenheim and Leider [15]). New York's experience is more typical of that of other states that introduced community rating and guaranteed issue (for example, New Jersey, which introduced these provisions in 1992, saw similar results to New York's). All three states, however, experienced significant rate increases over this period. Other states that introduced similar measures (for example, Kentucky) repealed them once their insurance markets collapsed; a number of insurers left the Kentucky market rather than participate under the terms of reform.

The Cellucci and Swift Eras

The Cellucci and Swift governorships (both Republican) were quiet times in terms of health care legislation. Paul Cellucci was governor at a time of economic growth and moderate health care trend, two factors that combined to reduce the number of uninsured. These factors reversed during the acting governorship of Jane Swift, following Governor Cellucci's resignation on becoming ambassador to Canada. During this period the legislature succeeded in obtaining a three-year extension of the Section 1115 waiver in 2002, but it was not a foregone conclusion that the state would be successful in renewing the waiver in 2005; after all, the waiver is a "demonstration," and the state had had ample time (six years) to demonstrate the success of its Medicaid expansion. The state would then face two impossible choices: either to cover the cost of the expansion in Medicaid eligibility (estimated at over $2 billion [35]) or to significantly reduce benefits and/or eligibility for Medicaid. A third alternative, however, presented itself in the form of a new demonstration project.

The Romney Era

Governor Weld was succeeded by two Republican governors: Paul Cellucci, who was promoted from Lieutenant-Governor in 1997 on Governor Weld's appointment as Ambassador to Mexico, and then elected as governor in 1998, and Jane Swift in 2001 (also promoted from Lieutenant-Governor, on Governor Cellucci's appointment as Ambassador to Canada). Another Republican, Governor Mitt Romney, succeeded acting Governor Swift in 2003. Health care reform, which had not been a priority during the Cellucci and Swift interregna, became a focus of Massachusetts politicians again. Recognizing the significant budgetary implications that failure to renew the Medicaid waiver represented to the state the Romney administration developed a new program on which to base an extension of the Medicaid waiver.

Despite these changes, dissatisfaction with the high cost of individual (nongroup) insurance and access to insurance led to a number of proposed changes over the years that we have discussed earlier. By 2005, a number of possible changes were under consideration:

- Senate proposals that included segmentation of the small group market into a 1–5 life market and separate 6–50 life market. In one Senate option, the nongroup and 1–5 life markets would be merged. Proposals would result in the creation of a reinsurance fund for the nongroup and 1–5 market and introduce additional regulation in the 1–5 life market.
- House proposals that included merger of the nongroup and small group markets, as well as a reinsurance fund for the nongroup and 1–5 market.

A 2005 Mercer Oliver Wyman (MOW) study by Bender et al. [37] estimated the impacts of these proposed changes in enrollment and rates. Estimates of enrollment effects varied between 7,000 and 45,000 new enrollees; rates were estimated to decrease in the nongroup market (between 12% and 30%, depending on proposal), while rates in the small group market were mostly estimated to rise. A significant contributor to the increase in covered lives was the assumption of an introduction of a high deductible health plan, a direction contrary to that which the ultimate reform chose to take. The MOW study recognized an important point that had been a challenge to reformers: The 6–50 life market rates subsidize rates in the 1–5 life market. As of 2005, the MOW report showed enrollment and average premiums in these market segments as shown in Table 1.4.

Table 1.4 Premiums and Loss Ratios by Market Segment

	Nongroup	**1–5 Employee Groups**	**6–50 Employee Groups**
Enrollment	55,000	260,000	520,000
Premiums PMPM	$426	$317	$313
Ave. loss ratio[a]	91%	93%	83%
Ave. age	44.1	44.5	41.2

[a]Loss ratios are from Gorman [1].

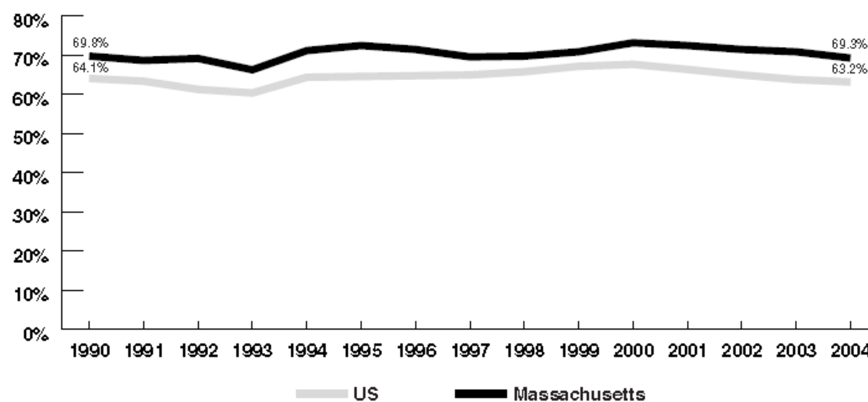
The MOW report estimates that these numbers represent 80% of the nongroup and 85% of the 1–5 life markets. A subsequent study of the same markets performed by

Gorman Actuarial [1] using data collected from major insurance carriers found slightly different but similar numbers. Insurance carriers were presumably no less satisfied with the trends in this market as loss ratios in the nongroup market had deteriorated from 83% in 2003 to 91% in 2005.

The MOW study also estimated the potential for market expansion in the nongroup and small group market. The estimate was 206,000 individuals with income greater than 200% FPL who could afford coverage but who did not purchase (for whatever reason). Of these, 74,000 were estimated to work for companies with more than 50 employees and the remaining 132,000 were estimated to work for smaller employers, or be self-employed.

The outcome of the introduction of Guaranteed Issue in Massachusetts differed from other states, where rates increased, employer-provided coverage fell and, in some cases, market destabilization led to the repeal of Guaranteed Issue. One possible reason for this difference in outcome between Massachusetts and other guaranteed issue states may be the higher percentage of employer-provided insurance in Massachusetts, which remained essentially unchanged in Massachusetts between 1990 and 2004 at 69.8%, while national employer-provided insurance declined from 64.1% to 63.2% (as a percentage of the nonelderly population).

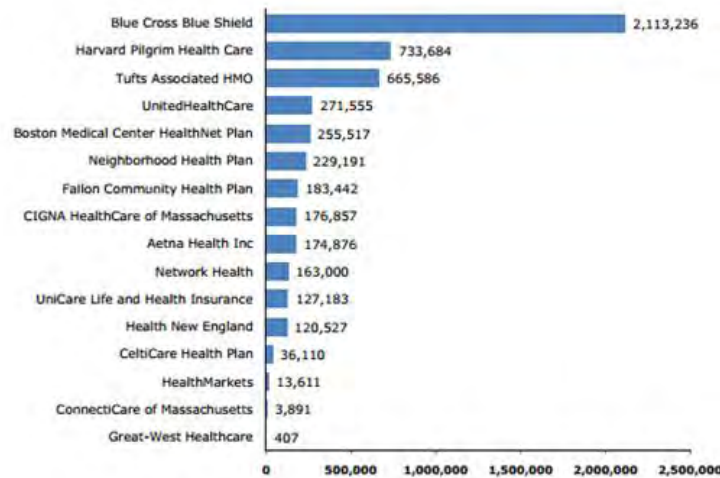
Figure 1.10



Source: Massachusetts Division of Healthcare Finance and Policy (now Center for Health Information and Analysis) [38].

The distribution of insured lives in 2010 by the major participating health plans as reported by the Center for Health Information and Analysis in 2010 is shown in Figure 1.11 [39].

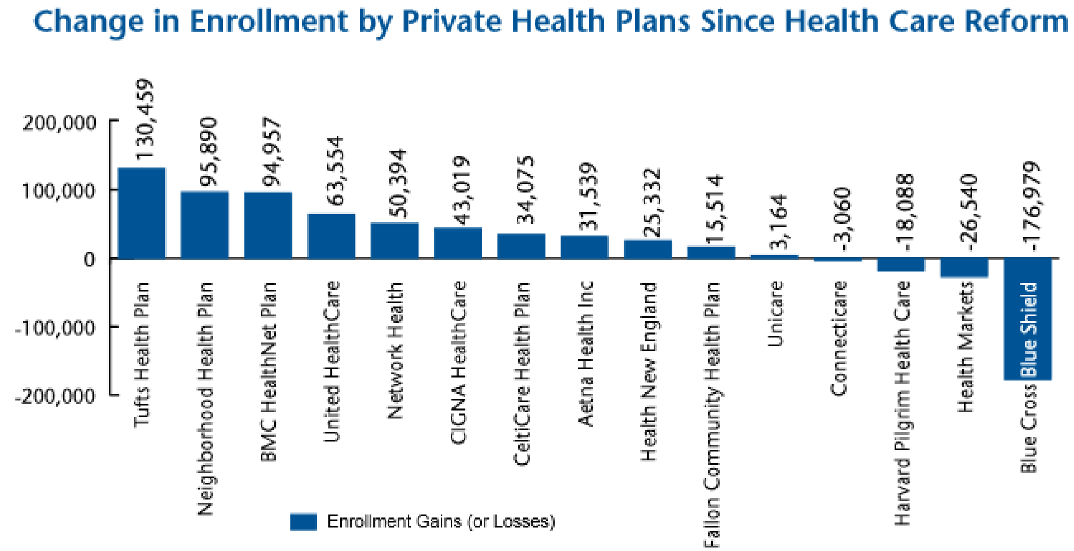
Figure 1.11



Source: Massachusetts Center for Health Information and Analysis (http://www.mass.gov/chia/). Boston Medical Center HealthNet Plan (BMCHP), Neighborhood Health Plan (NHP) and Network Health are plans serving MassHealth and Commonwealth Care members. CeltiCare Health Plan serves both Commercial and Commonwealth Care members. Other plans serve the Commercial market.

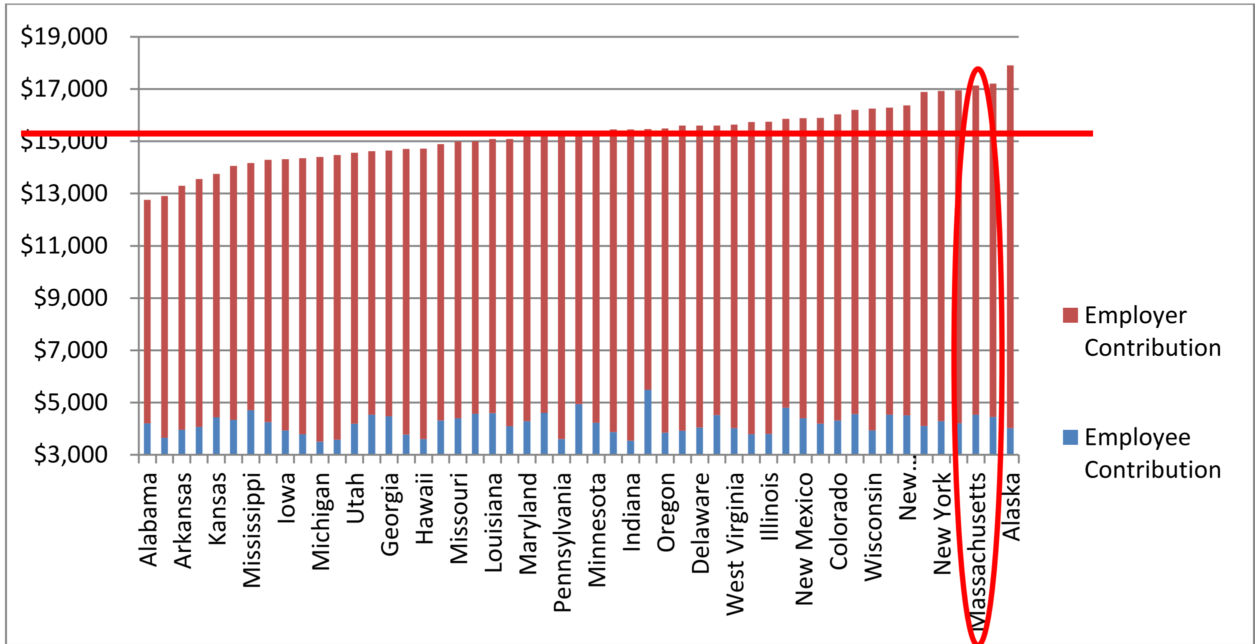
Health plans that serve Medicaid were the big "winners" from health insurance reform. A Center for Health Information and Analysis report of February 2012 reported gains and losses in enrollment by health plans [40].

Figure 1.12 Change in Enrollment by Health Plan since Health Insurance Reform



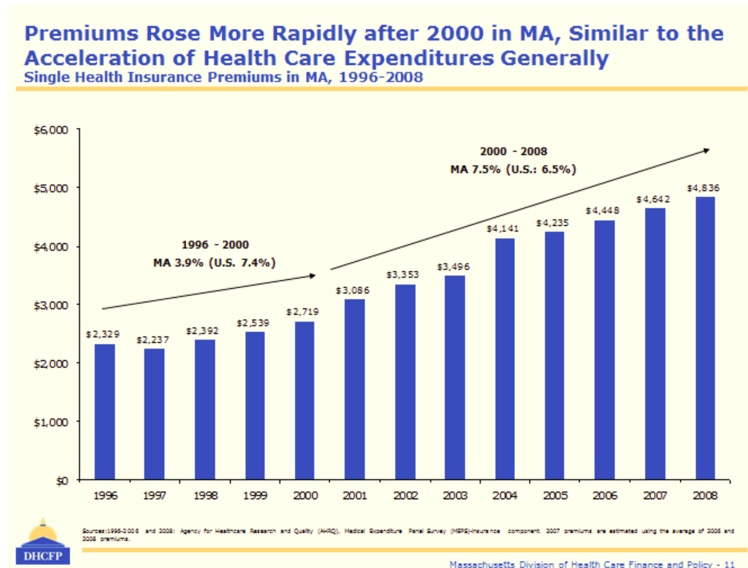
Massachusetts health insurance premiums are among the highest, if not the highest, in the nation. Figure 1.13 shows comparable premiums for family coverage by state for 2012 from the Kaiser Family Foundation [41]. Average Massachusetts premiums were $17,129, 11% higher than the national average ($15,473).

Figure 1.13: Average Family Premium per Enrolled Employee for Employer-Based Health Insurance 2012



As Figure 1.14 shows, Massachusetts premiums rose more slowly than national trends until 2000, at which point they began to accelerate and exceeded national trends between 2000 and 2008 [42].

Figure 1.14: Increase in Premiums 1996-2008
Massachusetts vs. National

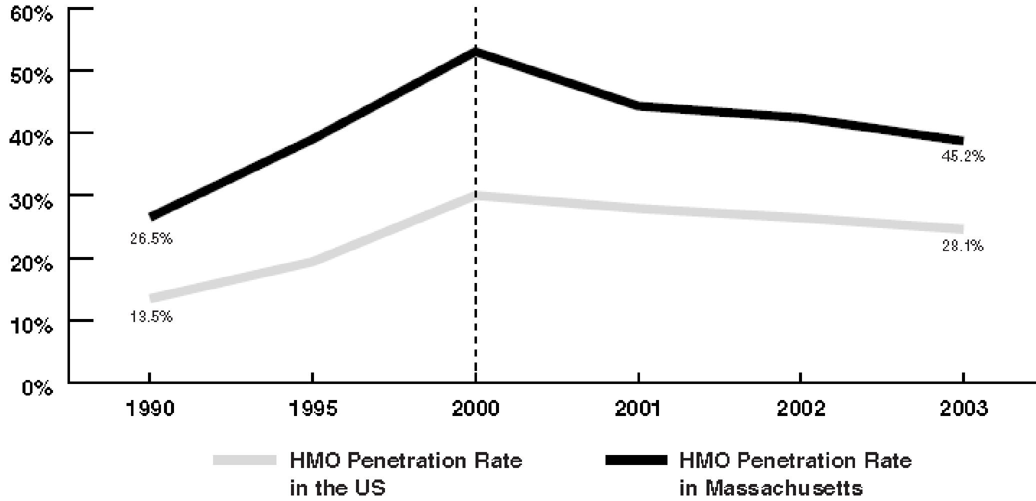


Despite (or perhaps because of) the community rating and guaranteed issue provisions, pressure grew to find a way to make individual insurance more affordable. The legislature turned to mechanisms that it could control, namely, insured coverage, and merged the individual and small group markets as part of the Chapter 58 (Health Insurance) reforms of 2006. An actuarial study completed at the time (Gorman [1]) found that the average PMPM cost in the individual market was 40% higher than that in the small group market, despite the less rich benefits that prevailed. The merger resulted in a subsidy from the (on average, younger) small group employers to (on average older) individual insureds. A subsequent analysis (Oliver Wyman) found that the merger raised rates overall by 3.4%, although rates for individual purchasers fell between 20% and 33%.

At the time of the 2006 reform, the Massachusetts insurance market was unusual (compared with the rest of the United States) in at least two respects:

- The market was dominated by HMO coverage: The percentage of the population in the more tightly managed HMO model was significantly higher in Massachusetts, despite some reduction from the peak in 2000 and
- In the small group and individual market, the insurers were primarily not for profit.

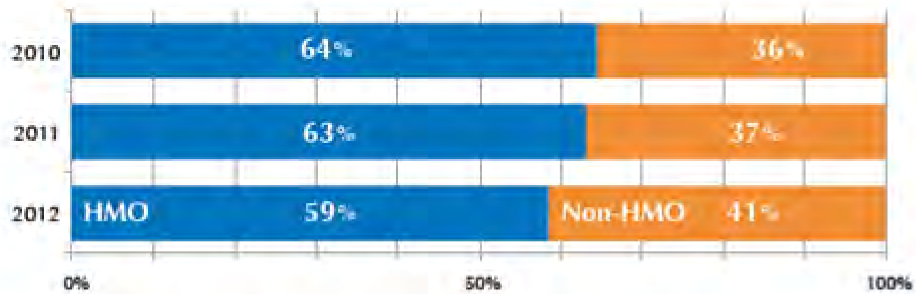
Figure 1.15



Source: Massachusetts Center for Health Information and Analysis [38].

The HMO penetration rate has continued its decline both nationally and in Massachusetts. A Massachusetts Center for Health Information and Analysis report from 2013, from which Figure 1.16 is extracted, records overall Massachusetts HMO penetration at 35% compared to 23% nationally [43].

Figure 1.16 Relative HMO Enrollment in the 10 Largest Commercial Payers 2010–2012



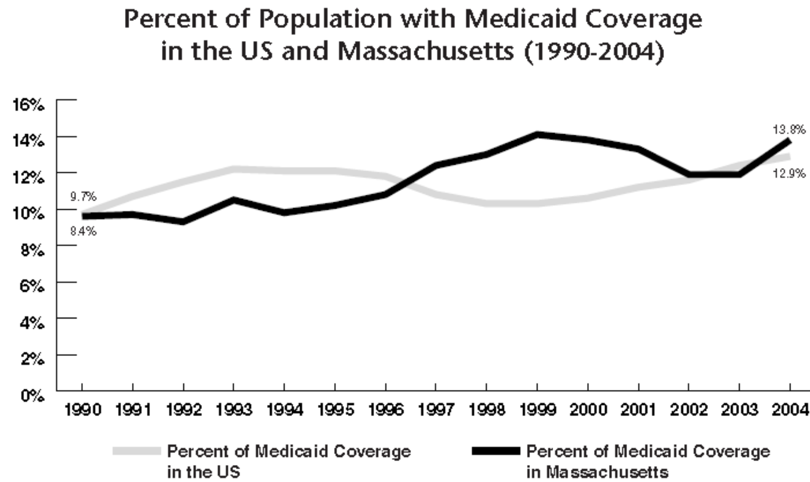
We will turn to the political response to these market developments in a moment; first, however, we will look at another important segment of the Massachusetts health insurance market: Medicaid.

Massachusetts Medicaid and MassHealth Coverage

Another major factor impacting Massachusetts' uninsured rates is its Section 1115 Demonstration Program Medicaid Waiver, originally established in 1998. Under the waiver, the Center for Medicare and Medicaid Services (CMS) allows Massachusetts Medicaid (MassHealth) significant freedom to expand Medicaid eligibility and institute other programs, such as a robust managed care infrastructure, expanded access to care and cost controls. This waiver was conditioned on the ability of the state to maintain budget neutrality with what would otherwise be its traditional Medicaid program, meaning that federal expenditures under this initiative would not exceed what those federal expenditures would have been in the absence of the waiver. One change introduced as a result of the 1997 Section 1115 waiver was the establishment of a federally financed "supplemental payments to managed care organizations" fund, which provided supplemental funding for two major health systems that served Medicaid patients: Boston Medical Center (BMC) and Cambridge Health Alliance (CHA). The federal payments allowed BMC and CHA to establish their own MCO plans.

As a result of this deliberate policy of Medicaid expansion, Massachusetts reversed its historic position of having lower Medicaid enrollment as a percentage of population than the United States to being a leader in the proportion of its citizens with Medicaid coverage.

Figure 1.17



Source: Massachusetts Center for Health Information and Analysis [38].

The immediate impetus to move beyond MassHealth and to legislate a more comprehensive system of coverage began with changes in policy at CMS under Department of Health and Human Services secretary Tommy Thompson and CMS administrator Mark McClellan. CMS wished to shift funds from institutional subsidies to individual subsidies. CMS required that Massachusetts redirect federal subsidies in this way or risk losing the subsidies, which amounted (at the time) to $385 million in federal matching funds [31]. State leaders, already in the process of developing a comprehensive reform plan, persuaded CMS to keep these critical federal dollars in Massachusetts' health care system by committing to use the money to expand insurance coverage for low-income, previously uninsured individuals. The result was the Safety Net Care Pool, which combined the MCO supplemental funding with disproportionate share hospital (DSH) funds to extend the life of the MCOs until new programs and coverage mechanisms were implemented through Massachusetts health reform [44].

Legislating Reform: The Political Context

The 2006 Massachusetts health reform bill arose out of negotiations, beginning in 2004, among three of the state's most powerful leaders of the time—Republican Governor Mitt Romney, Democrat State Senate President Robert Travaglini and Democrat House Speaker Salvatore DiMasi [45]. Each had a different initial approach to health reform and was ultimately driven by polls showing that a majority of citizens

preferred immediate government intervention to address the uninsured problem, even if tax increases were required. Further, with the remnants of previous failed attempts of health reform lingering and an ongoing effort to improve MassHealth, these new negotiations involved a concerted effort to engage most stakeholders and relied heavily on robust input from business leaders, insurance executives, advocates, state officials, health industry representatives, diverse elected officials and others.

When Governor Romney came to office in 2003, his proposed approach included an individual mandate, a cost assessment on employers that did not offer insurance, and an insurance connector (an idea that originated from the Heritage Foundation) [46]. An insurance connector is a virtual marketplace where residents could buy health insurance plans from private insurance companies with pretax dollars. Romney's approach stressed market reform, and he promoted the idea that Massachusetts residents take more personal responsibility and accountability for their health care needs.

Unlike Governor Romney, House Speaker Salvatore DiMasi promoted the idea that businesses take more responsibility for providing coverage to their workers. His proposed solution contained elements from several plans, including employer and individual mandates, an insurance connector, low-income subsidies, and a quality and cost council. One of the hallmarks of Speaker DiMasi's plan was low-income subsidies and access expansions, which would be achieved through changes to the state Medicaid program, changes that would require the Romney administration to secure new flexibility from the federal government as part of the Medicaid waiver. Former Senate President Robert Travaglini's approach focused on expanding the state's insurance partnership program. The insurance partnership program provided subsidies to employers and their low-income employees for the purchase of private insurance.

In addition to political and general public support, Massachusetts had coordinated community support initiatives dedicated to health insurance reform [45]. Several stakeholder groups had an ongoing role in health reform implementation. Community coalitions such as Affordable Care Today (ACT) and Massachusetts Health Care Reform Coalition were crucial in informing and mobilizing support among advocacy groups (for example, MassACT [47]). These groups brought together consumer advocates, public health, mental health and disease advocacy groups, labor unions, health care professionals, and businesses and labor groups to promote successful implementation of the law through advertising and public relations campaigns and a dedicated website. Faith-based coalitions also contributed to health reform, including, most notably, the

Greater Boston Interfaith Organization (GBIO), which includes congregations of many faiths from a wide range of socioeconomic communities [48].

The Access to Affordable, Quality, Accountable Health Care Act (Chapter 58 of the Acts of 2006)

On April 12, 2006, Governor Romney signed into law the first comprehensive approach to state health care reform, the Access to Affordable, Quality, Accountable Health Care Act, or Chapter 58 of the Acts of 2006 (hereafter Chapter 58). Chapter 58 reflects a consensus between state leaders, advocates, businesses and other key stakeholders that responsibility for the financial and other burdens of health care reform should be shared between individuals, state and federal governments, employers, and insurers. The program that resulted had many elements that echoed the failed Dukakis legislation of 1988. Key components were as follows:

- An individual (not employer) mandate requiring all state residents who had access to affordable health insurance to obtain insurance.
- A “fair share” requirement: an employer mandate, requiring all employers with more than 10 employees to make a “fair and reasonable” contribution to employees’ health insurance.
- Medicaid expansion: subsidized coverage for citizens with incomes between 100% and 300% of the federal poverty level.
- The creation of a semipublic authority, the Health Insurance Connector Authority, with a mandate to create a health insurance “Exchange.”
- Increases in reimbursement of providers serving Medicaid patients. The total increase in reimbursement varied by year, from $90 million in FY 2007 to $270 million in FY 2009, with physician rate increases accounting for at least 15% of this amount. Two safety net hospitals (BMC and CHA) also received supplemental payments for three years [49].

Opinions differ as to whether a goal of the law was to contain costs. Certainly it was expected that providing subsidized coverage would enable the state to reduce its contribution to the uncompensated care pool. The consensus (possibly making a virtue of necessity) is summed up in one of the principles of reform stated by the University of Massachusetts Center for Health Law and Economics as “Coverage First, Cost Containment Second” [50]. The law did contain some provisions intended to address costs and quality:

- Establishment of the Health Care Quality and Cost Council. The council was established to set costs and quality goals for the Commonwealth and set about acquiring a statewide database of eligibility and claims data from which we will draw for later analysis in this study.
- A MassHealth wellness program to encourage wellness in the areas of diabetes, cancer screening, stroke education, smoking cessation and teen pregnancy prevention.
- Infection prevention and control.

Chapter 3 (Table 3.1) outlines key provisions of the law according to its four major stakeholders—individuals, employers, state and federal governments, and insurers—comparing major provisions of Massachusetts and national reforms and providing a summary explanation for each.

Interestingly, the legality of the mandate and other provisions of the law was not challenged despite several features that potentially fell afoul of ERISA. An article in the *Boston Business Journal* by Mark Hollmer in May 2007 [51] summed up the opinions of a number of legal experts: "[Experts] point to at least four areas of the new law potentially vulnerable to legal challenges:

- The free-rider surcharge that forces employers in some cases to pay part of their employees' medical bills if they don't provide minimum coverage.
- The $295 per year assessment is vulnerable because a federal court recently struck down a similar Maryland law requiring employers in the state with more than 10,000 workers to spend at least 8% of wages on health care coverage, saying it violated ERISA.
- A prohibition against companies offering different quality levels of health insurance coverage to different classes of employees.
- Individual mandates and minimum coverage standards for individuals … an indirect way of forcing employers to do something you couldn't do directly under ERISA."[31]

In an evaluation of the legal status of the Chapter 58 Tashjian [52] says:

> The individual mandate requires residents of the Commonwealth, regardless of their employment status, to obtain health care coverage that complies with the requirements established for "minimum creditable coverage." The requirement

[31] The Supreme Court (in 2012 in National Federation of Independent Business v. Sibelius) found that the ACA mandate was legal *as a tax.* This interpretation was not one that was considered, to our knowledge, in respect of the Massachusetts mandate.

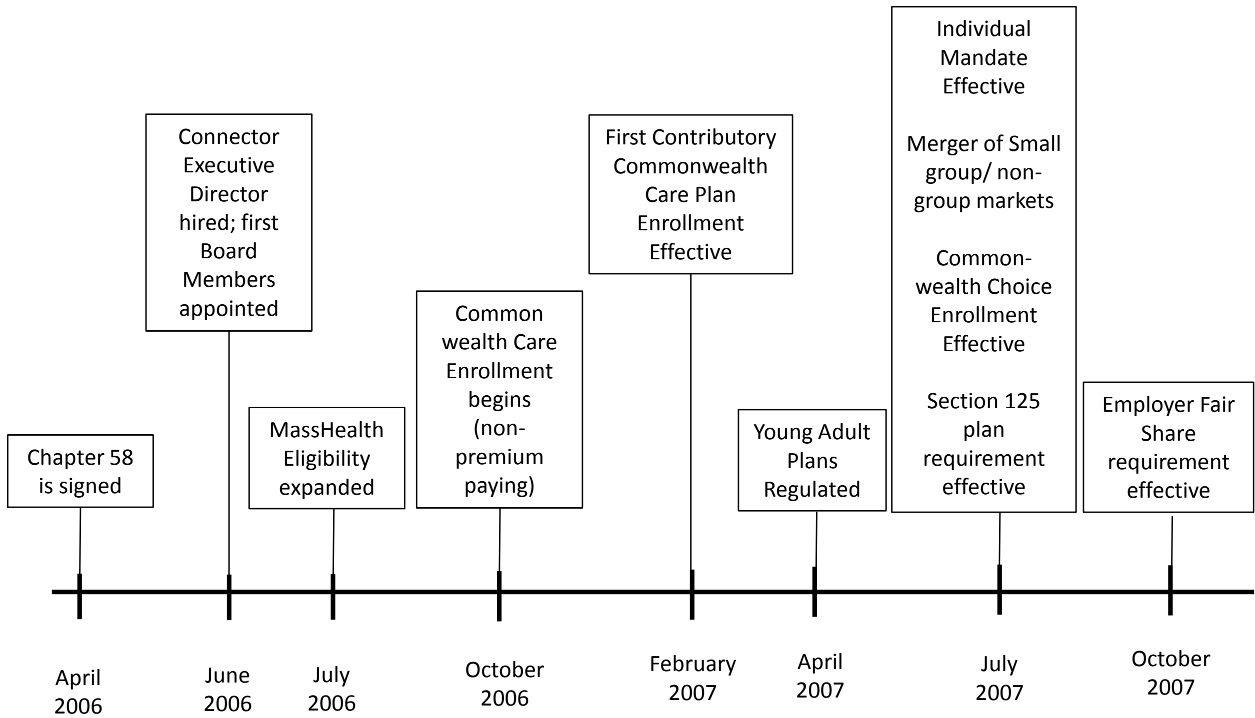
> that such coverage be obtained is placed on individuals and not on their employers, should they in fact be employed. As a state law that applies to a wide variety of situations, including a large number of situations that have no appreciable linkage to ERISA plans, the individual mandate constitutes a law of general application in an area of traditional state regulation, health care. Since the individual mandate is a law of general application in an area of traditional state regulation, there is a rebuttable presumption that Congress did not intend for ERISA to preempt it. It is unlikely that a court would find this presumption rebutted and hold that the individual mandate has a prohibited "reference to" or "connection with" ERISA plans.

Implementation

Chapter 58 Implementation: Timing and Effective Dates

Chapter 58 enacted a complex set of different components that were effective at different dates. In order to understand issues such as enrollment in different plans, it is important to understand what aspects of the law were effective, for which populations, and when. Figure 1.18 provides a timeline of key dates from signature of Chapter 58 through its initial implementation. Table 1.4 provides more detail of the different sections of Chapter 58 and their effective dates.

Figure 1.18: Health Care Reform Timeline



Formal implementation of Chapter 58 began in June 2006, with the appointment of the Commonwealth Health Insurance Connector Authority (Connector) Board Members and Leslie Kirwan, Commonwealth Secretary for Accounting and Finance, as Board Chair. Jon Kingsdale, PhD, was appointed as executive director of the Connector. The Connector was charged with creating an exchange whereby affordable health insurance options are made available to previously uninsured or underinsured residents [53]. The Connector established and manages two new public coverage programs, Commonwealth Care and Commonwealth Choice. Commonwealth Care is a subsidized insurance program available to uninsured adults earning up to 300% FPL who do not have access to employer-sponsored insurance or other subsidized insurance. Commonwealth Choice is a Commercial insurance program available to individuals not eligible for subsidized coverage and to small employers [54].

Table 1.5 Effective Dates of Sections of Chapter 58

Section	Content	Section Effective Date
Section 101	Establishes the Connector Authority	FY 2006
Section 121, 122	Initial Funding of Connector Administrative Expenses: $25 million Funds Cambridge Health Alliance and Boston Medical Center - Funding for CHA and BMC amounts to $287 million annually for FY 2006, 2007 and 2008.	FY 2006
Section 15, 16, 17, 18, 26	MassHealth Eligibility: - Children in families up to 300% FPL - HIV up to 200% FPL - CHIP program expanded from 200% FPL to 300% FPL - MassHealth Essential Program (Immigrant) covers elderly and disabled aliens with special status	July 1, 2006
Section 29	MassHealth Adult Benefits: - Restores dental, chiropractic and vision benefits eliminated in 2002	July 1, 2006
Section 119	Establishes transfer of $125 million to the Commonwealth Care Trust Fund	July 1, 2006
Section 45	Commonwealth Care - Establishes the Commonwealth Care program - Establishes a sliding-scale subsidized insurance program - Sets eligibility standards to 300% FPL	October 1, 2006
Section 47	Employer Fair Share Contribution - Applies to employers of more than 10 employees - $295 per employee annually[32]	October 1, 2006
Section 19, 20 and 21	Insurance Partnership Program (IPP) Eligibility: - Employee eligibility for participation in IPP up to 300% FPL - IPP subsidies consistent with those of CommCare	October 1, 2006
Section 84	Discrimination provisions: - Insurance policies may not exclude individuals based on: o Age o Health/medical condition o Duration of coverage o Claims experience - Preexisting conditions may be excluded but only for 6 months	January 1, 2007
Section 90	Regulation of Young Adult Plans - Eligibility is age 19–26, not in employment and not eligible for an employer plan - Only offered through the Connector	April 1, 2007
Section 12	Individual mandate definition, requirements, exemptions etc.	July 1, 2007

[32] For a discussion of the derivation of this penalty, see Chapter 4.

	- Minimum Creditable coverage[33] - Effective date of the individual mandate July 1, 2007; individuals for whom "creditable coverage" is deemed affordable must have "creditable coverage" in place - Reporting of health insurance status required on tax returns - Employers with 11 or more employees are required to complete Employer Health Insurance Responsibility Disclosure (HIRD) forms, which are used to verify whether employers offer Section 125 plans and collect other information relating to coverage - Failure to comply results in a tax penalty equal to 50% of the lowest premium available for each month without creditable coverage[34] - In addition, employers must provider form 1099-HC, which provides information on the employee's compliance with minimum creditable coverage requirements. Nonresident employers must provide this form for Massachusetts employees in order that the employee avoids tax penalties for noncompliance.	

[33] For more discussion of Minimum Creditable Coverage, see discussion elsewhere in this study.

[34] The Fair Share contribution and HIRD reporting requirements were repealed in 2013 as part of the transition to the ACA.

Section 42	Health Safety Net Eligibility - Individual requirements - Employer requirements	July 1, 2007
Section 44	Employer free-rider surcharge[35]	July 1, 2007
Section 48	Section 125 plans - Employers with more than 10 employees must maintain a Section 125 plan (to enable employees to obtain a tax deduction for the employee share of premiums)	July 1, 2007
Section 49, 50, 53, 56, 58	Dependent coverage expansion - Definition of child expanded to earlier of age 26 or 2 years after loss of dependent status	July 1, 2007
Section 81	Merger of nongroup and small group insurance markets - Allows individual purchase through the small group market	July 1, 2007
Section 82	Permitted premium rating factors - Maximum rate band 2:1; within the 2:1 band, the following are permitted: o Age, industry, participation, wellness program rate and tobacco use - Outside the 2:1 band: o Benefit level, geography and group size	July 1, 2007
Section 85, 86	Approval of policies and rates by Commissioner of Insurance	July 1, 2007
Section 28, 30	Uncompensated Care Pool/Health Safety Net - Changes name from UCP to HSN - Operational changes for HSN	October 1, 2007
Section 40	Health Safety Net Assessment - Acute care hospitals' assessments	October 1, 2007

Pursuant to the health reform law, from July 2006 through June 2009, the Connector was allowed to contract only with Medicaid managed care organizations (MMCOs) under contract with MassHealth to provide services for residents enrolled in the state-subsidized Commonwealth Care program [54], which limited enrollment to Boston Medical Center Health Plan (BMC), Neighborhood Health Plan (NBH), Network Health (the health plan of the Cambridge Health Alliance, CHA) and Fallon Community Health Plan (FCHP). A new entrant, CeltiCare, contracted with MassHealth and was added as an additional choice for members in FY 2010. In September 2006, the

[35] This is described in more detail later.

Connector Board approved the initial benefit package and enrollee contribution schedule (premium levels and copayments) for Commonwealth Care plans [53]. In October 2006, the Connector began enrollment in the Commonwealth Care program for eligible adults earning 100% FPL or less who did not qualify for MassHealth [8]. In January 2007, enrollment was opened to eligible individuals earning 300% FPL or less. Enrollees are required to stay in their MCO for one year or until an annual open-enrollment period when they can switch plans [53].

The Commonwealth Care program offers a single benefit package, although with different contributions required according to income level and family status for all eligible enrollees between 100% and 300% FPL. Table 1.6 shows income levels and their associated plan types and maximum contributions. The term "maximum monthly contribution" is slightly misleading. The "maximum monthly contribution" is determined annually by the Connector Board based on the Affordability Schedule. The maximum contribution is then set for the lowest-priced plan in any plan type and geographic region. Members may actually pay more than the "maximum contribution" for their plan type if the member chooses an MCO that bids rates higher than the lowest-priced plans for the plan type. Contributions for that MCO are then set at the "maximum monthly contribution" plus the difference between the MCO's premium and the rate of the lowest-priced MCO. As we shall see in Chapter 5, changes in MCO pricing and associated contributions leads to significant shifts in enrollment at annual enrollment.

Table 1.6 Commonwealth Care Plan Types and Maximum Premiums (2013)

	Income Bracket			Maximum Monthly Contribution		
Plan Type	% FPL	Bottom	Top	Individual	Couple	Family
1	0% -100%	$0	$11,496	$0	$0	$0
2A	100.1–150%	$11,497	$17,244	$0	$0	$0
2B	150.1–200%	$17,245	$22,980	$40	$80	$80
3A	200.1–250%	$22,981	$28,728	$78	$156	$156
3B	250.1–300%	$28,729	$34,476	$118	$236	$236

In January 2007, the Connector Board accepted and considered bids from private insurance carriers that wanted to offer coverage in the unsubsidized Commonwealth Choice program [8]. The Board approved all seven plans offered by each participating insurance carrier. Implementation of Commonwealth Choice program occurred in stages. In May 2007, health insurance products were available for individual (nongroup) purchase from the Connector. In September 2007, the Connector began offering

voluntary insurance purchase for employees without access to employer-sponsored insurance. Coverage was not offered to small employer groups until 2008. In December 2008, the Connector launched a pilot Contributory Plan, which allowed small employers with 50 or fewer full-time employees to subsidize their employees' purchase of health insurance through the Commonwealth Choice program [53]. The contributory plan, which was modeled on the successful federal employee and Connecticut Business and Industry programs, included the innovative feature, not available in Massachusetts until that time, which allowed the employer to provide a virtual "voucher" that the employee could use for the carrier of the employee's choice. (The employee was limited to a choice of carrier and could not choose a metallic tier.)

Significant resistance from the Commercial insurers to the structure and provisions of the contributory plan limited the scope of the rollout to a handful of brokers and only to their existing customers. Insurer resistance arose because the Connector planned to develop rates based on the entire group even though insurers would be at risk for only the portion of the group that chose their products. Underwriting rules used by most carriers in the small employer market did not allow for slice business, so the Contributory Plan program was counter to market norms. Insurers were concerned that their "slice" would be both smaller than the entire group (leading to dis-economies of scale) and potentially antiselective, with sicker employees choosing insurers with broader networks. Since the group was rated as a whole, rates for individual slices would not reflect the risk distribution of the individual insurer's slice. Small group rating rules allowed for the use of a participation rate adjustment factor to account for some of this increased risk. However, the rating rules defined by the Connector did not allow for the use of the participation factor at the level of participation of the individual insurer. The difference in perception of this risk between Connector staff and the insurers' actuaries almost caused the program to be still-born. In the end, after much discussion, the insurers agreed to offer the program on the Connector's terms, on a pilot basis with limited enrollment. In the event, the choice program was not successful, enrolling only 77 employers with 388 members before it was quietly discontinued for new business in 2010. This number had fallen to 114 by June 2012.

All plans of the Commonwealth Choice program are accessed via the Connector's website, which is also available to brokers [55].

Chapter 58 also requires employers to participate. In September 2006, the Connector issued regulations to implement the Section 125 plan requirement for all employers with 10 or more full-time employees. A Section 125 plan allows employees, both part-time and full-time, to purchase health insurance with pretax dollars [53]. Employers with more than 10 workers who do not contribute a "fair and reasonable"

amount for employee health coverage will be required to pay the state a "Fair Share Contribution" fee per year for each full-time worker. Companies with 11 or more full-time equivalent employees will meet the "fair and reasonable" test if at least 25% of those employees are enrolled in that firm's health plan and the company is making a contribution toward it. A business may also demonstrate "fair and reasonable" by contributing at least 33% toward employee premiums. [8] Employees without access to subsidized coverage can enroll in the nonsubsidized plans through the Connector. Participation in the Section 125 plan has always been low, possibly because the low pay of many employees makes the tax credit of little value.

Minimum Creditable Coverage

On July 1, 2007, the state merged the small group and individual insurance markets to make coverage for individuals more affordable. Merging these markets was intended to pool risk and lower premiums for those with individual coverage [8]. This change was coupled with an individual mandate to purchase health insurance coverage. On May 1, 2007, the Connector began sales of individual insurance, with coverage effective July 1, 2007. Beginning in July 1, 2007, Massachusetts residents age 18 and over were required to obtain and maintain creditable health insurance coverage if such coverage is deemed affordable to them under schedules set annually by the Connector [56]. Most Massachusetts adults must be covered by an insurance policy that meets Minimum Creditable Coverage (MCC) standard. The MCC identifies the minimum benefits that insurance coverage must provide and is defined by the Connector on an annual basis. Prior to January 1, 2009, individuals enrolled in a plan that meets state licensure requirements or a self-insured plan offered by an employer that meets federal Employee Retirement Income Security Act (ERISA) requirements were considered compliant with the individual mandate. Beginning January 1, 2009, an individual must be enrolled in a plan compliant with the MCC or be covered by one of the "creditable coverage" plans [53]. Individuals who are deemed able to afford health insurance (as defined by the Affordability Schedule) but who fail to comply are subject to income tax penalties for each month that they are uninsured. The mandate (and accompanying tax penalty) applies at the individual member level, not the employer. Minimum Creditable Coverage requires the following:

- Coverage for a comprehensive set of services (for example, doctor visits, hospital admissions, day surgery, emergency services, mental health and substance abuse, prescription drug coverage, diagnostic imaging and screening including x-rays, diagnostic laboratory services, maternity and newborn care, medical and surgical care, radiation therapy, and chemotherapy).

- Preventive care, without a deductible for routine adult physical exams, well baby care, prenatal maternity care, medically necessary child or adult immunizations, and routine gynecological exams. A plan is required to cover three in-network preventive care visits on a first-dollar basis for an individual and six in-network preventive care visits for a family.
- A cap on annual deductibles of $2,000 for an individual and $4,000 for a family.
- For plans with up-front deductibles or co-insurance on core services, an annual maximum on out-of-pocket spending of no more than $5,000 for an individual and $10,000 for a family.
- No caps on total benefits for a particular illness or for a single year.
- No policy that covers only a fixed dollar amount per day or stay in the hospital, with the patient responsible for all other charges.
- For policies that have a separate prescription drug deductible, it cannot exceed $250 for an individual or $500 for a family.
- All services must be provided to all of those covered (for example, a plan that covers dependents must extend maternity services to them).
- No cap on prescription drug benefits.

Massachusetts insurers brought their plans into compliance with MCC standards and certify to this effect. However, because the focus of reform was on the Massachusetts individual and small group markets, implications for specific types of other coverage, such as collectively bargained plans and nonresident employers and insurers, were not initially considered. Members of collectively bargained plans that would otherwise have been noncompliant were granted an exemption until the end of the collective bargaining agreement. It was more difficult for nonresident employers to bring their plans into compliance with MCC, often for no more than a handful of covered lives. As an alternative to compliance, the Connector allowed employers whose plans were noncompliant to apply for exemption provided the plans included certain minimum required benefits and were certified by an actuary as of equal or greater value than the Bronze level MCC plan.

MCC may be demonstrated in other ways:

- Enrollment in Medicare Part A or B
- Enrollment in a Commonwealth Care or Commonwealth Care Bridge (Aliens with Special Status [AWSS]) plan
- Enrollment in a Commonwealth Choice plan (including Young Adult Plans)
- Enrollment in MassHealth

- Enrollment in a Student Health insurance plan offered in Massachusetts or another state
- Enrollment in a tribal or Indian Health Service plan
- Enrollment in TRICARE
- Eligibility for the U.S. Veterans Administration Health System
- Enrollment in a health insurance plan offered by the federal government to federal employees or retirees
- Participation in Peace Corps, VISTA or AmeriCorps or National Civilian Community Corps coverage, or Enrollment in a Preexisting Condition Insurance Plan (PCIP).

The purpose and effect of the Minimum Creditable Coverage rules are clear: to eliminate certain policies deemed not to be "quality" insurance, such as so-called "mini-med" plans (that offer coverage with low cost sharing but up to a specified annual or lifetime maximum), employer plans that did not cover certain benefits (such as prescription drugs), and plans that were deemed to be discriminatory (for example, plans that do not cover maternity benefits for dependents). A federally qualified High Deductible Health Plan offered with a Health Savings Account (HSA) or Health Reimbursement Arrangement may meet MCC if it complies with most of the required MCC benefits described above.

Metallic Tiers

Unlike Commonwealth Care, which offers a single plan design with different contributions by income level and family status, the Commonwealth Choice program offers a wide range of different plan designs and premiums. The concept of the metallic tier, now incorporated in the ACA, originated in Massachusetts. The metallic tiers are a way of communicating a somewhat technical idea, "actuarial value," which is a summary measure of a health insurance plan's benefit generosity. The idea behind metallic tiers was to reduce the complexity of different benefit designs (included and excluded services and the terms under which included benefits would be reimbursed by insurer) to a single number. Actuarial value is expressed as the percentage of medical expenses (allowed charges, that is, the sum of charges for services recognized under the policy at the plan's contracted rates) to be paid by the insurer for a standard population. Expressed as a percentage of allowed charges, the complement of actuarial value is the member cost-sharing percentage, or the percentage of allowed charges that remain the responsibility of the member. (Any charges not recognized as covered by the policy remain outside of this calculation and are borne 100% by the insured.)

The Connector focused on making shopping and enrollment for coverage as transparent and simple as possible for consumers and small businesses. In February 2007, Massachusetts conducted a focus group study to (1) gain insight into consumer perceptions of actuarial value and the metal tiers, and how these tools affect the clarity of coverage options, (2) share the information with health plans, and (3) help inform consumer outreach and communication.

Kevin Counihan, former Chief Marketing Officer of the Connector, speaking at a conference of the Consumers Union [57] said: "Consumers generally find health insurance boring, expensive, confusing and untrustworthy. More specifically, the participants in the Massachusetts focus groups found actuarial value confusing." Consumers supplemented the actuarial value information with other information about provider network, premium, quality and health plan reputation. The Massachusetts Connector prescribed benefits in a Gold plan with an actuarial value deemed to be 92%. Insurers had to demonstrate that plan designs offered in all tiers met the correct actuarial value relative to that Gold plan design. Even within a tier with a standard actuarial value, consumers were faced with several different plan designs. In response, the Connector standardized its plan designs so that little variation remained within a tier. As a result, 27 plan designs were reduced to nine as part of the benefits standardization changes for coverage offered in 2010. "Counihan noted that this illustrates the 'paradox of choice.' People say they want choice, but they find too much choice confusing. The state's focus group testing found 6-9 plan designs to be the ideal number of choices for consumers." Interestingly, as a result of pressure from employers sponsoring group plans for more choices, the Connector later increased the number of available choices.

Based on its research, the Connector introduced the following tiers for the July 1, 2008, Commonwealth Choice contract renewal: Gold level plans have an actuarial value of 92%. Silver level plans have a spread of 70% to 85% relative to the Gold level plan, or 64% to 78% of allowed charges. At the Bronze level, all products have relative values that range from 58% to 61% of the Gold level plans, or 53% to 56% of allowed charges.

For the January 1, 2010 renewal, the Connector introduced a substantial change to the Commonwealth Choice model. Benefit designs were standardized for each tier to moderate premium increases and simplify purchases based on market research. The change in policy resulted in nine plan designs, offered by seven health insurance carriers (which included the addition of a new insurer, CeltiCare Health Plan of Massachusetts). Plan designs across tiers included one Gold, three Silver, three Bronze and two Young Adult Plans. In addition, one carrier offered both a broad and select provider network on all tiers except Gold.

The standard benefit designs are provided in the Appendix to this chapter.

Promoting the Reform

In order to achieve universal coverage, the health reform law included extensive marketing, public education and outreach. The state-funded community outreach efforts and the Connector conducted an ongoing campaign that included a public information office, extensive educational meetings and broad-based advertising [58]. For consumers, the focus was on the individual insurance mandate and successful enrollment strategies. Elsewhere, the business community was educated about the MCC, the Section 125 plan and other requirements [53]. The Connector established its own Public Information Unit to respond to inquiries regarding health reform from the public and employers. The Connector also launched a website to provide consumer-friendly information about eligibility, enrollment and benefits [8]. In addition, the Connector launched numerous public education and outreach campaigns by collaborating with state agencies, community organizations, and corporate and civic organizations, including 30 statewide forums, millions of postcards with information on the law's new requirements, collaboration with the Massachusetts Bay Transportation Authority, and events with the Boston Red Sox baseball team [53].

The Connector Authority began operations with a budget of $24 million for FY 2007. The budget has grown by FY 2012 to $35 million. In FY 2012 the total number of members enrolled was 205,000, implying an administrative cost of $170 per member. Note that this charge is for the administration of the Connector and represents an additional administrative charge over and above the normal costs of insurer administration. The actual insurance administrative costs (such as network management, claims, medical management etc.) remain the responsibility of the insurers. The achievement of the Connector Authority is the subject of the next chapter. The Connector budget was funded by a charge (originally 3.5% and subsequently reduced to 2.5%) on all premiums paid through the Connector, in addition to allocations from the legislature.

APPENDIX: Standard CommChoice Benefit Designs

Gold

Benefit Category	Gold A
Annual Deductible (Individual/Family)	None
Annual Out-of-Pocket Maximum (Ind/Fam)	Unlimited
PCP Office Visit	$15
Specialist Office Visit	$25
Rx Deductible	None
Rx Copayments	$10/$25/$45
ER Copayments	$75
Inpatient Admission	$100
Outpatient Surgery	$100

Silver

Benefit Category	Silver A	Silver B	Silver C
Annual Deductible (Ind/Fam)	None	$500/$1,000	$1,000/$2,000
Annual Out-of-Pocket Maximum (Ind/Fam)	$2,000/$4,000	$2,000/$4,000	$2,000/$4,000
PCP Office Visit	$25	$20	$20
Specialist Office Visit	$25	$20	$20
Rx Deductible	None	None	None
Rx Copayments	$15/50%/50% co-ins	$15/$35/$60	$15/$30/$50
ER Copayments	$100	$100	$100 after Ded
Inpatient Admission	$500	$0 after Ded	$0 after Ded
Outpatient Surgery	$500	$0 after Ded	$0 after Ded

Bronze

Benefit Category	Bronze A	Bronze B	Bronze C (HSA-compliant)
Annual Deductible (Ind/Fam)	$250/$500	$1,000/$2,000	$2,000/$4,000
Annual Out-of-Pocket Maximum (Ind/Fam)	$5,000/$10,000	$5,000/$10,000	$5,000/$10,000
PCP Office Visit	$25	$25	$25 after Ded
Specialist Office Visit	$40	$40	$25 after Ded
Rx Deductible	$250/$500	$100/$200	None
Rx Copayments	$15/ 50%/50% co-ins	$15/$30/$50	$15/ 50%/50% co-ins
ER Copayments	35% co-ins after Ded	$150 after Ded	$100 after Ded
Inpatient Admission	35% co-ins after Ded	25% co-ins after Ded	20% co-ins after Ded
Outpatient Surgery	35% co-ins after Ded	25% co-ins after Ded	20% co-ins after Ded

Young Adult Plan

Benefit Category	YAP A	YAP B
Annual Deductible (Individual/Family)	$250	$2,000
Annual Out-of-Pocket Maximum (Ind/Fam)	$5,000	$5,000
PCP Office Visit	$25	$25
Specialist Office Visit	$25	$25
Rx Deductible	None	$250
Rx Copayments	$15/50% / 50%	$15/50% / 50%
ER Copayments	$250	$250
Inpatient Admission	30% co-ins after Ded	20% co-ins after Ded
Outpatient Surgery	30% co-ins after Ded	20% co-ins after Ded

Chapter 2: Achievements of Reform

In the last chapter we saw how Massachusetts' efforts to reform health insurance had been unsuccessful, while at the same time resulting in the state's being a latecomer to some of the national reform initiatives. The strategy launched by Governor William Weld of making the federal government responsible for paying for coverage of the uninsured, while initially successful in significantly expanding Medicaid coverage, by 2005 threatened to backfire to the detriment of the state budget. Governor Romney and the legislature worked collaboratively to develop an innovative insurance program for the uninsured that would result in an extension of the Section 1115 waiver. And so was born the Massachusetts health insurance reform known as Chapter 58 of the Acts of 2006. Implementing the reform was, however, not simple matter and required the establishment of a new department of the state—the Health Insurance Connector Authority—and the hiring of a large staff. Compared with the (admittedly more complex) implementation of the ACA, the implementation of Chapter 58 was remarkably smooth.

It is important, when comparing the implementation of Chapter 58 with the implementation of the ACA, to emphasize what Governor Romney and the legislature were able to accomplish. In the spirit of the old saying that "a picture is worth 1,000 words," the juxtaposition of two pictures from the signing ceremonies—Governor Romney signing Chapter 58, and President Obama signing the ACA—emphasizes the difference in political support for the two laws.

The contrast between the two ceremonies, with Governor Romney (R) surrounded by Republican and Democratic politicians and the president surrounded by only Democratic politicians, emphasizes the bipartisan nature of the support for Chapter 58.[36] The ACA by contrast was a Democratic initiative forced through Congress without Republican support and has faced continual opposition since.

The bipartisan goodwill that accompanied the implementation of Chapter 58 resulted in support for the law despite occasional glitches (minor, in relation to the implementation of the ACA; at the same time implementation resulted in positive results almost immediately, again, in contrast to the ACA).

Achievements of Health Care Reform: Enrollment

Overall, the program has been successful in enrolling all but a small percentage of citizens in insurance. At year-end 2010, a study by the Massachusetts Division of

[36] We will explore reactions to reform in more detail in Chapter 4.

Healthcare Financing and Policy (DHCFP; now renamed Center for Health Information and Analysis [CHIA]) reported that fewer than 2% of all nonelderly citizens were without coverage, primarily those who are exempted by reason of unaffordability or religion, illegal immigrants, and those who elect to pay the penalty rather than obtain insurance.

It is important when considering the achievement of increased enrollment that Chapter 58 did not result in a single program, but rather (as Table 1.5 shows) resulted in a number of different initiatives, each of which contributed to the enrollment of an affected population. In what follows, the reader should keep in mind the important programs affected by reform:

- Medicaid (MassHealth)
- Commonwealth Care (subsidized Medicaid-type expansion for citizens with incomes between 100% and 300% of federal poverty)
- Commonwealth Choice (an unsubsidized Commercial program administered by the Connector Authority)
- Unsubsidized Commercial insurance (employer and individual, expanded as a result of the mandate).

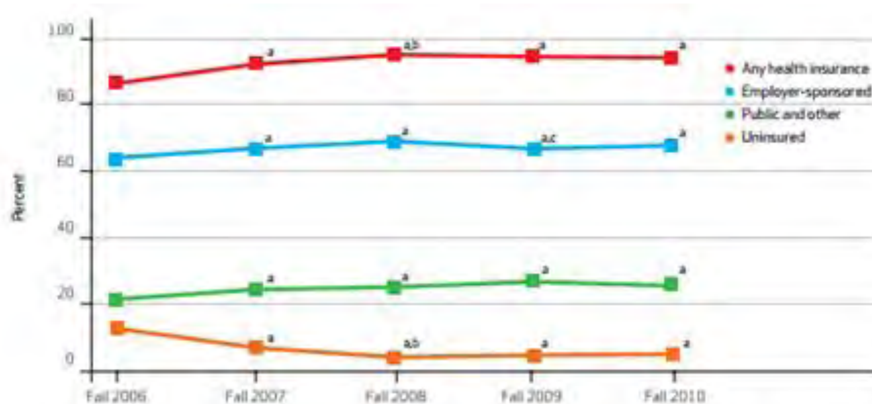
The reported numbers for the uninsured in Massachusetts and the United States has been subject to considerable debate. The most frequent comparisons at the national level use the Current Population Survey data, which critics contend underreport Medicaid enrollment. Another (survey-based) study of Massachusetts conducted by Long and Masi [59], who conducted three rounds of interviews with adults in 2006, 2007 and 2008 but did not report on insurance per se, support the success of Massachusetts reform at reducing the number of uninsured adults but found that between 2006 and the fall of 2007, the percentage of adults with income under 300% FPL reporting "having a usual place of care, excluding Emergency Department" increased from 79.3% to 83.2%.

In contrast, a 2010 study published by the Cato Institute (Yelowitz [60]) called into question the legitimacy of the numbers of insured in Massachusetts. This study reported that there was evidence of uninsured residents trying to conceal their true insurance status due to the financial penalties and concluded that Massachusetts may be overestimating the numbers who gained coverage as a result of reform by 45%. The Cato Institute study reported that the discrepancy in information was due to the Census Bureau's polling methods, as residents of Massachusetts can falsify information by refusing to participate, lie about insurance status, or participate and refuse to answer questions concerning insurance status.

Differences in numbers of uninsured citizens according to different survey methods continue to be an issue with respect to the absolute number and percentage of uninsured, but the trend in these numbers is informative, even if the numbers themselves may be inaccurate.

Young, Stockley and Dahlen [61] reported coverage data from the same surveys in a 2012 *Health Affairs* article that shows an increase in overall insurance coverage between 2006 and 2008, with a high and stable percentage of the population covered after 2008.

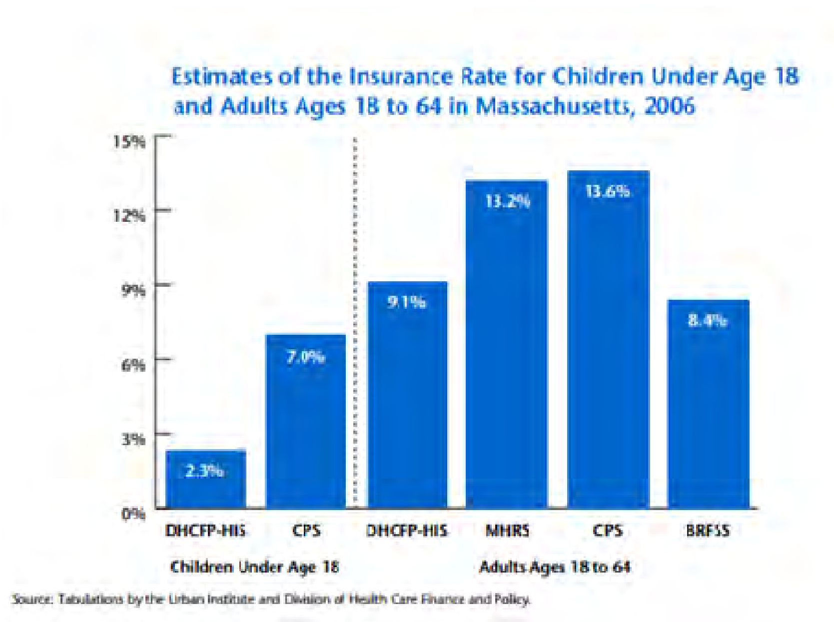
Figure 2.2 Trends in Massachusetts Health Insurance for Individuals 19-64 between 2006 and 2010



The continuing debate over enrollment numbers, however, led DHCFP (now CHIA) to commission a study (conducted by Sharon Young and the Urban Institute [62], published in August 2008). Figure 1 of this study shows the wide range of estimates of the uninsured in 2006, prior to reform. As the authors state: "For children under age 18, the estimates of the uninsurance rate ranges from 2.3% to 7.0% based on the CPS and the DHCFP-HIS"[37] and "For non-elderly adults (ages 18 to 64) the estimates of the uninsurance rate ranged from 8.4% to 13.6%, with two of the surveys producing estimates at the top of the range (13.6% and 13.2%, respectively) and two surveys at the bottom of the range (9.1% and 8.4%, respectively)." The authors state that there is "no single survey in Massachusetts that is clearly superior across all of the important dimensions of survey design, fielding, and data processing. … [T]he CPS which provides the best sample for estimating the overall population in Massachusetts has the weakest measure of health insurance status and small sample size."

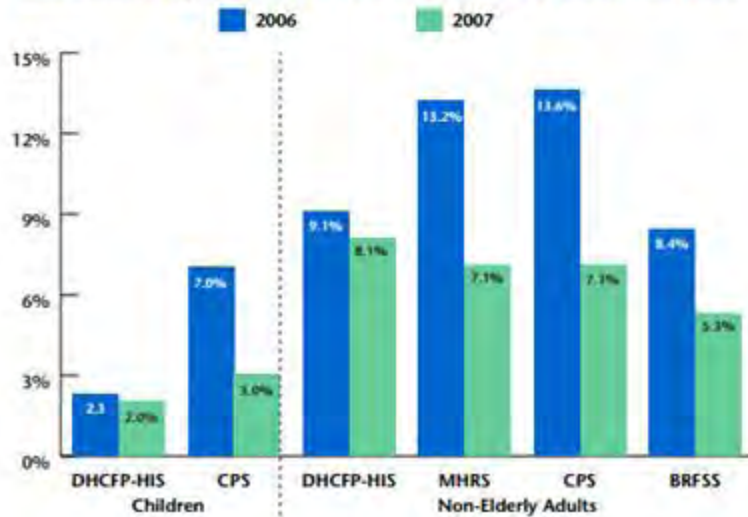
Estimates of uninsurance according to different methodologies for 2007 from the same study (following reform) are compared in Figures 2.3 and 2.4.

Figure 2.3



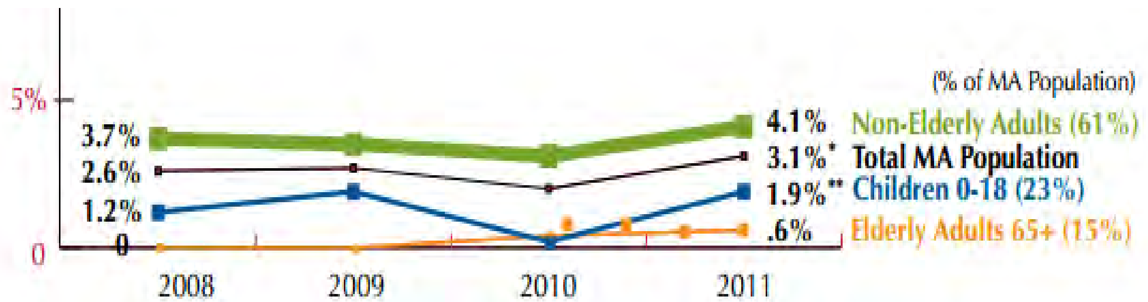
[37] The surveys cited are the Bureau of Labor Statistics/U.S. Census Bureau's Current Population Survey (CPS); Massachusetts Department of Public Health/Centers for Disease Control and Prevention's Behavioral Risk Factor Surveillance System (BRFSS); the Massachusetts Division of Health Care Finance and Policy's Health Insurance Survey (DHCFP-HIS); and the Massachusetts Health Reform Survey (MHRS) conducted by the Urban Institute.

Figure 2.4



Despite the controversy over the numbers, most reports of uninsurance in Massachusetts use the DHCFP-MIS survey numbers. The most recent (2013) report [63], using data from 2011, shows an overall uninsured rate of 3.9%, slightly higher than in earlier years.

Figure 2.5 Trends in Rates of Uninsurance by Age Group

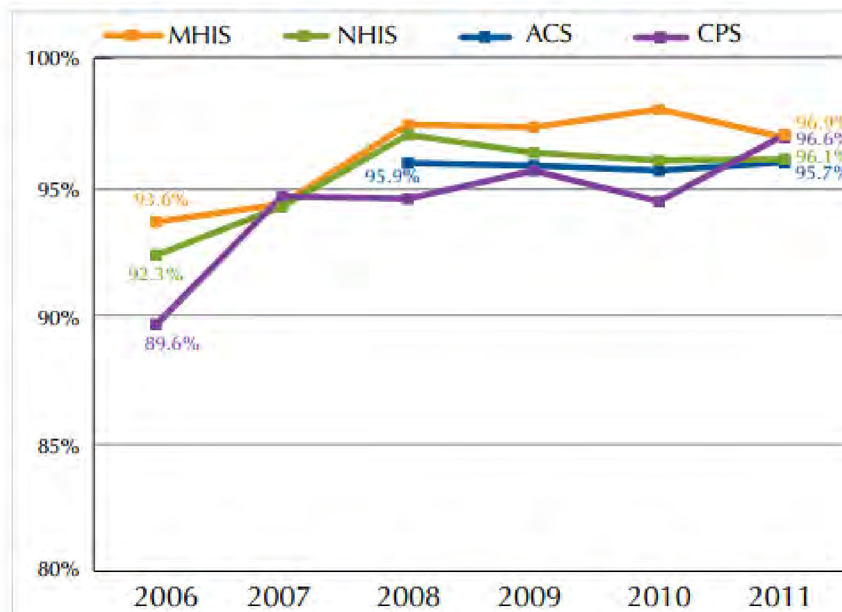


The same CHIA report provides the latest enrollment results of some of the surveys referenced above. The estimates of the percentage of insured citizens have tended

to trend closer in recent years, with little difference in the estimated percentage of insured citizens.

Figure 2.6

Health Insurance Coverage for All Ages in Massachusetts, MHIS and Other Surveys, 2006-2011



Source: 2007-2011 Current Population Survey (CPS), 2009-2011 American Community Survey (ACS), 2007-2011 National Health Interview Survey (NHIS), and 2006-2011 Massachusetts Health Insurance Survey (MHIS)
Note: At the time of analysis 2011 survey data was not available.

Enrollment Expansion in Different Programs

Enrollment in MassHealth (Medicaid)

Although most of the focus of researchers on the effects of Massachusetts reform has been on the coverage expansion administered by the Connector Authority through the Exchange (Commonwealth Care and Commonwealth Choice), a development that has not received as much attention has potentially far greater long-term budgetary implications for the state and the nation, namely, the increase in Medicaid enrollment. The largest single subset of new enrollees was in MassHealth (Massachusetts Medicaid). In addition to the new enrollments in the Commonwealth Care and Commonwealth Choice programs, 252,000 individuals enrolled by the end of 2010 in Medicaid as a result of Chapter 58. With regard to MassHealth, Chapter 58 expanded income eligibility, removed caps on enrollment and restored some benefits. Specific expansions were for children, the Insurance Partnership (a program for low-income employees and their employers), people living with HIV, disabled adults and children, and restoration of dental and vision benefits. Table 2.1 shows a breakdown of newly enrolled individuals, about three-quarters of whom represent individuals who were previously eligible for

Medicaid but who had not enrolled, and who (presumably) enrolled as a result of the mandate and aggressive communication campaign. Clearly, this enrollment demonstrates the "woodwork effect": the large number of individuals who were previously eligible but not enrolled. From the perspective of the ACA, this population represents a considerable potential budgetary problem for those states with previously generous Medicaid benefits but low enrollments, because the 100% federal match for Medicaid *expansion* does not extend to the individuals who were previously eligible and who enroll as a result of the ACA. States that had not introduced generous benefits will not see as many enrollments in this category. Interestingly, the previously Medicaid-eligible population (190,000) is the largest single subset of enrollees, exceeding the number of enrollees in the Commonwealth Care program until very recently.[38]

Table 2.1: Growth in MassHealth Enrollment Postreform

	June 2006	December 2010	Change 2006 to 2010	% of Total MassHealth Enrollment Increase
MassHealth enrollment in pre-Reform Categories	974,000	1,164,000	190,000	76%
Chapter 58 Expansion Categories				
Children w/Family income >200% FPL	7,000	23,000	16,000	6%
Adults w/Family income >200% FPL	30,000	32,000	2,000	1%
Essential program membership	44,000	88,000	44,000	17%
Total MassHealth Enrollment growth due to reform	81,000	143,000	62,000	24%
TOTAL MassHealth Enrollment				
TOTAL MassHealth Enrollment	1,055,000	1,307,000	252,000	100%

Source: Massachusetts Medicaid Policy Institute (2011) [64].

Enrollment in Expansion Programs Administered by the Connector: Commonwealth Care and the Commonwealth Care Bridge Program

[38] The implication of these enrollments for state budgets has been overlooked by commentators on the ACA. The ACA provides for an initial 100% match, declining to 90% (until 2022) for Medicaid expansion categories. However, enrollment of previously eligible members attracts only the previous 50% federal match. States with previously generous Medicaid programs, but with large numbers of eligible but unenrolled members (like Massachusetts), will find that they have to fund a significant state share of Medicaid costs.

By the end of FY 2013, enrollment in the different Commonwealth Care (CommCare) Plan Types administered by the Connector had stabilized as shown below. By FY-end 2013, total enrollment across all three plan types exceeded 200,000. Approximately two-thirds of enrollees are in Plan Types I and IIA, noncontributory plans, a percentage that has fallen slightly in recent years. Figure 2.7 shows the total enrollment at the beginning of the last month of each fiscal year (June 1) by type of coverage. The effect of the elimination of coverage for the Aliens with Special Status population (effective in October 2009) is clearly evident in the change in enrollment between June 2009 and June 2010.

Figure 2.7 Commonwealth Care Enrollment since Inception

Key:

Type 1:	Income under 100% federal poverty level (FPL) (noncontributory)
Type IIA:	Income between 100% and 150% federal Poverty level (FPL) (noncontributory)
Type IIB:	Income between 150% and 200% FPL (contributory)
Type IIIA:	Income between 200% and 250% FPL (contributory)
Type IIIB:	Income between 250% and 300% FPL (contributory)

Table 2.2 Commonwealth Care Enrollment since Inception[39]

	Commonwealth Care Segments FY-End Enrollments Plan Type						
Date	**I**	**IIA**	**IIB**	**IIIA**	**IIIB**	**Noncontributory %**	**Total**
June 1, 2007	59,816	8,246	7,288	2,183	2,267	85%	79,800
June 1, 2008	81,390	43,465	29,509	11,563	9,690	71%	175,617
June 1, 2009	92,317	36,499	26,987	13,951	7,244	73%	176,998
June 1, 2010	78,029	32,695	26,887	14,915	7,792	69%	160,318
June 1, 2011	71,272	34,387	29,010	16,401	8,806	66%	159,876
June 1, 2012	86,442	41,420	31,580	18,286	9,636	68%	187,364
June 1, 2013	93,056	45,576	35,268	21,293	11,201	67%	206,394

Effect of the Aliens with Special Status (AWSS): The Bridge Program

Aliens with Special Status represent a class of enrollment for which the state undertook full financial responsibility because these members are excluded under the Clinton welfare reform (Personal Responsibility and Work Opportunity Reconciliation Act of 1996) from receiving federal matching subsidies. The relative numbers of AWSS enrollees represented between 10% and 11% of total Commonwealth Care enrollment before 2010.

In September 2009, AWSS members were removed from Commonwealth Care as a result of budget constraints imposed by the Massachusetts legislature. The effect on Commonwealth Care enrollment may be seen; by FY-end 2011 (June 2010), Commonwealth Care enrollment had fallen to 160,318 and continued to decline in FY 2012. The legislature did, however, offer the "Commonwealth Care Bridge Program" for AWSS members (an abbreviated program with limited networks and higher cost sharing). Enrollees had to have been previously enrolled in Commonwealth Care (no new eligible members were added to the Bridge-eligible group). Commonwealth Care Bridge did not cover all AWSS members, as Table 2.3 shows.

[39] The Massachusetts Fiscal Year is July 1 to June 30; enrollment at June 1 in the Fiscal Year represents the enrollment at Fiscal Year-end.

Table 2.3 AWSS Membership vs. Total Membership (CommCare)

	Commonwealth Care Enrollment FY-End Enrollment			
Date	Total	AWSS	Non-AWSS	Bridge Program
June 1, 2007	78,517	9,508	69,009	0
June 1, 2008	171,280	18,326	152,954	0
June 1, 2009	176,998	17,890	159,108	0
June 1, 2010	160,318	25,654	160,318	23,735
June 1, 2011	159,876	20,389	159,876	17,419
June 1, 2012	187,364	22,454	164,910	0
June 1, 2013	206,394	25,262	181,132	0

After a successful lawsuit, AWSS members were prospectively integrated back into the Commonwealth Care program beginning in March 2012 and ramping up during 2012, as the enrollment numbers for FY 2013 and 2014 show.

Table 2.4 Membership (Months) by Plan and Fiscal Year[40]

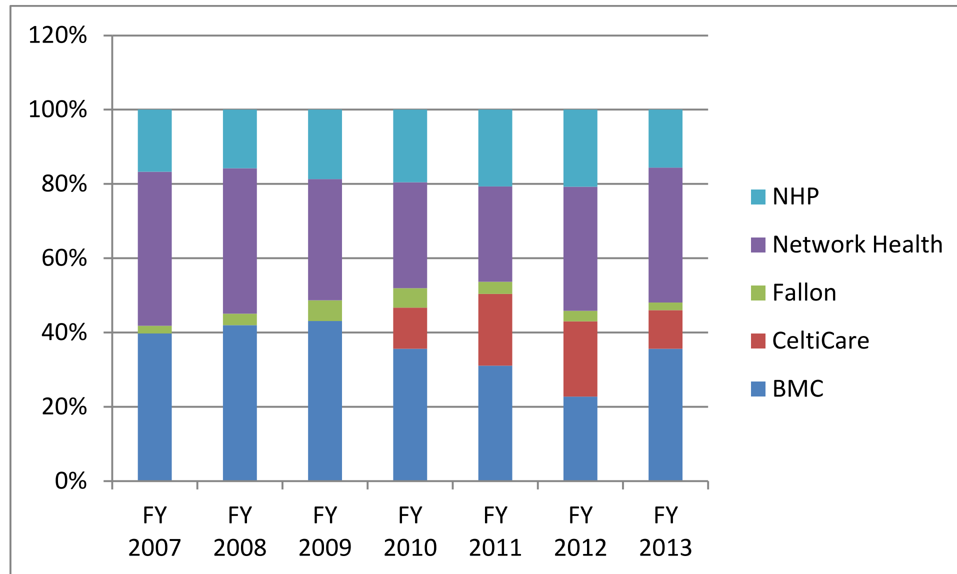
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
	Oct. 1, 2006–June 30,2007	July 2007–June2008	July 2008–June 2009	July 2009–June 2010	July 2010–June 2011	July 2011–June 2012 (Final)	July 2012–July 2013
Member Months							
BMC	145,128	747,633	871,180	745,987	664,294	478,179	843,047
Bridge Program (Celticare)		0	0	207,562	251,302	114,424	0
CeltiCare	0	0	0	24,779	160,610	312,459	246,091
Fallon	7,436	54,434	112,017	110,447	69,945	59,793	49,709
Network Health	151,878	696,778	659,640	598,061	550,321	701,687	861,028
NHP	60,972	281,122	378,220	409,020	441,250	436,835	369,392
Adjustment	0	0	11	0	0	0	0
Total	**365,414**	**1,779,967**	**2,021,068**	**2,095,856**	**2,137,722**	**2,103,377**	**2,369,267**

Boston Medical Center Health Plan (BMCHP) was and remains the largest plan in the program. However, in FY 2012 membership fell significantly (almost 30%) when,

[40] Totals in Table 2.4 include the AWSS population.

following bidding changes in the premium rate-setting process, BMCHP premiums were at a competitive disadvantage with other plans. Network Health has bid more aggressively in recent years, as membership results show. These results show that changes in underlying competitiveness of rates as a result of a competitive bidding process (made possible by the accumulation of experience data since inception) can result in significant swings in membership. We will analyze the responsiveness of members to changes in their contribution rates in Chapter 5. Relative market shares by year can be seen in Figure 2.8 (market share numbers include the Commonwealth Care Bridge Program lives covered by CeltiCare for the duration of that program).

Figure 2.8 Commonwealth Care Market Share by MCO



Key: BMC: Boston Medical Center Health Plan
NHP: Neighborhood Health Plan
Fallon: Fallon Community Health Plan

We will discuss enrollment and market-share numbers in more detail in a later chapter. For now, we note that, with the exception of Neighborhood Health Plan, enrollment by MCO was unstable with wide swings in declines and increases in enrollment year-to-year. The Connector Authority adopted a marginal pricing strategy for members in premium-paying plans that has the effect of significantly leveraging MCO premium rate changes. (We illustrate this effect with an example in the Appendix to this chapter.)

Table 2.5 Membership (Months) by Age/Sex and Fiscal Year[41]

	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	TOTAL
Male	177,246	834,566	960,250	896,670	881,792	909,205	1,155,109	5,814,838
18_26	64,190	247,150	248,509	227,786	206,165	170,478	195,291	1,359,569
27_39	42,478	211,679	250,266	225,011	219,382	238,525	316,911	1,504,252
40_49	32,821	165,538	196,261	178,361	173,268	181,804	230,813	1,158,866
50+	37,757	210,199	265,214	265,512	282,977	318,398	412,094	1,792,151
Female	188,166	945,391	1,060,800	991,532	1,004,533	1,079,658	1,421,625	6,691,705
18_26	66,503	270,540	266,447	258,408	242,898	211,191	247,596	1,563,583
27_39	34,042	197,392	225,174	191,455	195,641	229,013	324,775	1,397,492
40_49	32,221	184,178	213,713	191,295	190,272	209,781	282,016	1,303,476
50+	55,400	293,281	355,466	350,374	375,722	429,673	567,238	2,427,154
Grand Tot	365,412	1,779,957	2,021,050	1,888,202	1,886,325	1,988,863	2,576,734	12,506,543
All	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	Grand Total
18_26	130,693	517,690	514,956	486,194	449,063	381,669	442,887	2,923,152
27_39	76,520	409,071	475,440	416,466	415,023	467,538	641,686	2,901,744
40_49	65,042	349,716	409,974	369,656	363,540	391,585	512,829	2,462,342
50+	93,157	503,480	620,680	615,886	658,699	748,071	979,332	4,219,305
Grand Tot	365,412	1,779,957	2,021,050	1,888,202	1,886,325	1,988,863	2,576,734	12,506,543

Early enrollment in Commonwealth Care was heavily weighted toward younger consumers, with 2007–2008 enrollment of the under-27 population at 36% of all Commonwealth Care members, compared with 26% of members aged 50 and over. Younger enrollments have been consistently declining with a sharp decline following the ACA extension of coverage to age 26 on a parent's plan. The age 18–26 cohort declined by approximately 50% of the early enrollment by 2013 to 17.2%. Conversely enrollment at older ages has been increasing. By FY 2013, members aged 50 and above had reached 38% of all enrollments, although they make up only 30.9% of the Massachusetts population. Possibly because the changes in the population mix took place slowly, this did not appear to have much impact on rates. Trends in rates are discussed in detail in Chapter 5.

[41] Totals in Table 2.5 exclude the AWSS population.

Table 2.6 Commonwealth Care Enrollment Compared with Massachusetts Census

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Massachusetts
Male	48.5%	46.9%	47.5%	47.5%	46.7%	45.7%	44.8%	Population
18-26	17.6%	13.9%	12.3%	12.1%	10.9%	8.6%	7.6%	9.9%
27-39	11.6%	11.9%	12.4%	11.9%	11.6%	12.0%	12.3%	12.7%
40-49	9.0%	9.3%	9.7%	9.4%	9.2%	9.1%	9.0%	11.4%
50+	10.3%	11.8%	13.1%	14.1%	15.0%	16.0%	16.0%	14.9%
Female	51.5%	53.1%	52.5%	52.5%	53.3%	54.3%	55.2%	
18-26	18.2%	15.2%	13.2%	13.7%	12.9%	10.6%	9.6%	10.0%
27-39	9.3%	11.1%	11.1%	10.1%	10.4%	11.5%	12.6%	13.2%
40-49	8.8%	10.3%	10.6%	10.1%	10.1%	10.5%	10.9%	12.0%
50+	15.2%	16.5%	17.6%	18.6%	19.9%	21.6%	22.0%	16.0%
TOTAL								
18-26	35.8%	29.1%	25.5%	25.8%	23.8%	19.2%	17.2%	19.9%
27-39	20.9%	23.0%	23.5%	22.0%	22.0%	23.5%	24.9%	25.9%
40-49	17.8%	19.6%	20.3%	19.5%	19.3%	19.6%	19.9%	23.4%
50+	25.5%	28.3%	30.7%	32.7%	34.9%	37.6%	38.0%	30.9%

Massachusetts Demographic data are for 2010 from U.S. Census: American Fact Finder. Accessed September 2013. Age group 18–26 has been estimated from Census data by linear interpolation. (http://factfinder2.census.gov/bkmk/table/1.0/en/DEC/10_DP/DPDP1/0400000US25)

The Massachusetts Small Group and Individual Market Merger

In Chapter 1, we discussed a number of proposed changes to the small and nongroup markets that would either have merged the individual and small group markets (under-50 lives) or split the small group market between the micro- (1–5 lives) and the 6–49 life markets. All proposals included a reinsurance facility for the individual and micro-segments. The reinsurance provision was not adopted, and the merger proposal became part of Chapter 58. We discuss the effect of the market merger in more detail in Chapter 5.

Enrollment in Expansion Programs Administered by the Connector: Commonwealth Choice

Table 2.7 Commonwealth Choice Enrollment FY-End 2013

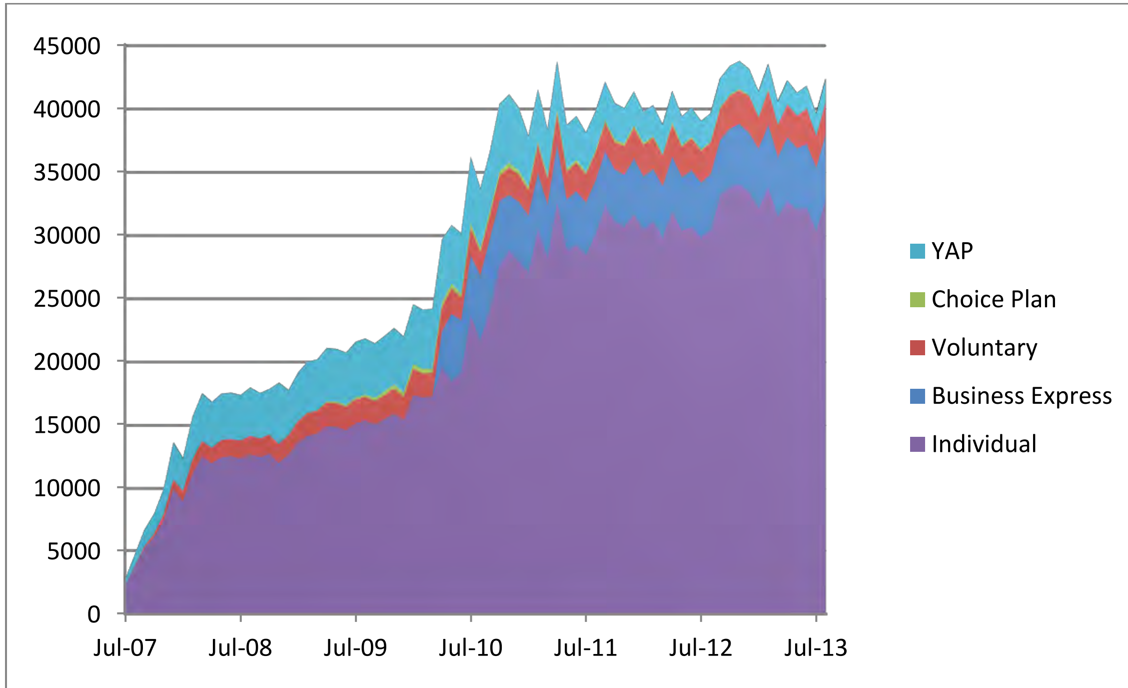
Commonwealth Choice Segment	Enrollment
Nongroup	33,959
Voluntary Plan	2,783
Choice Plan[a]	-
Business Express	5,046
	41,788

Source: Mass. Connector Board Minutes, July 2013.
(https://www.mahealthconnector.org/portal/site/connector/)

[a]The contributory choice plan, first offered in 2009, was later discontinued. Peak enrollment in this plan was 207 members. There are no members currently enrolled in this plan.

There has been some increase in enrollment following the addition in April 2010 of the Small Business Service Bureau block (marketed as Business Express) to the Exchange. The trend in membership by source since inception can be seen in Figure 2.9. The majority of lives purchasing insurance via the Exchange consist of nongroup (individual and young adults). The Young Adult Plan (YAP) purchases have been trending downward since January 2011 as a result of the ACA provision that permits young adults to remain on a parent's plan until age 26. Current enrollment in this plan is approximately one-third of the peak enrollment of 5,397 achieved in November 2010. The Voluntary block represents group insurance purchases made directly from the Connector and like the Business Express block has been relatively stable.

Figure 2.9 Commonwealth Choice Enrollment since Inception



Growth in Commonwealth Choice enrollment by plan tier and year can be seen in Table 2.8a and Figure 2.10. Figure 2.8b shows the percentage that each metallic tier accounts for of total enrollment and the annual growth rate of enrollment. Enrollment in the highest (Gold) and lowest (Bronze) tiers has remained relatively stable, growing at less than 2% annually. The Silver tier is the most popular choice, growing at an annual rate of over 6%.

Table 2.8a Enrollment in Commonwealth Choice by Year and by Plan Tier

Year	Gold	Silver	Bronze	YAP	Total
December 2007	926	3,135	6,590	3,002	13,653
December 2008	1,370	4,835	7,851	3,739	17,795
December 2009	1,503	6,376	9,469	4,687	22,035
December 2010	3,084	14,710	17,072	5,209	40,075
December 2011	3,277	14,255	20,935	2,865	41,332
December 2012	3,315	14,184	23,360	2,260	43,119
June 2013	3,271	13,784	22,787	1,946	41,788

Table 2.8b Metallic Tier Share of Enrollment in Commonwealth Choice by Year

Year	Gold	Silver	Bronze	YAP	Total
December 2007	6.8%	23.0%	48.3%	22.0%	100.0%
December 2008	7.7%	27.2%	44.1%	21.0%	100.0%
December 2009	6.8%	28.9%	43.0%	21.3%	100.0%
December 2010	7.7%	36.7%	42.6%	13.0%	100.0%
December 2011	7.9%	34.5%	50.7%	6.9%	100.0%
December 2012	7.7%	32.9%	54.2%	5.2%	100.0%
June 2013	7.8%	33.0%	54.5%	4.7%	100.0%
Average Growth Rate	2.6%	6.8%	2.2%	−24.6%	

Figure 2.10 Enrollment in Commonwealth Choice by Year and Plan Tier

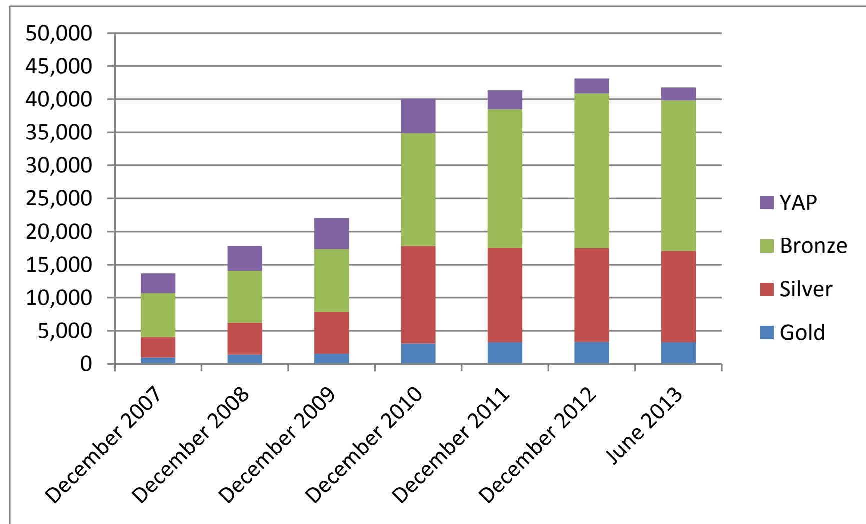
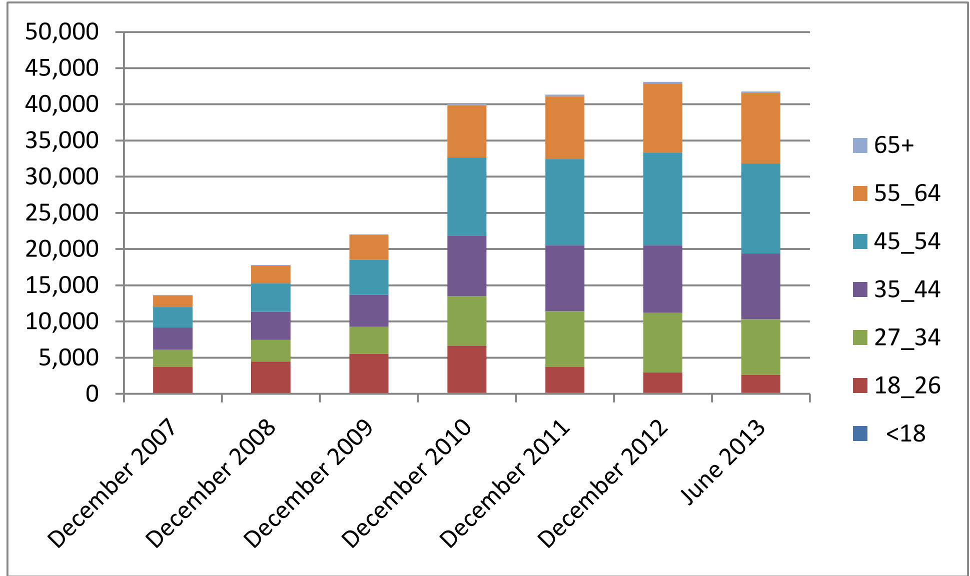


Figure 2.11 Enrollment in Commonwealth Choice by Age and Year



By age, Commonwealth Choice enrollment skews older than either the Massachusetts or U.S. populations between 18 and 65 (the target ages for the Massachusetts insurance Mandate).

Table 2.9 Comparative Distribution of Commonwealth Choice Enrollment by Age

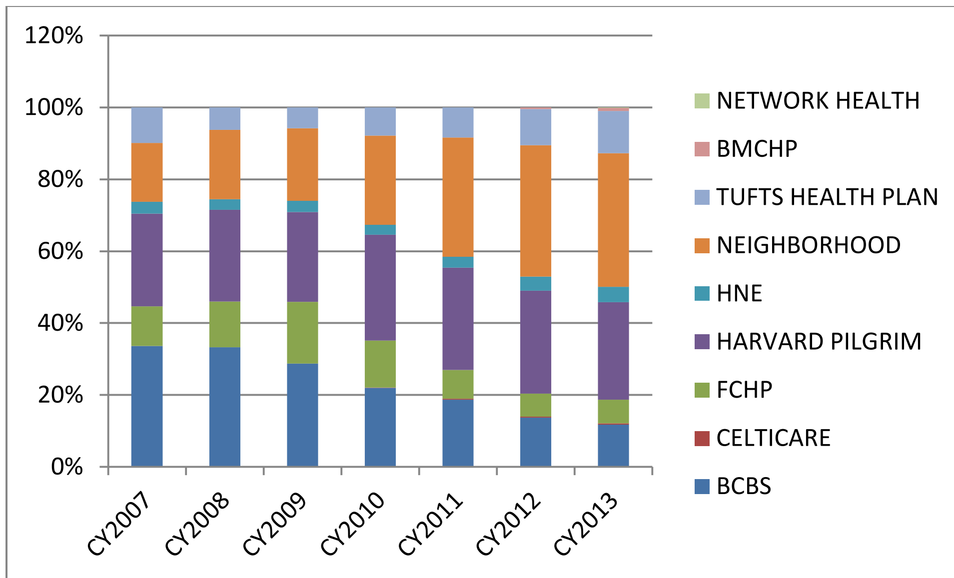
	<18	18–44	45–65	65+	Total
Comm. Choice		46.5%	53.5%		100.0%
Massachusetts		57.1%	42.9%		100.0%
United States		58.0%	42.0%		100.0%

Table 2.10 Commonwealth Choice Enrollment (Member Months) through the Connector by Company and by Calendar Year

	CY 2007	CY 2008	CY 2009	CY 2010	CY 2011	CY 2012	CY 2013
	July 1, 2007– Dec. 31, 2007	Jan. 1, 2008– Dec. 31, 2008	Jan. 1, 2009– Dec. 31, 2009	Jan. 1, 2010– Dec. 31, 2010	Jan. 1, 2011– Dec. 31, 2011	Jan. 1, 2012– Dec. 31, 2112	Jan. 1, 2013– June 30, 2013
Member Months							
BCBS	15,487	68,092	72,986	85,400	90,103	67,110	29,392
CELTICARE	0	0	0	363	997	1,574	948
FCHP	5,044	25,956	43,568	50,688	38,757	31,072	16,542
Harvard Pilgrim	11,885	52,401	63,654	114,520	136,722	140,777	68,024
HNE	1,491	5,926	7,807	10,858	14,667	19,404	10,551
Neighborhood	7,537	39,462	51,382	96,575	159,777	179,238	93,262
Tufts Health Plan	4,555	12,808	14,735	30,363	40,229	49,200	29,387
BMCHP	0	0	0	0	0	2,417	2,282
Network Health	0	0	0	0	0	0	248
TOTAL	**45,999**	**204,645**	**254,132**	**388,767**	**481,252**	**490,792**	**250,636**

Blue Cross Blue Shield of Massachusetts began with the largest market share after reform but has steadily lost share to other plans. The plan with the largest market share has changed from year-to-year, although Neighborhood Health Plan has consistently had the largest share of membership for the last three years. The entry of two other Medicaid Managed Care plans, Network Health and BMCHP, in the last two years may change the dynamics of this market, however, particularly as the former Commonwealth Care lives previously eligible only for Medicaid MCO coverage are now part of a consolidated market, after December 31, 2013.

Figure 2.12 Commonwealth Choice Market Share by Calendar Year



Commonwealth Choice Share of the Nongroup Market in Massachusetts

The highest enrollment achieved by the Connector (Individual and Small Group) during the period for which we have data amounted to 43,734 (November 2012). Of this enrollment, nongroup (Individual) amounted to 36,515, and group, 7,219. As a percentage of the total nongroup enrollment, the Connector's market share, while growing, only exceeded 10% in 2012. In Table 2.12a, we show estimates of the total individual insurance enrollment in the state between 2008 and 2012, together with corresponding Connector enrollments and market share.

Table 2.12a Connector Market Share: Individual Market

Year	Massachusetts Population ('000)	Individual %	Total Individual (Est.)	Commonwealth Choice (Indiv.)	Market Share: CC/Total
2012	5,584	4.6%	256,864	32,083	12.5%
2011	5,587	6.9%	385,503	31,578	8.2%
2010	5,595	5.8%	324,510	28,917	8.9%
2009	5,622	5.3%	297,966	19,559	6.6%
2008	5,533	4.0%	221,320	15,991	7.2%

Massachusetts population and individual market size are estimated from Health Insurance Historical Tables—HIB Series: US Census. (http://www.census.gov/hhes/www/hlthins/ data/historical/ HIB_tables.html). Connector enrollment data were supplied by the Connector; see Chapter 3. The number of nongroup insureds is higher than that reported in Gorman et al. [1] who reported 66,000 nongroup and 112,000 one-life small group members in a sample of 2005 enrollments.

The Rate of Enrollment Growth in Commonwealth Care and Commonwealth Choice

A somewhat controversial issue that has been debated since the ACA failed to enroll members at the rate predicted is the speed at which enrollment increased in the Commonwealth following reform. We can assess enrollment growth in Commercial insurance (which, as we show in Chapter 6, appears to have occurred early in 2007, the year in which the Mandate was effective) from QCC data. The Connector data allow us to assess the growth of the Commonwealth Care program. Table 2.11 shows monthly enrollment numbers in Commonwealth Care from the initial enrollments in noncontributory plan types in November 2006, followed by the contributory plans in February 2007. We provide data through the end of FY 2008, by which time enrollment had largely stabilized. We also show the percentage that each month's enrollment represents of the FY-end enrollment for FY 2007 and FY 2008.

Table 2.11 Commonwealth Care Enrollment by Month

Fiscal Year	Month	Noncontributory	Contributory	Total	% FYE 2007 Enrollment	% FYE 2008 Enrollment
2007	November	3,654	-	3,654	4.6%	2.1%
	December	18,327	-	18,327	23.0%	10.4%
	January	34,343	-	34,343	43.0%	19.6%
	February	44,698	240	44,938	56.3%	25.6%
	March	47,863	4,182	52,045	65.2%	29.6%
	April	52,540	10,439	62,979	78.9%	35.9%
	May	53,789	15,539	69,328	86.9%	39.5%
	June	**59,816**	**19,984**	**79,800**	**100.0%**	**45.4%**
2008	July	77,054	14,992	92,046	52.4%	52.4%
	August	85,555	19,252	104,807	59.7%	59.7%
	September	92,894	22,524	115,418	65.7%	65.7%
	October	101,257	25,877	127,134	72.4%	72.4%
	November	104,535	28,384	132,919	75.7%	75.7%
	December	122,042	36,152	158,194	90.1%	90.1%
	January	126,846	42,078	168,924	96.2%	96.2%
	February	131,203	45,933	177,136	100.9%	100.9%
	March	127,365	48,933	176,298	100.4%	100.4%
	April	126,038	48,557	174,595	99.4%	99.4%
	May	126,509	50,370	176,879	100.7%	100.7%
	June	**124,867**	**50,750**	**175,617**	**100.0%**	**100.0%**

As with the ACA federal Exchange, Massachusetts enrollment proceeded initially slowly. In part this was due to the enrollments taking place initially in only the noncontributory part of the program and before the Mandate was effective. (The Mandate to purchase individual insurance was only effective July 1, 2007, and would be monitored in citizens' tax returns only at calendar year [CY] -end 2012.) Despite this slow initial enrollment rate, CommCare had reached 80% of its FY-end 2007 enrollment within six months of the first enrollments. By the end of FY 2007, a substantial proportion of the CommCare population had yet to enroll. By CY-end 2007, however, enrollment had reached 90% of the FY-end enrollment.

The Connector enrolled a significantly smaller number of Commonwealth Choice members, beginning in July 2007 (when the Mandate was effective). Enrollment in Commonwealth Choice was initially more rapid than in Commonwealth Care.

Table 2.12 Commonwealth Care Enrollment by Month

Fiscal Year	Month	Nongroup	YAP	Total	% FY 2008 (9) Enrollment	% CY 2008 Enrollment
2008	July	2,286	526	2,812	16.0%	15.8%
	August	3,846	918	4,764	27.1%	26.8%
	September	5,425	1,326	6,751	38.4%	37.9%
	October	6,418	1,590	8,008	45.5%	45.0%
	November	7,977	2,034	10,011	56.9%	56.3%
	December	10,748	2,905	13,653	77.6%	76.7%
	January	9,854	2,563	12,417	70.6%	69.8%
	February	12,344	3,355	15,699	89.2%	88.2%
	March	13,796	3,743	17,539	99.7%	98.6%
	April	13,250	3,602	16,852	95.8%	94.7%
	May	13,870	3,647	17,517	99.6%	98.4%
	June	13,945	3,646	17,591	100.0%	98.9%
2009	July	13,820	3,583	17,403	97.8%	97.8%
	August	14,219	3,782	18,001	101.2%	101.2%
	September	13,975	3,587	17,562	98.7%	98.7%
	October	14,292	3,590	17,882	100.5%	100.5%
	November	13,570	4,817	18,387	103.3%	103.3%
	December	14,247	3,548	17,795	100.0%	100.0%

Table 2.12 shows enrollments in Commonwealth Choice through the Connector between July 2007 (FY 2008) and December 2008 (FY 2009). During this period the Connector sold only Individual insurance. A high percentage of those that ultimately would purchase individual insurance had done so by CY-end 2008 (76.7% of the CY-end enrollments for 2008 had taken place by December 2007). The rate of "take-up" by month was also faster for the Commonwealth Choice program.

The Role and Operation of the Connector

There is no question that the combination of the stick (mandate) and carrot (subsidies) increased the number of consumers in Massachusetts with insurance. Significantly, the largest subset of newly enrolled members (190,000 in 2010, a number that, until recently, exceeded the enrollment in Commonwealth Care) represents members eligible for MassHealth who had not previously enrolled. The question of the budgetary implication of this increase and whether that cost is justified in terms of better health is an issue we will address later.

Although the overall rate of insurance among the low-paid increased, this was achieved by (essentially) expanding Medicaid: Two-thirds of new enrollments in Commonwealth Care are in noncontributory plans (see Figure 2.7). The Connector (Exchange) covers only 109,550 premium-paying, subsidized members and 41,788 unsubsidized Commonwealth Choice members.

We can judge the success of the Connector based on its own stated objectives. At the November 9, 2006, Board meeting the Board approved the following policy and business objectives for the Connector:

Policy Objectives

1. Cover a large share of the uninsured above 300% FPL.
2. Stimulate development of affordable, quality health plans, including select networks.
3. Educate consumers generally on "shopping" for a health plan and facilitate informed choice of those health plans offered via the Connector.
4. Minimize unintended disruption to the existing small group insurance market.

Business Objectives

Achieve financial stability and low administrative costs for Commercial functions, by:

a. Becoming the distribution system of choice for buyers and sellers of nongroup and multicarrier small group insurance.
b. Creating a unique buying experience for the target market.
c. Attracting a balanced spread of risk.
d. Achieving economies of scale.

The Connector began its life with an important mission: to change the market for insurance in Massachusetts, by (among other things) increasing competition among insurers, standardizing benefit plans, and simplifying the "shopping experience." To do so, the Connector was endowed with some important advantages:

- The ability to mandate certain benefits (Minimum Creditable Coverage)
- The ability to select and contract with insurers and
- The ability to administer (significant) subsidies.

Despite its advantages, the Connector has at least one disadvantage: Although it is able to risk-adjust premiums and transfer revenue between MCOs for the Commonwealth Care program, it does not have this role in Commonwealth Choice. With a maximum enrollment of only 41,788 members, spread among nine insurers, the Connector has limited market influence other than its regulatory authority. The Connector's inability to influence the market meant that it could not offer more favorable terms than the insurers whose products it sold, which in turn limited its market penetration.

In terms of its mission, the Connector can be judged to have been only partially successful. The Connector issued regulations mandating certain minimum benefits (MCC). The Connector claims that this is an improvement in the "quality" of health insurance available to consumers in Massachusetts, yet the MCC mandate arguably reduces consumer choice and forces purchase of benefits for which the insured has neither interest or need (drug coverage; maternity benefits) or to which the insured may object on religious grounds (contraception). Expansion of mandated benefits has also increased the cost of insurance. Over time the Connector has gradually increased the number and range of plans offered on its "shelf," in response to market demand for more choice and flexibility.

The Connector has probably been most successful in its contracting with MCOs for the Commonwealth Care program. We examine the trend in premiums in more detail in Chapter 5; however, in general terms, the trend in premiums was similar to that for other non-Commercial insurance in the first few years of the Exchange. Following a change in policy that allowed open, competitive bidding between MCOs, rates have fallen in the last two years of this study (FY 2012 and 2013). Supporters of the Connector will see this as evidence for the negotiating skill of the Connector; those who believe in the power of the market will see it as the market at work. What is important to consider, however, is whether the rates and rate increases that the Connector was able to negotiate are higher or lower than those negotiated by other large group purchasers.

The Connector's successes, however, are on the Commonwealth Care side. In the Commercial market through Commonwealth Choice, the Connector has had little impact. Indeed, without the addition of the Small Business Service Bureau block (about 5,000 of the 41,000 Commonwealth Choice membership) the total membership would be even smaller—certainly considerably smaller than the book of business assembled by any of the leading insurance brokers in Massachusetts. The Connector has had little impact in terms of influencing either the benefits or the premiums of plans offered on the Exchange. The one innovative idea introduced by the Connector—the Choice program—

was unsuccessful and has been terminated. The Connector may be excused for assuming that the Choice program would be a success: It was modeled on the highly successful federal employee benefit program. Nevertheless, maximum enrollment reached only 388 lives.

Why the Connector was not more successful at reengineering the market, and particularly at reducing premiums, is something we will revisit later. In part, this may be due to the fact that the market (even the market for health insurance) represents a forum where purchasers and vendors may come together to meet the purchasers' needs. The introduction of regulators and policymakers to the equation simply prevents purchasers from providing demand signals and vendors from responding to demand.

Appendix

Leveraging Effect of the Connector's Member Contribution Strategy for Contributory Plans

The Connector determines the contribution strategy for the plans that it administers. Purchasers of individual (nongroup) coverage on the Commercial Exchange pay the full cost of coverage (premiums), while in the case of the Commercial plans on the Exchange offered by an employer, the employer sets the contribution strategy. It is in the Commonwealth Care program that the Connector has the most influence on contributions. Chapter 58 assigned the responsibility for determining an "affordability schedule" to the Connector, and the Board votes on the schedule each year. Unlike the subsidies paid by advanced premium tax credits under the ACA, which credits the individual with the difference between the premium for the second cheapest Silver plan on the Exchange and a sliding scale of affordability, in the Massachusetts approach individuals were banded according to income (relative to federal poverty), and the premium payable by band was determined according to the affordability schedule (also by band) and the premium of the lowest-cost plan by geography. However, the member contribution derived in this way determined a floor; if a member chose a more expensive plan, the member paid the difference in premium between the more expensive and least expensive plan, in addition to the contribution determined by the affordability schedule.

The following is an example.

Plan A (lowest cost): Negotiated premium $300 PMPM.

Plan B (higher cost plan): Negotiated premium $350 PMPM

The affordability schedule, as voted each year by the Connector Board for members in each plan type, is set at $39 PMPM for this plan type and geographic region. The member who selects Plan B will pay $39 + $50 or $89 PMPM.

Plans bid each year on their PMPM rates. Because small changes in PMPM rates can have a large effect on market share, plans have historically bid competitively, and the plan offering the lowest cost has changed in different years. In Chapter 5 we analyze the effect of rate changes on member plan choice. Thus a member who is paying the minimum contribution in one year may find his or her plan is no longer the lowest-cost the following year and the difference between the new lowest cost plan premium and his or her plan's premium becomes part of the member contribution. Assume in this case that in Year 2, the following rates apply:

	Year 1			Year 2		
Plan	PMPM	Affordability Schedule	Member Contribution	PMPM	Affordability Schedule	Member Contribution
A	$300	$261	$39	$350	$280	$70
B	$350	$261	$89	$290	$280	$10

A consequence of this contribution strategy and the relative competitive position of the plans is a fairly significant change in member contributions, leading to migration of (premium-paying) members between plans each year.

Chapter 3: The Affordable Care Act

The Patient Protection and Affordable Care Act

In March 2010 President Obama signed into law the Patient Protection and Affordable Care Act (ACA), which contains major elements of national health care reform that are partially based on efforts in Massachusetts [65]. The ACA incorporates many Chapter 58 principles, including the central role of employers in providing coverage, the importance of government to provide quality oversight and financial assistance to a broad array of public and private stakeholders, and the shared responsibility of individuals to obtain and own their coverage options, as expressed in the individual and employer mandates. Other features common to the ACA and Massachusetts are the expansion of subsidized (Medicaid expansion) coverage, the creation of exchanges as health insurance marketplaces and minimum coverage standards. Changes to the regulation of health insurance also mirror earlier changes in Massachusetts: limitation on exclusion of coverage for preexisting conditions and guaranteed issue without regard to medical condition. Massachusetts' merger of small group and individual insurance is not, however, a requirement of the ACA (although states may do so if they wish).

Because of the complexity of the ACA, Massachusetts has devoted considerable energy and resources to converting its existing program and implementing elements of the law that offer opportunities for further reform and improvement of Massachusetts' health care system [66]. Some of the provisions that overlap or need to be integrated by state policymakers are described below. Arguably, it would have been simpler (and cheaper) to implement the ACA in Massachusetts had this been done with a blank slate rather than adapting the many, sometimes subtly different provisions of Chapter 58 to comply with the ACA. The state was awarded more than $180 million to convert the existing exchange to an ACA-compliant exchange and develop the necessary designs, systems and procedures to implement the national reform. The implementation in 2013 did not proceeded smoothly, with only about 8,000 individuals enrolled (mostly manually) in the new exchange and more than 200,000 members covered during 2014 in a temporary program based in Medicaid. The website was completely rebuilt for the 2014 open enrollment.

The ACA provides billions of dollars in financial assistance that will allow expansion of subsidy provisions to individuals and small businesses, potentially reducing a state's number of uninsured citizens. Millions of dollars in grant and pilot program funding will allow Massachusetts policymakers and providers to improve care delivery models, payment systems, workforce development strategies, and prevention and wellness initiatives, as well as substituting for the funding previously provided by the Massachusetts legislature for its own health insurance reform. Conversely, the Massachusetts Hospital Association has estimated that Medicare payment changes mandated by ACA will reduce Medicare funding to Massachusetts providers by nearly $5 billion through 2020 [66]. Finally Medicare Disproportionate Share Hospital (DSH) payments will also be reduced nationally for eligible hospitals by $18 billion annually (and by nearly $500 million between 2014 and 2020 in Massachusetts). Because the reduction is targeted at those states with the lowest percentage of uninsured, Massachusetts could bear a disproportionate share of the reduction, although the provision that mitigates this reduction for Section 1115 waiver states may offset this reduction. Beginning in FY 2014, the ACA dramatically decreases the amount of funding that will be provided under both Medicare and Medicaid DSH programs, based on the premise that the ACA reforms will result in fewer individuals receiving uncompensated care. To address concerns about the current mechanisms for distributing DSH funds, the ACA also attempts to more equitably apportion DSH payments by directing them more toward hospitals that serve needier patients and are located in needier areas. Under the ACA, the Secretary of HHS is required to develop a methodology that will reduce the payments by $14.1 billion during the period 2014–2019. These reductions increase over time and by 2019 represent approximately a 50% reduction over baseline projections. The methodology, which has not yet been published, must impose the largest percentage reductions on states with the lowest percentage of uninsured individuals or those that do not target their DSH payments to hospitals that either have high Medicaid volumes or high levels of uncompensated care. It must also impose a smaller percentage reduction on low DSH states (those for which DSH expenditures are more than nothing but less than 3% of annual Medicaid expenditures), and it must take into account the extent to which DSH allotments have been used to expand coverage under a Section 1115 demonstration project (as is the case in Massachusetts). The reduction in DSH payments, which was not affected by the Supreme Court's ruling in National Federation of Independent Business v. Sebelius, will affect hospitals in states that do not expand Medicaid to all people up to 133% of the federal poverty line. For these individuals the need for uncompensated care may remain while the amount of DSH funds that were previously used to subsidize some of that care will fall substantially [67].

The ACA increases Medicaid payments to no less than 100% of Medicare Part B reimbursement rates for primary care services. (MassHealth currently reimburses at approximately 80% of Medicare rates.) This provision lasted for only 2013 and 2014.

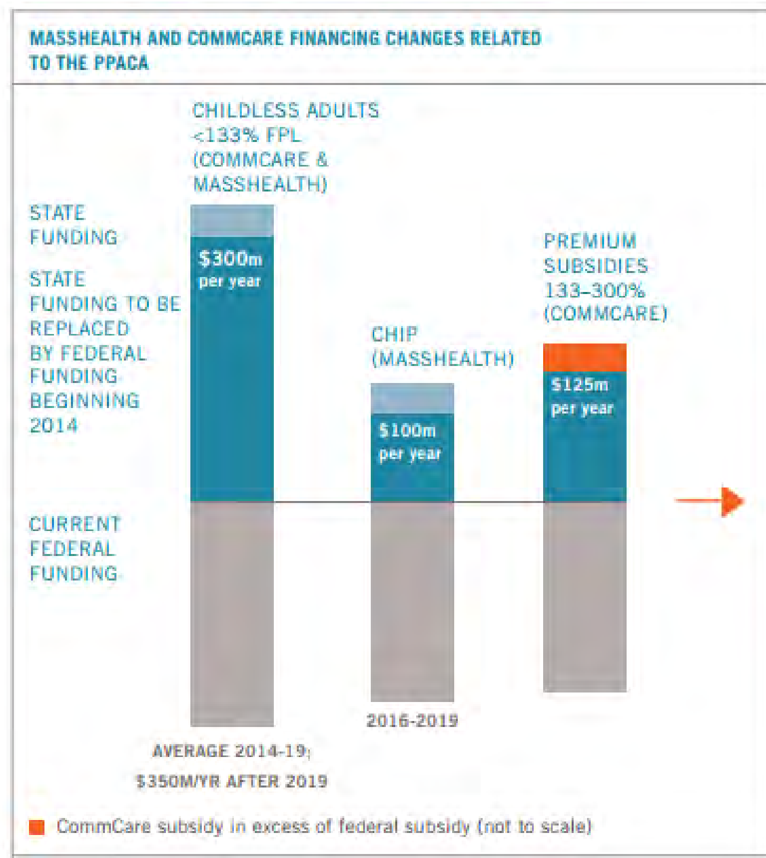
Subsequently, states needed to decide whether they can afford to continue this level of reimbursement.

Financing

The additional federal funding offsets some of the current budget outlays made by the Massachusetts legislature for the Commonwealth Care program.

Federal funds are also available for state expansion of Medicaid populations. However, Massachusetts has already expanded Medicaid coverage to different populations, and these populations will not attract the enhanced match (they continue to receive the current match of approximately 50%). Adults with incomes between 100% and 133% FPL (the ACA Medicaid expansion population) will attract a federal match at a variable rate of between 75% and 93% of cost, depending on the year. Between 2014 and 2019 the additional federal subsidy is estimated to total $1.8 billion, falling to $347 million annually after 2020 [65]. State finances are subject to boom-and-bust cycles (particularly in Medicaid), so this reduction in funding is something that states will have to anticipate and plan for. Massachusetts funds something less than half of the cost of Commonwealth Care for participants between 100% and 300% FPL. Of these individuals, about half are estimated to transfer to the newly expanded (up to 133% FPL) Medicaid program. The other half will continue to receive federal subsidies. There will be some increase in participants (the "woodwork effect"), although this is likely to be relatively small in Massachusetts given the previous reform and mandate. Figure 3.1, from Seifert and Cohen [65], illustrates the Massachusetts funds replaced by federal financing, estimated at over $500 million annually. Funds previously provided by Massachusetts and now financed by the federal government are shown as the dark areas on the chart; for MassHealth and those Commonwealth Care members who will move into Medicaid, federal funds are estimated to amount to $300 million; for CHIP populations $100 million and for premium subsidies for Commonwealth Care populations between 134% and 300% FPL, the federal subsidy is estimated to be $125 million. This substantial increase in federal funding relieves (at least temporarily) the state financing required for reform and may be one reason that Massachusetts did not seek a waiver from the ACA allowing it to continue to operate its previous reform programs (unlike, for example, Utah).

Figure 3.1 Effect of Newly Available Federal Financing on Massachusetts Reform Costs



Comparison between Key Features of Massachusetts and ACA Reforms

Table 3.1 provides a side-by-side comparison of many of the key features of the Massachusetts and federal reforms.

Table 3.1 An Overview of Chapter 58 and ACA Provisions

<table>
<tr><th colspan="3">Individuals: Mandates</th></tr>
<tr><th></th><th>Massachusetts Health Reform Provisions</th><th>ACA Provisions</th></tr>
<tr><td>Individual Mandate and noncompliance penalties</td><td>All Massachusetts residents are required to have health insurance or face a financial tax penalty beginning July 1, 2007. Exceptions are given for financial hardship (the affordability schedule exempts individuals for whom no affordable insurance product exists) and religious reasons.

Penalties vary according to the taxpayer's income, age and available insurance:

Individuals with incomes up to 150% of the federal poverty level (FPL) are not subject to any penalty for noncompliance, as those at this income level are not required to pay an enrollee premium for Commonwealth Care health insurance. Penalties for individuals with incomes from 150.1% to 300% FPL will be half of the lowest priced Commonwealth Care enrollee premium that could be charged to an individual at the corresponding income level, based on the Connector's Commonwealth Care enrollee premiums as of January 1, 2013.

Penalties for individuals with incomes greater than 300% FPL will be either half the lowest-cost YAP plan (under age 27) or half of the lowest priced individual Commonwealth Choice Bronze premium with drug coverage.

For individuals, these penalties vary between $240 and $1,272 per year. Children are exempted from the mandate.</td><td>All individuals are required to have health insurance, or face a financial tax penalty, beginning January 1, 2014. Exceptions are given for financial hardship, religious objections, American Indians, people who have been uninsured for less than three months, those for whom the lowest cost health plan exceeds 8% of income, and individuals with income below the tax filing threshold.

The penalty in 2014 is calculated one of two ways. The penalty is the greater of

• 1% of yearly household income. The maximum penalty is the national average yearly premium for a bronze plan. OR

• $95 per person for the year ($47.50 per child under 18). The maximum penalty per family using this method is $285.

The fee increases every year. In 2015 it is 2% of income or $325 per person. In 2016 and later years it is 2.5% of income to a maximum of $695 per person ($27,800 annual income). In the future, penalties will be adjusted for inflation.

If the taxpayer is uninsured for part of the year, 1/12 of the yearly penalty applies to each month in which there is no insurance coverage (after month 4 of uninsurance).</td></tr>
</table>

Non-compliance Penalties					
Individual Income Category (% FPL)	Under 150%	150.1-200%	200.1 - 250%	250.1-300%	Above 300% and 27+
Annual Penalty (Massachusetts) (2013)	$0	$240	$468	$708	$1,272
Annual Penalty (Federal) (2016) (minimum)	$695	$695	$695	$695	$695

The Massachusetts penalty is adjusted each year for inflation.

State and Federal Governments: Expansion of Subsidized Coverage		
	Massachusetts Health Reform Provisions	**ACA Provisions**
Medicaid Expansion	The law expands Medicaid and Children's Health Insurance Program (CHIP) eligibility for children of parents up to 300% of the FPL. The law also increases enrollment caps on existing Medicaid programs for adults and restores Medicaid benefits previously suspended such as dental[42] and vision. The law also includes a Medicaid reimbursement rate increase for certain providers meeting quality, efficiency and equitable care requirements.	The law expands Medicaid to a national floor of 133% FPL to help reduce state-by-state variation in eligibility for Medicaid. The law also includes non-Medicare eligible adults under age 65 without dependent children who are currently not eligible for the program. Children currently covered by CHIP between 100% and 133% FPL would transition to Medicaid coverage. The law also includes an increase in Medicaid payments for fee-for-service and managed care for primary care services provided by primary care doctors to 100% of the Medicare payment rates. The law specifies that the increase will take place in 2013 and 2014. The law establishes the Center for Medicare and Medicaid Innovation and provides funding for pilot programs focusing on medical homes and Accountable Care Organizations.
Medicaid Eligibility Requirements: Children	Children: Expands MassHealth coverage for children up to 300% FPL. HIV: Permanently codifies eligibility for the HIV waiver program to persons with incomes up to 200% FPL and increases the caseload cap from 1,050 to 1,300. CommonHealth: Increases the caseload cap for CommonHealth from 14,000 to 15,600.	January 1, 2014: All children, parents, and childless adults with family incomes at or below 133% FPL who are not entitled to Medicare will become eligible for Medicaid. Until 2016, the federal government will pay 100% of the cost to insure these newly eligible people. In 2017 and 2018, states will share the cost of providing coverage, with states that originally covered fewer of this population prior to 2014 receiving more assistance than states that covered more of this population.

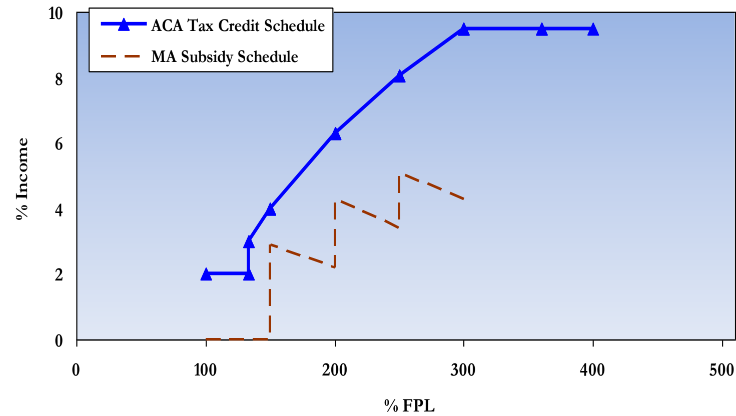
[42] Dental benefits were subsequently eliminated for budgetary reasons.

Benefits Expansion: Medicaid	MassHealth: Restoration of benefits for adults including dental, vision, level IIIB detox, prosthetics and chiropractic care. Two-year smoking cessation pilot to be funded with a $7 million transfer from the Health Care Security Trust Fund.	Applies to all nongrandfathered plans: Coverage without cost sharing for preventive services, including those recommended by the U.S. Preventive Services Task Force, immunizations recommended by the CDC, and preventive care and screenings for infants, children, adolescents, and women supported by the Health Resources and Services Administration, an agency of the U.S. Department of Health and Human Services, whose function is improving access to health care services for people who are uninsured, isolated or medically vulnerable.

	Massachusetts Health Reform Provisions	ACA Provisions
Health Insurance Assistance	The law provides government funded assistance to low-income individuals to assist with the purchase of health insurance. The Commonwealth Care Health Insurance Program (Commonwealth Care Program) provides subsidized health insurance for adults up to 300% FPL who do not qualify for Medicaid or Medicare and do not have access to employer-sponsored insurance. Participants are required to enroll in one of the state's subsidized private insurance health plans and receive a subsidy when they do so. There are no deductibles. Individuals below 150% FPL do not pay premiums and individuals between 150% and 300% FPL pay premiums on a sliding scale basis based on income. Subsidies and premiums in Massachusetts are determined on an individual (not family) basis, an approach that is both simpler to administer and less data intensive than the national approach. Commonwealth Care–eligible citizens purchase insurance from a range of specific plans offered solely on the Exchange. Within Commonwealth Choice, different plan designs operate for members in each tier (Gold, Silver and Bronze), which allow members to trade off up-front premium payments for back-loaded deductibles and copays. Administration Eligible individuals enroll in coverage (Commonwealth Care) and pay the required premiums if the consumer's income requires a contribution. No direct subsidy or tax credit administration is required. However, members applying for subsidized (Commonwealth Care) coverage go through a standard Medicare income determination process	The law provides government funded assistance to low-income individuals to assist with the purchase of health insurance. Premium and cost-sharing credits are available to individuals and/or families with income between 133% and 400% FPL. This assistance is available only to U.S. citizens and legal immigrants who meet the income limits. Premium subsidies will be provided to individuals and families with incomes between 133% and 400% FPL who do not have access to other coverage to help them purchase insurance. The subsidy is available only to purchases of "QHPs" (qualified health plans) made through state-based Insurance Exchanges. These subsidies will be offered on a sliding scale basis and will limit the cost of the premiums to between 2% and 9.5% of household income for eligible individuals (necessitating the acquisition and processing of a considerable amount of income data for those seeking subsidies). Administration Because all consumers will purchase from the same source (the Exchange) complicated income eligibility rules will apply to determine subsidy eligibility. Subsidies will be administered (in the form of tax credits) by the IRS. State subsidized cost-sharing subsidies will be available to individuals and families with incomes between 100% and 250% of the poverty level to limit out-of-pocket

	administered by MassHealth (because the member's eligibility for Medicaid coverage or one of the Commonwealth's other programs with more generous benefits is determined first, before the member is enrolled in Commonwealth Care and the member's income-based contribution (if any) is determined). Basic Health Plan: Massachusetts explored creating a Basic Health Plan and decided to pursue a different alternative: The state will, instead, buy down cost sharing for eligible members who purchase an eligible Silver plan on the Exchange.	spending. Unlike the Massachusetts example (where eligible members may purchase Commonwealth Care plans that mirror Medicaid benefit designs) Exchange purchases under the ACA are from the same range of plans offered to all Exchange customers. Thus Massachusetts Commonwealth Care members who were used to low copays will be faced with higher cost sharing. Those members with incomes between 100% and 250% FPL are eligible for point-of-service Cost Sharing Reductions (CSRs) funded by the state. ACA premium subsidies are different to (lower than) those of Massachusetts. These are discussed in the next section. The ACA includes the option for a state to establish a Basic Health Plan (BHP) for adults with incomes between 134% and 200% FPL, and legal immigrants under 200% FPL. Under the BHP states may institute and run a public program using the subsidies that otherwise would go to help these individuals buy metallic tiered products on the Exchange [68]. The federal government will make available 95% of the subsidy that the individuals in the BHP would otherwise have attracted on the Exchange. BHPs are implemented in part because of the significant cliff effect that exists between Medicaid (free; low cost sharing) and private insurance on the exchanges (contributory; actuarial cost-sharing value of 30% for the benchmark silver plan). It has been estimated that within 6 months of enrollment as many as 28 million low income adults may experience sufficient change in income to move between Medicaid and Exchange-based insurance [68].

Subsidized Population Eligibility Criteria: What are the subsidies under the law?	Up to 150% FPL, subsidies are 100% of premium. Between 150% and 300% FPL, subsidies are on a sliding scale to comply with the Massachusetts affordability schedule (which is approved annually by the Connector Board). However, no eligible member pays more than 5% of income in premiums; many pay less.	Subsidies offered in the form of tax credits to people with incomes between 100 and 400% FPL, on a sliding scale. Income as a % FPL — Premium Cap <133% — 2% 133–150 — 3–4% 150–200 — 4.0–6.3% 200–250 — 6.3–8.05% 250–300 — 8.05–9.5% 300–400 — 9.5% For all enrollees, the first 5% of income is disregarded. In other words, it is possible for an individual to have income of 138% FPL and still qualify for the 133% band premium cap (2%). The same exclusion of 5% of income also applies at higher income levels. Premiums under the ACA will be significantly higher than those under Commonwealth Care. Premiums of up to 4% apply to members (those with income between 133% and 150% FPL) who previously paid no premium; for higher-income participants, the maximum premiums (9.5% of income) is nearly twice the comparable amount under Commonwealth Care. The chart below illustrates the differences between Massachusetts and federal subsidies at different income levels.

	Maximum Premiums Payable: Massachusetts vs. Federal 	
Purchasing Mechanism/ Governance: The Exchange	The Commonwealth Health Insurance Connector Authority (Health Connector) is a new, independent public entity responsible for creating a health insurance purchasing mechanism for small businesses with up to 50 employees and individuals without access to employer sponsored coverage. The Connector administers the Commonwealth Care Program for low-income residents and Commonwealth Choice Program for small businesses and individuals. The Commonwealth Choice Program offers small businesses and individuals the opportunity to purchase health insurance plans designated with a "Seal of Approval" (SOA) by the Health Connector. Insurers and plans meet the SOA requirements if they provide quality benefits at affordable rates and are approved annually by the Connector Board.	States are responsible for developing Health Benefit Exchanges where individuals can purchase insurance and separate Small Business Health Options Program (SHOP) Exchanges[43] for small businesses with up to 100 employees to purchase insurance. Access to coverage through the Exchanges is restricted to U.S. citizens and legal immigrants who are not incarcerated. The Office of Personnel Management will contract with private insurers to offer at least two multistate plans in each Exchange, including at least one offered by a nonprofit entity. In addition, funds will be made available to establish nonprofit, member-run health insurance Consumer Operated and Oriented Plans (called CO-OPs) in some states (although the program is much diminished following cuts in its funding).

[43] Deferred for one year.

	For Commonwealth Choice members, premiums are required to be financed through pretax payroll deductions via a Section 125 plan. The Connector is administered by a Board chaired by the Secretary of Administration and Finance and including 11 members with diverse backgrounds. Health plans offered on the Exchange for the Commonwealth Care program were initially limited to those Managed Care Organizations contracting with MassHealth. This rule was relaxed after some years. A new, for-profit health plan (CeltiCare) also entered the market.	The Exchanges will offer four levels of coverage that vary based on premiums, out-of-pocket costs and benefits, including one that represents minimum creditable coverage and provides essential health benefits. In addition, insurers will offer a separate catastrophic plan for those up to the age of 30 or those exempt from the mandate to purchase health insurance. New Exchange technology enables the Exchange to determine in real time whether the consumer is eligible to enroll, and the extent (if any) of a subsidy.
Financial Subsidies for Small Business	Generally, there is no direct subsidy of small employers in Massachusetts as a result of reform. There are two exceptions: 1. In 2010, small employers became eligible for the ACA Small Business Health Care Tax Credit. (§1421 of the ACA). 2. The Massachusetts legislature enacted legislation in late 2012 providing that employers that initiate a wellness program for their employees will be eligible for an annual wellness tax credit of up to $10,000. The credit is in the amount of up to 25% of the cost of implementing an employee wellness program. Costs in the initial year that exceed that figure may be carried over into subsequent years for credit against future tax liabilities. Additionally, the merger of the small group and individual markets imposes, as we have seen, a c*ost* to small business insurance purchasers because of the relative costs of the two groups within the merged pool.	The ACA Small Business Health Care Tax Credit (§1421 of the ACA) • Defines eligibility as limited to small groups that: 1. Have 25 or fewer full-time equivalent employees with annual average wages not greater than $50,000 (starting in 2014, this figure will increase to reflect COLAs) – The maximum credit is only eligible for small groups with 10 or fewer FTEs with average wages of $25,000 or less – Employers with 11 to 25 FTEs and average wages greater than $25,000 but less than $50,000 are eligible for a partial credit that "phases out" to 0% as the FTE and wage amounts rise 2. Purchase a QHP through an Exchange and contribute at least 50% to the costs of the employees' premiums. 3. Value of the Tax Credit – For TY 2010–2013, the credit is 35% for small businesses and 25% for small tax exempt employers (e.g., charities, religious employers) – For TY 2014 and beyond (until credit expires in 2016), the credit will be 50% for small businesses and 35% for small tax-exempt employers.

	Wellness Tax Credit The Massachusetts Wellness Tax Credit Incentive gives small businesses in Massachusetts a state tax credit for having an employee wellness program. Massachusetts businesses that employ 200 or fewer workers may qualify for the tax credit for up to 25% of the cost of implementing a certified wellness program for their employees. The budgeted amount of the tax credit, which is available only for insurance purchased through the Connector, is limited to $15 million.	– The amount of the credit is limited if the premiums paid by an employer are more than the average premiums determined by HHS for the small group market in the state in which the employer offers insurance • In those cases, the credit percentage is multiplied by the allowable premiums to calculate the dollar amount claimed • For 2010, HHS determined that the Massachusetts averages were $5,700 (individual), $14,138 (family) – The aggregate impact of the credit is further reduced as employers can also deduct health insurance expenses on their tax returns, but when doing so, they must subtract the amount of the health care tax credit from the deduction.
Qualified Health Plans	The Connector defines minimum creditable coverage (MCC) for health insurance plans. The Connector ensures that Massachusetts' health insurers provide a range of coverage options for all kinds of consumers: individuals, families, young adults, employees and employers. Plans that do not meet MCC may not be sold on the Exchange, and purchasers do not meet the mandate. (This provision is often problematic for Massachusetts employees of a national employer whose plan does not meet MCC; in this case an actuarial certification of equivalent value can often exempt the employee from the penalty.) The Connector issues a "Seal of Approval" to health plans each year that meet certain quality (defined in terms of benefits provided by the policy) and cost guidelines.	Beginning in 2014, the exchanges require benefits to be standardized within four tiers: Bronze, Silver, Gold and Platinum. In addition a catastrophic plan may be available for consumers under age 30. The federal benefit levels are determined by Actuarial Value: 60% (Bronze); 70% (Silver); 80% (Gold) and 90% (Platinum) (within a corridor ±2% of the target value) as estimated using a standardized tool and assumptions provided by HHS. These percentages are as a percentage of allowed charges (that is, eligible claims expenses less negotiated discounts). All plans must provide OOP Max at a level less than the HSA OOP Max limitation, which was $6,350 in 2014. Most Gold, Silver and platinum plans have much lower OOP Max limits. Initially the OOP Max was intended to be a comprehensive limit (all benefits, including drugs). Because of the difficulty of aggregating cost sharing across different Pharmacy and Medical insurers, this provision was suspended for a year.

	Commonwealth Care plans, which mirrored Medicaid benefits, were deemed to meet minimum creditable coverage standards automatically. The Connector strove to limit the amount of variation and choice available to Commonwealth Choice purchasers, to make the purchasing decision and comparison between plans simpler (although over time demands of the market led to an expansion in the number of plans). All plans were grouped into three tiers: Bronze, Silver and Gold. In addition a Young Adult Plan (essentially a mini-med plan with annual limits in benefits) was developed for consumers under age 27. No grandfathered plans exist in Massachusetts.	Exchange policies must offer a minimum set of "essential" benefits, including preventive care, ambulatory and emergency services, mental health, maternity, and prescription drugs, in addition to hospital and physician services. The federal government will not stipulate what elements a plan option must meet to meet the minimum creditable coverage standards. Essential benefits are determined based upon on each state's decision as to the reference plan but must be offered consistently throughout all four tiers and all insurers, as well as the catastrophic plans. The only variation in benefits is within nonessential health benefits that can vary by plan or product. Nonessential benefits may be exchanged, as long as actuarially equivalent. States will determine the reference plan using a popular plan in the state. Grandfathered plans are exempt from some of the new benefits requirements, including first-dollar coverage of preventive services, no referral requirement for Ob/Gyn services, no prior authorization or higher cost sharing for out-of-network emergency services, out-of-pocket maximum limitations, rating rules, and deductible limits. Grandfathered products are not pooled with nongrandfathered products, nor do they benefit from reinsurance and the other risk mitigation programs. These products are not sold on the exchanges and are open only to employees (including new hires) of employers who elect to grandfather plans. Because there is no minimum set of benefits within these categories of services, it is possible for a plan to meet the federal standards (and be a QHP) but not meet the MCC standards in Massachusetts. The Massachusetts Connector board has passed regulations that require plans offered in Massachusetts to continue to meet the MCC standards.

Health Care Safety Net Trust Fund	As the successor to the state's Uncompensated Care Pool, the Trust Fund provides supplemental payments to community health centers and hospitals that provide free care. The Safety Net hospitals and Community Health Centers continue to treat a number of patients, both those with insurance and those without insurance.	The ACA cuts back on subsidies for Disproportionate Share Hospitals (as discussed in the introduction to this chapter).
Employers		
	Massachusetts Health Reform Provisions	**ACA Provisions**
Employer Mandate to Provide Health Insurance	There is no employer mandate in the law (although there are penalties as discussed below for certain categories of employers in some cases). The mandate applies instead to *the individual*; individuals must ensure that they have insurance, either through an employer (Employer-Sponsored Insurance [ESI]), a government program (such as MassHealth or Commonwealth Care) or through individual purchase. Employees who would otherwise be eligible because of income for Commonwealth Care are not eligible for this subsidized insurance if the employee is eligible for ESI. Employers with 11 or more employees must make a "fair and reasonable" contribution toward the cost of health insurance or pay a "fair share" assessment of $295 per employee per year. (Although this may seem like a small penalty, the amount is determined based on the average state cost of providing uncompensated care to the uninsured.) Employers are deemed to have offered "fair and reasonable" coverage if at least 25% of their full-time workers are enrolled in the firm's health plan or a company offers to pay at least 33% of the premium cost of an individual health plan. Employers with 50 or more employees must meet both standards, or 75% of full-time workers must be enrolled in the firm's health plan.	There is no employer mandate in ACA. However, employers with 50 or more employees will be assessed a fee per full-time employee if they do not offer coverage and if they have at least one employee who receives a premium credit through an Exchange, excluding the first 30 employees from the assessment. Employers with 50 or more full-time employees that offer coverage, but have at least one full-time employee receiving a premium tax credit, will also be assessed a fee for each full-time employee, excluding the first 30 employees from the assessment. This fee amounts to the lesser of $3,000 per employee receiving a subsidy or $2,000 multiplied by the total number of employees. (This fee is not tax deductible by the employer.) Employees will be eligible for subsidies if the employer's plan has a value less than 60% of allowed charges or the employee's contribution exceeds 9.5% of income. Small businesses with fewer than 50 full-time employees are exempt from any of the above penalties. Businesses with more than 200 employees are required to automatically enroll employees into health insurance plans offered by the employer, but employees may opt out of coverage.

	Employers whose full-time employees seek coverage through the Commonwealth Care Program must contribute an amount equal to the employer's median premium contribution for full-time employees to offset the Commonwealth Care Program state premium subsidy. The law expands incentive payments to small employers to contribute at least 50% toward the cost of insuring their low-income employees.	
Section 125 Plans and Free-Rider Surcharge	All employers with 11 or more employees (whether they obtain insurance via the Connector or directly on the Commercial market) must arrange for a pretax payroll deduction system for health insurance (called a Section 125 plan, or a cafeteria plan) for its employees or face a "free-rider surcharge" if employees utilize substantial amounts of free care through the Health Care Safety Net Trust Fund.	ACA amends Section 125 so that individual health insurance offered through a state exchange may not be purchased on a pretax basis through a Section 125 plan. This does not apply to employees of small businesses that are offering employer-subsidized group health benefits through a state exchange.

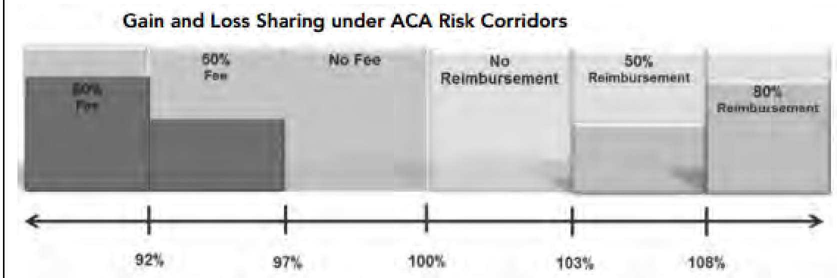
Insurers		
	Massachusetts Health Reform Provisions	**ACA Provisions**
Changes to Private Insurance	The law merges the nongroup (individual) and small group (employer-sponsored) market in an effort to reduce premiums for the nongroup market by establishing an end date for new enrollments in nongroup products. None of the plans offered through the Connector have lifetime caps, with the exception of Young Adult Plans. Nondiscrimination provisions prohibit insurance carriers from selling to employers who contribute more toward the cost of health insurance for higher paid employees. What are the rating provisions? Massachusetts reform left in place existing rating requirements: Guaranteed Issue and Modified Community rating (2.0:1.0 rate compression and 1.5:1.0 area differentials). Because Massachusetts also applies rating factors that are not permissible under the ACA industry and participation rate, the state applied to HHS for a waiver to permit these rating factors to be maintained. This application was denied.	The law imposes new requirements on existing nongroup (individual) and employer-sponsored insurance plans. The majority of these requirements have already been implemented in Massachusetts. Plans are required to: • Extend dependent coverage to age 26 • Eliminate annual and lifetime limits on coverage • Prohibit rescissions of coverage and • Eliminate waiting periods for coverage of greater than 90 days. Guaranteed Issue: Insurance market regulations in the ACA prevent health insurers from denying coverage to people for any reason, including their health status, and from charging people more based on their health status and gender. Modified Community Rating: Health plan premiums will be allowed to vary based on plan design, network, age (3:1 maximum), geographic area, tobacco use (1.5:1 maximum) and the number of family members. Rate factors are additive so the differential between individuals could be as much as 4.5:1 for a given plan. Note that child factors are not included in the 3:1 maximum.
High-Risk Population	There is no separate “High-Risk Population” in Massachusetts (such as is addressed by the high-risk pool provisions of the ACA) because Massachusetts’ pooling, community rating and exclusion of preexisting conditions makes this unnecessary. However, following the passage of the ACA, Massachusetts established a Preexisting Condition insurance plan. By April 30, 2012, 21 individuals had enrolled. The federal fund allocation to Massachusetts for this program was $77 million.	HHS Secretary will establish a temporary high-risk pool program to provide coverage to people with preexisting conditions who have been without coverage for at least six months. This can be carried out federally or with contracts with states or nonprofit entities. This program provides $5 billion to fund pools through 2013 for newly created or add-on expanded programs run by states or by a designated insurer, if states choose those options. 27 states had done so by fall 2010. 23 states deferred to the federal government to handle the new programs.

	The Massachusetts Preexisting Condition Insurance Plan (PCIP) is a comprehensive health insurance plan that meets the MCC Coverage standards. Benefits include primary care, specialty care, hospitalization and prescription drug coverage. PCIP covers all preexisting conditions without a waiting period. (Note: All Massachusetts health plans are required by law to cover preexisting conditions, and without a waiting period for nongroup plans.) PCIP offers three plan options with different premiums, deductibles and copays: • Standard: lower premiums, higher deductible • Extended: higher premiums, lower out-of-pocket costs • HSA: Health Savings Account option	Coverage opened August 1, 2010; the program was slated to be discontinued January 1, 2014. However, because the funding limit was reached, the federal program was suspended for new enrollments on February 16, 2013. States may continue to operate pools themselves. Eligible individuals are consumers with preexisting conditions that have been uninsured for at least six months. Plans must cover at least 65% of health care costs.
Young Adult Population	The law ensures that young adult plans (YAPs) are created and offered solely through the Health Connector to adults between 19 and 26 years of age who do not have access to employer sponsored health insurance. Unlike other insurance products that have to comply with minimum creditable coverage provisions, YAPs are exempt. This allows for the creation and sale of affordable policies with annual and lifetime maxima, as well as pricing that is developed specifically for the YAP market (avoiding the cross-subsidization inherent in the small group and individual pool with its 2:1 age compression.	There is no specific "young adult" option because adults up to age 26 (irrespective of employment, marital status, residence, dependency and school status) are able to stay on a parent's plan. Young adults under age 30 as well as individuals over age 30 who are granted a hardship exemption are also able to purchase catastrophic insurance (but at the modified community rate, not a special young adult rate). Catastrophic insurance does not cover physician visits, but it does cover hospital and other major expenses (after a deductible). Catastrophic plans do cover three primary care visits per year at no cost, as well as free preventive services. The deductible under the Catastrophic plan is $6,350 per year. Advanced Premium Tax Credits are not available for the purchase of Catastrophic plans. Opinions

		differ as to whether the actuarial value of a Catastrophic plan is greater or less than that of a Bronze plan (60%).
Student Plans	In Massachusetts, separate pool not part of health care reform. Student plans may be administered by the Connector or may be administered directly by the school.	Extension of coverage to age 26 within the parent's plan; offering of a Catastrophic plan to age 30.
Associations/ Unions: Are they included in HCR? Are there loopholes to allow them to self-fund and avoid regulations/ rules?	Under section 956 CMR 5.03(4) of the MCC regulation, "A group health plan that is maintained pursuant to a collective bargaining agreement in effect on January 1, 2009 may be deemed, in the Connector's discretion, to meet minimum creditable coverage for a period not to exceed one year following the expiration date of the collectively bargained agreement that is in effect on January 1, 2009 or, if part of a Multiemployer Health Benefit Plan, one year following the date of the last renewing collectively bargained agreement that is part of the Multiemployer Health Benefit Plan."	MCC exemption. Relative value of coverage must be comparable to Bronze level. "Fully insured plans pursuant to a CBA (Collective Bargaining Agreement) are grandfathered until the last expiration date of a CBA related to that coverage. For multi-employer plans, the deadline to meet the requirements is the last expiration date of a CBA related to that plan *regardless of employer.* Grandfathered status may be maintained upon the CBA expiration date if no changes were made since March 23, 2010, that would have otherwise caused the plan to lose its grandfathered status. A change in carrier during the terms of a CBA will not invalidate grandfathered status after the CBA expires." The law and regulations also include a special rule for plans subject to a CBA that gives additional flexibility to change insurers during the CBA (effective March 2010). After that, a plan subject to a CBA is subject to the same rules as other health plans. Associations have been disrupted by the ACA because plans sold to small employers must follow the new ACA small employer rules, including participating in the statewide risk pool, risk adjustment, constraints in allowable rating variables, essential health benefits, cost-sharing limits etc. Many associations are trying to determine whether and how they should continue to participate as plan sponsors

	Taxation of plans There is no equivalent of the federal excise tax on high-value health benefits in the Massachusetts reform. Arguably, Commonwealth Care plans that have rich benefits, although low cost relative to these benefits because of the network reimbursement agreements that underlie their premiums, could under some assumptions about health care trends have become subject to the excise tax in 2018. In 2012 the average Commonwealth Care premium is approximately $6,000; assuming that premiums increase to reflect higher provider reimbursement levels (the ACA requires an increase from today's 80% of Medicare rates to 100% of Medicare) an annual trend of 5% between 2012 and 2018 would have made Commonwealth Care plans subject to the excise tax.	of health insurance and are lobbying for guidance that would exempt them from small employer market's unique ACA implications. Taxation of plans The ACA imposes an excise tax (the so-called "Cadillac Tax") on plans with high values, beginning in 2018. The tax amounts to 40% of the excess above a threshold ($10,200 for individuals and $27,500 for family policies). Union plans, which have traditionally provided rich benefits without the offset of lower network reimbursement contracts that pertain in Medicaid plans, are disproportionately likely to be subject to the excise tax.
Employer/ Employee Choice Models	The Connector piloted an employer/employee choice model in 2010. However, after failure to gain market penetration this pilot was discontinued.	If an employer offers insurance whose premium exceeds 9.8% of family income, the employee may enroll in insurance through the state exchange and receive tax credits toward purchase. Employers with more than 200 employees must automatically enroll new hires in coverage. Free-choice Vouchers: Employers must provide employees whose household income is less than 400% FPL if the employee's cost of coverage under the group health plan is between 8% and 9.8% of household income. The voucher is for the amount of the employer's contribution toward the group health plan, and the employee can use this voucher to purchase coverage through the state exchange.

Benefits Expansion: Medicaid	MassHealth: Restoration of benefits for adults including dental, vision, level IIIB detox, prosthetics and chiropractic care. Two-year smoking cessation pilot to be funded with a $7 million transfer from the Health Care Security Trust Fund.	Applies to all nongrandfathered plans: Coverage without cost sharing for preventive services, including those recommended by the U.S. Preventive Services Task Force, immunizations recommended by the CDC, and preventive care and screenings for infants, children, adolescents and women supported by HRSA.
Risk Management	Massachusetts uses three mechanisms to manage its risk within the Commonwealth Care Program (there is no state risk within Commonwealth Choice because the state does not pay for coverage). 1. Reinsurance (Stop Loss) 2. Risk Corridors (Gainsharing) 3. Risk Adjustment Reinsurance (Stop Loss). This is a permanent program operated by the Connector Authority. Participations by health plans is mandatory. Health plans fund the program at 1.25% of the Commonwealth Care capitation rate. The pool pays 75% of incurred claims above the attachment point (currently $150,000). Surpluses and deficits are experience-rated. The program is permanent. Over the seven years of the study (FY 2007–2013) the cumulative loss ratio has been 81.8%, with two years producing losses and the remainder producing gains.	The ACA uses the same three mechanisms as Massachusetts although the operation of the "3 R's" is different than it has been in Massachusetts. The ACA Reinsurance program is a temporary three-year arrangement (2014–2016) that provides a subsidy to individual market health plans based on the actual annual costs of each plan's high case claimants. While the program may partially offset the financial effect of high case patients' antiselective enrollment in the early stages of the individual market's growth and bring premiums in the market to lower levels than had the program not existed, albeit temporarily, this offset is provided by the Risk Corridor. The Reinsurance program is more likely to address catastrophic, stochastic expenses (as it has in Massachusetts). The 2014 budget is $10 billion, but this budget declines significantly for 2015 and declines yet again for 2016. The financial support for this program comes from 2014–2016 assessments (also reducing each year) to health plans generally, including individual, small group, large group and self-insured employer plans, but excluding Medicare Advantage and Medicaid plans. The Reinsurance program is estimated to result

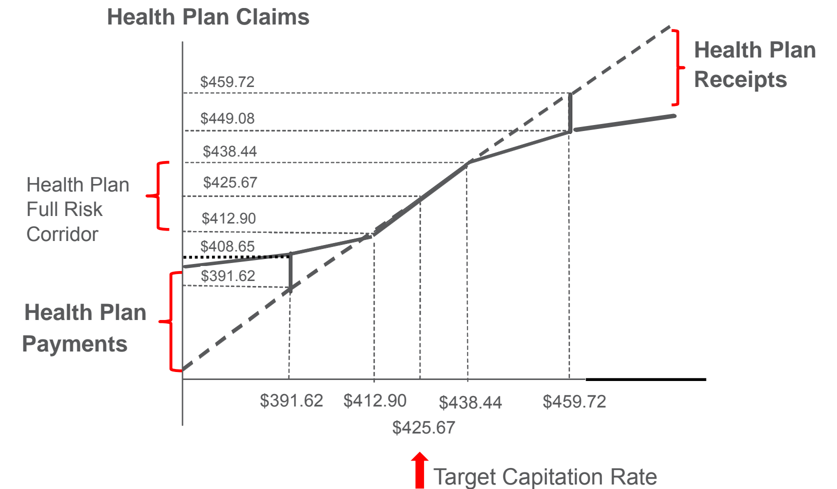
		in a 12–15% reduction in 2014. The fund will not be exhausted because enrollment for 2014 is low, compared with projections. The assessment on Commercial health plans was $5.25 PMPM in 2014.
	Risk Corridors (gainsharing). Terms of the gainsharing arrangement have varied since the inception of the program. The current design is as follows: Aggregate risk sharing corridor ("Full Risk Corridor") applies at 4% above and below the medical capitation rate (claims only; no administration fee). Within this corridor there is no gainsharing with the health plan. Gainsharing occurs above/below the Full Risk Corridor. Plans and the Connector share 50/50 in any gains and losses between 104% and 150% of the target capitation rate, or between 50% and 96% of the target capitation rate. Note that the target capitation rate will vary by plan depending on the plan's mix of geographic and benefit design risk.	The Risk Corridor program is also temporary and is targeted at the individual market for 2014–2016. The program is administered by HHS, and is designed to alleviate the risk and rewards that may occur as health plans over- or underestimate the underlying health claims costs in the overhauled market. The target rate will be determined from rates available on the Exchange, weighted on enrollment. Within a 3% corridor of the target loss ratio (97–103%), no gainsharing occurs. Above 103% (or below 97%) gains and losses are shared at 50% while above 108% (or below 92%) sharing of 80% applies, with no limit on the overall gain or loss sharing. The figure below from Norris, Leida and Vander Heijde [69] illustrates ACA gainsharing. There is a three-year limit on the risk corridor program.
	Gain and Loss under Massachusetts Risk Corridors Aggregate payments/receipts over the course of the program have been in the range of 1–2% of premiums; however, for individual plans, payments/liabilities have ranged from 2% to 20% of premium. (See Chapter 5 for more details.) Risk Adjustment: Initially, risk adjustment was based on age/sex of enrolled members. New members who have no claims history continue to have an age/sex risk score. As claims data became	

available, condition-based risk adjustment was employed, using the DxCG Medicaid Model.

The PMPM capitation rate to be paid to the Health Plan is equal to: Target PMPM × RF_{HP} + Admin, where

Target = Statewide Medical only Target for the Commonwealth Care Program = $394.00 PMPM (FY 2012)

Assuming the same values as in the Massachusetts example, the ACA risk corridor would redistribute income PMPM as follows:



Risk Adjustment: Unless the state has its own risk adjustment methodology that is approved by HHS (at the date of this writing, only Massachusetts has an approved alternative), all health plans run federal HHS risk adjustment. Because health plans themselves are running risk adjustment scores based on HHS instructions, this operational structure is often called “distributive.” ACA’s risk adjustment is revenue neutral, such that health plans are transferring funds among each other, with neither the state nor the federal

	$$RF^{j}_{HP} = \sum_{i=1}^{\text{Total Members}} \frac{(Geo_i \times Plan_i \times Disc_i \times Risk_i)}{\text{Total Members}}$$ and $Geo_{i,j}$ = Geographic (region) factor for Health Plan *j* Member *i*. $Plan_{i,j}$ = Plan type factor for Member *i* in Health Plan *j*. $Risk_{i,j}$ = Risk factor for Member *i* in Health Plan *j*. $Disc_i$ = A factor that represents a discount offered by the Health Plan. It does not apply in FY 2012. The Massachusetts risk adjustment mechanism is prospective and is not revenue neutral. Therefore, if the risk profile of the insured population changes over the Fiscal Year, risk adjustment will reflect the increased (or decreased) risk in premium adjustments.	government at financial risk. The HHS risk adjustment method is concurrent and is an adaptation of the risk adjustment used in Medicare Advantage. However, there is more bias toward overweighting the risk scores for those with higher costing diagnoses and underweighting those with no or less expensive diagnoses as compared to most of risk adjustment methodologies, which tend to be biased in the opposite direction. Also unlike most risk adjustment methods, the entire premium (versus claims only) is considered when risk transfers are determined. HHS's method considers metal level through having different risk adjustment scores based on metal level choice for similarly situated members. Average geography factors are also calculated based on the market's factors for each region. Different risk adjustment is provided for infants versus children versus adults. Risk Adjustment requires significant data and technical resources. A March 2012 rule allows the states to outsource the calculations to health plans (distributed model). Plans will supply risk scores back to the state, which has the right to audit calculations. Calculations must be completed within five months of the end of the year to allow time to feed the MLR calculation, but must take into account reinsurance recoveries.

Chapter 4: Reactions to Massachusetts Reform

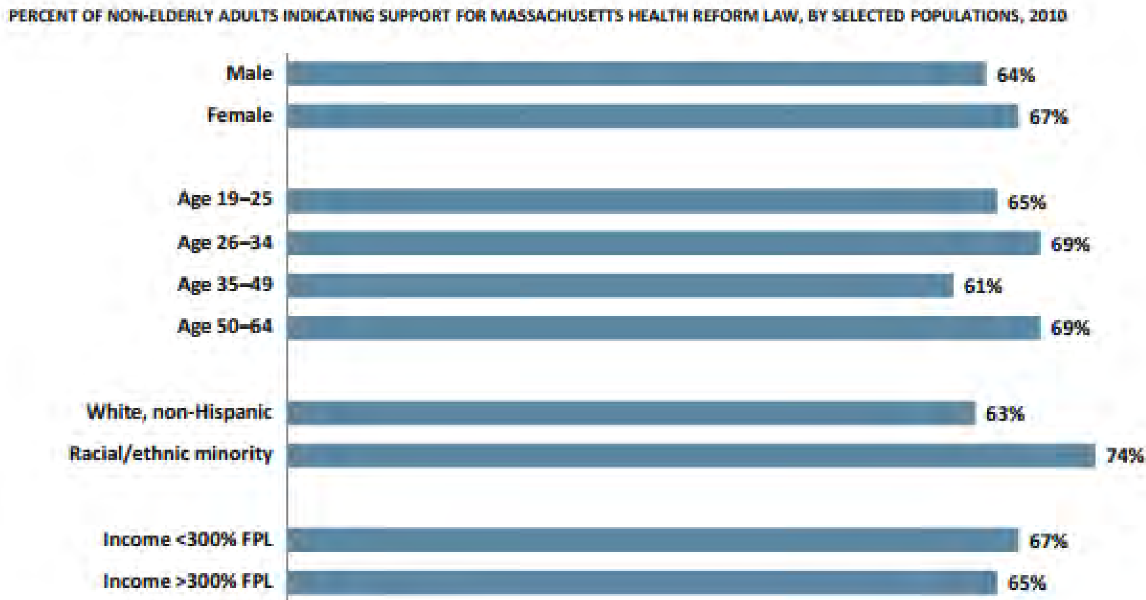
Literature Review: Impact of Massachusetts Reform on Stakeholder Opinion and Politics

The collaborative nature of the development and implementation of Massachusetts reform cannot be understated: Alan Raymond, in his evaluation of the first year postreform [49], puts it this way: "The Massachusetts health care law is unusual in many ways, not the least of which is the fact that the implementation process has been open to public scrutiny at every step of the way. … The broad array of interest groups that support the law have kept up a spirited but civil dialogue about their viewpoints and concerns." These groups included ACT (Affordable Care Today), the Greater Boston Interfaith Organization, Health Care for All and other consumer groups, business groups (Associated Industries of Massachusetts) and other trade and insurer associations. After signing Chapter 58 Governor Romney chose not to seek reelection, a Democrat (Deval Patrick) was elected governor, and key agency heads were replaced to implement Chapter 58.

Public Stakeholders

Massachusetts health care reform has been popular with diverse constituencies since inception. In 2006, various Massachusetts statewide opinion polls showed strong public support for health reform, and it has remained robust even through the economic recession [70]. Since the law's passage in 2006, public support initially increased slightly (69% in 2008 compared to 67% in 2007 and 61% in 2006) [71]. Similarly, according to a Health Affairs analysis of the same poll, despite some perceptions that the law is not helping the uninsured, support remains high—even for the individual mandate, one of the law's most controversial features [72]. The Blue Cross Blue Shield of Massachusetts Foundation (BCBSMAF) summarized a number of studies and reports from different state agencies [73]. The most recent BCBSMAF report is a March 2013 publication [74] that shows largely unchanged levels of support over time (about two-thirds of citizens surveyed supported the law in both 2006 and 2010) but with a small decline over this period (from 69% to 66%). An update to the BCBSMAF survey is in preparation at the time of writing. An Urban Institute Study conducted in 2010 reported support by selected populations as follows [75]:

Figure 4.1



High levels of support among categories more likely to benefit from the reform (minorities, older ages, lower income) are not surprising. What is more significant is the degree of support among those categories of citizen that do not benefit but are net contributors to reform.

According to a 2008 study by the Harvard School of Public Health and the Blue Cross Blue Shield of Massachusetts Foundation, employers supported reform by almost a two-to-one margin. However, in the same study, nearly two-thirds of respondents to this poll said that they expected that small employers would be adversely affected by reform.

From the public perspective, it would appear there is little interest in repealing the legislation.

Politicians

Most politicians and pundits have expressed an overall positive opinion of Massachusetts reform as well, with J. A. Widmer reporting in the *Wall Street Journal* [70] that he considers the project a great success as insurance coverage has increased substantially and Massachusetts has planned properly by assuming that reducing free care will help pay for subsidizing the expanding

health care costs. Although the reform was passed under Governor Romney, his successor as governor, Deval Patrick, strongly supported reform sought ways of increasing coverage further, until the passage of the ACA made these efforts redundant.

However, the overall costs of Massachusetts reform are a concern to many. The Urban Institute found that costs of Massachusetts reform have been higher than anticipated, mainly because the plan is partially financed from federal funds through a Medicaid waiver [76]. A study published by the national Center for Policy Analysis finds that the program has cost about one-third more than originally projected [77]. According to the Urban Institute study, this is due to the fact that "limited competition makes it extremely difficult for the state to address the growth in health care costs because if they continue to increase, more people will become exempt from the individual mandate and the cost of Medicaid and low-income subsidies will increase" [76]. Comparisons between rates of increase of insurance premiums are notoriously difficult to make, particularly when (in the case of Commercial plans) benefits are subject to buy-down and employee contributions (the other side of the cost ledger) are not obtainable. A study published by the Cato Institute found that premiums for employer-sponsored insurance in Massachusetts grew 21–46% faster than the national average [60]. This same study also estimated that total new spending for this bill would be over $1 billion in 2008, or 57% more than the Massachusetts Taxpayers Foundation suggested. In fact, spending on Commonwealth Care reached approximately $770 million in FY 2009 (net of member contributions). Had the Connector not changed the way it contracted with MCOs and introduced more competition among participating companies in FY 2012, assuming that the historical trend in capitation rates (4.9%) persisted, gross expenditure on Commonwealth Care would have exceeded $1 billion in FY 2013. Due to the savings obtained by the Connector's contracting changes, gross outlays are estimated at $850 million in FY 2013. Cost of health care continues to be a factor today as recent press accounts show [78–80].

The cost of reform to the state (despite the federal recoveries from the Section 1115 waiver) ultimately became unmanageable during the recession of 2008–2010. This led to the exclusion of AWSS from coverage. Dental coverage had earlier been eliminated as a benefit as another cost-cutting measure. The small employer lobby remains an important factor in politicians' thinking, and moves such as the governor's imposition of rate limits in 2009 and the introduction of a commission to seek alternative reimbursement mechanisms have been taken partly in response to pressure from employers (and employees).

Although on the whole employers remain supportive of reform, the requirement that Minimum Creditable Coverage include prescription drug coverage is one area where employers

have reacted negatively. (See, for example, this February 2007 letter about Minimum Creditable Coverage from small employer organizations to Jon Kingsdale, Executive Director of the Connector [81].) Prior to reform, small employers often did not offer prescription drug coverage, and its inclusion added significantly to the cost of insurance at the same time that overall rates were increasing as a result of the merger of the small group and individual markets.

Providers

SteelFisher and coauthors at the Harvard School of Public Health conducted a poll of providers in 2009, reported in the *New England Journal of Medicine* [82]. Seventy percent of 2,135 practicing physicians said that they supported the health reform law, whereas 13% opposed it. Of responders, 75% said that they wanted the law to remain in place, although 61% of these respondents wanted changes to the law. Two aspects of reform that were rated negatively were the effect on the overall cost of care and the patients' ability to see a primary care physician.

Not all physicians support the law, although those that do not appear to believe that the law does not go far enough in providing access, low cost, and equal coverage. A prominent physician coalition (Physicians for a National Health Program) reports on the Massachusetts Medical Society's addition of a question about health care reform to its annual physician survey. A plurality (34%) of physicians chose the single-payer option, followed closely by a public-private option. Massachusetts-type health reform attracted far less support (14%) [83].

A prominent example of provider reactions to the costs of Massachusetts reform is the lawsuit by BMC, which claims it will "lose more than $100 million next year because the state has lowered Medicaid reimbursement rates and stopped paying Boston Medical 'reasonable costs' for treating other poor patients" [84]. Although the hospital may originally have supported the initial state health reform, BMC is currently charging the state with siphoning money away to help pay the considerable cost of insuring all but a small percentage of residents. With health care costs rising, the suit claims that the state of Massachusetts reimburses BMC only 64 cents for every dollar it spends treating the poor, which is a large segment of their patient population [84]. Although the ACA increased the reimbursement of Medicaid patients, there remain citizens ineligible for coverage under the ACA who are likely to continue to use services of BMC and other safety net providers, so this issue is unlikely to disappear.

Literature Review: Impact of Massachusetts Reform on Access

Although many studies demonstrate an overall increase in the number of insured adults in Massachusetts, problems of affordability of coverage and gaining access to care remain. A Kaiser study of consumer experience in Massachusetts found that people still find it difficult to receive and cover the costs of care, particularly low-income workers or those earning under 200% of FPL [3]. Another vulnerable group of Massachusetts residents are those who do not receive employer insurance yet have an income too high for state assistance [3]. This group, consisting of about 76,000 residents, makes up the majority of the uninsured in Massachusetts [3]. An Urban Institute study of the costs of employer coverage from the employees' perspective showed that the number of workers paying high insurance costs has not increased since 2006, but employees from small firms (fewer than 51 employees) who reported financial contributions at or above twice the state average increased significantly—up 8.6% between 2006 and 2008 [85]. However, this study also states that while some employees of small employers increasingly pay out-of-pocket for insurance, they are not more likely to report having a cost-related unmet need [85].

The Massachusetts Medical Society (MMS) also conducts regular surveys of both physicians and the public. A 2012 report by the MMS [86] finds that "Most Massachusetts adults believe that affordability of health care is the single most important health care issue facing the state. By a nearly 3-to-1 margin, residents are more likely to cite affordability than access as the most important health care issue for Massachusetts. Very few residents see the quality of health care as a problem." The survey also suggests that Massachusetts residents are having less difficulty accessing health care services than before the reform. Those residents reporting that it was not difficult to obtain needed health care increased from 57% to 78% between 2008 and 2012.

More recently, another MMC survey of adults found that a significant minority of respondents cited cost as their biggest concern [87]. Although residents have little difficulty in accessing the services they need, "most Massachusetts residents are generally satisfied with the health care they receive. These numbers have remained highly stable for the past eight years."

The impacts on access to quality care are positive overall, with some exceptions. An Urban Institute study on Massachusetts reported lower out-of-pocket health care spending in doctor care, specialist care, medical tests, treatment, follow-up care, preventive care services and prescription drugs between 2006 and 2009 [88]. The Urban Institute's study also showed significant improvements in minority care. This study found that minority groups were just as

likely as white non-Hispanic adults to have insurance coverage in 2009 after controlling for differences in health care needs [88]. Minorities also showed improvements in receiving affordable care, as the Urban Institute study reported stronger reductions in their personal share paying of medical bills over time and unmet needs in preventive care due to costs between 2006 and 2009 [88]. Other findings contained less optimal results for certain populations. Although a publication by Health Affairs showed that unmet medical care needs in Massachusetts due to cost decreased from 9.2% in 1996 to 7.2% in 2008 for the entire population, the main beneficiaries of this improvement were non-Hispanic whites, low- and high-income earners, and people in good or excellent health. Those Massachusetts populations that did not receive this positive impact were Hispanics, non-Hispanic blacks, middle income earners or those in fair or poor health [89]. A subsequent study by the Kaiser Family Foundation on Massachusetts found that people with chronic health conditions and those who require multiple doctors, tests and treatments still have difficulty paying the copayment, even with employers paying the majority of their premiums [90]. The National Center for Policy Analysis reported on access for the vulnerable populations that utilize community health centers. The Center highlights the incongruence of a Massachusetts reform goal of increasing access to private physicians, when payments to community health centers increased by only 12% from $52.2 million in 2005 (prereform) to $58.6 million in 2007 (postreform) despite a significant increase in numbers of patients covered in MassHealth and Commonwealth Care [77].

With regard to medical debt and out of pocket costs, the impacts of Massachusetts reform are mixed. This same Kaiser study on consumer experiences after Massachusetts reform showed that about half of the insured population with medical debt spent 2.5% or less on out-of-pocket medical expenses and 59% had expenditures of $1,000 or less a year. However, it also found that insured people with medical debt acted more like the uninsured than the insured people without medical debt, with 28% of insured Massachusetts residents postponing medical care or skipping medical care due to costs, very similar to the uninsured population [3]. The Urban Institute study showed less than optimal trends, with insured Massachusetts residents having problems paying medical bills across all age and population groups, and affordability of care was a greater problem for insured Massachusetts adults in 2009 than 2006 [88]. Indeed, in 2008, another report showed that 17% of nonelderly Massachusetts adults with incomes under 300% FPL did not get needed care because of costs, and 26% had medical debt. Although these reported rates are superior to national averages, they still indicate that considerable numbers of Massachusetts residents are having trouble getting affordable health care [3]. In addition, a brief analysis published by the National Center for Policy Analysis showed that 51% of Massachusetts residents required to purchase coverage say their health care costs have increased, and only 14% have reported that they decreased [77].

Costs of medical care or copayments are not the only major health care barriers for Massachusetts citizens. The Kaiser study of consumer experiences showed that the multitude of health care options with varying rules and eligibility creates the potential for gaps in health care coverage as a participant's personal income or insurance coverage changes [3]. Furthermore, in the Kaiser study, a survey of outreach workers who assist in enrollment found that "the biggest barriers their clients experienced to getting and keeping health insurance was general confusion about paperwork (78%) and general confusion about systems and programs (50%)" [3].

Literature Review: Impact of Massachusetts Reform on Cost of Care

The most recent survey of health care consumers conducted for the MMS [87] finds that "most Massachusetts adults believe that affordability is the single most important health care issue facing the state. Residents are more likely to cite affordability and cost-related issues than mention issues related to health care access by a three-to-one margin." When asked to choose among cost of care, access to care and quality of care as the most pressing issue, nearly eight in 10 residents select cost. This result is essentially unchanged from a similar survey conducted in 2012 [86].

Effect of Massachusetts Reform on Health and Health Care Quality

Early reports anecdotally indicated that newly insured members had difficulty accessing services, particularly in outlying areas such as Cape Cod and the islands. Over time, however, this issue seems to have been largely resolved. The Connector conducts regular surveys of Commonwealth Care members that indicate high satisfaction with access to care.

Similarly, early indications were that the newly insured population continued to use services (such as the emergency room) inefficiently. More recent reports seem to show that this issue too has been resolved. We address this question, as well as cost of care for the newly insured, in Chapter 6.

Effect of Merger of the Individual and Small Group Markets

The merger of the individual and small group markets has been the subject of three major studies: two MOW studies in 2005 and 2007 and a study by Gorman Actuarial in 2006. The first MOW study (2005) [37] was a preliminary actuarial analysis of a number of proposed changes to the small group and nongroup (individual) markets. For the actual option that was finally adopted (the House option; a merger of the markets without a reinsurance facility) the MOW

study predicted a reduction of 28% in nongroup premiums and increase of 7% in small group premiums. Chapter 58 included a requirement for a study of the merged market, which led to the publication after the passage of the market merger (but before the effective date) of a study commissioned by the Massachusetts Division of Insurance (the state's insurance regulator) from Gorman Actuarial, published in December 2006 [1], that predicted that the merger of these markets in Massachusetts would result in a 15% decrease in nongroup rates and an increase of 1.0–1.5% in small group rates, varying based on enrollee changes in carrier. Addition of previously uninsured consumers to this market was predicted to add between negative 3% and positive 6% to the average rates in the market.

The second MOW study (June 2010) [91] examined the actual outcomes of the market merger using claims and eligibility data provided by the major health insurers. This study was a result of "spikes" in experience being observed by the insurers, who suspected antiselection on the part of insureds that purchased coverage to satisfy the mandate, used the insurance to obtain needed services and subsequently dropped coverage (and ceased premium payment). The absence of underwriting and guaranteed issue allowed such insured to "come and go" as they pleased.

The second MOW study found that the individual (unsubsidized) market had grown from 45,900 subscribers in 2006 to 107,343 subscribers in 2008 [91]. The percentage of individuals terminating coverage in the first policy year increased from 13.8% prereform to 24.2% in 2008. The 2006 Gorman study [1] predicted that reform would raise small group rates 1.0% to 1.5% while decreasing individual rates by 15%. The MOW study found that allowed claims in the merged market in 2008 were 3.4% higher than allowed claims in the small group component of the market. Because rating factors result in higher premiums for individual insureds (for example, because they tend to older on average) the actual effect of the merger was estimated to be 2.6%.

There is evidence of antiselection on the part of insureds. Prior to reform, insureds that terminated their individual coverage were healthier than the rest of the individual block (2.2% lower loss ratios) on average than those who persisted. Following reform, the loss ratio of those terminating was 8.8% higher than average. MOW estimated the cost of this adverse selection to be adding 0.5–1.5% to the overall cost of the block. Further evidence of antiselection is provided by the number of high-cost subscribers who terminated coverage within six months, which in 2008 increased by 249% from 2006, and by the number of low-cost individuals who have a loss ratio lower than the average who also terminate within fewer than twelve months (and thereby deprive the pool of additional premium revenue).

Effect of Reform on Health Insurance and Other Costs

In a recent evaluation of findings from Massachusetts reform, Sarah Miller [92] observes: "The provision of insurance-based coverage to the (previously) uninsured will reduce their out-of-pocket costs of medical care and encourages them to use more health services, increasing the total amount of resources in the economy devoted to providing health care." This statement may be true, but only to the degree that the previously uninsured were not recipients of free care through the Health Safety Net, hospital emergency rooms (in Massachusetts, 80% of all ER visits do not result in a hospital admission, indicating that emergency rooms are used as a source of primary care rather than for genuine emergencies), and other organizations serving the uninsured such as federally qualified health centers. In other words, what changes as a result of reform is not access or utilization of services as much as the financing of the services (although the mix of services, place of service and volume of services may also be affected, as we explore in Chapter 6). Another study by Kolstad and Kowalski found that postreform there was an increase in primary care and preventive services and a modest reduction (2.7%) in preventable hospitalizations, though not in hospitalizations in total [93]. Kolstad and Kowalski also found a 5% reduction in admissions through the emergency department, most noticeably in lower-income areas, and hypothesize that the lack of reduction in overall admissions is due to pent-up demand and previously undiagnosed conditions. Miller [128] found that 80% of the reduction in ER use before and after reform is in categories of service deemed "nonurgent" or primary care in nature.

Yet other studies differ on whether there was a reduction in use of hospital emergency rooms. We explore utilization changes in Chapter 6, where we show that the Commonwealth Care members, on a risk-adjusted (risk neutral) basis, experience higher utilization than the existing MassHealth members. Although relative utilization varies by year, Commonwealth Care members generally experience higher emergency room, inpatient and physician visit utilization. Newly insured Commonwealth Choice (Commercial) members experience lower utilization than existing insured members, on a risk-adjusted basis. The cost of all newly insured members is initially lower than that of existing members (on a risk-adjusted basis), suggesting that this population is conservative with respect to its utilization of medical services.

Effect on the Labor Market in Massachusetts

Kolstad and Kowalski [94] also examined the effect of reform on the labor market in Massachusetts. The authors used longitudinal data on wages, employment and hours worked to study changes in labor market outcomes for individuals who switch to and from employer-sponsored health insurance (ESI) over the reform period, controlling for differences between Massachusetts and other states. The authors conclude that jobs with ESI pay wages that are lower

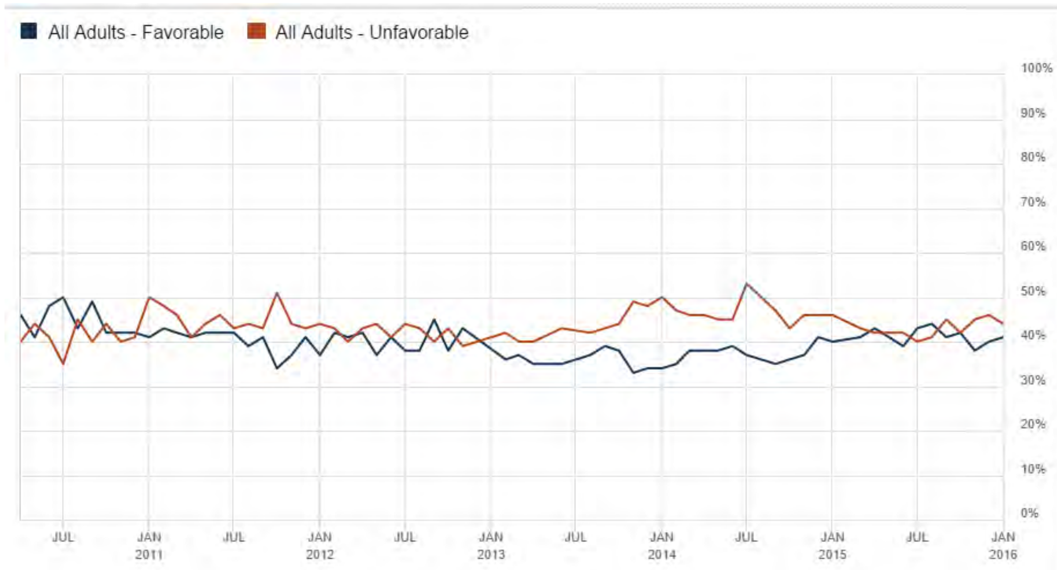
by an average of $6,058 annually, indicating that the compensating differential for ESI (the causal change in wages associated with gaining ESI) is only slightly smaller in magnitude than the average cost of ESI to employers. In other words, the majority of the cost of ESI has been passed on to employees in the form of lower wages. Because the newly insured in Massachusetts valued ESI (or perhaps because they were mandated to obtain insurance), they were willing to accept lower wages.

Summary

Published research into the perception of and reaction to reform validates the existence of strong and continuing stakeholder support for reform. Where there has been dissatisfaction about the effect of reform, this has tended to be around the cost of health insurance: the fact that reform did not reduce the cost or rate trend. As the numbers of the newly insured indicate (Chapter 2), reform affected a small proportion of the state's citizens. Most citizens continue to have their insurance subsidized by a third party (either an employer or the state [Medicaid]) and are largely shielded from the true cost of insurance. Those citizens in the nongroup market and employers in the small group market who face the true cost of insurance are less satisfied with the reform.

Nevertheless, compared with national reform (the ACA), Massachusetts reform was widely supported by all stakeholder groups. The ACA, in contrast, has rarely rated majority support among adults surveyed for the Kaiser Family Foundation survey.

Figure 4.2: Public's Views on the ACA



Source: Kaiser Health Tracking Poll: The Public's Views on the ACA: Henry J. Kaiser Family Foundation.
(http://kff.org/interactive/kaiser-health-tracking-poll-the-publics-views-on-the-aca/#?response=Favorable--Unfavorable&aRange=all)

The introduction of the ACA required existing Massachusetts insureds to reapply for insurance, beginning October 2013. Unfortunately the Massachusetts State Exchange (which replaced the Connector) failed at inception, forcing the state to provide temporary Medicaid coverage for more than 200,000 insureds. The change to the ACA-compliant Exchange prevented the Connector from addressing important elements of market reform, including addressing the affordability issue noted in a number of surveys.

Chapter 5: Financial Effects of Reform

Introduction

In this chapter we will look at the available financial information for the cost of Massachusetts reform. Some information (such as the numbers of newly insured in each category, their cost per member per month, and their cost sharing per member per month) comes from our analysis of Connector data (discussed in this chapter) and from our analysis of the state health insurance data, discussed in Chapter 6. We combine a number of data sources to estimate the gross cost of reform, the offsets from different funding sources and the net cost to the state as well as the cost to other parties. We examine in more detail one of the sources of funding offsets, the so-called Employer Fair Share and Free-Rider Surcharge.

Financial Effects of the Reform

The gross cost of Massachusetts reform is equal to the additional cost incurred to provide insurance to newly insured lives plus incidental cost due to enhanced benefits provided to existing insureds as a result of the enactment of the minimum creditable coverage requirement; the net cost is equal to the gross cost less any new revenue received, less any reduction in the cost of other programs (such as the Health Safety Net Trust Fund) and any increased member contributions for insurance coverage.

To estimate the gross costs, we would have to sum the cost of the newly insured in the following groups:

1. MassHealth (those previously eligible who had not enrolled)
2. MassHealth expansion categories
3. Commonwealth Care (newly enrolled in the program)
4. Newly enrolled lives who had previously declined employer group insurance
5. Newly enrolled lives in employer groups not previously offering insurance
6. Newly enrolled lives in Commonwealth choice
7. Newly enrolled lives in nongroup insurance who purchased directly from an insurer
8. Additional cost imposed on existing employers and members by MCC requirements.

To estimate the net costs we need to estimate the offsetting revenue. The additional revenue is spread between a number of financing sources:

1. Federal government, through the Medicaid match and Section 1115 waiver
2. Private contributions to the Health Safety Net trust fund
3. The state's general fund

4. A tobacco tax imposed in 2009 to fund Commonwealth Care
5. Premiums and cost sharing from members
6. Subsidies from employers
7. The "free-rider surcharge" imposed on employers that did not offer health insurance.

A third source of cost, and one more difficult to quantify, is the general increase in prices of medical services that resulted from increased demand for resources meeting a fixed supply.

Prior Studies

Two major prior studies of the financial effects of Massachusetts reform have been published: that of Tuerck, Bachman and Head (2011) and the Massachusetts Taxpayer Foundation (MTF) Study published in 2009 by Alan Raymond [95]. Tuerck et al. published their study of the effect of reform on state and federal budgets in June 2011 [96]. The Tuerck study contains data through 2010, while the much-quoted MTF study is based on a projection of 2010 costs. Tuerck et al. fit regression lines to prereform data to project the cost of health care to different sectors (Medicaid, Medicare and Commercial) in the absence of reform and to compare with the actual, postreform costs. Depending on the assumptions made, Tuerck et al. estimate that the total cost of reform between FY 2007 and FY 2010 increased state costs of Health & Human Services and Medicaid by $513 million. However, over the same period federal costs increased by $1.7 billion, indicating "the importance of the re-negotiation of the federal waiver in 2008 in shielding the state from the full cost of the health care reform law" [96]. Estimation of the effect of reform on private insurance is more difficult. Tuerck et al. use national and regional data to estimate trends in insurance premiums and derive an estimate of increased cost of between $3.0 and $3.4 billion as the effect of reform between FY 2007 and FY 2010.

The MTF study is quoted frequently by supporters of reform because of the author's conclusion that the net cost to the state is estimated to be only $88 million annually. This number is generally consistent with our estimate of the state's cost, although it hides the significant costs borne by other agents than the state. It also is based on a logical error—the actual net increase in cost in 2010 is projected as $707 million, less $353 million federal offset. The author simply divides this number by four (the number of years between the baseline year for comparison of 2006 and the projection year 2010) to derive $88 million. Using the author's own numbers the average annual increase between 2006 and 2010 would be $609 million, not $88 million, an estimate more consistent with that of Tuerck et al. In any event, the author fails to take into account other significant offsets, which we will consider below.

Sources of Funding for Reform

An important element of reform, without which Massachusetts would probably not have expanded coverage or introduced the mandate, is the federal match. Federal matching funds for the expansion populations under Chapter 58 constitute Medicaid funds for revenue recognition purposes; between FY 2006 (July 1, 2005–June 30, 2006) and FY 2007 (July 1, 2006–June 30, 2007) federal Medicaid funds grew 20%. The significance of Medicaid financing in the state budget is evident in the percentage that it represents in the state budget: growing from 11% of all state revenue in FY 2001 to 20% of revenue in FY 2011.[44]

The FY 2014 budget allocated $13.3 billion for health care spending (the largest component of which was for MassHealth; Commonwealth Care's share is $860 million) or 36% of the total state budget. Commonwealth Care alone represents 2.4% of the state budget (although this represents funding before offsetting federal revenue). Table 5.1 shows different components of the state's health care budget, and Figure 5.1 shows the growth of the Massachusetts state health care budget between FY 2001 and 2014.

Table 5.1 Components of Massachusetts Health Care Budget ($'000s)

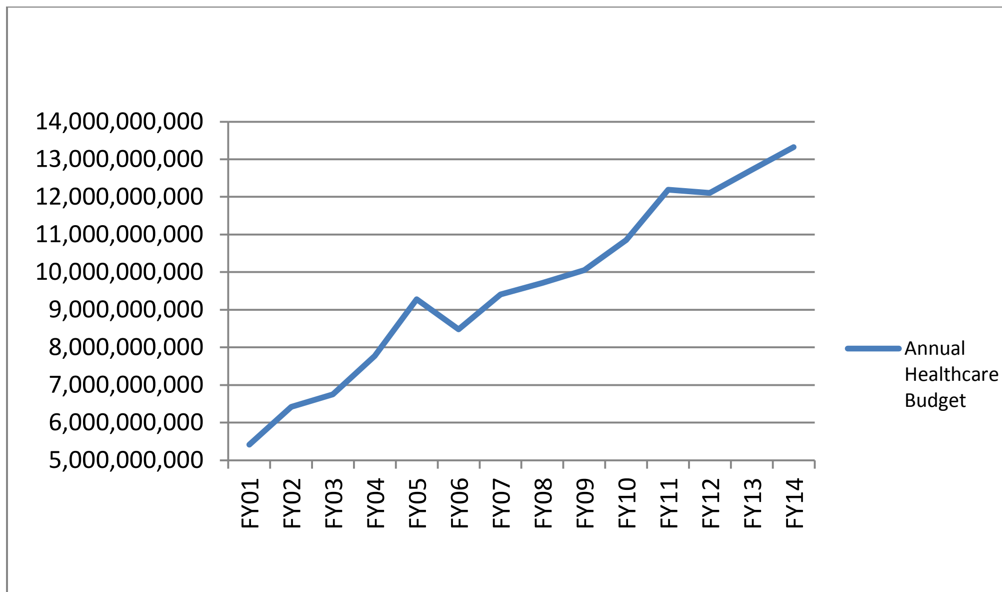
	MassHealth	CommCare	Uncompensated Care/HSN	Other	TOTAL
FY 2001	4,812,131	-	594,045	8,891	5,415,068
FY 2002	5,443,309	-	884,070	91,900	6,419,279
FY 2003	5,826,576	-	827,876	95,929	6,750,381
FY 2004	6,346,031	-	1,322,968	106,044	7,775,042
FY 2005	6,916,526	-	2,232,170	127,267	9,275,963
FY 2006	7,290,244	-	1,082,413	108,561	8,481,219
FY 2007	7,856,827	801,200	665,568	83,875	9,407,469
FY 2008	8,266,160	1,045,863	324,347	80,617	9,716,988
FY 2009	8,450,136	1,147,519	386,000	68,823	10,052,477
FY 2010	9,441,802	736,685	534,000	138,623	10,851,111
FY 2011	10,328,788	842,012	886,101	136,812	12,193,713
FY 2012	10,521,569	865,012	400,025	316,875	12,103,481
FY 2013	10,962,823	860,272	570,962	328,324	12,722,382
FY 2014[a]	12,195,660	491,346	394,000	239,536	13,320,542

Source: Massachusetts Budget and Policy Center "Budget Browser" (www.massbudget.org/browser/index.php)

[44] The comparison is somewhat distorted by the recession that was experienced in 2011 and temporarily enhanced federal financing that was provided in FY 2011.

[a]Because of the implementation of the ACA as of January 1, 2014, FY 2014 is split between six months of Commonwealth Care and six months of ACA funding. Funding for the ACA expansion categories is budgeted at $448 million in FY 2014 (January 1 to June 30, 2014). This amount is reported in the MassHealth column in Table 5.1. The deferral of many provisions of the ACA in Massachusetts raises questions about the budgetary implications for the Commonwealth that, at the time of writing, are not known.

Figure 5.1 Massachusetts Health Care Budget by Year 2001–2014



Source: Massachusetts Budget and Policy Center "Budget Browser."

Table 5.2 shows the growth in MassHealth (and related programs such as Commonwealth Care) spending since FY 2001. (This more limited period is necessitated by the lack of eligibility data outside of these years.)

Between FY 2001 and FY 2014, the Massachusetts health care budget grew at a compound annual rate of 7.2%. Table 5.2 shows the growth in the Massachusetts health care budget between FY 2001 and FY 2010. Between FY 2001 and FY 2010, total expenditures grew at a compound annual rate of 7.9%; some of this increase was driven by increased membership (4.9% annually during this period) although there was still an increase in per capita cost of 2.9%. The growth in per capita cost came about *despite* a change in the "mix" of populations covered by MassHealth, a change in favor of (lower-cost) children and adults and away from disabled and elderly members.

Table 5.3 shows the average cost per beneficiary[45] and the proportion of the total beneficiary populations for these member categories. Aged and disabled members cost between five and seven times as much as children and adult members, but as a percentage of total beneficiaries they have fallen from 78.0% to 63.6%. This significant shift away from the more expensive categories to the lower cost categories (adults and children) has limited the overall trend in cost per member, despite the much faster growth in costs for adult and children during this period.

Table 5.2 MassHealth and Commonwealth Care Expenditures, Eligible Members and Average Expenditure: FY 2001–FY 2010 ($'000)

	MassHealth	CommCare	Uncompensated Care/ HSN	Other	TOTAL	Members[a]	Expenditure per Member
FY 2001	$4,812,132	-	$594,045	$8,891	$5,415,068	1,120	$4,834
FY 2002	5,443,309	-	884,070	91,900	6,419,279	1,204	$5,330
FY 2003	5,826,576	-	827,876	95,929	6,750,381	1,194	$5,656
FY 2004	6,346,031	-	1,322,968	106,044	7,775,042	1,157	$6,722
FY 2005	6,916,526	-	2,232,170	127,267	9,275,963	1,212	$7,655
FY 2006	7,290,244	-	1,082,413	108,561	8,481,219	1,268	$6,690
FY 2007	7,856,827	$801,200	665,568	83,875	9,407,469	1,448	$6,496
FY 2008	8,266,160	1,045,863	324,347	80,617	9,716,988	1,568	$6,196
FY 2009	8,450,136	1,147,519	386,000	68,823	10,052,477	1,653	$6,082
FY 2010	9,441,802	736,685	534,000	138,623	10,851,111	1,726	$6,286

Source: Budget Data: Massachusetts Budget and Policy Center "Budget Browser": (www.massbudget.org/browser/index.php)

[a]"Members" in this context refers to those who are enrolled in the program and does not include those who may be eligible for benefits but not enrolled.

Member numbers are from the Medicare and Medicaid Statistical Supplement: http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ MedicareMedicaidStatSupp/(year), Report Years 2003–2012 (FY 1999–2010).

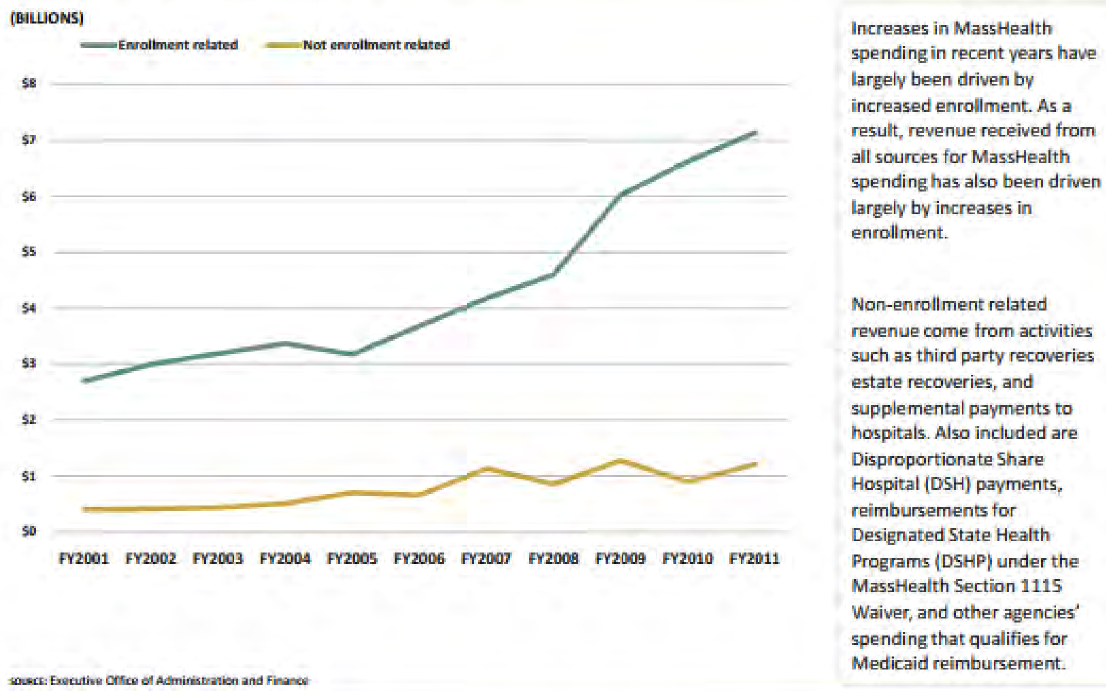
[45] Cost per eligible member data are not available from CMS. We are not aware of a source of data to convert Medicaid beneficiaries to members. However, given the administration of enrollments in the Medicaid program, it is likely that the number of beneficiaries (claimants) is a reasonable estimator of enrollees, given that Medicaid recipients tend to enroll when they require services.

Table 5.3 Change in Mix of Medicaid Beneficiaries and Payments FY 2001–FY 2010 ($'000s)

	Aged+ Disabled	Aged+ Disabled	Children + Adult	Children + Adult	Other/ Unknown	Other/ Unknown	Total Payment per Beneficiary	TOTAL
FY 2001	$14,249	78.0%	$ 1,865	21.3%	$ 678	0.7%	$ 5,573	100.0%
FY 2002	15,365	77.5%	2,000	21.6%	1,015	0.8%	5,994	100.0%
FY 2003	15,164	78.5%	2,031	20.7%	842	0.8%	6,134	100.0%
FY 2004	16,485	71.0%	3,138	28.0%	1,672	1.0%	7,240	100.0%
FY 2005	17,225	70.8%	3,270	28.4%	1,388	0.8%	7,482	100.0%
FY 2006	16,329	66.8%	3,667	32.3%	1,527	0.9%	7,423	100.0%
FY 2007	14,945	69.5%	3,297	29.5%	1,496	0.9%	7,028	100.0%
FY 2008	15,624	69.2%	3,432	29.8%	1,712	0.9%	7,310	100.0%
FY 2009	17,795	66.8%	3,212	32.9%	1,404	0.3%	7,045	100.0%
FY 2010	17,658	63.6%	3,438	36.0%	777	0.3%	6,880	100.0%
Cost Trend	2.4%		7.0%				2.3%	

The true effect of reform on the MassHealth and state budgets may be assessed by comparing budgeted costs in FY 2006 (the first year that reform was implemented) and FY 2014. Between 2006 and (budgeted) 2014, the state health care budgets for all health care expenditures grew by 57%, or 7.8% compounded annually. Figure 5.2 shows an analysis of the growth in the MassHealth component of the total health care budget, conducted by the Executive Office of Health and Human Services (the state agency to which MassHealth reports). This analysis compares the relative contributions of enrollment growth and other factors in the growth of the MassHealth budget, assigning the bulk of the growth to membership. However, the analysis above of the change of mix of beneficiaries provides a note of caution that, were it not for the change in mix, membership growth would have had a bigger impact on overall spending.

Figure 5.2



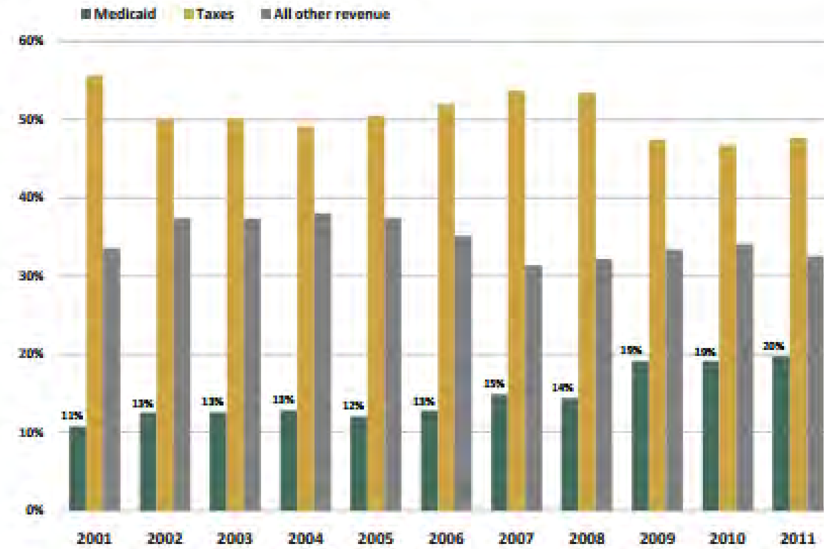
Source: Massachusetts Medicaid Policy Institute [97].

Between FY 1994 and FY 2005 Medicaid spending as a share of the state budget grew from 20.8% to 23.4%. For FY 2014 health care is projected to be 24.2% of the state budget.

The federal Medicaid match creates a dependency on the part of the state, as we have seen in Chapter 1, where one of the contributory factors to reform was the impending loss of Section 1115 waiver matching funds. (The federal government reimburses 50% of most Medicaid expenses and 65% of SCHIP expenses.) In FY 2011, Massachusetts received $8.3 billion in funding from federal sources, the bulk of which was Medicaid matching funds. This amount represented 28.2% of the total Massachusetts budget for FY 2011. The so-called American Recovery and Reinvestment Act (ARRA) was responsible for providing $1.3 billion or 4.4% of the total budget in extraordinary payments. Figure 5.3 illustrates the relative importance of the Medicaid budget, federal funding and the state budget.

Figure 5.3 MassHealth Revenue as a Percentage of State Revenue

MASSHEALTH REVENUE IS AN IMPORTANT COMPONENT OF TOTAL STATE REVENUE



Medicaid revenue represents a significant portion of total state revenue. Over the period SFY 2001-2011, Medicaid revenue grew as a share of all state revenue from just over one dollar in ten (11 percent) to one in five (20 percent). The elevated figures in SFY 2009-2011 are due to a combination of increasing MassHealth enrollment, enhanced federal matching rate for Medicaid reimbursement, and declining revenue from other sources, particularly income taxes. This share will likely decline in SFY 2012 with the expiration of the enhanced federal match, but will remain elevated because other revenue sources have not yet returned to pre-recession levels.

Source: Massachusetts Medicaid Policy Institute [97].

Note: This chart refers to the portion of the state budget funding Medicaid as "revenue" because (from the perspective of MassHealth) it represents revenue to the program. The text box draws attention to the significant growth in the MassHealth budget relative to other components of the state budget, and notes further that even when funding from ARRA is terminated, the share of Medicaid in the total state budget remains high because of the declining revenue from taxes and the higher number of enrollees in Medicaid.

Sources of Funds: The Fair Share and Employer Free Rider Surcharges

The health reform law imposed several budgetary requirements on employers:

- The employer "fair share" contribution. This tax applied to employers who employ 11 or more full-time equivalent (FTE) employees. Employers meeting this minimum employment threshold must file a Fair Share Contribution (FSC) report. Employers liable to pay an FSC were required to pay up to $295 per FTE employee. Effective July 1, 2013, employers are no longer required to make a "fair share" contribution to employees' health insurance or collect employee Health Insurance Responsibility Disclosure forms. This repeal was timed to phase out the FSC to align with the ACA "pay-or-play" requirement; the one-year deferral of this ACA requirement did not affect the repeal. The state 2014 budget adds a new assessment on employers called the Employer Medical Assistance Contribution (EMAC), which applies to employers with more than five employees. The amount of the EMAC is 0.36% (i.e., 0.36 of 1%) on all wages up to the Massachusetts unemployment insurance taxable wage base, which is currently $14,000. Thus the maximum contribution per employee is $50.40.
- The employer free-rider surcharge is a tax included in the health reform law to "encourage enrollment in private coverage" [98] and the Section 125 requirement. For employers that do not offer a Section 125 plan, the surcharge is based on the provision of medical services to employees and dependents under the Health Safety Net (HSN). The amount of the surcharge varies with the amount of HSN payments allocable to their employees, between 20% of HSN payments (for employers with 11–25 employees) to 100% (for employers with more than 50 FTEs who use in excess of $150,000 in HSN services).
- A requirement that employers offer a Section 125 plan to allow employees to pay contributions on a pretax basis. This feature is available only for private employee coverage and is not offered to premium-paying consumers covered by the Commonwealth Care program or nongroup participants in Commonwealth Choice.
- Reporting requirements including the Health Insurance Responsibility Disclosure.

Results

The Massachusetts Division of Healthcare Finance and Policy (DHCFP; now renamed the Center for Healthcare Information and Analysis) provides annual reports on the Fair Share contribution; an example is a report from 2009 [99]. At the time, Massachusetts had 188,000 employers. Only about 12% of these employers were subject to the Fair Share Contribution

policy (the rest have fewer than 11 FTEs). Approximately 0.4% of all Massachusetts employers are required to pay a Fair Share Contribution. Unfortunately the estimates appear to be revised regularly and are provided below as a guide to their significance in the overall financing of health reform rather than as absolute numbers.

Table 5.4 Massachusetts Fair Share Contributions

Fiscal Year	No. of Noncompliant Firms	Fair Share Contribution Amount
2007	1,151	$14.8 million
2008	758	$14.4 million
2009	1,615	$16.5 million
2010	1,017	$20.4 million
2011	1,272	$18.4 million

Source: Massachusetts Center for Health Information and Analysis: "Fair Share Contribution and Employer Health Insurance Responsibility Disclosure: Filing Year 2011 Results and Analyses" [98] and [100].

Note: A DHCFP study published in 2011 [98] found that no employers were liable for the Free-Rider Surcharge and a high level of compliance with the Section 125 requirement.

Estimates of the Cost of Reform in Massachusetts

In the introduction to this chapter we discussed the components of increased cost (together with offsetting financial quantities) due to reform. The components identified were the following:

1. MassHealth (those previously eligible who had not enrolled)
2. MassHealth expansion categories
3. Commonwealth Care (newly enrolled in the program)
4. Newly enrolled lives who had previously declined employer group insurance
5. Newly enrolled lives in employer groups not previously offering insurance
6. Newly enrolled lives in Commonwealth choice
7. Newly enrolled lives in nongroup insurance who purchased directly from an insurer
8. Additional cost imposed on existing employers and members by the requirements of Minimum Creditable Coverage.

Offsetting these sources of cost are the following:

1. Federal government, through the Medicaid match and Section 1115 waiver
2. Reduction in uncompensated care (HSN trust fund)

3. A tobacco tax imposed in 2009 to fund Commonwealth Care
4. Premiums and cost sharing from members
5. Subsidies from employers
6. The “free-rider surcharge” imposed on employers that did not offer health insurance.

Below we estimate these items from available data. Some items cannot be estimated (for example, the additional cost borne by employers and members due to the imposition of Minimum Creditable Coverage). Table 5.1 showed the cost of different state health programs over time. Table 5.5 extracts data from Table 5.1 and compares 2006 (the last year before reform) and 2012, a year after the reform, which allows for the temporary effect of the recession (and additional payments under ARRA to have been absorbed).

Table 5.5 Comparison of Gross State Costs 2006 and 2012
$,000

	MassHealth	Comm Care	Uncompensated Care/ HSN	Other	Total
FY 2006	7,290,244	-	1,082,413	108,561	8,481,219
FY 2012	10,521,569	865,012	400,025	316,875	12,103,481

In Chapter 6 we estimate the gross cost (allowed charges) per MassHealth member per month in FY 2012 as $468.94 and the member cost sharing at $61.67 PMPM. Member contributions to MassHealth are de minimis, and we ignore them. We estimated the newly insured under prior eligibility to be 190,000 and those under expanded categories at 62,000. The total gross cost of the newly insured is $1.418 billion, offset by $186,500,000 in member cost sharing.

In gross terms the cost of health insurance (plus uncompensated care) for the government sector rose from $8.5 billion to $12.1 billion between 2006 and 2012. In addition, as discussed in Chapter 6 we have been able to identify approximately 100,000 newly insured Commercial lives, of whom about 41,000 were Commonwealth Choice program members and the balance (59,000) of whom were either covered by employer insurance or purchased individual insurance.

In Chapter 6 we show that in FY 2012, the allowed cost per member per month of the Commonwealth Choice program was $314.66. Offsetting this is $48.44 PMPM of member cost

sharing. We do not know the gross premium cost of these plans, but assuming that the loss ratio is 85%, the gross cost would be $370.19. Therefore the additional cost due to the coverage of Commonwealth Choice members is estimated to be $182 million in FY 2012. Assuming that the majority of these are self-paid members (Business Express, or small business coverage, accounts for only about 5,000 of the total enrollment), the vast majority of this cost is borne by the insureds themselves.

The average PMPM cost of Commercial coverage in 2012 was $268.98, implying a gross cost of $197,463,000 based on 52,000 additional covered lives. The member cost sharing amounts to $24.40 PMPM, and assuming that the average employer subsidy is 80% of gross cost, the member share would be $39,493,000 + $15,226,000 or $54,719,000.

We estimate the additional costs imposed by the reform in Table 5.6. Costs incurred by the MassHealth program (including Commonwealth Care) are a cost to the state; the state's charge is offset by some premium and cost-sharing revenue, federal matching funds, reduction in the cost of uncompensated care, specific revenue from tobacco sales tax, and the "free-rider" surcharge. We do not have data to allow us to estimate the effect on costs of minimum creditable coverage.

The cost to the state is (on a net basis) minor. Compared with FY 2006, the net cost to the state after all offsets and federal matching is estimated at less than $100 million. The cost to other parties is, however, a different matter. It has long been believed in Massachusetts that the financial effect of the reform was not significant because of the offsets built into the law, particularly the offset from reduced uncompensated care. Our estimates certainly show that indeed the net financial effect for the state was minor.

Specifically, the federal government assumed over $1 billion in additional cost ($1.141 billion). Smokers were particularly hard-hit, paying an additional $130 million. The cost to employers and the previously uninsured is, however, often overlooked. Including the free-rider surcharge, we estimate that employers and the newly insured bore $805 million in additional cost.

Table 5.6 Estimated Costs Imposed by Reform

	Gross Cost	Federal Offset	Member Contributions/ cost-sharing	Net Cost (State)	Member /Employer Cost
MassHealth (those previously eligible who had not enrolled);	1,069,183,200	(534,591,600)	(140,607,600)	393,984,000	140,607,600
MassHealth expansion categories;	348,891,360	(174,445,680)	(45,882,480)	128,563,200	45,882,480
Commonwealth Care (newly-enrolled in the program);	865,012,000	(432,506,000)	(63,000,000)	369,506,000	63,000,000
Newly-enrolled lives who had previously declined employer group insurance;	-	-	-	-	-
Newly-enrolled lives in employer groups not previously offering insurance;	224,044,518	-	(43,345,704)	-	224,044,518
Newly-enrolled lives in Commonwealth choice; and	155,691,953	-	(155,691,953)	-	155,691,953
Newly-enrolled lives in non-group insurance who purchased directly from an insurer;	-	-	-	-	-
Additional cost imposed on existing employers and members by the requirements of Minimum Creditable Coverage.	-	-	-	-	-
	$2,662,823,031	$(1,141,543,280)	$ (448,527,736)	$892,053,200	$ 629,226,551
Offsetting Amounts:					
- Reductions in Uncompensated Care (HSN)*	(682,388,000)				
- Tobacco Tax Revenue **	(130,000,000)				
- Free-rider Surcharge***	(20,000,000)				
Net Cost	$1,830,435,031	$(1,141,543,280)	$ (448,527,736)	$ 59,665,200	$ 629,226,551
* Estimated as difference in costs between FY 2006 and FY 2012					
** Estimated from change in gross receipts FY 2008 and FY 2012					
*** Actual receipts not available; projected from prior years					

History of Capitation Payments for Commonwealth Care

When the Connector was established in 2006, because of the needs of state budgets and contracts with insurers, a pressing requirement was to establish capitation rates. In addition, some early policy decisions were made regarding the financial operation of the program:

- The Connector would contract with the existing MCOs serving the Medicaid Managed Care program:[46] BMCHP, Network Health (CHA), Fallon Community Health Plan and Neighborhood Health Plan. This decision was taken in part because of the similarity between Commonwealth Care and MassHealth populations and benefits, and partly for convenience: The state had working relationships and contracts in place with the MCOs.
- The Connector would operate a capitated (risk-taking) system rather than a self-insured or fee-for-service system.
- The Connector would auto-assign those members for whom it had records. This consisted mostly of those citizens ineligible for MassHealth but who were part of the HSN. The "guarantee" of a certain block of lives that would enroll early in the program was a significant inducement to the MCOs to enter into the risky venture of bidding fixed rates on an unknown population.
- The Connector introduced an important risk-mitigation device (subsequently adopted by the ACA), the "3 R's." As described in Chapter 3 the Connector's version of the 3 R's is somewhat different than the federal version, but the principle is the same: Reinsurance (an experience-rated pool managed by the Connector and financed by the MCOs),[47] a risk adjustment process that adjusts the basic capitation rate to match the average risk mix of the MCOs' enrollment, and a Risk Corridor arrangement that shifts funding from plans that experience surpluses outside a corridor to plans that experience deficits (again, outside a corridor).[48]

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[46] At this time, MassHealth operated a dual system of fee-for-service Medicaid and contracts with Medicaid Managed Care Organizations. The enrollment in each arm of the program was approximately equal.

[47] As described in Chapter 3, financing of the ACA Reinsurance arrangement draws on a much wider base than the Massachusetts version. It is also a temporary arrangement, unlike the (permanent) Massachusetts Reinsurance program.

[48] The Massachusetts Risk Corridor program (described in Chapter 3) is different in detail but not in concept from that in the ACA program. However, the Massachusetts program is simpler in the sense that enrollees in Commonwealth Care have only one degree of freedom: They may choose their MCO, but not their benefit level or share of cost. Thus the type of bias in the ACA risk corridor program identified in Society of Actuaries research (see, for example, Norris et al. [69]) is not present in Massachusetts.

Commonwealth Care was a new program in the first year (2006–2007) presenting the Connector with a challenge to set a reasonable capitation rate that neither overcompensated MCOs nor risked their financial integrity with rates that were too low. The risk profile and likely utilization of the population that would enroll in Commonwealth Care was unknown. Proxy data, however, were available from Medicaid managed care (MassHealth) and from the uncompensated care pool (HSN). The Connector also wanted to ensure rate stability between MCOs, by avoiding a high degree of variation between rates offered by different MCOs. Therefore, MCOs were requested to bid rates using the Medicaid method of bidding within the "actuarially sound rate range": MCOs were able to bid within the (high/low) actuarial range, but not outside the range. The Connector selected all four MCOs (although not all MCOs were offered in each county or service area) and their rates. Capitation rates were adjusted prospectively on a monthly basis depending on the geographic region, age-sex composition and plan type of the MCO's enrollees. Beginning in FY 2010, age-sex adjustment was replaced by condition-based adjustment based on DxCG's Medicaid model.

Rate changes varied considerably between years, making the estimation of a long-term trend rate difficult. However, defining trend as

$$(\text{FY 2013 Cap Rate}/\text{FY 2007 Cap Rate})^{1/6}$$

the annualized capitation trend is approximately zero. This low average capitation trend is due to negative rate changes in FY 2012 and FY 2013. Excluding the reduction years of FY 2012–2013, rate increases between FY 2007 and FY 2011 average 4.9%, still relatively low by Commercial insurance standards.

The initial average capitation rate ($354.07) proved to be robust, despite the relatively low enrollment in the first partial year. Rates remained essentially unchanged into the first full fiscal year of the program (FY 2008), suggesting that rates may initially have been set too high. However, the nature of enrollees changed over time: Initially claims showed some effect of pent-up demand and the auto-assignment of the higher-risk (because claiming) HSN population. Later enrollments consisted of members who were not health service users (via the Health Safety Net). We will look at this in more detail in Chapter 6. MCOs may, as a result, have bid rates that were too low for FY 2008 because rates rose significantly for FY 2009. As we show later (in Table 5.11) for the program as a whole, FY 2007 and FY 2008 were marginally profitable years for the MCOs. With the emerging experience, however, it appears that the MCOs were able to predict rates more accurately, and FY 2009 was more profitable, representing the high-water mark for the program in terms of insurer profitability.

Table 5.7 Commonwealth Care Enrollment and Capitation Rates by Plan

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
	Oct. 1, 2006– June 30, 2007	July 2007– June 2008	July 2008– June 2009	July 2009– June 2010	July 2010– June 2011	July 2011– June 2012	July 2012– June 2013 (Not Final)
Member Months							
BMC	145,128	747,633	871,180	745,987	664,294	478,179	843,417
	-	-	-	207,562	251,302	114,424	-
CeltiCare	-	-	-	24,779	160,610	312,459	283,188
Fallon	7,436	54,434	112,017	110,447	69,945	59,793	49,761
Network Health	151,878	696,778	659,640	598,061	550,321	701,687	876,764
NHP	60,972	281,122	378,220	409,020	441,250	436,835	370,351
Adjustment	0	0	11	0	0	0	0
Total (excl. Bridge)	**365,414**	**1,779,967**	**2,021,068**	**1,888,294**	**1,886,420**	**1,988,953**	**2,423,481**
Total (incl. Bridge)	**365,414**	**1,779,967**	**2,021,068**	**2,095,856**	**2,137,722**	**2,103,377**	**2,423,481**
Capitation Rates							
BMC	$ 349.94	$ 345.47	$ 382.23	$ 386.73	$ 418.18	$ 463.27	$ 335.30
Bridge Program (Celticare)	-	-	-	-	-	-	-
CeltiCare	$ -	$ -	$ -	$ 360.19	$ 345.45	$ 321.98	$ 304.51
Fallon	$ 401.76	$ 396.63	$ 438.61	$ 419.78	$ 476.20	$ 484.76	$ 446.71
Network Health	$ 339.55	$ 339.74	$ 407.57	$ 402.41	$ 444.24	$ 353.50	$ 337.58
NHP	$ 394.27	$ 388.70	$ 410.71	$ 400.93	$ 439.43	$ 467.64	$ 475.32
Adjustment							
Total	$ 354.07	$ 351.62	$ 400.70	$ 396.36	$ 426.71	$ 403.95	$ 356.21
Rate Trend		−0.7%	14.0%	−1.1%	7.7%	−5.3%	−11.8%

Source: Massachusetts Connector Data. The average capitation rate is calculated on a member months weighted basis.

Because of state budget problems in 2011, a new bidding strategy was adopted for FY 2012. The restriction on bidding within the actuarially reasonable rate range was removed (as long as a plan was able to justify the final bid). The result was rates that varied considerably between MCOs, but averaging overall 5% less than the prior year. The results are obvious in FY 2012: CeltiCare and Network Health bid aggressively and gained membership, while BMC maintained the traditional "historical rate + trend" bidding strategy and lost significant numbers of lives. The result of this strategy was not lost on BMC in FY 2013, where it was the lowest bidder by a significant margin. Its competitive bid in 2013 resulted in recovering its prior

membership and more. Despite the more aggressive bidding and lower capitation rates, FY 2012 was essentially a break-even year in terms of profitability for the MCOs as a whole.

Commonwealth Care Member Contributions

Member contributions for members in Plan Types IIB (151–200% FPL), IIIA (201–250% FPL) and IIIB (251–300% FPL) were initially low as a percentage of total capitation but have grown steadily. Contributory members now pay 17–18% of the average capitation rate. Initially the program enrolled noncontributory members only and assigned members who were participating in the HSN program; contributory members have been enrolled only since the start of 2007. Thus we would expect the percentage of noncontributory members under 150% FPL to decline over time (from 87% in 2007 to 67% in 2013) as the contributory membership grows with more enrollments. Overall, member contributions to the program, while increasing, remain a small component of program financing. Although this is a fairly high percentage of the cost of the insurance, these contributions still fall within the Affordability Schedule limits (plus any marginal cost for the chosen MCO, if higher). We also need to keep in mind that the underlying benefit design includes very low copays and no deductibles.

In Table 5.8 we show member contributions for the Commonwealth Care program, which amounted to an estimated $63 million in FY 2012.

Table 5.8 Member Contributions for Contributory Commonwealth Care Plans

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
	Oct. 1, 2006–June 30, 2007	July 2007–June 2008	July 2008–June 2009	July 2009–June 2010	July 2010–June 2011	July 2011–June 2012	July 2012–June 2013
Member Contributions							
Contrib. Member Months	50,384	433,802	653,589	782,676	940,989	864,707	1,042,179
Contrib. Membership %	13.8%	24.4%	32.3%	41.4%	49.9%	43.5%	43.0%
Contribs. as % of Total Cost	1.6%	3.9%	5.1%	5.6%	6.6%	7.8%	7.4%
Ave. Member Contributions	$5.51	$13.69	$20.49	$22.21	$28.26	$31.66	$26.21
Ave. Member Contribs. per Contrib. Member PM	$39.94	$56.16	$63.35	$53.58	$56.65	$72.82	$60.96
Member Contribs. as % of Capitation Rate	11.3%	16.0%	15.8%	13.5%	13.3%	18.0%	17.1%
Annual Percentage Change Gross Cap	-	-0.7%	14.0%	−1.1%	7.7%	−5.3%	−11.8%
Annual Percentage Change Member Contribution	-	40.6%	12.8%	−15.4%	5.7%	28.5%	−16.3%

Table 5.8 shows clearly the effects of increasing capitation rates combined with the increasing affordability schedule. Increases in contributions have almost always exceeded the increase in the underlying capitation rate. The compound average growth rate in member contributions (9.1% p.a.) between FY 2007 and FY 2011 (the last year prior to change in contracting policy) is higher than that of the premiums over this period (4.8%). Even over the period FY 2007 to FY 2013 in which capitation rates did not increase, the compound average growth rate in member contributions is 7.3% annually.

Commonwealth Care Health Plan Experience

Stop-Loss

As discussed previously, the Connector instituted a risk-management program later adopted by the ACA and renamed the "3 R's" consisting of reinsurance (Stop-Loss), Risk Corridors and Risk Adjustment.

Table 5.9 Cumulative Cost of the Stop-Loss Reinsurance Program

	Cumulative Cost[a] of Stop Loss	Cumulative Capitation	Cost as % of Capitation
BMC	$ 6,522,271	$ 1,712,672,591	0.4%
CeltiCare	$ (255,497)	$ 251,247,329	−0.1%
Fallon	$ (1,397,735)	$ 204,594,555	−0.7%
Network Health	$ 595,022	$ 1,586,305,526	0.0%
Neighborhood Health	$ (5,951,300)	$ 1,026,854,456	−0.6%
	$ (487,239)	$ 4,781,674,457	0.0%

Source: Massachusetts Connector Data.

[a]A positive number denotes a *payment into* the stop-loss pool; a negative number denotes a *recovery from* the stop-loss pool.

The initial rate set for the stop-loss facility, approximately 4% of capitation rates, proved to be excessive and was reduced in subsequent years. To some degree the rate was not a concern because the pool was experience rated: As Table 5.9 shows, some MCOs recovered substantial amounts in some years (Surplus/Deficit distribution). Over the seven years of experience, the pool ran a very tiny surplus, and the effective rate paid by the MCOs, net of recoveries (and a small interest payment), averaged less than 1% (positive or negative, depending on whether a plan was a net payer or recipient of stop-loss proceeds). BMC (and to a very minor extent Network Health) was the only plan to be in a net contribution position, with all other MCOs either breaking even or net recipients of stop-loss proceeds.

Stop-loss experience by MCO and by year is shown in Table 5.10.

Table 5.10 Stop-Loss Pool Experience by MCO and by Year

	FY2007 Oct1,2006-June30,2007	FY2008 Jul 2007 - June2008	FY2009 July2008 - June2009	FY2010 July2009-June2010	FY2011 July2010-June2011	FY2012 July2011-June2012	FY2013 July2012-June 2013	TOTAL
BMC								
Stop Loss %	3.8%	0.7%	1.3%	1.2%	1.0%	1.0%	1.0%	1.1%
Stop Loss Contribution	$ 1,936,686	$ 1,926,701	$ 4,174,198	$ 3,606,171	$ 2,776,877	$ 2,212,432	$ 2,828,000	$ 19,461,065
Stop Loss Recoveries	$ (544,981)	$ (1,378,852)	$ (1,187,180)	$ (1,022,086)	$ (2,275,561)	$ (256,357)	$ (1,481,099)	$ (8,146,115)
Surplus/Deficit Distribution	$ (415,204)	$ 669,511	$ (1,982,442)	$ (1,204,350)	$ 30,455	$ (1,131,480)	$ (759,170)	$ (4,792,680)
Net cost of Stop Loss	$ 976,501	$ 1,217,360	$ 1,004,576	$ 1,379,735	$ 531,772	$ 824,596	$ 587,730	$ 6,522,271
CeltiCare								
Stop Loss %	-	-	-	1.3%	1.0%	1.0%	1.0%	1.0%
Stop Loss Contribution	-	-	-	$ 111,563	$ 554,820	$ 998,841	$ 862,329	$ 2,527,553
Stop Loss Recoveries	-	-	-	$ (213)	$ (105,782)	$ (627,681)	$ (1,265,695)	$ (1,999,371)
Surplus/Deficit Distribution	-	-	-	$ (37,124)	$ 6,132	$ (510,826)	$ (241,862)	$ (783,680)
Net cost of Stop Loss	$ -	$ -	$ -	$ 74,226	$ 455,171	$ (139,666)	$ (645,227)	$ (255,497)
Fallon								
Stop Loss %	4.6%	0.8%	1.3%	1.3%	1.0%	1.0%	1.0%	1.2%
Stop Loss Contribution	$ 136,358	$ 174,032	$ 621,791	$ 579,550	$ 333,017	$ 288,652	$ 222,295	$ 2,355,695
Stop Loss Recoveries	$ (588,437)	$ (749,257)	$ (214,866)	$ (873,685)	$ (307,176)	$ (199,115)	$ (157,251)	$ (3,089,788)
Surplus/Deficit Distribution	$ (29,349)	$ 60,478	$ (294,910)	$ (193,550)	$ 3,659	$ (147,622)	$ (62,348)	$ (663,642)
Net cost of Stop Loss	$ (481,429)	$ (514,747)	$ 112,015	$ (487,685)	$ 29,500	$ (58,085)	$ 2,696	$ (1,397,735)
Network Health								
Stop Loss %	3.6%	0.7%	1.2%	1.3%	1.0%	1.0%	1.0%	1.1%
Stop Loss Contribution	$ 1,864,871	$ 1,738,858	$ 3,354,370	$ 3,008,319	$ 2,443,877	$ 2,475,473	$ 2,959,786	$ 17,845,554
Stop Loss Recoveries	$ (1,708,843)	$ (3,025,546)	$ (2,361,194)	$ (2,603,770)	$ (2,481,388)	$ (101,063)	$ (505,318)	$ (12,787,122)
Surplus/Deficit Distribution	$ (399,143)	$ 604,229	$ (1,594,626)	$ (1,004,509)	$ 26,790	$ (1,266,004)	$ (830,147)	$ (4,463,410)
Net cost of Stop Loss	$ (243,115)	$ (682,460)	$ (601,450)	$ (599,960)	$ (10,721)	$ 1,108,406	$ 1,624,321	$ 595,022
Neighborhood Health								
Stop Loss %	3.6%	0.7%	1.3%	1.3%	1.0%	1.0%	1.0%	1.1%
Stop Loss Contribution	$ 864,684	$ 801,702	$ 1,994,175	$ 2,049,873	$ 1,938,197	$ 2,040,767	$ 1,760,388	$ 11,449,787
Stop Loss Recoveries	$ (1,033,510)	$ (1,222,782)	$ (1,784,618)	$ (1,781,976)	$ (2,990,514)	$ (2,732,332)	$ (2,802,149)	$ (14,347,882)
Surplus/Deficit Distribution	$ (185,001)	$ 278,585	$ (946,193)	$ (684,482)	$ 21,318	$ (1,043,687)	$ (493,745)	$ (3,053,205)
Net cost of Stop Loss	$ (353,828)	$ (142,495)	$ (736,636)	$ (416,586)	$ (1,030,998)	$ (1,735,252)	$ (1,535,506)	$ (5,951,300)
TOTAL								
Stop Loss %	3.7%	0.7%	1.3%	1.3%	1.0%	1.0%	1.0%	1.1%
Stop Loss Contribution	$ 4,802,598	$ 4,641,293	$10,144,534	$ 9,355,476	$ 8,046,789	$ 8,016,166	$ 8,632,799	$ 53,639,655
Stop Loss Recoveries	$ (3,875,771)	$ (6,376,438)	$ (5,547,858)	$ (6,281,730)	$ (8,160,421)	$ (3,916,548)	$ (6,211,512)	$ (40,370,277)
Surplus/Deficit Distribution	$ (1,028,698)	$ 1,612,803	$ (4,818,171)	$ (3,124,015)	$ 88,355	$ (4,099,618)	$ (2,387,273)	$ (13,756,617)
Net cost of Stop Loss	$ (101,871)	$ (122,342)	$ (221,495)	$ (50,270)	$ (25,276)	$ 0	$ 34,014	$ (487,239)

Health Plan Profit (Loss) Experience

Summary information for the MCOs is provided in Table 5.11. This table shows experience in aggregate; comparative experience of individual MCOs is provided in Table 5.12.

Table 5.11 Aggregate Profit (Loss) Experience by Year

	$ Millions							
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
	Oct. 1, 2006–June 30, 2007	July 2007–June 2008	July 2008–June 2009	July 2009–June 2010	July 2010–June 2011	July 2011–June 2012	July 2012–June 2013	TOTAL
TOTAL								
Capitation	$ 129.4	$ 625.9	$ 806.3	$ 748.4	$ 805.0	$ 803.4	$ 863.3	$ 4,781.7
Net Stop-Loss	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ (0.0)	$ (0.0)	$ 0.5
Revenue	$ 129.5	$ 626.0	$ 806.5	$ 748.5	$ 805.0	$ 803.4	$ 863.2	$ 4,782.2
Total Medical Costs	$ 111.1	$ 555.1	$ 693.6	$ 712.2	$ 722.4	$ 737.5	$ 860.1	$ 4,392.0
Expenses	$ 16.8	$ 55.3	$ 72.8	$ 58.3	$ 59.5	$ 67.5	$ 79.6	$ 409.8
Profit/(Loss)	$ 1.5	$ 15.6	$ 40.2	$ (22.0)	$ 23.0	$ (1.5)	$ (76.5)	$ (19.7)
Aggregate Risk Share	$ 0.3	$ (1.1)	$ (14.9)	$ 7.3	$ (9.9)	$ (0.5)	$ 15.4	$ (3.5)
Profit/Loss after Risk Share	$ 1.8	$ 14.5	$ 25.3	$ (14.7)	$ 13.1	$ (2.0)	$ (61.1)	$ (23.1)
Expenses/Capitation	13.0%	8.8%	9.0%	7.8%	7.4%	8.4%	9.2%	8.6%
Profit (Loss)/Capitation	1.4%	2.3%	3.1%	−2.0%	1.6%	−0.2%	−7.1%	−0.5%

The capitation amounts reported above represent aggregate payments by the Connector to the MCOs. Details of the net stop-loss payments are provided in Table 5.12. Total medical costs and expenses are reported by MCOs to the Connector. Profit (loss) amounts are before risk sharing (Risk Corridor, the second of the "three R's" that applies in the Massachusetts program, which is reported as "Aggregate Risk Share"). The effect of the aggregate risk share varies by year; in years in which the plans are overall profitable, net payments were made to the other plans; in years in which the plans were overall loss-making, net recoveries are paid, but these were insufficient to offset the overall losses for the seven years of the program. In aggregate, over seven years, the MCOs made a loss of 0.5% of capitation. Expenses as a percentage of capitation declined in the early years of the program, as MCOs became more accustomed to managing the population, but rose in the last two years as efficiency failed to offset declining capitation rates.

Individual MCO results, however, were more volatile. Table 5.12 shows similar data to Table 5.11 but for individual MCOs.

Table 5.12 MCO Profit (Loss) by Year

	$ millions							
	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	
	Oct1,2006-June30,2007	Jul 2007 - June2008	July2008 - June2009	July2009-June2010	July2010-June2011	July2011-June2012	July2012-June 2013	TOTAL
BMC								
Capitation	$ 50.8	$ 258.3	$ 333.0	$ 288.5	$ 277.8	$ 221.5	$ 282.8	$ 1,712.7
Net Stop-loss	$ (1.0)	$ (1.2)	$ (1.0)	$ (1.4)	$ (0.5)	$ (0.8)	$ (0.6)	$ (6.5)
Revenue	$ 49.8	$ 257.1	$ 332.0	$ 287.1	$ 277.3	$ 220.7	$ 282.2	$ 1,706.2
Total Medical Costs	$ 43.8	$ 222.6	$ 278.9	$ 265.0	$ 248.1	$ 189.8	$ 306.0	$ 1,554.1
Expenses	$ 8.2	$ 27.9	$ 31.3	$ 22.2	$ 18.1	$ 15.1	$ 25.6	$ 148.5
Profit / Loss	$ (2.2)	$ 6.6	$ 21.7	$ (0.1)	$ 11.1	$ 15.8	$ (49.4)	$ 3.5
Aggregate Risk Share	$ -	$ (0.7)	$ (9.0)	$ -	$ (1.7)	$ (3.7)	$ 14.7	$ (0.5)
Profit / Loss After Risk Share	$ (2.2)	$ 5.8	$ 12.7	$ (0.1)	$ 9.3	$ 12.1	$ (34.6)	$ 3.1
Expenses/Capitation	16.2%	10.8%	9.4%	7.7%	6.5%	6.8%	9.0%	8.7%
Profit (Loss)/Capitation	-4.3%	2.3%	3.8%	0.0%	3.4%	5.5%	-12.3%	0.2%
CeltiCare								
Capitation	$ -	$ -	$ -	$ 8.9	$ 55.5	$ 100.6	$ 86.2	$ 251.2
Net Stop-loss	$ -	$ -	$ -	$ (0.1)	$ (0.5)	$ 0.1	$ 0.6	$ 0.3
Revenue	$ -	$ -	$ -	$ 8.9	$ 55.0	$ 100.7	$ 86.9	$ 251.5
Total Medical Costs	$ -	$ -	$ -	$ 4.7	$ 31.4	$ 96.9	$ 81.2	$ 214.3
Expenses	$ -	$ -	$ -	$ 1.2	$ 6.1	$ 11.4	$ 10.9	$ 29.5
Profit / Loss	$ -	$ -	$ -	$ 2.9	$ 17.6	$ (7.6)	$ (5.2)	$ 7.7
Aggregate Risk Share	$ -	$ -	$ -	$ (1.5)	$ (10.4)	$ 1.6	$ -	$ (10.3)
Profit / Loss After Risk Share	$ -	$ -	$ -	$ 1.4	$ 7.2	$ (6.0)	$ (5.2)	$ (2.6)
Expenses/Capitation	$ -	$ -	$ -	13.2%	11.0%	11.3%	12.6%	11.7%
Profit (Loss)/Capitation	-	-	-	15.8%	12.9%	-5.9%	-6.1%	-1.0%
Fallon								
Capitation	$ 3.0	$ 21.6	$ 49.1	$ 46.4	$ 33.3	$ 29.0	$ 22.2	$ 204.6
Net Stop-loss	$ 0.5	$ 0.5	$ (0.1)	$ 0.5	$ (0.0)	$ 0.1	$ (0.0)	$ 1.4
Revenue	$ 3.5	$ 22.1	$ 49.0	$ 46.9	$ 33.3	$ 29.0	$ 22.2	$ 206.0
Total Medical Costs	$ 3.4	$ 21.7	$ 41.6	$ 47.6	$ 28.6	$ 28.4	$ 21.6	$ 192.8
Expenses	$ 0.3	$ 2.1	$ 5.7	$ 2.6	$ 4.1	$ 3.5	$ 2.5	$ 20.7
Profit / Loss	$ (0.2)	$ (1.6)	$ 1.7	$ (3.4)	$ 0.6	$ (2.8)	$ (1.9)	$ (7.5)
Aggregate Risk Share	$ 0.3	$ 0.1	$ (2.1)	$ 1.3	$ (0.9)	$ -	$ 0.2	$ (1.2)
Profit / Loss After Risk Share	$ 0.0	$ (1.5)	$ (0.4)	$ (2.1)	$ (0.3)	$ (2.8)	$ (1.7)	$ (8.7)
Expenses/Capitation	10.3%	9.5%	11.6%	5.7%	12.2%	12.0%	11.2%	10.1%
Profit (Loss)/Capitation	0.5%	-7.0%	-0.8%	-4.5%	-0.9%	-9.6%	-7.6%	-4.3%

Table 5.12 MCO Profit (Loss) by Year (cont.)

	$ millions							
	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	
	Oct1,2006-June30,2007	Jul 2007 - June2008	July2008 - June2009	July2009-June2010	July2010-June2011	July2011-June2012	July2012-June 2013	TOTAL
Network Health								
Capitation	$ 51.6	$ 236.7	$ 268.8	$ 240.7	$ 244.5	$ 248.0	$ 296.0	$ 1,586.3
Net Stop-loss	$ 0.2	$ 0.7	$ 0.6	$ 0.6	$ 0.0	$ (1.1)	$ (1.6)	$ (0.6)
Revenue	$ 51.8	$ 237.4	$ 269.4	$ 241.3	$ 244.5	$ 246.9	$ 294.4	$ 1,585.7
Total Medical Costs	$ 42.8	$ 209.1	$ 230.4	$ 225.5	$ 213.2	$ 218.1	$ 275.2	$ 1,414.2
Expenses	$ 5.4	$ 17.3	$ 22.8	$ 18.6	$ 16.4	$ 20.6	$ 25.1	$ 126.2
Profit / Loss	$ 3.5	$ 11.1	$ 16.2	$ (2.8)	$ 14.9	$ 8.3	$ (5.9)	$ 45.3
Aggregate Risk Share	$ -	$ (0.5)	$ (7.8)	$ -	$ (5.4)	$ -	$ -	$ (13.6)
Profit / Loss After Risk Share	$ 3.5	$ 10.6	$ 8.4	$ (2.8)	$ 9.6	$ 8.3	$ (5.9)	$ 31.6
Expenses/Capitation	10.5%	7.3%	8.5%	7.7%	6.7%	8.3%	8.5%	8.0%
Profit (Loss)/Capitation	6.9%	4.5%	3.1%	-1.2%	3.9%	3.3%	-2.0%	2.0%
Neighborhood Health								
Capitation	$ 24.0	$ 109.3	$ 155.3	$ 164.0	$ 193.9	$ 204.3	$ 176.0	$ 1,026.9
Net Stop-loss	$ 0.4	$ 0.1	$ 0.7	$ 0.4	$ 1.0	$ 1.7	$ 1.5	$ 6.0
Revenue	$ 24.4	$ 109.4	$ 156.1	$ 164.4	$ 194.9	$ 206.0	$ 177.6	$ 1,032.8
Total Medical Costs	$ 21.1	$ 101.8	$ 142.6	$ 169.5	$ 201.2	$ 204.3	$ 176.0	$ 1,016.5
Expenses	$ 2.9	$ 8.0	$ 12.9	$ 13.6	$ 14.9	$ 17.0	$ 15.6	$ 84.9
Profit / Loss	$ 0.4	$ (0.4)	$ 0.6	$ (18.7)	$ (21.1)	$ (15.3)	$ (14.0)	$ (68.6)
Aggregate Risk Share	$ -	$ -	$ 4.0	$ 7.6	$ 8.5	$ 1.7	$ 0.4	$ 22.1
Profit / Loss After Risk Share	$ 0.4	$ (0.4)	$ 4.6	$ (11.1)	$ (12.7)	$ (13.6)	$ (13.6)	$ (46.5)
Expenses/Capitation	12.0%	7.3%	8.3%	8.3%	7.7%	8.3%	8.9%	8.3%
Profit (Loss)/Capitation	1.8%	-0.4%	2.9%	-6.8%	-6.5%	-6.7%	-7.7%	-4.5%

Although the overall profitability of the program has not varied much in the range 2% to 3% (with the exception of the most recent year, FY 2013), individual MCO results show greater variability. BMCHP has been consistently profitable (except for FY 2013), as has Network Health with the exception of FY 2010. Fallon Community Health Plan has been consistently unprofitable. New entrant CeltiCare was initially profitable but swung to unprofitability and remains so. The Risk-Sharing Corridor has resulted in significant transfers of revenue from CeltiCare to other plans.

Health Plan Viability and Solvency

The Commonwealth Care program, while relatively large for some plans, does not represent the most significant component of the MCOs' business. Three of the MCOs (BMC,

Network Health and Neighborhood Health Plan) represent significant contractors with the state for Medicaid and Commonwealth Care enrollees. Thus the profitability and viability of these MCOs, while important for their enrollees and providers, is critical for the state.

An element of a plan's expense that is frequently overlooked is the regulatory capital requirement, better known as Risk-Based Capital (RBC). A minimum level of RBC is required by state insurance regulators to demonstrate solvency (capital adequacy) to remain in business and is largely driven by premiums. A plan such as BMC, which added between $200 and $300 million in revenue as a result of Commonwealth Care, would generally need to demonstrate between 15% and 20% of premium income as free capital (that is, not committed to existing uses such as actuarial and other reserves) to demonstrate solvency. Capital does not appear to have been an issue for the MCOs at the start of the program. As the program grows, however, plans need to add to RBC from their retained earnings. Assuming a 5% trend (the historical average prior to the state's change in contracting strategy) and a 15% of premium capital requirement, a plan would need to add about 0.75% of premium to maintain its capital level. To do so, particularly in a not-for-profit environment such as that of the Massachusetts MCOs requires that plans earn at least this amount in gains each year. (A for-profit MCO would obviously have to earn a higher return because it would be adding to capital from its posttax surplus.) Clearly these MCOs are not earning at a sufficient level to grow their capital, at least on the Commonwealth Care portion of their business. Unlike national carriers, the Massachusetts MCOs are concentrated on a single state, and in the case of BMC, Network Health and Neighborhood Health plans, essentially a single payer (Massachusetts EOHHS). The lack of profitability, if it continues, and the lack of diversification of business (geographically and by payer type) could pose a threat to the continued solvency of these plans.

Member Plan Choice and Member Migration[49,50]

A consequence of the combination of competition between MCOs, changes in the Affordability schedule and changes in the Connector's contracting strategy, was fairly significant changes year-to-year in plan capitation rates and associated member contribution rates. Table 5.13 shows MCO capitation rates, member contributions (by plan type and fiscal year) and percentage change in member contributions from the prior year. Contributions sometimes also differed by geography; for simplicity we show the contributions for Greater Boston (which accounted for the largest subset of enrollment). Where rates differed by county within Greater Boston, we show the contribution range and use the mean in the rate increase calculation. Table 5.14 relates the changes in MCO enrollment at the beginning of the fiscal year to MCO member contribution rates in effect for each fiscal year and the change in the rate from the prior fiscal year (both absolute and as a percentage relative to the prior year). Both the rate changes and enrollment changes have been expressed as the difference between an MCO's rate change and the average increase for that plan type as a proxy for each MCO's competitiveness, relative to other MCOs within the plan type.[51] As an example of the volatility of member contributions, we illustrate in Table 5.15 the monthly member contributions required for the BMCHP for a member in Plan Type IIb (150–200% of FPL). Table 5.15 also shows where BMCHP ranked relative to other MCOs in each year in terms of member contributions. The effect of relative contribution competitiveness and changes in relative enrollment for this plan is also shown.

[49] We want to acknowledge the assistance of our colleague Stephane Guerrier Ph.D. with this section.
[50] A version of this section has been submitted to the *North American Actuarial Journal* and is currently under review.
[51] Note that this analysis is based on aggregate Connector data. Although a more sophisticated analysis is possible, incorporating information about the members (such as age, sex, region of residence etc.) the QCC dataset does not contain information at the individual level about plan type or MCO choice. We are therefore limited to an aggregate analysis.

Table 5.13 Member Contribution Rates and Rate Changes by Year and MCO (Greater Boston)

	RATES					ABSOLUTE CHANGE					% CHANGE				
Fiscal Year	2007										2007				
	BMC HealthNet	Celticare	Fallon Community	Neighbor hood Health	Network Health	BMC HealthNet	Celticare	Fallon Community	Neighbor hood Health	Network Health	BMC HealthNet	Celticare	Fallon Community	Neighbor hood Health	Network Health
Capitation	$ 349.94	n/a	$ 401.76	$ 394.27	$ 339.55										
I (<100% FPL)	$ -	n/a	$ -	$ -	$ -	n/a	n/a	n/a	n/a	n/a	-	-	-	-	-
IIa (100- 150% FPL)	$ -	n/a	$ -	$ -	$ -	n/a	n/a	n/a	n/a	n/a	-	-	-	-	-
IIb (150- 200% FPL)	$ 35.00	n/a	$ 96.20	$ 74.98	$ 35.00	n/a	n/a	n/a	n/a	n/a	-	-	-	-	-
III (200- 250% FPL)	$ 70.00	n/a	$ 94.01	$ 123.73	$ 74.63	n/a	n/a	n/a	n/a	n/a	-	-	-	-	-
IV (250- 300% FPL)	$ 105.00	n/a	$ 129.01	$ 158.73	$ 109.63	n/a	n/a	n/a	n/a	n/a	-	-	-	-	-
Fiscal Year	2008					2008					2008				
	BMC HealthNet	Celticare	Fallon Community	Neighbor hood Health	Network Health	BMC HealthNet	Celticare	Fallon Community	Neighbor hood Health	Network Health	BMC HealthNet	Celticare	Fallon Community	Neighbor hood Health	Network Health
Capitation	$ 345.47	n/a	$ 396.63	$ 388.70	$ 339.74						-1.3%	n/a	-1.3%	-1.4%	0.1%
I (<100% FPL)	$ -	n/a	$ -	$ -	$ -	$ -	n/a	$ -	$ -	$ -	-	n/a	-	-	-
IIa (100- 150% FPL)	$ -	n/a	$ 35.12	$ 29.55	$ -	$ -	n/a	$ 35.12	$ 29.55	$ -	-	n/a	-	-	-
IIb (150- 200% FPL)	$ 39.00	n/a	$ 109.23	$ 98.09	$ 39.00	$ 4.00	n/a	$ 13.03	$ 23.11	$ 4.00	11.4%	n/a	13.5%	30.8%	11.4%
III (200- 250% FPL)	$111-$149	n/a	$ 77.00	$77-$115	$111-$149	$ 60.00	n/a	$ (17.01)	$ (27.73)	$ 55.37	85.7%	n/a	-18.1%	-22.4%	74.2%
IV (250- 300% FPL)	$150-$188	n/a	$ 116.00	$116-$154	$150-$188	$ 74.00	n/a	$ (13.01)	$ (23.73)	$ 59.37	61.0%	n/a	-10.1%	-14.9%	54.2%
Fiscal Year	2009					2009					2009				
	BMC HealthNet	Celticare	Fallon Community	Neighbor hood Health	Network Health	BMC HealthNet	Celticare	Fallon Community	Neighbor hood Health	Network Health	BMC HealthNet	Celticare	Fallon Community	Neighbor hood Health	Network Health
Capitation	$ 382.23	n/a	$ 438.61	$ 410.71	$ 407.57						10.6%	n/a	10.6%	5.7%	20.0%
I (<100% FPL)	$ -	$ -	$ -	$ -	$ -	$ -	n/a	$ -	$ -	$ -	-	n/a	-	-	-
IIa (100- 150% FPL)	$ 5.84	$ -	$ 6.69	$ 6.89	$ -	$ 5.84	n/a	$ (28.43)	$ (22.66)	$ -	-	n/a	-81.0%	-76.7%	-
IIb (150- 200% FPL)	$ 50.44	$ 39.00	$ 52.11	$ 52.51	$ 39.00	$ 11.44	n/a	$ (57.12)	$ (45.58)	$ -	29.3%	n/a	-52.3%	-46.5%	-
III (200- 250% FPL)	$ 95.90	$ 77.00	$ 98.67	$ 99.33	$ 77.00	$ (44.10)	n/a	$ 21.67	$ 3.33	$ 77.00	-26.2%	n/a	28.1%	3.5%	-40.8%
IV (250- 300% FPL)	$ 144.24	$ 116.00	$ 148.37	$ 149.36	$ 116.00	$ (34.76)	n/a	$ 32.37	$ 14.36	$ (63.00)	-14.7%	n/a	27.9%	10.6%	-31.4%
Fiscal Year	2010					2010					2010				
	BMC HealthNet	Celticare	Fallon Community	Neighbor hood Health	Network Health	BMC HealthNet	Celticare	Fallon Community	Neighbor hood Health	Network Health	BMC HealthNet	Celticare	Fallon Community	Neighbor hood Health	Network Health
Capitation	$ 386.73	$ 360.19	$ 419.78	$ 400.93	$ 402.41						1.2%	n/a	-4.3%	-2.4%	-1.3%
I (<100% FPL)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-	-	-	-	-
IIa (100- 150% FPL)	$ 11.56	$ -	$ 12.18	$ 12.18	$ 10.38	$ 5.72	$ -	$ 5.49	$ 5.29	$ 10.38	97.9%	0.0%	82.1%	76.8%	100.0%
IIb (150- 200% FPL)	$ 58.91	$ 39.00	$ 59.97	$ 59.97	$ 56.88	$ 8.47	$ -	$ 7.86	$ 7.46	$ 17.88	16.8%	0.0%	15.1%	14.2%	45.8%
III (200- 250% FPL)	$ 107.93	$ 77.00	$ 109.57	$ 109.57	$ 104.78	$ 12.03	$ -	$ 10.90	$ 10.24	$ 27.78	12.5%	0.0%	11.0%	10.3%	36.1%
IV (250- 300% FPL)	$ 149.23	$ 116.00	$ 151.00	$ 151.00	$ 145.85	$ 4.99	$ -	$ 2.63	$ 1.64	$ 29.85	3.5%	0.0%	1.8%	1.1%	25.7%

RATES	BMC HealthNet	Celticare	Fallon Community	Neighbor hood Health	Network Health
Fiscal Year 2011					
Capitation	$ 418.18	$ 345.45	$ 476.20	$ 439.43	$ 444.24
I (<100% FPL)	$ -	$ -	$ -	$ -	$ -
IIa (100- 150% FPL)	$ 34.00	$ -	$ 27.00	$ 21.00	$ -
IIb (150- 200% FPL)	$ 91.00	$ 39.00	$ 80.00	$ 72.00	$ 39.00
III (200- 250% FPL)	$ 152.00	$ 77.00	$ 137.00	$ 125.00	$ 77.00
IV (250- 300% FPL)	$ 197.00	$ 116.00	$ 181.00	$ 167.00	$ 116.00
Fiscal Year 2012					
Capitation	$ 463.27	$ 321.98	$ 484.76	$ 467.64	$ 353.50
I (<100% FPL)	$ -	$ -	$ -	$ -	$ -
IIa (100- 150% FPL)	$ -	$ 12.00	$ 27.00	$ 28.00	$ 3.00
IIb (150- 200% FPL)	$ 40.00	$ 58.00	$ 81.00	$ 81.00	$ 45.00
III (200- 250% FPL)	$ 78.00	$ 105.00	$ 138.00	$ 138.00	$ 85.00
IV (250- 300% FPL)	$ 118.00	$ 147.00	$ 182.00	$ 182.00	$ 126.00
Fiscal Year 2013					
Capitation	$ 328.99	$ 355.90	$ 440.99	$ 474.22	$ 347.00
I (<100% FPL)	$ -	$ -	$ -	$ -	$ -
IIa (100- 150% FPL)	$ -	$ -	$ 28.00	$ 28.00	$ 3.00
IIb (150- 200% FPL)	$ 40.00	$ 40.00	$ 81.00	$ 81.00	$ 45.00
III (200- 250% FPL)	$ 78.00	$ 78.00	$ 138.00	$ 138.00	$ 85.00
IV (250- 300% FPL)	$ 118.00	$ 118.00	$ 182.00	$ 182.00	$ 126.00

	BMC HealthNet	Celticare	Fallon Community	Neighbor hood Health	Network Health
Fiscal Year 2011					
Capitation					
I (<100% FPL)	$ -	$ -	$ -	$ -	$ -
IIa (100- 150% FPL)	$ 22.44	$ -	$ 14.82	$ 8.82	$ (10.38)
IIb (150- 200% FPL)	$ 32.09	$ -	$ 20.03	$ 12.03	$ (17.88)
III (200- 250% FPL)	$ 44.07	$ -	$ 27.43	$ 15.43	$ (27.78)
IV (250- 300% FPL)	$ 47.77	$ -	$ 30.00	$ 16.00	$ (29.85)
Fiscal Year 2012					
Capitation					
I (<100% FPL)	$ -	$ -	$ -	$ -	$ -
IIa (100- 150% FPL)	$ (34.00)	$ 12.00	$ -	$ 7.00	$ 3.00
IIb (150- 200% FPL)	$ (51.00)	$ 19.00	$ 1.00	$ 9.00	$ 6.00
III (200- 250% FPL)	$ (74.00)	$ 28.00	$ 1.00	$ 13.00	$ 8.00
IV (250- 300% FPL)	$ (79.00)	$ 31.00	$ 1.00	$ 15.00	$ 10.00
Fiscal Year 2013					
Capitation					
I (<100% FPL)	$ -	$ -	$ -	$ -	$ -
IIa (100- 150% FPL)	$ -	$ (12.00)	$ 1.00	$ -	$ -
IIb (150- 200% FPL)	$ -	$ (18.00)	$ -	$ -	$ -
III (200- 250% FPL)	$ -	$ (27.00)	$ -	$ -	$ -
IV (250- 300% FPL)	$ -	$ (29.00)	$ -	$ -	$ -

% CHANGE	BMC HealthNet	Celticare	Fallon Community	Neighbor hood Health	Network Health
Fiscal Year 2011					
Capitation	8.1%	-4.1%	13.4%	9.6%	10.4%
I (<100% FPL)	-	-	-	-	-
IIa (100- 150% FPL)	194.1%	0.0%	121.7%	72.4%	-100.0%
IIb (150- 200% FPL)	54.5%	0.0%	33.4%	20.1%	-31.4%
III (200- 250% FPL)	40.8%	0.0%	25.0%	14.1%	-26.5%
IV (250- 300% FPL)	32.0%	0.0%	19.9%	10.6%	-20.5%
Fiscal Year 2012					
Capitation	10.8%	-6.8%	1.8%	6.4%	-20.4%
I (<100% FPL)	-	-	-	-	-
IIa (100- 150% FPL)	-100.0%	-	0.0%	33.3%	-
IIb (150- 200% FPL)	-56.0%	48.7%	1.3%	12.5%	15.4%
III (200- 250% FPL)	-48.7%	36.4%	0.7%	10.4%	10.4%
IV (250- 300% FPL)	-40.1%	26.7%	0.6%	9.0%	8.6%
Fiscal Year 2013					
Capitation	-29.0%	10.5%	-9.0%	1.4%	-1.8%
I (<100% FPL)	-	-	-	-	-
IIa (100- 150% FPL)	-	-100.0%	0.0%	0.0%	0.0%
IIb (150- 200% FPL)	0.0%	-31.0%	0.0%	0.0%	0.0%
III (200- 250% FPL)	0.0%	-25.7%	0.0%	0.0%	0.0%
IV (250- 300% FPL)	0.0%	-19.7%	0.0%	0.0%	0.0%

Table 5.14 Relative Contribution and Enrollment Changes by MCO and Plan Type

	Plan Type I					Plan Type IIa					Plan Type IIb				
2007	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute
BMC HealthNet	-0.1%	n/a	n/a	$ -	n/a	-14.5%	n/a	n/a	$0.00	n/a	-2.8%	n/a	n/a	$35.00	n/a
CeltiCare	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fallon	3.3%	n/a	n/a	$ -	n/a	119.8%	n/a	n/a	$0.00	n/a	14.5%	n/a	n/a	$96.20	n/a
Neighborhood	1.1%	n/a	n/a	$ -	n/a	128.7%	n/a	n/a	$0.00	n/a	2.4%	n/a	n/a	$74.98	n/a
Network Health	6.2%	n/a	n/a	$ -	n/a	64.3%	n/a	n/a	$0.00	n/a	2.5%	n/a	n/a	$35.00	n/a
TOTAL	-	n/a	n/a			-	n/a	n/a		n/a	-	n/a	n/a		n/a

	Plan Type I					Plan Type IIa					Plan Type IIb				
2008	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute
BMC HealthNet	0.1%	n/a	n/a	$ -	-	5.9%	n/a	n/a	$0.00	$0.00	11.9%	11.4%	-1.7%	$39.00	$4.00
CeltiCare	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	$0.00	n/a	n/a	n/a	n/a	n/a
Fallon	3.3%	n/a	n/a	$ -	-	-0.8%	n/a	n/a	$35.12	$0.00	5.3%	13.5%	0.5%	$109.23	$13.03
Neighborhood	0.4%	n/a	n/a	$ -	-	-8.2%	n/a	n/a	$29.55	$0.00	9.0%	30.8%	17.7%	$98.09	$23.11
Network Health	-0.7%	n/a	n/a	$ -	-	-2.9%	n/a	n/a	$0.00	$0.00	-14.7%	11.4%	-1.7%	$39.00	$4.00
TOTAL	-	n/a	0			-	n/a	-		$0.00	-	13.1%	-		

	Plan Type I					Plan Type IIa					Plan Type IIb				
2009	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute
BMC HealthNet	-5.8%	n/a	n/a	$ -	-	-3.9%	-	-	$5.84	$0.00	-4.8%	29.3%	22.2%	$50.44	$11.44
CeltiCare	n/a	n/a	n/a	$ -	n/a	n/a	-	-	$0.00	n/a	n/a	n/a	n/a	$39.00	n/a
Fallon	-5.2%	n/a	n/a	$ -	-	3.0%	-81.0%	-68.4%	$6.69	-$28.43	1.7%	-52.3%	-59.4%	$52.11	-$57.12
Neighborhood	15.1%	n/a	n/a	$ -	-	1.7%	-76.7%	-64.1%	$0.00	-$22.66	5.0%	-46.5%	-53.6%	$52.51	-$45.58
Network Health	-3.2%	n/a	n/a	$ -	-	4.2%	-	-	$6.89	$0.00	5.2%	0.0%	-7.1%	$39.00	$0.00
TOTAL	-	n/a	n/a			-	-12.6%	-			-	7.1%	-		

	Plan Type I					Plan Type IIa					Plan Type IIb				
2010	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute
BMC HealthNet	0.7%	n/a	n/a	$ -	-	-2.3%	97.9%	44.8%	$11.56	$5.72	-4.4%	16.8%	-9.3%	$58.91	$8.47
CeltiCare	-1.9%	n/a	n/a	$ -	n/a	63.0%	-	-	$0.00	n/a	228.2%	0.0%	-26.1%	$39.00	$0.00
Fallon	-29.0%	n/a	n/a	$ -	-	-29.9%	82.1%	28.9%	$12.18	$5.49	-34.2%	15.1%	-11.0%	$59.97	$7.86
Neighborhood	2.6%	n/a	n/a	$ -	-	6.8%	76.8%	23.6%	$12.18	$5.29	5.7%	14.2%	-11.8%	$59.97	$7.46
Network Health	2.5%	n/a	n/a	$ -	-	-4.5%	-	-	$10.38	$0.00	-2.6%	45.8%	19.8%	$56.88	$17.88
TOTAL	-	n/a	n/a			-	53.2%	-			-	26.1%	-		

2011	Plan Type I					Plan Type IIa					Plan Type IIb				
	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute
BMC HealthNet	-3.7%	n/a	n/a	$ -	-	-9.5%	194.1%	140.3%	$34.00	$22.44	-16.1%	54.5%	39.7%	$91.00	$32.09
CeltiCare	45.7%	n/a	n/a	$ -	-	1.3%	-	-	$0.00	$0.00	22.9%	0.0%	-14.8%	$39.00	$0.00
Fallon	-2.5%	n/a	n/a	$ -	-	-2.7%	121.7%	67.8%	$27.00	$14.82	-4.3%	33.4%	18.6%	$80.00	$20.03
Neighborhood	2.9%	n/a	n/a	$ -	-	8.8%	72.4%	18.6%	$21.00	$8.82	6.8%	20.1%	5.3%	$72.00	$12.03
Network Health	-3.2%	n/a	n/a	$ -	-	4.1%	-100.0%	-153.8%	$0.00	-$10.38	5.9%	-31.4%	-46.2%	$39.00	-$17.88
TOTAL	-	n/a	n/a			-	53.8%	-			-	14.8%	-		

2012	Plan Type I					Plan Type IIa					Plan Type IIb				
	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute
BMC HealthNet	20.2%	n/a	n/a	$ -	-	55%	-100%	-89%	$0.00	-$34.00	38.1%	-56.0%	-62.2%	$40.00	-$51.00
CeltiCare	-13.6%	n/a	n/a	$ -	-	-24%	-	-	$12.00	-	-25.5%	48.7%	42.6%	$58.00	$19.00
Fallon	-2.7%	n/a	n/a	$ -	-	-1%	4%	15%	$28.00	$1.00	-5.0%	1.3%	-4.9%	$81.00	$1.00
Neighborhood	7.2%	n/a	n/a	$ -	-	-1%	33%	45%	$28.00	$7.00	-5.3%	12.5%	6.3%	$81.00	$9.00
Network Health	-2.6%	n/a	n/a	$ -	-	-10%	-	-	$3.00	-	-4.5%	15.4%	9.2%	$45.00	$6.00
TOTAL	-	n/a	n/a			-	-11%	-			-	6.2%	-		

2013	Plan Type I					Plan Type IIa					Plan Type IIb				
	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute
BMC HealthNet	1.4%	n/a	n/a	$ -	-	-0.4%	-	-	$0.00	$0.00	1.3%	0.0%	2.3%	$40.00	$0.00
CeltiCare	-22.9%	n/a	n/a	$ -	-	-17.0%	-100.0%	-93.7%	$0.00	-$12.00	-22.2%	-31.0%	-28.7%	$40.00	-$18.00
Fallon	5.2%	n/a	n/a	$ -	-	0.6%	0.0%	6.3%	$28.00	$0.00	-3.8%	0.0%	2.3%	$81.00	$0.00
Neighborhood	16.9%	n/a	n/a	$ -	-	9.8%	0.0%	6.3%	$28.00	$0.00	7.9%	0.0%	2.3%	$81.00	$0.00
Network Health	-0.2%	n/a	n/a	$ -	-	0.0%	0.0%	6.3%	$3.00	$0.00	-0.1%	0.0%	2.3%	$45.00	$0.00

2007	Plan Type IIIa					Plan Type IIIb				
	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute
BMC HealthNet	-0.3%	n/a	n/a	$70.00	n/a	0.0%	n/a	n/a	$105.00	n/a
CeltiCare	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fallon	0.3%	n/a	n/a	$94.01	n/a	-9.0%	n/a	n/a	$129.01	n/a
Neighborhood	-0.9%	n/a	n/a	$123.73	n/a	-4.9%	n/a	n/a	$158.73	n/a
Network Health	0.7%	n/a	n/a	$74.63	n/a	2.6%	n/a	n/a	$109.63	n/a
TOTAL	-	n/a	n/a		n/a	-	n/a	n/a		n/a

2008	Plan Type IIIa					Plan Type IIIb				
	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute
BMC HealthNet	-24.0%	85.7%	19.3%	$130.00	$60.00	-19.1%	61.0%	13.7%	$169.00	$64.00
CeltiCare	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fallon	213.1%	-18.1%	-84.5%	$77.00	-$17.01	159.1%	-10.1%	-57.3%	$116.00	-$13.01
Neighborhood	145.3%	-22.4%	-88.9%	$96.00	-$27.73	116.4%	-14.9%	-62.2%	$135.00	-$23.73
Network Health	-31.4%	74.2%	7.7%	$130.00	$55.37	-29.0%	54.2%	6.9%	$169.00	$59.37
TOTAL	-	66%	-		n/a	-	47.3%	-		n/a

2009	Plan Type IIIa					Plan Type IIIb				
	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute
BMC HealthNet	-0.5%	-26.2%	-14.4%	$95.90	-$34.10	-2.3%	-14.7%	-10.1%	$144.24	-$24.76
CeltiCare	n/a	n/a	n/a	$77.00	n/a	n/a	n/a	n/a	$116.00	n/a
Fallon	-19.1%	28.1%	39.9%	$98.67	$21.67	-18.4%	27.9%	32.5%	$148.37	$32.37
Neighborhood	-5.8%	3.5%	15.3%	$99.33	$3.33	-6.1%	10.6%	15.2%	$149.36	$14.36
Network Health	21.2%	-40.8%	-29.0%	$77.00	-$53.00	23.1%	-31.4%	-26.8%	$116.00	-$53.00
TOTAL	-	-11.8%	-			-	-4.6%	-		

2010	Plan Type IIIa					Plan Type IIIb				
	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute
BMC HealthNet	-2.9%	12.5%	-7.2%	$107.93	$12.03	-1.9%	3.5%	-6.7%	$149.23	$4.99
CeltiCare	351.3%	0.0%	-19.8%	$77.00	$0.00	268.4%	0.0%	-10.1%	$116.00	$0.00
Fallon	-41.6%	11.0%	-8.7%	$109.57	$10.90	-45.9%	1.8%	-8.4%	$151.00	$2.63
Neighborhood	0.1%	10.3%	-9.5%	$109.57	$10.24	2.2%	1.1%	-9.0%	$151.00	$1.64
Network Health	-4.4%	36.1%	16.3%	$104.78	$27.78	-4.4%	25.7%	15.6%	$145.85	$29.85
TOTAL	-	19.8%	-			-	10.1%	-		

2011	Plan Type IIIa					Plan Type IIIb				
	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute
BMC HealthNet	-16.7%	40.8%	31.1%	$152.00	$44.07	-17.2%	32.0%	24.1%	$197.00	$47.77
CeltiCare	15.2%	0.0%	-9.7%	$77.00	$0.00	24.4%	0.0%	-7.9%	$116.00	$0.00
Fallon	-9.8%	25.0%	15.3%	$137.00	$27.43	-10.8%	19.9%	11.9%	$181.00	$30.00
Neighborhood	7.3%	14.1%	4.3%	$125.00	$15.43	5.3%	10.6%	2.7%	$167.00	$16.00
Network Health	7.8%	-26.5%	-36.3%	$77.00	-$27.78	7.4%	-20.5%	-28.4%	$116.00	-$29.85
TOTAL	-	9.7%	-			-	7.9%	-		

2012	Plan Type IIIa					Plan Type IIIb				
	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute
BMC HealthNet	49.5%	-48.7%	-51.8%	$78.00	-$74.00	52.5%	-40.1%	-42.1%	$118.00	-$79.00
CeltiCare	-31.5%	36.4%	33.3%	$105.00	$28.00	-35.0%	26.7%	24.7%	$147.00	$31.00
Fallon	-4.4%	0.7%	-2.4%	$138.00	$1.00	-6.4%	0.6%	-1.5%	$182.00	$1.00
Neighborhood	-7.1%	10.4%	7.3%	$138.00	$13.00	-10.1%	9.0%	7.0%	$182.00	$15.00
Network Health	-6.5%	10.4%	7.3%	$85.00	$8.00	-5.1%	8.6%	6.6%	$126.00	$10.00
TOTAL	-	3.1%	-			-	2.0%	-		

2013	Plan Type IIIa					Plan Type IIIb				
	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute	Member Δ Relative	Rate Change*	Rate Δ Relative	Absolute Rate	Rate Δ Absolute
BMC HealthNet	1.6%	0.0%	1.7%	$78.00	$0.00	2.1%	0.0%	1.4%	$118.00	$0.00
CeltiCare	-18.4%	-25.7%	-24.0%	$78.00	-$27.00	-19.6%	-19.7%	-18.3%	$118.00	-$29.00
Fallon	-2.9%	0.0%	1.7%	$138.00	$0.00	-4.9%	0.0%	1.4%	$182.00	$0.00
Neighborhood	5.2%	0.0%	1.7%	$138.00	$0.00	4.9%	0.0%	1.4%	$182.00	$0.00
Network Health	-0.8%	0.0%	1.7%	$85.00	$0.00	-0.6%	0.0%	1.4%	$126.00	$0.00
TOTAL	-	-1.7%	-			-	-1.4%	-		

Table 5.15 BMCHP Member Contributions and Relative Rank

Fiscal Year	Member Contribution (Monthly)	% Member Contribution Change	Relative Change	Rank	Relative Enrollment Change
2007	$35.00	n/a	n/a	1	n/a
2008	$39.00	11.4%	−1.7%	1	11.9%
2009	$50.44	29.3%	22.2%	3	−4.8%
2010	$58.91	16.8%	−9.3%	3	−4.4%
2011	$91.00	54.5%	39.7%	5	−16.9%
2012	$40.00	−56.0%	−62.2%	1	38.1%
2013	$40.00	0.0%	2.2%	1	1.3%

The rates, rate changes and enrollments allow us to test the responsiveness of members within each plan type to rates and rate changes. The structure of the Massachusetts program makes the analysis of member response a much simpler task than the typical employee health plan choice model because choice of plan type is not a variable within the Massachusetts model: Members are assigned to plan type based on income level. Thus the member's choices at each annual enrollment consist of choosing between different MCOs (and in the default case, being uninsured). In the aggregate data used for this analysis, the number of members choosing uninsurance is not an available variable, but given the very low rate of uninsurance in Massachusetts we do not consider this a concern.

We studied the elasticity of member response to changes in member contributions. In economics, elasticity is a measure of the response in one variable to a change in another variable. In this case we are measuring the response in the output variable (changers) to the input variable changes in relative prices (actually changes in relative member contributions, the "price" faced by the member of the health plan). Mathematically, this implies

$$\frac{\text{\% Change in Y}}{\text{\% Change in X}} = \frac{dY/Y}{dX/X}$$

where Y is the enrollment in a particular plan, X is the member contribution for that plan, dY is the change in membership as measured at open enrollment (July 1 each year) and dX is the

change in member contribution between the prior and current years. The advantage of measuring elasticity is that it is independent of monetary units, allowing comparisons to be made between different periods and different goods.

Prior Studies of Member Response to Rate Changes

Prior studies have examined the effect of price and other variables on plan choice within a multiple managed care plan environment. These studies differ from ours because lack of insurance or coverage by another plan, for example, that of a spouse, is a choice in employer plans. The plans available to consumers in these studies differ significantly in terms of network, degree of medical management (HMO and PPO plans are offered, for example) and benefit design, something that the authors do not attempt to incorporate into the relative cost of plan choice. There is a large literature looking at the effect of price on the decision to purchase insurance ([101]–[103]). Ericson and Starc [104] studied consumer plan choice in the Commonwealth Choice (unsubsidized) program. Those authors find that consumers "gravitate toward the cheapest and least generous plans." The authors do not, however, calculate an elasticity with respect to price. Some points of differentiation between this paper and the current study should be noted: The Commonwealth Choice block was a small one (enrollment did not exceed 20,000 in the period studied by Ericson and Starc), in addition to being unsubsidized. The authors also lack income information, changes in which presumably could affect decisions about plan choice. Thus their findings are not directly comparable to ours; the subsidy that Commonwealth Care members received implies a market much closer in structure to employer insurance, and studies of switching behavior in subsidized employer plans more relevant. Fewer authors have studied the effect of member contribution changes on plan choice and switching behavior. Bucmueller [106] examined the effect of changes on retiree choice in a large employer plan, finding elasticities in the range of −0.14 to −0.37, depending on the plan. Buchmueller's estimates are at the low end of those reported by earlier studies, which are in the range of −0.3 to −0.6. In addition to choice of plan, enrollees in studies by Buchmueller and other authors are faced with further decisions such as whether or not to purchase insurance at all, and what benefit plan design to choose, if the consumer does choose to purchase. A similar set of choices is faced by Dutch consumers in the study by Bolhaar, Van Der Klaar and Lindeboom. Indeed, Bolhaar et al. [106] examine several hypotheses, including antiselection and demand for larger amounts of insurance in response to lower prices, neither of which is possible in the Massachusetts case. The authors find evidence of antiselection (sicker individuals purchase more insurance) and a decreasing demand for insurance as price rises, but the latter effect is not quantified as an elasticity. In the Massachusetts case, being uninsured is not an option, and all Commonwealth Care plans offer the same benefit design (the only variable being member contribution). In an earlier study, Buchmueller and Feldstein [107] examined the effect of

price on switching between plans by employees of the University of California. Buchmueller and Feldstein do not calculate elasticities but instead model different scenarios. Member response to different levels of increases of between 0 and 30 ranges from a 5% to 30% probability of switching away from the plan increasing its premium. In a later paper, Strombom et al. [108] report estimated response to changes in absolute premiums for managed care plans that vary between −0.077 and −0.019, depending on the age and tenure of the insured (older employees being far less likely to switch plans). Royalty and Solomon [109] summarize their findings thus: "We find that employees are sensitive to price. Our estimates imply that insurers face an elastic demand for MCOs that would appear to have the potential to promote price competition. … We also find notable differences in price elasticities across groups with older and less healthy enrollees being less sensitive to price." Royalty and Solomon (who studied switching behavior among faculty at Stanford University) find price elasticity in the range of −0.3 to −0.6 for the entire population. They also find similar behavior to that reported by Strombom et al.: Younger and more recently hired employees were more likely to switch to another plan. All of these studies, however, take place within an environment of multiple choice between different plans and member choice between insuring, not insuring or insuring under a spouse plan.

Data

Data for this study consisted of membership (enrollment) numbers by month, Tables 5.13 and 5.14 show capitation rates and member contributions by MCO and year. Capitation rates are the same irrespective of plan type; the member contributions vary by plan type according to the Affordability Schedule. Plan Type I is noncontributory; participation in other plan types requires payment of increasing contributions according to income level. Finally, we also show the absolute and relative percentage change in member contributions. Table 5.13 shows how capitation rates by MCO fluctuated widely year-to-year, depending on the bidding strategy of the MCO. Table 5.14 shows the resulting relative percentage changes in membership at the end of the fiscal year. We measure the percentage change by comparing the number of members enrolled in June with the number enrolled in July, the first month of the following fiscal year. When the Connector was established, initial enrollment was limited to Type I plans in FY 2007; other member categories were added over the following year. Thus the increase in enrollment at the beginning of FY 2008 is small for Type I plans, while contributory plans continued to grow over FY 2008. Because of the growth of enrollment, and the fact that members cannot transition between plan types (except when income changes), we use the relative change in membership rather than absolute membership growth as the dependent variable in the analysis. We include an instrumental variable "pre-2012" to recognize the change in contracting strategy to a more competitive bidding arrangement after 2011.

Tables 5.13 and 5.14 show the outliers that are observed in some plans and years. Relative rate increases of between −100% and 194% occur in different years. One of the questions we address is the extent to which such significant changes in contributions result in movement of members between MCOs. Fallon and CeltiCare experienced large swings in membership, but one has a limited geographic footprint and the other is a start-up plan. If we look at an MCO and plan with large swings, such as Network Health, Plan Type IIA, we see contribution changes between 2008 and 2011 of 0%, 0%, 100% and −100%. In those years, changes in membership were −8.2%, 1.7%, 6.8% and 4.1%, respectively. In the case of this (heavily subsidized) plan type and MCO, significant changes in relative contributions did not cause much change in membership. Conversely, we note (Table 5.15) that BMC experienced greater volatility in its member contributions and membership. Looking at Plan Types IIIA and IIIB, relative contribution changes between 2011 and 2013 were +40.8%, −48.7% and 0% (IIIA) and +32.0%, −40.1% and 0% (IIIB). Membership changes were not volatile in these years: −16.7%, +49.5% and +1.6% (IIIA) and −17.2%, +52.5% and +2.1% (IIIB).

Because we have only aggregate data on plan selection, we cannot study the effect of other variables (age, sex, location and condition) on plan choice.

Modeling Consumer Choice

We tested the volatility of membership in different MCOs in response to changes in the relative contributions paid by members to the MCO. The response variable is the membership difference and the predictors are rate difference, company offering the insurance (MCO), plan type, year, absolute rate and absolute rate difference, as well as interactions between rate difference and year, rate difference and plan and rate difference and company. The model with 19 parameters was estimated using Mallows' M-estimator (see the Appendix for details). Most of the parameters of this initial model were found to be nonsignificant (at the 95% confidence level), and we therefore applied a backward selection method where the least significant variable was removed successively. The estimated (robust) parameters are shown in Table 15.17. As a comparison we also include the least-squares parameter estimates and residual variance. The least-squares and robust methods provide different results. In particular the least-squares residual variance is approximately five times larger since the impact of outliers is unbounded, indicating that robust methods should be employed in the context of this study. (A more detailed discussion of robust methods is provided in an Appendix to this chapter.)

The correlation matrix between the continuous variables given in Table 15.16 enables us to compare the estimated "classical" and robust models.

Table 5.16 Correlation Matrix of Continuous Variables

	Member Difference (%)		Rate Difference (%)		Absolute Rate ($)	
	Classical	Robust	Classical	Robust	Classical	Robust
Rate Difference (%)	−0.34	−0.42				
Absolute Rate ($)	−0.04	−0.27	0.16	0.05		
Absolute Difference ($)	−0.27	−0.44	0.62	0.65	0.26	0.37

The estimated parameters are presented in Table 5.17. As a comparison we also include the least-squares parameters and the estimated residual variance (denoted as σ_ε^2) and R^2 for both estimation approaches.

Table 5.17 Estimated Parameters for Member Migration Model

	Robust	Least-squares
(Intercept)	$6.9583 \cdot 10^{-2}$ $(3.03 \cdot 10^{-2})^{*}$	$7.5563 \cdot 10^{-2}$ $(1.25 \cdot 10^{-1})$
rate.dif	$2.3854 \cdot 10^{+2}$ $(1.01 \cdot 10^{+2})^{*}$	$-1.7744 \cdot 10^{+3}$ $(3.16 \cdot 10^{+2})^{***}$
comp (CeltiCare)	$-2.5975 \cdot 10^{-1}$ $(7.40 \cdot 10^{-2})^{***}$	$2.1192 \cdot 10^{-1}$ $(1.59 \cdot 10^{-1})$
comp (Fallon)	$-4.0413 \cdot 10^{-2}$ $(3.76 \cdot 10^{-2})$	$-3.1235 \cdot 10^{-1}$ $(1.46 \cdot 10^{-1})^{*}$
comp (Network Health)	$2.4083 \cdot 10^{-2}$ $(3.56 \cdot 10^{-2})$	$-2.4730 \cdot 10^{-1}$ $(1.46 \cdot 10^{-1})^{\cdot}$
comp (Neighborhood Health)	$-3.1504 \cdot 10^{-2}$ $(3.43 \cdot 10^{-2})$	$-2.4685 \cdot 10^{-1}$ $(1.42 \cdot 10^{-1})^{\cdot}$
plan (IIB)	$-4.0392 \cdot 10^{-2}$ $(3.26 \cdot 10^{-2})$	$9.8258 \cdot 10^{-2}$ $(1.28 \cdot 10^{-1})$
plan (IIIA)	$-6.6631 \cdot 10^{-2}$ $(3.29 \cdot 10^{-2})^{*}$	$1.6203 \cdot 10^{-1}$ $(1.28 \cdot 10^{-1})$
plan (IIIB)	$-5.9232 \cdot 10^{-2}$ $(3.36 \cdot 10^{-2})^{\cdot}$	$1.4244 \cdot 10^{-1}$ $(1.28 \cdot 10^{-1})$
abs.dif	$-4.1217 \cdot 10^{-3}$ $(5.95 \cdot 10^{-4})^{***}$	$5.9434 \cdot 10^{-4}$ $(2.37 \cdot 10^{-3})$
rate.dif:year	$-1.1868 \cdot 10^{-1}$ $(5.04 \cdot 10^{-2})^{*}$	$8.8206 \cdot 10^{-1}$ $(1.57 \cdot 10^{-1})^{***}$
rate.dif:comp (CeltiCare)	$4.1863 \cdot 10^{-1}$ $(1.83 \cdot 10^{-1})^{*}$	$-1.4389 \cdot 10^{0}$ $(4.99 \cdot 10^{-1})^{**}$
rate.dif:comp (Fallon)	$9.0514 \cdot 10^{-2}$ $(1.31 \cdot 10^{-1})$	$1.2437 \cdot 10^{0}$ $(4.99 \cdot 10^{-1})^{*}$
rate.dif:comp (Network Health)	$1.3774 \cdot 10^{-1}$ $(1.43 \cdot 10^{-1})$	$1.6191 \cdot 10^{0}$ $(5.38 \cdot 10^{-1})^{**}$
rate.dif:comp (Neighborhood Health)	$1.4109 \cdot 10^{-1}$ $(8.89 \cdot 10^{-2})$	$5.4762 \cdot 10^{-1}$ $(3.71 \cdot 10^{-1})$
$\hat{\sigma}_\varepsilon^2$	0.10	0.47
R^2	0.39	0.43

Estimated parameters and standard deviations (in parentheses) based on Mallows' robust M-estimator (see Appendix) and on the least-squares estimator. The p-values (denoted as p) intervals are represented by stars using the following convention: ***if $p \in (0, 0.001]$; **if $p \in (0.01, 0.01]$; *if $p \in (0.01, 0.05]$; $^{\cdot}$if $p \in (0.05, 0.10]$.

Table 5.17 shows that both rate.dif and abs.dif are significant at the 5% confidence level, suggesting that elasticity cannot be expressed only as a function of the percentage change in member contributions. The coefficients associated with abs.dif are negative, implying that for a fixed increase in contributions the tendency to switch is greater for large changes in contributions. The interaction between the variable rate.dif and year is significant and associated with a negative coefficient, suggesting that elasticity increased over the period studied. The interactions between rate.dif and the different companies do not appear to have much effect on elasticity, except for CeltiCare. Finally, Plans IIB, IIIA and IIIB all have negative coefficients, which indicates that a consumer in these plan types is more likely to switch MCOs. Overall, the

largest effect explaining the elasticity appears to come from absolute changes in contribution rates.

To illustrate the application of the model the estimated average elasticity by company across all companies in 2013 for a reasonable range of current premium is −0.21 (with a 95% confidence interval of −0.95 to −0.05). While elasticity is different between companies, elasticity is only significantly different from zero for BMCHP (−0.37). Table 5.18 shows the estimated elasticities for 2013 for two current contribution levels, as well as all-company averages.

Table 5.18 Estimated Price Elasticity for 2013

	Current Contribution			
	$50		$100	
Company	Estimated Elasticity	95% conf. interval	Estimated Elasticity	95% conf. interval
BMC	−0.368*	(−0.562 ; −0.173)	−0.366*	(−0.561 ; −0.171)
CeltiCare	0.051	(−0.244 ; 0.346)	0.053	(−0.242 ; 0.347)
Fallon	−0.277	(−0.637 ; 0.083)	−0.275	(−0.635 ; 0.084)
Network Health	−0.230	(−0.607 ; 0.148)	−0.228	(−0.605 ; 0.149)
Neighb. Health	−0.226	(−0.463 ; 0.010)	−0.225	(−0.461 ; 0.012)
Average	−0.210*	(−0.366 ; −0.054)	−0.208*	(−0.365 ; −0.052)

* statistically significant at 5% level

Estimated price elasticity with 95% confidence intervals in 2013 (last year of the study) based on two different current contributions (i.e. $50 and $100). Standard errors are based on the results presented in Table 15.6.

Finally, Table 5.19 presents examples of the impact of a change in contributions on the expected percentage of member change for different years, considering current contribution rates of $50 and $100.

Table 5.19 Average Percentage Change in Membership for Five Companies

Change in contribution	Year (current contribution)					
	2011		2012		2013	
	$50	$100	$50	$100	$50	$100
1%	−0.18	−0.38	−0.30	−0.50	−0.41	−0.62
5%	−0.88	−1.91	−1.48	−2.51	−2.07	−3.10
10%	−1.77	−3.83	−2.95	−5.01	−4.14	−6.20
20%	−3.53	−7.65	−5.91	−10.03	−8.28	−12.40
40%	−7.06	−15.31	−11.81	−20.06	−16.56	- 24.80
-1%	0.18	0.38	0.30	0.50	0.41	0.62
-5%	0.88	1.91	1.48	2.51	2.07	3.10
-10%	1.77	3.83	2.95	5.01	4.14	6.20
-20%	3.53	7.65	5.91	10.03	8.28	12.40
-40%	7.06	15.31	11.81	20.06	16.56	24.80

Expected % member change averaged over five companies for the last three years of the study based on different changes in contribution assuming current contributions of $50 or $100.

From the perspective of a participating insurer on the Exchange, these results suggest that an optimal strategy appears to be to enroll as many members as soon as possible and then to avoid alienating members by maintaining relatively stable contributions. Conversely, these results suggest that new plans or plans aiming to increase market share on the Exchange will have to reduce prices significantly below the Exchange average to attract membership. We observe a lower elasticity than other studies; we have seen from the differences between robust and least-squares regression results that the robust regression parameters are lower; some of the differences between our estimated elasticity and that of other studies may be due to the difference in treatment of outliers.

Appendix: Robust Regression

The large majority of the models employed in financial and actuarial sciences are parametric models. Typically assumptions are made for these models and optimal procedures are derived under these assumptions. Least-squares and maximum likelihood estimators are well-known examples of optimal statistical procedures. However, these procedures are optimal only when the underlying statistical assumptions are exactly satisfied and are biased and/or inefficient when small deviations from the model are present. The results obtained by classical procedures can therefore be misleading when applied to real data [110], [111].

Robust statistics extends classical parametric statistics. Although parametric models may be a good approximation of the true underlying situation, in applying robust statistics we do not assume that the model is exactly correct. A robust procedure should have the following features [112]:

- It should efficiently estimate the assumed model
- It should be reliable and reasonably efficient under small deviations from the model (e.g., when the underlying distribution lies in a neighborhood of the assumed model)
- Larger deviations from the model should not cause a catastrophe.

A robust model is a compromise with respect to these three features. This compromise is illustrated by Anscombe and Guttman [113] using an insurance metaphor: "Sacrifice some efficiency at the model in order to insure against accidents caused by deviations from the model."

It is often believed that robust procedures may be avoided by using the following two-step procedure:

1. Clean the data using some rule for outlier rejection.
2. Apply classical optimal procedures on the remaining data.

Unfortunately such procedures cannot replace robust methods for the following reasons [112]:

- The two steps are rarely possible to separate. For example, in a parametric regression setting outliers are difficult to recognize without reliable (i.e., robust) estimates of the model's parameters.
- The cleaned data will not correspond to the assumed model since there will be statistical errors of both kinds (false acceptance and false rejection). Therefore in general the classical theory is not applicable to the cleaned sample.
- Empirically, the best rejection procedures do not reach the performance of the best robust procedures. The latter are apparently superior because they can make a smoother transition between the full acceptance and full rejection of an observation using weighting procedures [114].

- Empirical studies have also shown that many of the classical rejection methods are unable to deal with multiple outliers. Indeed, it is possible that a second outlier “masks” the effect of the first so that neither is rejected.

Unfortunately the least-squares estimator suffers from a dramatic lack of robustness. A single outlier can have an arbitrarily large effect on the estimated parameters. To assess the robustness of an estimator, we first need to introduce an important concept, namely, the influence function. This concept was introduced in [115, 116], and it formalizes the bias caused by one outlier. The influence function of an estimator represents the effect of an infinitesimal contamination at the point x (or $(\mathbf{x}, y)$ in the regression setting) on the estimate, standardized by the mass of contamination. Mathematically, the influence function of the estimator T for the model F is given by

$$IF\left(x \mid T, F\right) = \lim_{\varepsilon \to \infty} \frac{T((1-\varepsilon)F + \varepsilon\Delta_x) - T\left(F\right)}{\varepsilon} \qquad (1)$$

where Δ_x is a probability measure that puts mass 1 at point x.

<u>The Classical Least-Squares Estimator</u>

The standard definition of the linear model is derived as follows:

Let $(\mathbf{x}_i, y_i)$ be a sequence of independent, identically distributed random variables such that

$$y_i = \mathbf{x}_i^{\mathrm{T}} \beta + u_i. \qquad (2)$$

where $y_i \in \mathbf{R}$ is the ith observation, $x_i \in \mathbf{R}^p$ is the ith row of the design matrix

$\mathbf{X} \in \mathbf{R}^{nxp}, \beta \in \Theta \subseteq \mathbf{R}$ is a p-vector of unknown parameters. $u_i \subset \mathbf{R}$ is the ith error.

The least-squares estimator $\hat{\beta}_{LS}$ of β can be expressed as an M-estimator[52] defined by the estimating equation:

$$\sum_{i=0}^{n} (y_i - \mathbf{x}_i^T \beta) \mathbf{x}_i = \mathbf{0} \qquad (3)$$

This estimator is optimal under the following assumptions:

- u_i are normally distributed
- $E[u_i] = 0$

[52] M-estimators are obtained as the minima of sums of functions of the data. Least-squares estimators are an example of the larger class of M-estimators. The definition of M-estimators was motivated by robust statistics which contributed new types of M-estimators.

- Cov $(u_1, u_2, \ldots, u_n) = \sigma^2 \mathbf{I}_n$ where $\mathbf{I}_n$ is the identity matrix, i.e.,

$$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

In other words, least-squares estimation is optimal only when the errors are normally distributed. Small departures from the normality assumption for the errors results in considerable loss of efficiency of the least-squares estimator [117-120].

Robust Estimation of Linear Models

The "Huber estimator" was one of the first robust estimation methods applied to linear models [119]. Basically, this estimator is a weighted version of the least-squares estimate with weights of the form

$$w_i = \min(1, c/|r_i|) \qquad (4)$$

where r_i is the ith residual and c is the positive constant which controls the trade-off between robustness and efficiency.

Huber proposed an M-estimator $\hat{\beta}_H$ of β defined by the estimating equation:

$$\sum_{i=0}^{n} \varphi_c \ (y_i - \mathbf{x}_i^T \beta) \ \mathbf{x}_i = 0 \qquad (5)$$

where $\varphi_c(r)$ is the Huber estimator.

However, the Huber estimator cannot cope with problems caused by outlying points in the factor space.

One of the estimators developed to address this issue is that of Mallows. It has the important property that the influence function is bounded. Mallows' estimator was used to estimate the coefficients for this study. See Krasker [121] for more details.

Chapter 6: Analysis of Individual Member Data

The Massachusetts Dataset

Although Massachusetts now has an All-Payer Claims Database (APCD), at the time that this study began, the only source of consolidated payer data for Massachusetts was the Quality & Cost Council (QCC) database. The Massachusetts Health Care Quality and Cost Council was established in 2006 as part of the health reform law that was responsible for other changes discussed elsewhere in this study. The QCC was a semi-independent state agency, governed by a body that included a number of experts and consumer, provider, labor, and business representatives appointed by the governor. The QCC was affiliated with the Division of Healthcare Financing and Policy (DHCFP, now the Center for Health Information and Analysis, CHIA). CHIA is responsible for the administration of the APCD, which has replaced the QCC database. The QCC's budget was reduced from $1.8 million to $1.1 million in 2009 as a result of state budget cuts, a factor that may account for some of the quality issues in the QCC's database.

The QCC was established to design a consumer-friendly website that would provide transparency about health care costs and quality for the public. The authority to collect claims data was established under the same legislation that established the Council. Massachusetts began collecting claims data in 2008, retroactive to July 2006. The Division adopted new regulations in July 2010 and includes provisions for the collection of medical, pharmacy and dental claims and information from member eligibility, provider and product files encompassing fully insured, self-insured, Medicare and Medicaid data.

The QCC's mission was to do the following:

- Establish statewide goals for improving health care quality, containing health care costs and reducing racial and ethnic disparities in health care
- Demonstrate progress toward achieving these goals
- Disseminate, though a consumer-friendly website and other media, comparative health care cost, quality and related information to consumers, health care providers, health plans, employers, and policymakers.

For this study we are using the QCC database (supplemented with additional data) for several reasons:

- At the time that this study was conceived, the QCC data were the only aggregated Massachusetts database available. Having aggregated data available in a consistent

format was important because it eliminated the effort of requesting individual data feeds from payers.

- Although the APCD database is believed to be more accurate and complete, it lacked important components necessary for this study. For example, Medicaid (MassHealth) data were not included until October 2013, and data required to identify Commonwealth Choice members were also not included.
- The QCC database lacked MassHealth data, as noted previously. For this study we independently negotiated access to MassHealth data, and the QCC/APCD staff has matched MassHealth member identifiers to member identifiers within the QCC database that allows us to create longitudinal records, essential for assessing individual insurance behavior.
- The APCD database contains data beginning in 2009; the QCC database begins at 2006, which is essential for our study to have sufficient "prereform" exposure. Although the APCD database is believed to have fewer quality issues, it was not linked to the QCC database, preventing the creation of a true longitudinal dataset back to 2006.
- Beginning in 2010 one large payer, Blue Cross Blue Shield of Massachusetts (BSBCMA), excluded self-insured data from its QCC submission (this information has subsequently been restored in the APCD submission, but we decided not to use APCD data for reasons stated above). Attempts to negotiate access to these data separately with the payer were not successful. However, we are able, in the data, to identify members of self-insured groups, and in our longitudinal analysis, to work around this data shortcoming by reporting results both with and without the BCBSMA self-insured members.

The QCC data were supplemented in two ways:

1. By a membership file from the Connector identifying Commonwealth Choice members.
2. By the addition of MassHealth (Medicaid) members and their experience. The MassHealth file includes the Commonwealth Care member data. The data available for MassHealth are not always the same as that available from the QCC database (for example, member gender is not available), preventing some comparisons. The QCC matched member identifiers (before scrambling for de-identification purposes), allowing longitudinal member analysis.

From the separate files that we received from the QCC (consisting of QCC and MassHealth eligibility and claims data) we created a single datamart for analysis. Because it combines the two data sources we refer to it as "QCC/MassHealth data."

Although payers were statutorily required to submit data to the QCC and the database was administered by DHCFP, the data were not of the highest quality. This required some assumptions and adjustments to be made to the data, as discussed in the Appendix.

Comparability of the QCC Data to Reported Aggregate Massachusetts Data

Table 6.1 reports the numbers of member months in FY 2007 through FY 2011 for several classes of Insurance (MassHealth, Commonwealth Care, Commonwealth Choice and Commercial).

Table 6.1 Member Months by Fiscal Year: QCC Data

MM		QCC/MassHealth Data			
Fiscal Year	Commercial	Commercial*[a]	Medicaid	Commonwealth Care	Commonwealth Choice
2007	40,611,239	33,217,502	13,706,431	711,203	-
2008	41,094,756	32,577,385	14,207,179	2,309,819	37,582
2009	34,829,932	30,018,412	14,165,600	2,175,009	90,082
2010	29,057,070	29,057,070	13,409,365	2,011,326	167,268
2011	10,981,720	10,981,720	6,543,438	955,660	80,514

[a]In Chapter 6, an asterisk in the Commercial column denotes the exclusion of BCBSMA self-insured members. Commercial eligibility declined in FY 2009 because BCBSMA ceased providing its ASO data to the QCC. Attempts to obtain these data independently from BCBSMA were not successful. Therefore some Commercial analysis is reported both with (incomplete) ASO data and (retrospectively) excluding the BCBSMA ASO data (indicated with an asterisk).

Commonwealth Care enrollment began in October 2006 with a November 2006 effective date; in Table 6.2, FY 2007 therefore represents enrollments between October 2006 and June 2007. The individual mandate was not effective until July 2007; therefore Commonwealth Choice enrollment did not begin until July 2007 (FY 2008). Although Commonwealth Care and Commonwealth Choice data are available from November 2006 through June 30, 2013, and are analyzed in Chapter 5, QCC data end at December 31, 2010. Therefore in Tables 6.1 and 6.2, FY 2011 data are reported for six months only (July 1, 2010, through December 31, 2010).

We can evaluate the quality of the QCC/MassHealth data by assessing its completeness relative to reported Commonwealth Care and Commonwealth Choice enrollment numbers. Comparable Medicaid and Commercially insured numbers are not available.

Table 6.2 Completeness of QCC/MassHealth Data

MM	Connector Data		QCC/MassHealth Data		% Overlap (QCC/Connector)	
Fiscal Year	Commonwealth Care	Commonwealth Choice	Commonwealth Care	Commonwealth Choice	Commonwealth Care	Commonwealth Choice
2007	365,414	-	711,203	-	194.6%	-
2008	1,779,967	143,614	2,309,819	37,582	129.8%	26.2%
2009	2,021,068	229,409	2,175,009	90,082	107.6%	39.3%
2010	2,095,856	295,292	2,011,326	167,268	96.0%	56.6%
2011	935,524	225,228	955,660	80,514	102.2%	35.7%

As Table 6.2 shows initial Commonwealth Care member months identified in the QCC data differs significantly from numbers reported by the Connector. The quality of the match improves over time, particularly after FY 2008, and by FY 2011 matches almost exactly. The Commonwealth Choice match is poor. Member identification for these members was provided by the Connector Authority to DHCFP (now CHIA) as a list of member identifying codes for members who had enrolled through the Connector website (essentially all Commonwealth Choice members had done so). DHCFP matched some but by no means all of the members reported in the Connector's aggregate enrollment reports. Repeated efforts to improve this match were not successful.

The difference between the Connector and the QCC/MassHealth data (in the first two years of the Connector's operation) is a source of concern. The extent to which these differences affect our analysis of claims and utilization in these years (for example, in Table 6.3) is unknown.

Enrollment in Different Programs

Earlier, we were able to track enrollment in the Commonwealth Care and Commonwealth Choice programs using the Connector's data. However, the Connector does not have access to the Commercial market or MassHealth data. For the impact of reform on Medicaid and Commercial enrollment we use the QCC/MassHealth data.

Figure 6.1 Commercial Enrollment Pre- and Postreform

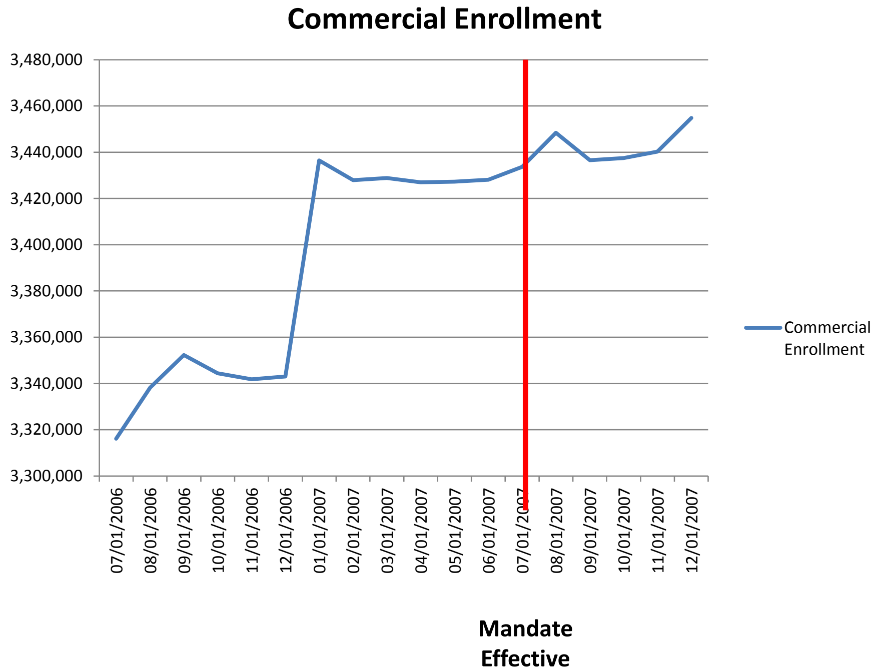
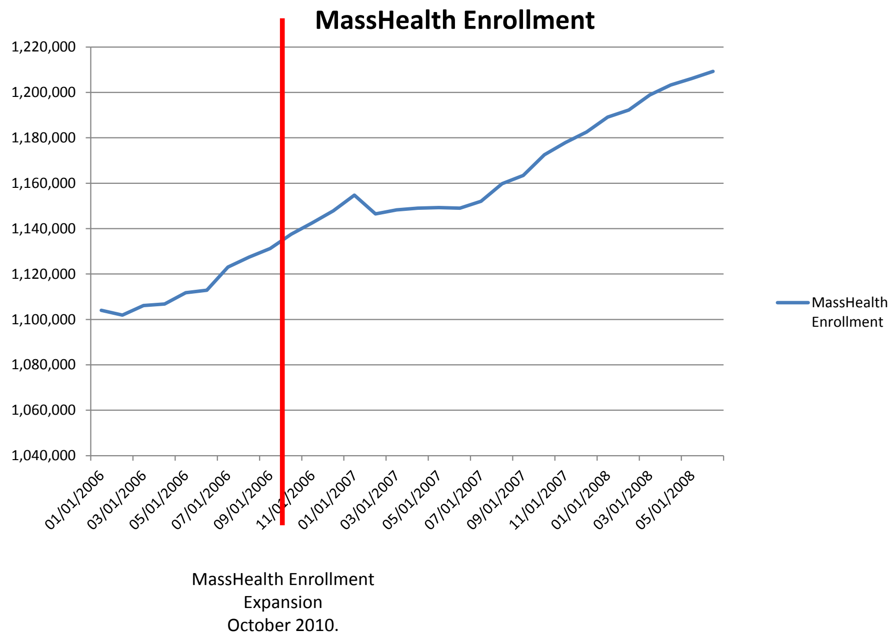


Figure 6.1 shows Commercial enrollment in the year prior to reform and for the year 2007. Beginning in 2008 enrollments reported to the QCC begin to decline and by 2009 are considerably lower, reflecting the absence of BCBSMA Administrative Services Only (ASO) data. The Commercial enrollment appears to increase by approximately 100,000 lives at the beginning of 2007, the year in which the Mandate became effective, and grows moderately during 2007. (We will identify and track the behavior of these newly enrolled lives later in this chapter.)

Figure 6.2 shows MassHealth enrollment between January 1, 2006, and July 1, 2008. Although we have MassHealth enrollment data through December 2010, enrollment peaks in August 2008 and declines thereafter. We were unable to obtain an explanation for this behavior and therefore show data through the end of FY 2008 to illustrate the effect of reform on MassHealth enrollments.

MassHealth enrollment (unlike Commercial enrollment) had been increasing steadily prior to the expansion of Medicaid benefits under Chapter 58. After initially leveling off in 2007, MassHealth enrollment continued its increase, adding a net 60,000 newly enrolled lives between October 2006 and July 2008. Table 2.1, using data from the Massachusetts Medicaid Policy Institute [64], reports total increased enrollment of 252,000 between 2006 and December 2010.

Figure 6.2 MassHealth Enrollment Pre- and Postreform



Utilization and Cost

Table 6.3 reports cost per member per month for each program. We report allowed charges, member cost sharing and net paid claims in aggregate and separately for medical and pharmacy claims. Results for the Commercial block show the effect of the inclusion of ASO business for 2008–2009 and the subsequent exclusion. We therefore report Commercial cost for the non-ASO business as well. (We note that the exclusion of the ASO data does not have much effect on the reported measures.)

With the exception of MassHealth, the average age of the insured members of all blocks is about the same (in the range 41–43). MassHealth average age is considerably younger, between 34 and 36, depending on year. Commercial membership skews slightly to females, while Commonwealth Choice contains more males (Commonwealth Care and MassHealth files do not contain a gender identifier).

Discounting the first two years of Commonwealth Choice data, MassHealth is the most costly program both in terms of allowed charges and net paid claims (member cost sharing is the lowest of all programs). In the Commonwealth Choice data for FY 2008–2009, years in which there are relatively few members, a few catastrophic claims distort the average allowed charge and member cost sharing. The net paid amount for these years is, however, consistent with later years.

Claims for Commonwealth Care are initially low, reflecting the time that the program took to ramp up and for members to find providers and to access the system. As the program matured in 2010 and 2011, claims appear to be similar to those of the Commercial block rather than MassHealth. Commonwealth Choice claims are lower than both Commercial and MassHealth claims but appear to catch up in FY 2011.

Table 6.3 Member Allowed Charges and Net Paid Claims by Year and Program

Commercial

FY	Member Months	Mean Age	% Male	Total Allowed Amount	Total Member Amount	Total Net Paid Amount	Medical Allowed Amount	Med Member Amount	Med Net Paid Amount	Rx Allowed Amount	Rx Member Amount	Rx Net Paid Amount
2007	40,611,239	42.9	47.7%	$319.99	$52.75	$267.24	$257.91	$42.65	$215.25	$62.08	$10.09	$51.99
2008	41,094,756	42.4	47.7%	$349.29	$60.70	$288.59	$283.98	$50.59	$233.39	$65.31	$10.11	$55.20
2009	34,829,932	41.7	47.1%	$290.79	$59.97	$230.81	$224.75	$47.41	$177.34	$66.04	$12.57	$53.47
2010	29,057,070	40.8	47.1%	$251.44	$25.31	$226.13	$184.00	$12.93	$171.08	$67.43	$12.38	$55.05
2011	10,981,720	42.1	47.3%	$268.98	$24.40	$244.57	$233.67	$18.78	$214.89	$35.31	$5.63	$29.68

Commercial* With BCBSMA ASO lives removed

FY	Member Months	Mean Age	% Male	Total Allowed Amount	Total Member Amount	Total Net Paid Amount	Medical Allowed Amount	Med Member Amount	Med Net Paid Amount	Rx Allowed Amount	Rx Member Amount	Rx Net Paid Amount
2007	33,217,502	42.6	47.5%	$307.53	$45.89	$261.64	$246.78	$35.27	$211.51	$60.75	$10.62	$50.13
2008	32,577,385	42.2	47.5%	$327.61	$47.40	$280.21	$263.44	$36.58	$226.86	$64.18	$10.82	$53.36
2009	30,018,412	41.6	46.9%	$260.66	$39.17	$221.49	$193.72	$25.63	$168.09	$66.95	$13.55	$53.40
2010	29,057,070	40.8	47.1%	$251.44	$25.31	$226.13	$184.00	$12.93	$171.08	$67.43	$12.38	$55.05
2011	10,981,720	42.1	47.3%	$268.98	$24.40	$244.57	$233.67	$18.78	$214.89	$35.31	$5.63	$29.68

MassHealth

FY	Member Months	Mean Age	% Male	Total Allowed Amount	Total Member Amount	Total Net Paid Amount	Medical Allowed Amount	Med Member Amount	Med Net Paid Amount	Rx Allowed Amount	Rx Member Amount	Rx Net Paid Amount
2007	13,706,431	36.3	n/a	$386.46	$29.44	$357.03	$337.68	$28.39	$309.30	$48.78	$1.05	$47.73
2008	14,207,179	35.3	n/a	$415.95	$34.83	$381.12	$367.94	$33.66	$334.28	$48.01	$1.17	$46.84
2009	14,165,600	34.6	n/a	$440.05	$41.80	$398.25	$388.09	$40.34	$347.75	$51.96	$1.46	$50.50
2010	13,409,365	34.3	n/a	$496.49	$58.06	$438.43	$426.98	$56.24	$370.74	$69.51	$1.82	$67.69
2011	6,543,438	34.2	n/a	$468.94	$61.67	$407.27	$434.07	$60.53	$373.54	$34.87	$1.14	$33.73

Table 6.3 Member Allowed Charges and Net Paid Claims by Year and Program (Cont.)

CommCare

FY	Member Months	Mean Age	% Male	Total Allowed Amount	Total Member Amount	Total Net Paid Amount	Medical Allowed Amount	Med Member Amount	Med Net Paid Amount	Rx Allowed Amount	Rx Member Amount	Rx Net Paid Amount
2007	711,203	42.9	n/a	$139.36	$4.87	$134.49	$120.16	$3.42	$116.74	$19.20	$1.44	$17.75
2008	2,309,819	43.0	n/a	$208.38	$8.55	$199.83	$176.71	$5.49	$171.22	$31.68	$3.07	$28.61
2009	2,175,009	43.1	n/a	$249.22	$10.62	$238.60	$208.60	$5.88	$202.72	$40.62	$4.74	$35.88
2010	2,011,326	42.5	n/a	$251.75	$9.95	$241.80	$210.91	$4.73	$206.18	$40.84	$5.21	$35.62
2011	955,660	42.0	n/a	$228.99	$7.88	$221.12	$209.49	$5.14	$204.35	$19.50	$2.73	$16.77

Comm Choice

FY	Member Months	Mean Age	% Male	Total Allowed Amount	Total Member Amount	Total Net Paid Amount	Medical Allowed Amount	Med Member Amount	Med Net Paid Amount	Rx Allowed Amount	Rx Member Amount	Rx Net Paid Amount
2007	-	-	-	-	-	-	-	-	-	-	-	-
2008	37,582	42.6	55.5%	$833.38	$630.29	$203.09	$774.26	$614.09	$160.17	$59.12	$16.20	$42.92
2009	90,082	41.8	52.0%	$543.82	$376.58	$167.24	$473.70	$355.34	$118.36	$70.11	$21.24	$48.87
2010	167,268	40.8	52.4%	$215.67	$46.21	$169.46	$148.17	$24.95	$123.22	$67.50	$21.26	$46.24
2011	80,514	41.2	51.7%	$314.66	$48.44	$266.22	$274.37	$39.21	$235.17	$40.29	$9.23	$31.06

The extent to which claims reflect the underlying population risk, however, is something that can be assessed with risk adjustment. Member relative risk is an important factor in assessing relative cost and service utilization of different program members. More detail about risk adjustment and the DxCG risk adjuster used in this study in particular may be found in [122]. In Table 6.4 relative financial risk scores are calculated using the concurrent (retrospective) DxCG Commercial grouper (risk adjustment model) from Verisk Health, which provides a complete and accurate estimate of relative population risk.[53] We used two DxCG risk-adjuster models, calibrated for Commercial populations, although MassHealth is a Medicaid population (and Commonwealth Care is arguably more akin to a Medicaid population) for consistency of calculation of the score across populations. The first DxCG model is calibrated for cost projections, and the second (inpatient prediction) model is calibrated for utilization.

One useful feature of the DxCG cost-scoring model is the generation of an "age/sex" score in addition to the condition-based score. Thus members who have no claims-based diagnoses, who will not generate a condition-based score, will still have an age/sex score based on their relative age and gender. Risk scores are developed from multiple regression models in which the independent variables are age, sex, and a number of condition categories. The dependent variable in this regression is either member cost or inpatient utilization, depending on the model. In the complete DxCG model, a portion of member cost or utilization is therefore explained by member age and sex and a portion by members' diagnoses. Thus the age/sex factor replicates that portion of cost or utilization that is independent of condition but correlated with age and sex.

Because MassHealth data (including Commonwealth Care) does not include a gender field, the DxCG models default to female in calculating the risk scores for these populations. To estimate the actual age/sex risk scores in the population we recalculate the age/sex risk score, based on an all-male population and then calculate interpolated scores, assuming that the mix of genders is 50/50.

[53] We initially used only the DxCG cost model; a reviewer from the Society of Actuaries' Project Oversight Group pointed out that it may be inappropriate to apply a risk adjuster calibrated to predict financial risk to adjust utilization. We therefore used a second DxCG model, the inpatient utilization model, to predict utilization. Comparative results for both models are provided in this chapter so that readers can determine for themselves the extent to which it is may be inappropriate to use a cost model to adjust utilization in other research.

Table 6.4 Age/Sex Risk Scores

Fiscal Year	Financial								Utilization	
	All Male Risk Scores		All Female Risk Scores		Interpolated Score Assuming 50/50 Male/Female		Ratio of Female Scores to 50/50 Interpolated Scores		Interpolated Score Assuming 50/50 Male/Female	
	Mass Health	Common wealth Care	Mass Health	Common wealth Care	Mass Health	Common wealth Care	Mass Health	Common wealth Care	Mass Health	Common wealth Care
	Age/Sex	Age/Sex	Age/Sex	Age/Sex	Age/Sex	Age/Sex	Ratio	Ratio	Age/Sex	Age/Sex
2007	1.089	1.083	1.173	1.393	1.131	1.238	1.037	1.125	1.084	1.182
2008	1.063	1.078	1.147	1.386	1.105	1.232	1.038	1.125	1.072	1.179
2009	1.037	1.088	1.129	1.382	1.083	1.235	1.043	1.119	1.063	1.177
2010	1.021	1.059	1.121	1.353	1.071	1.206	1.047	1.122	1.059	1.164
2011	1.012	1.037	1.118	1.333	1.065	1.185	1.050	1.125	1.058	1.155

The 50/50 gender mix assumption is reasonable for the Commonwealth Care population where we have an independent summary from the Connector aggregate data (Table 2.5), which shows that between FY 2007 and FY 2013 enrollment (member months) of females is 53% of the total enrollment. The resulting scores for MassHealth and Commonwealth Care are shown in Table 6.4. Table 6.4 also shows that using the all-female default assumption overestimates the overall population age/sex risk slightly for Medicaid (approximately 3–5%) but significantly overstates the age/sex risk score for Commonwealth Care (12–13%). In the discussion that follows of the relativity of condition-based risk to age/sex risk, we use the female gender default assumption.

Table 6.5 presents age/sex risk scores, together with the average ages and percentage male of the different populations (where these data are available). Note that the risk scores in Table 6.5 are *age/sex scores only;* condition-based risk scores are reported in Table 6.6a (Financial) and 6.6b (Utilization).

The ratio of condition-based financial risk scores and age/sex risk scores is a way of assessing the disease burden of a population. This ratio represents the relative excess risk due to disease burden, or morbidity, allowing for what would be expected due to age/sex alone. Normally, the ratio between condition-based risk score and age/sex risk score (the "disease burden ratio") is greater than one. A ratio under 1.0 implies that the population has a lower disease burden (that is, fewer conditions and/or fewer severe conditions recorded in the claims history) than is expected based on the age/sex distribution of the population.

Table 6.5 Average Age/Sex Risk Scores and Demographics

Fiscal Year	Commercial				Commercial[a]				MassHealth			
			Financial	Utilization			Financial	Utilization			Financial	Utilization
	Mean Age	% Male	Risk Score		Mean Age	% Male	Risk Score		Mean Age	% Male	Risk Score	
2007	42.9	47.7%	1.326	1.284	42.6	47.5%	1.313	1.272	36.3	n/a	1.173	1.180
2008	42.4	47.7%	1.310	1.307	42.2	47.5%	1.304	1.304	35.3	n/a	1.147	1.174
2009	41.7	47.1%	1.289	1.322	41.6	46.9%	1.288	1.327	34.6	n/a	1.129	1.162
2010	40.8	47.1%	1.263	1.336	40.8	47.1%	1.263	1.336	34.3	n/a	1.121	1.158
2011	42.1	47.3%	1.321	1.444	42.1	47.3%	1.321	1.444	34.2	n/a	1.118	1.154

Fiscal Year	Commonwealth Care				Commonwealth Choice			
			Financial	Utilization			Financial	Utilization
	Mean Age	% Male	Risk Score		Mean Age	% Male	Risk Score	
2007	42.9	n/a	1.393	1.113	-	-	-	-
2008	43.0	n/a	1.386	1.135	42.6	55.5%	1.190	1.049
2009	43.1	n/a	1.382	1.182	41.8	52.0%	1.172	1.047
2010	42.5	n/a	1.353	1.197	40.8	52.4%	1.145	1.045
2011	42.0	n/a	1.333	1.199	41.2	51.7%	1.171	1.096

[a]Indicates Commercial members with BCBSMA ASO lives removed.

Table 6.6a Relative Member Financial Risk Scores by Year and Program

Fiscal Year	Commercial		Commercial[a]		MassHealth		Commonwealth Care		Commonwealth Choice	
	Age/Sex	Condition	Age/Sex	Condition	Age/Sex	Condition	Age/Sex	Condition	Age/Sex	Condition
2007	1.326	1.723	1.313	1.716	1.173	1.917	1.393	1.020	1.190	1.159
2008	1.310	1.976	1.304	1.960	1.147	1.950	1.386	1.137	1.190	1.159
2009	1.289	1.657	1.288	1.605	1.129	2.267	1.382	1.455	1.172	0.963
2010	1.263	1.521	1.263	1.521	1.121	2.706	1.353	1.556	1.145	0.816
2011	1.321	2.180	1.321	2.180	1.118	2.798	1.333	1.516	1.171	1.323

[a]Indicates Commercial members with BCBSMA ASO lives removed.

Table 6.6b Relative Member Utilization Risk Scores by Year and Program

Fiscal Year	Commercial		Commercial[a]		MassHealth		Commonwealth Care		Commonwealth Choice	
	Age/Sex	Condition	Age/Sex	Condition	Age/Sex	Condition	Age/Sex	Condition	Age/Sex	Condition
2007	1.284	1.212	1.272	1.214	1.180	1.266	1.113	0.627	1.049	0.858
2008	1.307	1.438	1.304	1.432	1.174	1.336	1.135	0.687	1.049	0.858
2009	1.322	1.171	1.327	1.132	1.162	1.650	1.182	0.903	1.047	0.668
2010	1.336	1.088	1.336	1.088	1.158	2.008	1.197	0.997	1.045	0.558
2011	1.444	1.633	1.444	1.633	1.154	2.096	1.199	0.971	1.096	0.952

[a]Indicates Commercial members with BCBSMA ASO lives removed.

Table 6.7 Ratio of Condition to Age/Sex Risk Scores (Disease Burden) by Year and Program

	Financial					Utilization				
Fiscal Year	Comm-ercial	Comm-ercial[a]	Mass Health	Comm Care	Comm Choice	Comm-ercial	Comm-ercial[a]	Mass Health	Comm Care	Comm Choice
2007	129.9%	130.7%	163.4%	73.2%	97.4%	94.4%	95.4%	107.3%	56.3%	81.8%
2008	150.8%	150.3%	170.0%	82.0%	97.4%	110.0%	109.8%	113.8%	60.5%	81.8%
2009	128.5%	124.6%	200.8%	105.3%	82.2%	88.6%	85.3%	142.0%	76.4%	63.8%
2010	120.4%	120.4%	241.4%	115.0%	71.3%	81.4%	81.4%	173.4%	83.3%	53.4%
2011	165.0%	165.0%	250.3%	113.7%	113.0%	113.1%	113.1%	181.6%	81.0%	86.9%

[a]Indicates Commercial members with BCBSMA ASO lives removed.

Table 6.7 shows that the financial disease burden increases in the existing, established populations with a long history of membership (Commercial and MassHealth) ranging from 120% to 165% (Commercial) and 160% to 250% (MassHealth). Tables 6.6a and 6.6b show that for both Commercial and MassHealth populations, condition-based financial risk is significantly higher than that implied by the age/sex distribution of program participants. This is not true for utilization risk: Only for MassHealth is utilization risk consistently higher than age/sex risk.

The Commonwealth Care and Commonwealth Choice disease burden ratios are shown in Table 6.7. The disease burden (both financial and utilization) both increase over time. For a number of years these populations have disease burdens less than 100%. To some degree this increase in disease burden, which reflects the prevalence in member claims history of conditions relative to the "norm" represented by the age/sex risk score, possibly reflects the increased familiarity of these populations with the health system and the increased diagnosis and treatment that members obtain due to insurance. The services that the Commonwealth Care population uses rises rapidly between 2007 and 2009 before leveling off in 2010 (see Table 6.8). The Commonwealth Choice ratio falls in 2009–2010 (again, this may be related to the effects of the

recession in these years) rising again in 2011. Unlike Commonwealth Care, Commonwealth Choice utilization is initially high and falls as the program and population matures, suggesting some degree of pent-up demand for services in this population.

Figure 6.3 shows graphically the relative disease burden by population and year.

Figure 6.3a Condition-Based Financial Risk Relative to Age/Sex Risk (Disease Burden)

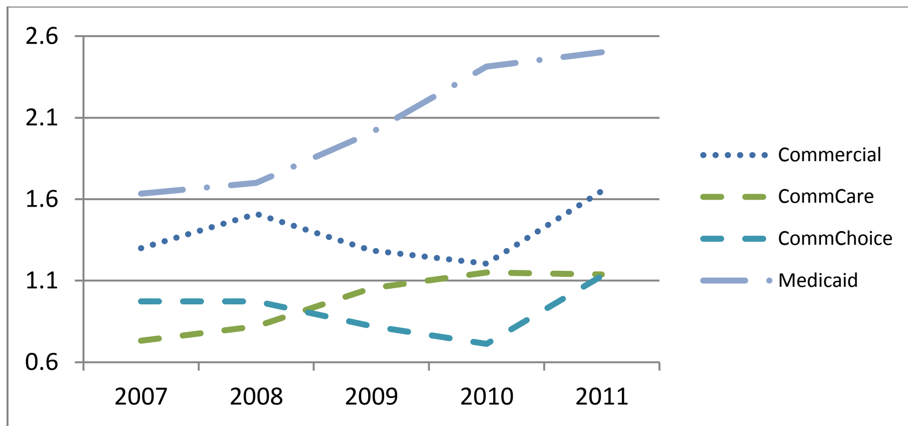
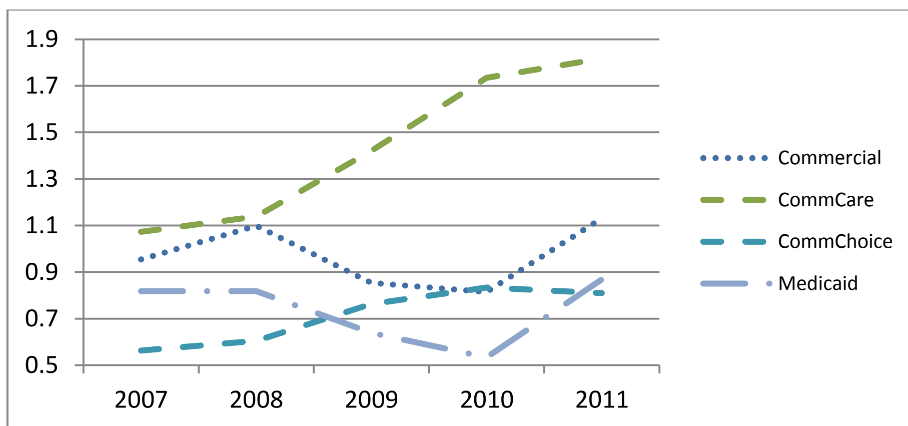


Figure 6.3b Condition-Based Utilization Risk Relative to Age/Sex Risk (Disease Burden)



The charts help to visualize the trends in disease burden in the different populations: In Figure 6.3a, both MassHealth and the related Commonwealth Care populations show an increasing trend, while the Commercial populations (Commercial and Commonwealth Choice) remain essentially flat. The two Commercial populations, however, follow the same trend in the recession years of 2009–2010, with a reduction in disease burden (both financial and utilization), with a reversion in the final year of observation. This pattern suggests that, in addition to being

possibly more conservative consumers of health services, these populations may also have been deferring some treatments during the recession years.

Service Utilization

Table 6.8 shows member utilization of services by program and by year. Services are reported on a per 1,000 members per year basis. Table 6.9 shows comparative utilization (inpatient, emergency room and primary care provider) relative to that of the Commercial population.

Readily available benchmarks to compare with the Massachusetts utilization are not readily available. For comparison, we show national Commercial and Medicaid utilization for 2011 from the SCIO Health Analytics benchmark database (a database compiled from payer data) as reported in [123]. Commercial inpatient utilization is higher than Commercial benchmarks in some years although it declines to be more consistent in later years. Commercial ER use is consistent with benchmarks in early years and then declines. Provider visits are lower than the PCP/1,000 benchmark, which includes all providers, not just primary care. Medicaid utilization of inpatient services is lower than that of Commercial patients, perhaps reflecting the demographic distribution of the population. Medicaid utilization is, however, consistent with inpatient and ER benchmarks.

Utilization of the Commonwealth Care population follows a pattern that we would expect, given the lack of access to insurance in this population before reform; initially, inpatient utilization is lower than that of the Medicaid population but over time it grows faster and slightly exceeds that of the Medicaid population. Traditionally Medicaid populations have used the emergency room heavily; this is evident in the MassHealth population, which uses between 2.5 and 4.3 times the ER services of the Commercial population. The Commonwealth Care population (despite containing more adults) uses services at rates between those of the Commercial and Medicaid populations; in particular the Commonwealth Care population uses the emergency room more heavily than the Commercial and Commonwealth Choice populations but at a rate well below that of MassHealth and the benchmark.

This observation about heavier ER utilization by the Medicaid population is consistent with recent research on the utilization of services in the Oregon Medicaid population by Amy Finkelstein and colleagues from the Oregon Health Study Group from the Oregon Health Study Group [124-126]. It appears that insurers that enroll the subsidized Exchange population can expect utilization that is somewhat consistent with that of Medicaid, perhaps lower in the case of ER utilization.

Table 6.8 Service Utilization by Year and Program

Commercial

Fiscal Year	IP/1,000	ER/1,000	PCP/1,000	Rx Scripts/ Member	Generic Rx	Rx Days Supply
2007	82.8	189.6	1,263.5	1.5	88.8%	32.9
2008	82.6	192.3	1,268.0	1.5	86.8%	34.6
2009	57.0	137.9	930.8	1.6	89.2%	36.6
2010	58.2	128.6	856.7	1.7	89.8%	39.7
2011	73.8	140.5	1,235.5	0.9	90.1%	20.9
Comparison (National)	66.0	191.0	2,427.7	n/a	n/a	n/a

Commercial[a] (with BCBSMA ASO Removed)

Fiscal Year	IP/1,000	ER/1,000	PCP/1,000	Rx Scripts/ Member	Generic Rx	Rx Days Supply
2007	84.7	184.9	1,199.77	1.4	88.7%	31.9
2008	84.4	186.6	1,210.84	1.5	86.9%	33.6
2009	56.2	131.1	881.09	1.6	89.3%	36.8
2010	58.2	128.6	856.65	1.7	89.8%	39.7
2011	73.8	140.5	1,235.51	0.9	90.1%	20.9
Comparison (National)	66.0	191.0	2,427.7	n/a	n/a	n/a

MassHealth

Fiscal Year	IP/1,000	ER/1,000	PCP/1,000	Rx Scripts/ Member	Generic Rx	Rx Days Supply
2007	49.0	465.7	1,549.9	1.0	85.0%	23.2
2008	50.2	479.1	1,535.7	1.1	85.1%	25.3
2009	42.0	533.9	1,566.2	1.2	85.3%	28.1
2010	40.5	550.4	1,603.3	1.3	85.5%	31.3
2011	42.0	532.8	1,492.6	0.7	86.1%	16.4
Comparison (National)	43.2	567.6	2,227.4	n/a	n/a	n/a

Commonwealth Care

Fiscal Year	IP/1,000	ER/1,000	PCP/1,000	Rx Scripts/ Member	Generic Rx	Rx Days Supply
2007	28.3	232.1	864.9	0.5	86.7%	11.7
2008	38.8	295.6	1,193.3	0.8	87.5%	18.6
2009	46.7	335.0	1,309.6	0.9	87.6%	22.5
2010	48.8	341.5	1,378.1	1.0	87.9%	23.8
2011	45.4	329.9	1,311.4	0.5	88.5%	11.5
Comparison (National)	43.2	567.6	2,227.4	n/a	n/a	n/a

Commonwealth Choice

Fiscal Year	IP/1,000	ER/1,000	PCP/1,000	Rx Scripts/ Member	Generic Rx	Rx Days Supply
2007	-	-	-	-	-	-
2008	37.7	162.5	748.4	1.3	88.9%	29.8
2009	24.2	98.8	460.9	1.7	89.6%	39.0
2010	24.2	90.0	392.4	1.8	90.2%	41.9
2011	45.2	128.8	689.8	1.0	90.0%	23.9
Comparison (National)	66.0	191.0	2,427.7	n/a	n/a	n/a

[a]Indicates Commercial members with BCBSMA ASO lives removed.

Finally, the Commonwealth Choice population uses inpatient and ER services at approximately the same rates as the Commercial population although it uses fewer primary care provider services.

As we have noted previously, the two expansion populations (Commonwealth Care and Commonwealth Choice) appear to differ in their utilization patterns: utilization in Commonwealth Care increases slowly over time and then levels off. Utilization in Commonwealth Choice falls over time, suggesting some pent-up demand.

Risk adjusting the populations (relative to the Commercial population as the benchmark) allows us to compare the utilization relative to the condition risk of the underlying populations. The Medicaid population is relatively riskier than the Commercial population. On a risk-adjusted basis, Medicaid members use far fewer inpatient services but continue to use more than twice the ER services of the Commercial populations and somewhat fewer primary care provider services. Relative to its risk profile the Commonwealth Care population uses relatively few inpatient services and significantly more primary care provider services. ER utilization of the Commonwealth Choice population is similar to that of the Commercial population, but this population uses fewer inpatient and primary care provider services.

Table 6.9 Absolute and Comparative Utilization by Program (Unadjusted)

Commercial				MassHealth			CommCare			CommChoice		
FY	IP/1000	ER/1000	PCP/1000	IP/1000	ER/1000	PCP/1000	IP/1000	ER/1000	PCP/1000	IP/1000	ER/1000	PCP/1000
2007	82.8	189.6	1,263.5	49.0	465.7	1,549.9	28.3	232.1	864.9	-	-	-
2008	82.6	192.3	1,268.0	50.2	479.1	1,535.7	38.8	295.6	1,193.3	37.7	162.5	748.4
2009	57.0	137.9	930.8	42.0	533.9	1,566.2	46.7	335.0	1,309.6	24.2	98.8	460.9
2010	58.2	128.6	856.7	40.4	550.4	1,603.3	48.8	341.5	1,378.1	24.2	90.0	392.4
2011	73.8	140.5	1,235.5	42.0	532.8	1,492.6	45.4	329.9	1,311.4	45.2	128.8	689.8

Comparative Utilization

Commercial				MassHealth			CommCare			CommChoice		
FY	IP/1000	ER/1000	PCP/1000	IP/1000	ER/1000	PCP/1000	IP/1000	ER/1000	PCP/1000	IP/1000	ER/1000	PCP/1000
2007	1.0	1.0	1.0	0.59	2.46	1.23	0.34	1.22	0.68	-	-	-
2008	1.0	1.0	1.0	0.61	2.49	1.21	0.47	1.54	0.94	0.46	0.85	0.59
2009	1.0	1.0	1.0	0.74	3.87	1.68	0.82	2.43	1.41	0.43	0.72	0.50
2010	1.0	1.0	1.0	0.69	4.28	1.87	0.84	2.66	1.61	0.42	0.70	0.46
2011	1.0	1.0	1.0	0.57	3.79	1.21	0.61	2.35	1.06	0.61	0.92	0.56

To apply risk adjustment to inpatient, ER, and PCP utilization we use the Commercial patient block as the reference; comparative utilization of other blocks is then relative to the utilization risk of the Commercial population. Although MassHealth utilization does not change significantly (with the exception of inpatient utilization in later years) utilization of other types of service among the different populations becomes more consistent. The effect of risk adjustment can be seen clearly by comparing Tables 6.9 and 6.10: Commonwealth Care and Commonwealth Choice utilization increases when we allow for the relatively lower risk populations

Of significance is ER use among MassHealth and CommCare members, where utilization is between 2.0 and 4.0 times that of the Commercial population, despite having access to (and using) PCP services. On an adjusted basis CommChoice and MassHealth members do not use PCP services at rates that are much different to the Commercial population. The Commonwealth Choice population uses services at much the same rate as the Commercial population (with the exception of ER services).

Table 6.10 DxCG Utilization Risk-Adjusted Absolute and Comparative Utilization by Program

	Commercial			MassHealth			CommCare			CommChoice		
FY	IP/1,000	ER/1,000	PCP/1,000	IP/1,000	ER/1,000	PCP/1,000	IP/1,000	ER/1,000	PCP/1,000	IP/1,000	ER/1,000	PCP/1,000
2007	82.8	189.6	1,263.5	46.9	445.9	1,484.1	54.8	449.0	1,673.0	-	-	-
2008	82.6	192.3	1,268.0	54.1	515.9	1,653.6	81.3	619.2	2,499.6	63.1	272.3	1,253.8
2009	57.0	137.9	930.8	29.8	379.0	1,111.9	60.6	434.8	1,699.6	42.5	173.2	807.8
2010	58.2	128.6	856.7	21.9	298.2	868.8	53.2	372.5	1,503.1	47.3	175.6	765.1
2011	73.8	140.5	1,235.5	32.7	415.1	1,163.0	76.3	554.6	2,205.1	77.5	221.0	1,183.7

Comparative Utilization Based on Utilization Risk Adjustment

	Commercial			MassHealth			CommCare			CommChoice		
FY	IP/1,000	ER/1,000	PCP/1,000	IP/1,000	ER/1,000	PCP/1,000	IP/1,000	ER/1,000	PCP/1,000	IP/1,000	ER/1,000	PCP/1,000
2007	1.0	1.0	1.0	0.57	2.35	1.17	0.66	2.37	1.32	-	-	-
2008	1.0	1.0	1.0	0.65	2.68	1.30	0.98	3.22	1.97	0.76	1.42	0.99
2009	1.0	1.0	1.0	0.52	2.75	1.19	1.06	3.15	1.83	0.75	1.26	0.87
2010	1.0	1.0	1.0	0.38	2.32	1.01	0.91	2.90	1.75	0.81	1.37	0.89
2011	1.0	1.0	1.0	0.44	2.95	0.94	1.03	3.95	1.78	1.05	1.57	0.96

Comparative Analysis of Measures Using Different Adjuster Models

Although it was not a focus of this study, access to both the DxCG financial and utilization risk-adjustment models allows us to compare the results of the two models side-by-side (this result helps to inform the usefulness of the widely available financial risk adjusters as a tool for adjusting populations to compare utilization. A ratio of 100% implies no difference between financial and utilization adjusters). Table 6.10a shows the ratios of age/sex average risk scores (from Table 6.5). For the two "established" populations these ratios are not significantly different from 100% (although both ratios decline over time). Financial risk is higher in the newer populations, significantly so for Commonwealth Care.

Table 6.10a Ratio of Average Financial: Utilization Age/Sex Risk Scores

Fiscal Year	Comm-ercial	Comm-ercial*	Mass Health	Comm Care	Comm Choice
2007	103.3%	103.2%	99.4%	125.2%	-
2008	100.2%	100.0%	97.7%	122.1%	113.4%
2009	97.5%	97.1%	97.2%	116.9%	111.9%
2010	94.5%	94.5%	96.8%	113.0%	109.6%
2011	91.5%	91.5%	96.9%	111.2%	106.8%

Table 6.10b Ratio of Average Financial: Utilization Condition-Based Risk Scores

Fiscal Year	Comm-ercial	Comm-ercial[a]	Mass Health	Comm Care	Comm Choice
2007	142.2%	141.4%	151.4%	162.7%	-
2008	137.4%	136.9%	146.0%	165.5%	135.1%
2009	141.5%	141.8%	137.4%	161.1%	144.2%
2010	139.8%	139.8%	134.8%	156.1%	146.2%
2011	133.5%	133.5%	133.5%	156.1%	139.0%

[a]Indicates Commercial members with BCBSMA ASO lives removed.

The declining trend in the ratio of Financial to Utilization risk scores is noticeable also in Table 6.10b. More importantly, the ratios themselves are uniformly higher than 100%. The comparison in Table 6.10b suggests that use of the financial risk adjuster to adjust utilization data may introduce some distortion. We adjusted the utilization measures using the utilization model above in Table 6.10; in Table 6.11 we perform the same adjustment using the financial model. Finally, we develop ratios of the adjusted results (relative to Commercial utilization as the baseline) in Table 6.12.

Table 6.11 DxCG Financial Model-Adjusted Absolute and Comparative Utilization by Program

	Commercial			MassHealth			CommCare			CommChoice		
FY	IP/1,000	ER/1,000	PCP/1,000	IP/1,000	ER/1,000	PCP/1,000	IP/1,000	ER/1,000	PCP/1,000	IP/1,000	ER/1,000	PCP/1,000
2007	82.8	189.6	1,263.5	43.9	416.9	1,387.4	47.6	390.5	1,455.0	-	-	-
2008	82.6	192.3	1,268.0	50.5	481.6	1,543.6	66.9	509.5	2,057.0	63.7	274.8	1,265.7
2009	57.0	137.9	930.8	29.7	378.0	1,108.8	51.5	369.6	1,444.6	40.4	164.7	768.2
2010	58.2	128.6	856.7	22.7	309.4	901.2	47.7	333.8	1,347.1	45.2	167.8	731.3
2011	73.8	140.5	1,235.5	32.7	415.1	1,162.9	65.2	474.3	1,885.8	74.4	212.2	1,136.6

	Commercial			MassHealth			CommCare			CommChoice		
FY	IP/1,000	ER/1,000	PCP/1,000	IP/1,000	ER/1,000	PCP/1,000	IP/1,000	ER/1,000	PCP/1,000	IP/1,000	ER/1,000	PCP/1,000
2007	1.0	1.0	1.0	0.53	2.20	1.10	0.58	2.06	1.15	-	-	-
2008	1.0	1.0	1.0	0.61	2.50	1.22	0.81	2.65	1.62	0.77	1.43	1.00
2009	1.0	1.0	1.0	0.52	2.74	1.19	0.90	2.68	1.55	0.71	1.19	0.83
2010	1.0	1.0	1.0	0.39	2.41	1.05	0.82	2.60	1.57	0.78	1.31	0.85
2011	1.0	1.0	1.0	0.44	2.95	0.94	0.88	3.38	1.53	1.01	1.51	0.92

Table 6.12 shows the relativity of financially adjusted measures to utilization-adjusted measures. Use of the financial rather than the utilization model does not change the implications of the analysis much in some cases; for Commonwealth Care, however, rather different adjusted measures emerge.

Table 6.12 Ratios of Financial- and Utilization-Adjusted Utilization Measures

	Commercial			MassHealth			CommCare			CommChoice		
FY	IP/1,000	ER/1,000	PCP/1,000	IP/1,000	ER/1,000	PCP/1,000	IP/1,000	ER/1,000	PCP/1,000	IP/1,000	ER/1,000	PCP/1,000
2007	1.00	1.00	1.00	0.93	0.93	0.93	0.87	0.87	0.87	-	-	-
2008	1.00	1.00	1.00	0.94	0.94	0.94	0.83	0.83	0.83	1.01	1.01	1.01
2009	1.00	1.00	1.00	1.03	1.03	1.03	0.88	0.88	0.88	0.98	0.98	0.98
2010	1.00	1.00	1.00	1.04	1.04	1.04	0.90	0.90	0.90	0.96	0.96	0.96
2011	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86	0.96	0.96	0.96

Table 6.12 compares the adjusted utilization of Medicaid, Commonwealth Care, and Commonwealth Choice to that of the Commercial block (as shown in the lower blocks of Tables 6.10 and 6.11). Table 6.12 then compares these ratios by dividing the Table 6.11 ratios by those in Table 6.10. There are three points to note from this analysis:

- With some exceptions, these ratios do not differ significantly from 1.00.
- The major exception is Commonwealth Care, where the ratio varies between −17% and −10%. Significantly, the Commonwealth Care ratio is uniformly negative, while other

block ratios appear more random. Why this is the case is not obvious and would be the subject of a different study.

- For the MassHealth population, there is an upward trend, implying that the use of the financial adjuster could introduce some distortion into the results. (The reverse is true for Commonwealth Choice where the trend is downward.)

Overall these ratios suggest that use of a financial risk adjuster to adjust utilization measures, although it may be appropriate in some cases, should be used with caution because of the potential to introduce distortion. This analysis suggests that further research into this area (outside the scope of this report) is worthwhile.

Analysis of Coverage by Carrier

We were able to analyze Commercial membership and experience by carrier and by type of coverage. Table 6.13 reports Commercial Enrollment, and Table 6.14 reports cost PMPM, by carrier. Carriers were divided into those that sell coverage through the Connector (the vast majority of lives are covered through these plans) and other major medical plans (from carriers such as Aetna, CIGNA and United Healthcare). Student Health plans (which are not covered by Chapter 58) are reported separately, as are “mini-med” plans. The latter category of plans ceased to be “Creditable” for the purpose of meeting the mandate when the Connector board published its minimum creditable coverage regulations, effective January 1, 2009.

Student Health plans and coverage sold by other carriers represent a small but growing fraction of all coverage in all years, growing from 9.4% of all members in 2006 to 15.7% in 2010. Mini-med plans declined from 2.4% of all members in 2006 to 0.9% in 2010. Both student and mini-med plans are relatively inexpensive, each representing less than $100 PMPM in allowed charges. Member cost sharing is high for mini-med plans, with average member cost sharing around 40% of allowed charges.

Table 6.13 Commercial Enrollment by Carrier by Calendar Year

	2006			2007			2008			2009			2010		
Plan	Members	MMs	Ave Duration	Members	MMs	Ave Duration	Members	MMs	Ave Duration	Members	MMs	Ave Duration	Members	MMs	Ave Duration
Fallon Community Health Plan	123,969	724,570	5.84	144,316	1,329,358	9.21	152,847	1,449,035	9.48	170,550	1,532,677	8.99	258,177	756,234	2.93
Health New England, Inc.	71,495	406,690	5.69	81,032	796,543	9.83	82,111	798,978	9.73	84,453	767,311	9.09	85,383	700,389	8.20
Tufts Health Plan	264,506	1,516,583	5.73	321,846	2,991,127	9.29	353,872	3,281,474	9.27	379,448	3,057,073	8.06	343,450	3,182,759	9.27
Harvard Pilgrim Health Care	441,019	2,604,464	5.91	469,679	4,552,848	9.69	436,258	4,178,127	9.58	440,057	3,545,051	8.06	435,962	4,203,651	9.64
Blue Cross Blue Shield of MA	1,502,997	8,736,177	5.81	1,606,041	15,778,851	9.82	1,453,891	13,906,325	9.56	1,378,670	12,671,688	9.19	1,106,801	10,696,360	9.66
Neighborhood Health Plan	164,222	835,931	5.09	220,483	1,875,305	8.51	255,567	2,216,401	8.67	337,565	2,395,593	7.10	276,853	1,452,206	5.25
Sub-total	2,568,201	13,996,842	5.45	2,843,397	27,324,032	9.61	2,734,546	25,830,340	9.45	2,790,743	23,969,393	8.59	2,506,626	20,991,599	8.37
Other Major Medical plans	146,447	719,035	4.91	283,210	2,665,865	9.41	262,564	2,572,286	9.80	343,496	2,806,899	8.17	330,075	2,629,927	7.97
Student Health Plans	125,655	659,986	5.25	124,761	1,238,685	9.93	121,048	1,163,652	9.61	149,633	1,167,369	7.80	143,559	798,269	5.56
Mini-med Plans	69,679	399,672	5.74	62,050	624,306	10.06	57,024	443,515	7.78	52,535	341,113	6.49	27,522	212,179	7.71
	341,781	1,763,389	5.16	470,021	4,528,856	9.64	440,636	4,179,453	9.49	545,664	4,315,381	7.91	501,156	3,640,375	7.26

Note: 2006 represents six months of data only. Commercial here represents Commercial lives with BCBSMA ASO business removed.

Table 6.14 Commercial Cost PMPM by Carrier by Calendar Year

	2006			2007			2008			2009			2010		
Plan	Allowed Charges	Member Cost-share	Net Paid Claims	Allowed Charges	Member Cost-share	Net Paid Claims	Allowed Charges	Member Cost-share	Net Paid Claims	Allowed Charges	Member Cost-share	Net Paid Claims	Allowed Charges	Member Cost-share	Net Paid Claims
Fallon Community Health Plan	$ 254.86	$ 23.66	$ 244.43	$ 266.08	$ 26.00	$ 254.27	$ 307.16	$ 27.93	$ 280.39	$ 197.01	$ 26.20	$ 170.79	$ 177.44	$ 28.19	$ 149.09
Health New England, Inc.	$ 269.62	$ 28.90	$ 240.71	$ 281.74	$ 35.41	$ 246.33	$ 292.53	$ 38.09	$ 254.41	$ 107.44	$ 20.59	$ 86.60	$ 270.97	$ 31.69	$ 239.04
Tufts Health Plan	$ 311.10	$ 27.26	$ 281.62	$ 315.12	$ 30.03	$ 282.96	$ 344.47	$ 36.75	$ 305.27	$ 231.30	$ 26.75	$ 201.23	$ 336.27	$ 35.64	$ 297.92
Harvard Pilgrim Health Care	$ 340.31	$ 26.39	$ 291.42	$ 350.80	$ 27.91	$ 294.48	$ 377.32	$ 30.32	$ 317.94	$ 286.91	$ 27.38	$ 223.36	$ 357.57	$ 34.29	$ 297.64
Blue Cross Blue Shield of MA	$ 349.42	$ 42.57	$ 288.91	$ 382.37	$ 62.10	$ 299.23	$ 416.69	$ 100.91	$ 295.19	$ 208.66	$ 22.46	$ 162.52	$ 344.76	$ 32.50	$ 291.87
Neighborhood Health Plan	$ 299.37	$ 7.76	$ 291.61	$ 329.98	$ 7.57	$ 322.41	$ 343.32	$ 22.52	$ 320.80	$ 274.53	$ 27.30	$ 247.23	$ 296.13	$ 14.67	$ 281.46
Sub-total	$ 322.60	$ 35.25	$ 272.45	$ 357.56	$ 46.62	$ 294.52	$ 384.86	$ 68.58	$ 300.26	$ 225.72	$ 24.40	$ 183.02	$ 334.18	$ 31.92	$ 286.32
Other Major Medical plans	$ 238.43	$ 54.21	$ 176.96	$ 238.88	$ 63.80	$ 171.35	$ 204.15	$ 17.27	$ 183.42	$ 161.48	$ 10.56	$ 147.57	$ 243.05	$ 18.10	$ 219.49
Student Health Plans	$ 47.90	$ 5.17	$ 42.36	$ 50.30	$ 5.63	$ 44.25	$ 64.52	$ 11.09	$ 53.20	$ 42.17	$ 4.20	$ 37.83	$ 60.81	$ 7.00	$ 53.19
Mini-med Plans	$ 78.15	$ 32.01	$ 45.98	$ 92.52	$ 37.88	$ 54.36	$ 116.73	$ 50.92	$ 65.60	$ 64.85	$ 27.60	$ 37.34	$ 98.61	$ 37.82	$ 60.73
	$ 127.30	$ 29.80	$ 94.36	$ 167.13	$ 44.32	$ 120.46	$ 156.00	$ 19.12	$ 134.66	$ 121.57	$ 10.19	$ 109.17	$ 194.67	$ 16.82	$ 173.77

Profile of New Entrants: Commercial

We identify a cohort of newly enrolled lives as a result of the mandate at January 1, 2007, by comparing the Commercially enrolled population at December 2006 with the same population at January 1, 2007; any member who was not in the database at December 31, 2006, is deemed to be newly enrolled. This date saw a net gain of 84,000 newly insured lives in Commercial insurance. This is the net growth in the number of insured, comprising a reduction of 143,000 members from December 2006 who did not renew their Commercial coverage and a total of 227,000 newly enrolled Commercially insured lives. The mandate was not effective until July 1, 2007 (and the penalty was only assessed at year-end 2007), so there may have been additional new entrants later than January 2007. However, the total Commercial enrollment at July 1, 2007 (3.433 million) is slightly lower than the enrollment at January 1, 2007 (3.436 million), while that at December 31, 2007, is only marginally higher than that of January 1, 2007 (3.455 million). Therefore, in constructing a cohort of newly enrolled members for the purpose of analyzing experience, it is reasonable to identify the new entrants at January 2007.

Table 6.15 shows the enrollment and cost of the newly enrolled 2007 Commercial cohort and compares their cost with that of all Commercially enrolled members. Table 6.15 also shows the age difference, relative percentage male and cost ratio, comparing the 2007 cohort with all Commercial members (excluding BCBSMA ASO).

The 2007 newly enrolled cohort consists of lives with no prior Commercial insurance during the period July 1, 2006, to December 31, 2006. It is possible that some members of this cohort had Commercial insurance that had been dropped prior to July 1, 2006. Because the Commercial dataset begins July 1, 2006, we cannot identify these members. We believe, however, that the January 1, 2007, newly enrolled cohort is representative of those Commercial members newly enrolled because of the mandate. Note that Table 6.15 is presented in terms of fiscal years; because we are interested in newly enrolled members in 2007, FY 2007 represents the six-month period January 1, 2007, to June 30, 2007, whereas subsequent fiscal years represent a full 12-month period.

The newly enrolled cohort is considerably older than the Commercial population as a whole: in FY 2007, the difference is 7.7 years, growing to 16.7 years by FY 2011. To some degree this difference is predictable because the new entrant cohort is a closed group (no new entrants) while the Commercial block is subject to both entrance and exit. (The mean age of the Commercial population varies little, between 40.8 and 42.6 in the period 2007–2011.) Despite the relatively older age of the new-entrant cohort, this group's cost is considerably lower than that of the Commercial block as a whole (particularly with regard to prescriptions), varying between 70.1% and 75% of the Commercial group's cost (net paid), between 82% and 91% (net paid medical claims only), and between 18% and 32% for net paid claims for prescription drugs. The consistently lower cost of the newly enrolled population suggests that at least some portion of this group were healthy, expected low claims, and therefore preferred to self-insure. The

difference between the newly enrolled cohort net paid claims PMPM and the corresponding cost of the Commercial cohort varies between $57 and $66 and represents an estimate of the subsidy being contributed by the newly enrolled group (and their employers) toward the cost of care of existing insured members.

Profile of New Entrants: Medicaid

Although it is possible to identify a unique cohort of newly enrolled Commercial members, it is more difficult to do so for Medicaid members. Medicaid expansion was effective October 1, 2006, but the Medicaid enrollment process and the inherent churn in this population makes identification of the newly enrolled as a result of the reform more difficult. We therefore have identified all newly enrolled Medicaid members between October 1, 2006, and June 30, 2007, with no prior record of insurance. Table 6.16 shows comparative enrollment and cost of this Medicaid newly enrolled cohort.

Unlike newly enrolled Commercial members (who tend to be older but healthier than the previously insured) newly enrolled Medicaid members are younger than the existing membership. Reflecting the younger age, as well, possibly as an overall healthier population, the average cost of the newly enrolled cohort varies between 56% and 79% of the existing membership.

Table 6.15 Enrollment and Cost of Newly Insured Cohort, Commercial 2007

Fiscal Year	Members	Member Months	Mean Age	% Male	Total Allowed Amount	Total Member Amount	Total Net Paid Amount	Medical Allowed Amount	Med Member Amount	Med Net Paid Amount	Rx Allowed Amount	Rx Member Amount	Rx Net Paid Amount
2007	227,886	1,317,118	50.3	45.9%	$233.17	$37.01	$196.16	$214.17	$33.32	$180.84	$19.00	$3.69	$15.32
2008	207,613	2,283,184	51.8	45.6%	$251.11	$41.97	$209.14	$230.31	$38.23	$192.09	$20.80	$3.75	$17.05
2009	172,006	1,801,671	54.5	44.9%	$183.55	$28.35	$155.19	$164.99	$24.99	$140.00	$18.55	$3.36	$15.19
2010	124,232	1,398,440	57.4	44.3%	$181.17	$12.46	$168.71	$165.29	$9.72	$155.57	$15.88	$2.74	$13.14
2011	107,379	616,450	58.8	44.1%	$192.60	$11.44	$181.16	$186.12	$10.40	$175.72	$6.48	$1.04	$5.44

Fiscal Year	Members	Member Months	Mean Age (Difference)	% Male	Total Allowed Amount	Total Member Amount	Total Net Paid Amount	Medical Allowed Amount	Med Member Amount	Med Net Paid Amount	Rx Allowed Amount	Rx Member Amount	Rx Net Paid Amount
2007		4.0%	7.7	96.6%	75.8%	80.6%	75.0%	86.8%	94.5%	85.5%	31.3%	34.7%	30.6%
2008		7.0%	9.6	96.0%	76.6%	88.5%	74.6%	87.4%	104.5%	84.7%	32.4%	34.7%	32.0%
2009		6.0%	12.9	95.7%	70.4%	72.4%	70.1%	85.2%	97.5%	83.3%	27.7%	24.8%	28.4%
2010		4.8%	16.6	94.1%	72.1%	49.2%	74.6%	89.8%	75.2%	90.9%	23.5%	22.1%	23.9%
2011		5.6%	16.7	93.2%	71.6%	46.9%	74.1%	79.7%	55.4%	81.8%	18.4%	18.5%	18.3%

Table 6.16 Enrollment and Cost of Newly Insured Cohort, Medicaid 2007

Fiscal Year	Members	Member Months	Mean Age	% Male	Total Allowed Amount	Total Member Amount	Total Net Paid Amount	Medical Allowed Amount	Med Member Amount	Med Net Paid Amount	Rx Allowed Amount	Rx Member Amount	Rx Net Paid Amount
2007	92,497	304,438	30.6	-	$288.87	$8.21	$280.66	$274.79	$7.90	$266.89	$14.08	$0.31	$13.77
2008	99,400	1,032,085	29.9	-	$248.25	$11.73	$236.52	$222.51	$11.23	$211.28	$25.74	$0.50	$25.24
2009	70,734	708,149	28.7	-	$250.66	$16.75	$233.91	$218.02	$16.01	$202.01	$32.64	$0.74	$31.91
2010	48,283	505,490	27.8	-	$293.22	$30.91	$262.32	$249.20	$29.92	$219.28	$44.02	$0.98	$43.04
2011	36,939	212,909	27.5	-	$263.21	$33.89	$229.31	$239.69	$33.24	$206.45	$23.52	$0.66	$22.86

Fiscal Year	Members	Member Months	Mean Age (Difference)	% Male	Total Allowed Amount	Total Member Amount	Total Net Paid Amount	Medical Allowed Amount	Med Member Amount	Med Net Paid Amount	Rx Allowed Amount	Rx Member Amount	Rx Net Paid Amount
2007		2.2%	(5.7)	-	74.7%	27.9%	78.6%	81.4%	27.8%	86.3%	28.9%	29.5%	28.8%
2008		7.3%	(5.4)	-	59.7%	33.7%	62.1%	60.5%	33.4%	63.2%	53.6%	42.7%	53.9%
2009		5.0%	(5.9)	-	57.0%	40.1%	58.7%	56.2%	39.7%	58.1%	62.8%	50.7%	63.2%
2010		3.8%	(6.5)	-	59.1%	53.2%	59.8%	58.4%	53.2%	59.1%	63.3%	53.8%	63.6%
2011		3.3%	(6.7)	-	56.1%	55.0%	56.3%	55.2%	54.9%	55.3%	67.5%	57.9%	67.8%

Relative Risk of New and Existing Members

The DxCG risk scores for the new member cohorts (and comparative scores for existing members) allow us to assess the relative risk of the new entrants, relative to existing members. The age/gender risk score for the Commercial new entrants is higher than that of the existing members; the relativity (between 27% and 55% higher) reflects the higher average age of the New Entrant cohort. The Condition Risk/Age-Sex Risk ratio is also higher than that of the existing members, which suggests that the new entrant population has higher disease burden. This conclusion is counter to the relative cost of the new entrant cohort, which (despite its higher disease burden) is lower than that of the existing members.

Table 6.17 Relative Risk of New and Existing Commercial Members

Commercial	New Entrants				Existing Members			
	Commercial Cohort				Commercial Cohort			
Fiscal Year	Mean Age	Age/ Gender	Condition	Ratio	Mean Age	Age/ Gender	Condition	Ratio
2007	50.3	1.667	2.349	1.409	42.6	1.313	1.716	1.306
2008	51.8	1.731	2.501	1.445	42.2	1.304	1.960	1.503
2009	54.5	1.854	2.480	1.338	41.6	1.288	1.605	1.246
2010	57.4	1.987	2.800	1.409	40.8	1.263	1.521	1.204
2011	58.8	2.053	3.378	1.645	42.1	1.321	2.180	1.650

The age/gender risk score for the Medicaid New Entrants (Table 6.18) is lower than that of the existing members; the relativity (between 13% and 15% lower) reflects the lower average age of the New Entrant cohort. The Condition Risk/Age-Sex Risk ratio is also lower than that of the existing members, which suggests that the new entrant population has lower disease burden. This conclusion is consistent with the relative cost of the New Entrant cohort, which is lower than that of the existing members.

Table 6.18 Relative Risk of New and Existing Medicaid Members

Medicaid	New Entrants				Existing Members			
	Commercial Cohort				Commercial Cohort			
Fiscal Year	Mean Age	Age/ Gender	Condition	Ratio	Mean Age	Age/ Gender	Condition	Ratio
2007	31.0	1.024	1.355	1.323	36.3	1.173	1.917	1.634
2008	30.9	1.010	1.265	1.252	35.3	1.147	1.950	1.701
2009	30.1	0.983	1.550	1.577	34.6	1.129	2.267	2.008
2010	29.5	0.960	1.841	1.918	34.3	1.121	2.706	2.413
2011	29.3	0.956	1.923	2.012	34.2	1.118	2.798	2.502

Member Transition between Programs

Members were able to transition both between programs and “uninsurance.” Medicaid, as a program, has traditionally seen a significant amount of churn with members covered for a period, losing insurance, and then later returning to coverage either because of a need for treatment or because of a new qualifying event. The existence of the mandate and new coverage options made available by the reform should have reduced the amount of uninsurance, although whether or not the reform reduced churn is subject to investigation.

We have analyzed transitions between different statuses and programs in Tables 6.19 and 6.20. In these tables, members are classified as “terminating” if they have no further record in the data of coverage beyond the last month in which they had insurance. Members are classified as “transferring to uninsurance” if they have at least one month of uninsurance following a period of insurance, but later obtain insurance again. The programs to which Commercial members transfer are MassHealth, CommCare and CommChoice. In addition, there is a category of “Dual” coverage, which means that the member has a record for more than one program of coverage in the month of transition.[54] The percentage of Commercial members with “dual” coverage is small (between 0.2% and 0.6% of all Commercial membership) and represents a flaw in the dataset. For Medicaid members, the number of members with evidence of more than one type of coverage in a month varies between 1% and 12%. It is more likely, however, that a Medicaid member may have more than one type of coverage in a month because of the continuous enrollment nature of Medicaid coverage.

Table 16.19a shows transitions out of Commercial coverage by year; Table 16.19b shows transitions into Commercial coverage by year.

[54] “Dual” in this sense should not be confused with Dual Medicare-Medicaid coverage.

Table 6.19a Commercial Member Transition between Programs

Commercial	In-force	Terminating (No Further Ins.)	Transfer to Uninsured	Members Transferring Out of Commercial				Remain in Commercial
				To Mass Health	To Comm Care	To Comm Choice	To Dual	
As of July 2006	2,580,435	279,158	64,891	1,462	328	-	5,620	2,228,976
As of January 2007	2,673,574	610,307	127,390	3,934	4,520	709	17,293	1,909,421
As of January 2008	2,563,682	666,280	163,894	4,085	3,781	883	10,201	1,714,558
As of January 2009	2,368,459	901,681	182,578	3,628	1,670	1,313	6,800	1,270,789
As of January 2010	2,263,234	949,245	66,401	11,509	1,621	3,099	3,948	1,227,411

Table 6.19b Commercial Member Transition between Programs

Commercial	Transfer in (Newly Insured; No Previous Insurance)	Transfer in from Uninsured	Members Transferring into Commercial				Total In-Force as of Jan. of the Next Year
			In from Mass Health	In from Comm Care	In from Comm Choice	In from Dual	
As of July 2006	433,829	6,609	1,689	3	-	2,468	2,673,574
As of January 2007	587,231	54,771	1,866	958	-	9,435	2,563,682
As of January 2008	538,634	94,088	2,074	3,715	-	15,390	2,368,459
As of January 2009	697,781	273,585	7,891	2,627	598	9,963	2,263,234
As of January 2010	365,381	159,927	5,025	1,384	1,325	5,040	1,765,493

The number of Commercial members terminating coverage (with no further insurance) is high (between 10% and 40% of the in-force Commercial lives). Conversely, the percentage of lives that apparently transfer in with no prior insurance is of roughly the same order of magnitude. This suggests that there is a problem linking member records in the dataset, and that the same member may be terminating one carrier and picking up insurance with another, without the two records being linked (the QCC was supposed to have linked member records longitudinally in this way). We attempted to create our own linked records using identifying characteristics (date of birth, sex, zip code), but these data fields were heavily anonymized in the

file obtained from the QCC, making it impossible to link member records in this way. We report the data as received from the QCC.

With respect to the data that are credible we are able to see a small amount of transition to other types of coverage, but compared with the Commercial block, the number of members transitioning to MassHealth, CommCare or CommChoice (or conversely transitioning in from these programs) is minimal.

Table 6.20a Medicaid Member Transition between Programs

				Members Transferred Out of Medicaid				
Medicaid	**In-force**	**Terminating (No Further Ins.)**	**Transfer to Uninsured**	**To Commercial**	**To Comm Care**	**To Comm Choice**	**To Dual**	**Remained in Medicaid**
As of July 2006	1,103,996	90,100	128,929	3,324	3,193	-	129,901	748,549
As of January 2007	1,033,720	97,351	102,774	1,866	27,822	8	17,337	786,562
As of January 2008	1,082,728	112,051	95,341	2,074	29,232	16	12,967	831,047
As of January 2009	1,085,454	118,939	76,801	7,891	28,701	67	52,630	800,425
As of January 2010	998,931	128,566	25,945	5,025	20,302	74	18,544	800,475

Table 6.20b Medicaid Member Transition between Programs

Medicaid	Transfer in (Newly Insured; No Previous Insurance)	Transfer in from Uninsured	Members Transferred into Medicaid: In from Commercial	In from Comm Care	In from Comm Choice	In from Dual	Total In-Force as of Jan. of the Next Year
As of July 2006	237,211	36,881	1,462	116	-	9,501	1,033,720
As of January 2007	183,343	74,718	3,934	12,675	1	21,495	1,082,728
As of January 2008	109,089	86,585	4,085	29,420	2	25,226	1,085,454
As of January 2009	42,503	104,530	3,628	26,182	28	21,635	998,931
As of January 2010	27,709	90,766	11,509	19,232	102	121,041	1,070,834

For Medicaid, the churn (as we would expect) is greater than that of Commercial insurance. With the exception of the most recent year, between 7% and 12% of members move from Medicaid to uninsured; almost as many members transfer in from uninsurance, suggesting that what we are seeing is the regular Medicaid churn. Similarly, members move between Medicaid and CommCare, with between 2% and 3% of Medicaid members moving to or from CommCare each year.

Overall, however, the number of members who apparently terminate with no further coverage is high and requires further work to understand the longitudinal enrollment experience of these members. With the limitations of the QCC data, this is not possible.

Appendix: Detailed Discussion of Data Issues

Eligibility and claims data for the Commonwealth Choice and Commercial populations were provided by the QCC. The Massachusetts Health Insurance Connector Authority (Connector) provided a list of Commonwealth Choice enrolled members by month. Commonwealth Care members (as a Medicaid expansion population) are part of the MassHealth population, included in the MassHealth data provided by MassHealth.

We have been unable to match the number of lives in the QCC database to the number of Commonwealth Care and Choice insured lives reported by the Connector. We report the total number of individuals in different programs in Table 6.1. Unfortunately the QCC dataset is no longer supported by CHIA, so it is not possible to pursue questions about data quality and reconciliation within that dataset. A similar problem exists with data from MassHealth: The file provided (to the QCC) by MassHealth was a single-use file, and our attempts to work with MassHealth on data issues were not successful. Although the inability to match exactly to the reported total enrollment numbers reported by the Connector is a concern, we believe that the overall QCC database provides ample data for analysis and tests of hypotheses.

Restrictions and limitations in the data obtained from the QCC and MassHealth limit our ability to conduct some analyses. Data restrictions and limitations include the following:

- Absence of gender identification in the MassHealth data (making age/sex risk score calculation impossible for this block).
- The number of Commonwealth Care members identified in the MassHealth data in the early years following reform is larger than that reported by the Connector.
- We were able to identify fewer Commonwealth Choice members than the aggregate number reported by the Connector. The Connector has acknowledged that its member identification data are subject to errors, but we have not been able to work with either the QCC or Connector to resolve these issues.
- Pharmacy data are generally of low quality with many issues. These include a lack of data fields normally available in data of this type, for example, date paid and days' supply. A relatively high percentage of drug claims were missing National Drug Codes (NDCs), which are essential for assigning therapeutic groups and determining generic versus brand dispensing. It was possible to identify generic drugs from NDCs, where these were provided. An expanded generic cross-reference code table and Red Book table were used to apply a generic indicator for an NDC. All scripts provided in the utilization table were adjusted to 30-day equivalents (for example, a 90-day refill equals three 30-

day scripts). Some adjustments were made: For example, if a member has a 90-day generic refill and a seven-day branded refill, the percentage generic fill rate will be 3 / (3 + 1) = 75%.

Because days' supply was not present in the claims data, days' supply for Commercial and Commonwealth Choice members was imputed. First, we calculated the allowed amount per day for each NDC in each year for a Commercial benchmark population. Days' supply for the Massachusetts data was then estimated by dividing total allowed amount per claim by the cost per day benchmark for the specific NDC. The benchmark population used was the SCIO Health Analytics national Commercial database, which may contain contractual differences to the plans in Massachusetts. To the extent that the benchmark cost per day in the benchmark data is not representative of Massachusetts experience, days' supply could be overestimated or underestimated.

- BCBSMA ceased providing self-insured business data to the QCC beginning in 2009. We attempted to obtain this data directly from BCBSMA, without success (we note that BCBSMA is now providing these data to [122] the APCD). Reports in this chapter are provided both with and without BCBSMA data, including BCBSMA's self-insured data through 2008 and excluding BCBSMA data from earlier years to ensure a consistent dataset.

- Analysis of data by company: The QCC data include submissions from a number of different companies, allowing us to perform analysis by company. Several company types are excluded from the final analysis because they represent types of companies not part of Massachusetts reform (e.g., Student Health) or types of coverage outlawed by the reform (the so-called "mini-med" market). In our analysis we examine the longitudinal behavior of those consumers who originally had "mini-med" coverage.

- Both medical and pharmacy data contain some "orphan" claims. Orphan claims are claims that are incurred in a month in which the eligibility file does not contain an eligibility record for that member. Because the percentage of orphan claims is overall relatively low, we attributed certain claims in our calculations and adjusted the membership files to deem the member eligible in a month in which such claims are incurred. The vast majority of claims data obtained from the QCC could be linked to eligibility records. Although there are no orphan eligibility records, approximately 5.4% of allowed claims within the QCC data represented claims for which no corresponding eligibility record was found. Specifically, we attributed claims where the claim was incurred within a two-month span prior to the first or immediately after the last month of eligibility for the member recorded in the member eligibility file. Within the QCC data, 1.2% of all claims were attributed this way, leaving 4.2% of allowed charges that could

not be linked to an eligible member record (unattributed). Table A 6.1 shows orphan, attributed and unattributed data by year. Attributed claims amounted to $3.54 PMPM on an allowed basis ($2.90 net paid PMPM) and are therefore unlikely to change the overall conclusion of the study. Unattributed claims are higher ($12.95 and $10.65 allowed/net paid PMPM, respectively), and the omission of these claims may have a more significant impact on the analysis. However, because the CHIA no longer supports the QCC data, there is no opportunity to pursue data issues with the reporting insurers.

Table A 6.1

QCC Data 2007-2011

Fiscal Year	Values	Attributed Claims	Orphan Assigned	Orphan Assigned %	Orphan Unassigned	Remaining Orphan %
2007	Total Allowed Amount	$ 12,974,053,130	$ 21,063,855	0.2%	$ 356,577,282	2.7%
	Total Paid Amount	$ 10,318,338,505	$ 15,136,742	0.1%	$ 259,679,178	2.5%
2008	Total Allowed Amount	$ 14,300,026,157	$ 85,196,596	0.6%	$ 595,340,007	4.1%
	Total Paid Amount	$ 11,237,318,462	$ 67,630,979	0.6%	$ 449,732,709	4.0%
2009	Total Allowed Amount	$ 9,932,172,651	$ 244,917,535	2.4%	$ 392,890,285	3.9%
	Total Paid Amount	$ 7,464,483,681	$ 188,240,652	2.5%	$ 355,870,475	4.7%
2010	Total Allowed Amount	$ 7,175,508,900	$ 166,577,134	2.3%	$ 445,237,719	6.1%
	Total Paid Amount	$ 6,076,120,443	$ 149,158,948	2.4%	$ 400,596,615	6.4%
2011	Total Allowed Amount	$ 2,940,853,879	$ 38,295,051	1.3%	$ 241,873,169	8.1%
	Total Paid Amount	$ 2,569,403,330	$ 35,171,565	1.4%	$ 206,265,649	7.9%
2007–		$ 47,322,614,717	$ 556,050,171	1.2%	$ 2,031,918,463	4.2%
2011		$ 37,665,664,421	$ 455,338,886	1.2%	$ 1,672,144,627	4.4%
Member	156,950,163	$ 301.51	$ 3.54		$ 12.95	
Months		$ 239.98	$ 2.90		$ 10.65	

Table A 6.2

Mass Health 2006–2010

Fiscal Year	Values	Attributed Claims	Orphan Assigned	Orphan Assigned %	Orphan Unassigned	Remaining Orphan %
2007	Total Allowed Amount	$ 5,396,091,859	$ 57,515	0.0%	$ 10,852,995	0.2%
	Total Paid Amount	$ 5,061,619,516	$ 57,249	0.0%	$ 10,676,824	0.2%
2008	Total Allowed Amount	$ 6,390,660,442	$ 170,047	0.0%	$ 20,136,629	0.3%
	Total Paid Amount	$ 5,964,748,830	$ 169,983	0.0%	$ 19,862,144	0.3%
2009	Total Allowed Amount	$ 6,764,838,975	$ 10,754,827	0.2%	$ 262,710,466	3.9%
	Total Paid Amount	$ 6,246,116,466	$ 10,425,436	0.2%	$ 259,069,745	4.1%
2010	Total Allowed Amount	$ 7,138,305,704	$ 25,703,058	0.4%	$ 694,279,209	9.7%
	Total Paid Amount	$ 6,247,729,463	$ 25,454,489	0.4%	$ 673,170,821	10.7%
2011	Total Allowed Amount	$ 3,268,584,449	$ 18,735,202	0.6%	$ 447,725,306	13.6%
	Total Paid Amount	$ 2,834,158,173	$ 20,064,252	0.7%	$ 424,083,068	14.9%
2007–		$ 28,958,481,430	$ 55,420,649	0.2%	$ 1,435,704,605	4.9%
2011		$ 26,354,372,447	$ 56,171,409	0.2%	$ 1,386,862,602	5.3%
Member	70,195,030	$ 412.54	$ 0.79		$ 20.45	
Months		$ 375.44	$ 0.80		$ 19.76	

Table A 6.2 shows similar data but for the MassHealth sourced data (Medicaid and Commonwealth Care). Orphan claims for MassHealth amounted to approximately 5.1% of allowed charges. Only a small percentage of these claims were attributable using the two-month eligibility rule, and 4.9% of charges remained unattributed (allowed charges) or 5.3% of net paid claims. Attributed claims represent a de minimis percentage of the overall cost per member per month, and approximately $20.00 per member per month in unattributed claims. Thus the inclusion of attributed claims will have little effect on the overall results but the inability to account for unattributed claims remains a source of concern.

Glossary

3 R's	The three elements of the risk-sharing mechanism: Risk Adjustment, Risk Corridors, and Reinsurance
APCD	All-Payer Claims Database
ARRA	American Recovery and Reinvestment Act
ASO	Administrative Services Only
AWSS	Aliens with Special Status
BCBSMA	Blue Cross Blue Shield of Massachusetts
BMC	Boston Medical Center
BMCHP	Boston Medical Center Health Plan
CHA	Cambridge Health Alliance
Chapter 58	Chapter 58 of the laws of 2006: enabling legislation that designed and implemented Massachusetts health insurance reform
CHIA	Center for Health Information and Analysis
CMS	Center for Medicare and Medicaid Services
CY	Calendar Year
DSH	Disproportionate Share Hospital
EMAC	Employer Medical Assistance Contribution
EOHHS	Executive Office of Health and Human Services
ER	Emergency Room
ERISA	Employee Retirement Income Security Act
ESI	Employer-Sponsored Insurance
FPL	Federal Poverty Level
FSC	Fair Share Contribution
FTE	Full-Time Equivalent
HSA	Health Savings Account

HSN	Health Safety Net
MCC	Minimum Creditable Coverage
MCO	Managed Care Organization
MMCO	Medicaid Managed Care Organization
MMS	Massachusetts Medical Society
MOW	Mercer Oliver Wyman
NAIC	National Association of Insurance Commissioners
NDC	National Drug Code
PCIP	Preexisting Condition Insurance Plan
PCP	Primary Care Provider
PMPM	Per Member Per Month
QCC	Quality & Cost Council
RBC	Risk-Based Capital
YAP	Young Adult Plan

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