Perspective

Scott E. Harrington

Medical Loss Ratio Regulation under the Affordable Care Act

The minimum medical loss ratio (MLR) regulations in the Affordable Care Act guarantee that a specific percentage of health insurance premiums is spent on medical care and specified activities to improve health care quality. This paper analyzes the regulations' potential unintended consequences and incentive effects, including: higher medical costs and premiums for some insurers; less innovation to align consumer, provider, and health plan incentives; less consumer choice and increased market concentration; and the risk that insurers will pay rebates if claim costs are lower than projected when premiums are established, despite the regulations' permitted "credibility adjustments." The paper discusses modifications and alternatives to the MLR regulations to help achieve their stated goals with less potential for adverse effects.

The Affordable Care Act (ACA) established minimum medical loss ratio (MLR) requirements of 80% for the individual and small group health insurance markets and 85% for the large group market. Beginning with 2011 experience and pursuant to regulations promulgated by the U.S. Department of Health and Human Services (HHS), insurers whose medical claims and expenditures on specified activities to improve health care quality total less than the required percentages of premiums (less certain taxes and fees) in a given state must rebate the shortfalls to customers. Although industry aggregate MLRs generally have exceeded the required percentages (U.S. GAO 2011a; Houchens 2011), MLRs vary significantly across insurers and markets. The HHS announced in June 2012 that rebates for 2011 would total $1.1 billion, with 38%, 17%, and 11% of consumers receiving rebates in the individual, small group, and large group markets, respectively, and an average rebate per household of $151 (above $500 in some states, U.S. HHS 2012a).[1]

Minimum loss ratio requirements have long been a feature of health insurance and property/casualty insurance regulation in many states. About half had pre-ACA requirements that insurers' rate filings with state regulators provide for a minimum MLR for individual health insurance, and roughly 20 states had minimums for the small group and/or large group health insurance markets (NAIC 2009; AHIP 2010). Compared with

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most traditional state-based requirements, the ACA's MLR requirements differ in several key respects. First, state MLR regulations establish a modest ex ante floor for projected medical costs in relation to premiums when policies are sold, rather than require ex post premium rebates if actual MLRs fall below the minimum after provision of coverage. Second, state regulations generally define the MLR as the ratio of medical costs to premiums, without addition of expenditures on quality improvement activities to the numerator or deduction of any taxes or fees from the denominator. Third, the state minimums generally are lower than the ACA thresholds, typically ranging from 60% to 75%.[2]

The stated goals of the ACA's minimum MLR regime are to promote transparency, consumer value, and greater efficiency of health insurers. Taking those goals as given, this paper analyzes the MLR regulations' potential unintended consequences and incentive effects, and it considers alternatives that might achieve the regulations' goals with less risk of adverse effects. The analysis is all the more important given that related regulations on prices and expenditures have been imposed historically in other contexts without a full understanding of the potential effects, often leading to their modification or repeal.

Particular attention is paid to the increased potential for unintended consequences from the inherent statistical volatility of insurers' claims experience, which cannot be addressed precisely through "credibility adjustments" that are based on the volume of insurers' business. Due to the unpredictable nature of medical costs, the federal MLR regulations may require that an insurer with lower than projected claim costs pay rebates even if the target MLR used in its pricing is equal to or greater than the regulatory minimum, without giving the insurer the ability to charge additional amounts to consumers if claim costs are higher than projected. While requiring rebates for any reason superficially may seem attractive to some observers and policyholders, insurance markets function best when there is minimal unpredictability of insurers' costs. The additional (and asymmetric) uncertainty created by the MLR regulations' rebate requirements may lead to higher upfront premiums for some insurers, and it could lead some insurers to withdraw from certain markets.

By capping insurers' margins for non-claim expenses and profits, the MLR regulations also may discourage innovation to better align consumer, provider, and health plan incentives, especially when statistical uncertainty makes it more difficult for insurers to predict whether they will meet the MLR minimums. The regulations could lead to more consolidation and greater market concentration as smaller insurers with the most difficulty meeting MLR targets and bearing the fixed costs of compliance are acquired by larger insurers.

The MLR regulations also create tension between the concepts of "cost reduction" and "quality improvement" activities. At a time when it is becoming increasingly clear that certain health care services yield little or no improvement in outcomes or can actually harm health, the regulations classify some expenses as involving "cost reduction," which must be treated as administrative expenses, and others as expenditures on "quality improvement activity," which are counted toward meeting the MLR minimums. That approach risks unintended distortions in expense decisions and innovation, raising concern that the classifications' long-term effects could undermine broader efforts to promote health system change.

Overall, the possible unintended consequences and incentive effects of the complex and evolving rules that encompass the MLR regulations may impede the goals of enhancing the affordability of health care and insurance and improving health care quality. The regulations are at odds with a range of efforts at health system change, including those to promote choice and competition through health insurance exchanges and broad initiatives to improve efficiency in health care spending. They also could complicate efforts to provide consumers with clear and credible information to assist in choosing health care coverage that best meets their needs.

While these conclusions may surprise some, the goal of achieving beneficial changes in

health care finance and delivery makes it important that these concerns be understood and carefully weighed against the potential benefits of the regulations. More attention should be paid to the underlying tension between the MLR regulations and forward-looking efforts to transform the health care system, including careful consideration of alternatives or modifications to the minimum MLR approach. Increased transparency is one possibility, particularly if it focuses on reliable metrics that provide consumers with information relating to ultimate value. In this regard, supporters point to the MLR reporting requirements as providing consumers with important information. But if consumers do not understand what a specific MLR number represents, or the number is not put in context in relation to other considerations—and with suitable caveats regarding statistical variation across products or time—it may falsely imply that one plan is of better quality or a better choice than another.[3]

The next section describes the federal MLR regulations in more detail and considers their relationship to ACA provisions and regulations concerning health insurance rate review. Arguments that the MLR regulations will improve consumer welfare by increasing transparency, improving insurer efficiency, and providing better value to consumers are then contrasted with the traditional economic rationales for, and limitations of, price controls and related regulation. The paper then discusses the risk to insurers of paying rebates due to statistical volatility beyond that contemplated in the regulations' credibility adjustments. The regulations' potential unintended consequences for premiums, cost control, coverage design, and other behavior are then elaborated. The paper concludes by discussing modifications and alternatives to the MLR regulations that could help achieve their stated goals with less potential for adverse effects.

Overview of the Regulations

Section 2718 of the ACA, ''Bringing Down the Cost of Health Coverage,'' requires health insurers, beginning with their 2011 experience, to provide customers with premium rebates if the ratio of the sum of reimbursements ''for clinical services'' and expenditures ''for activities that improve health care quality'' to the ''total amount of premium revenue (excluding Federal and State taxes and licensing or regulatory fees)'' falls below 85% in the large group market and 80% in the small group and individual markets. States are permitted to specify higher thresholds. The HHS secretary is authorized to adjust the individual market threshold if ''the Secretary determines that the application of the 80 percent may destabilize the individual market in such State.'' Pursuant to that provision, HHS indicated that approval of state requests for adjustments would be based on whether exit of one or more insurers would be reasonably likely to destabilize the individual market. Seventeen states applied for adjustments; seven were granted some adjustment.[4]

Section 2718 charged the National Association of Insurance Commissioners (NAIC) with developing definitions and methodologies for implementing the minimum MLR and rebate system. After receiving input from health insurers, agents and brokers, medical care providers, and consumer advocates, the NAIC proposed regulations in October 2010 (NAIC 2010). HHS issued an Interim Final Rule in December 2010, which adopted the NAIC proposal and relaxed the minimum MLR requirements for limited benefit medical plans and health plans for expatriates (U.S. HHS 2010). After receiving comments, HHS issued a Final Rule in December 2011 (U.S. HHS, 2011).[5]

The MLR regulations define activities to improve quality as those that ''increase the likelihood of desired health care outcomes in ways that are capable of being objectively measured and of producing verifiable results and achievements.'' They must be designed primarily to: 1) improve health outcomes and reduce disparities; 2) prevent hospital readmissions; 3) improve safety, reduce medical errors, and lower infection and mortality rates; 4) implement, promote, and increase wellness and health; and 5) enhance the use of data to improve quality, transparency, and outcomes and support meaningful use of health information technology. HHS guidance indicates that while ''an issuer does not

have to present initial evidence proving the effectiveness of the quality improvement activity, the issuer will have to show measurable results stemming from the executed quality improvement activity.''

Expenditures designed primarily to control costs cannot be counted as expenditures on quality improvement. The prohibition specifically includes expenditures for: 1) retrospective and concurrent utilization review; 2) reducing fraud, except for ''detection/recovery expenses up to the amount recovered that reduces incurred claims''; 3) developing and administering provider contracts and networks; 4) provider credentialing; 5) marketing; and 6) calculating and administering individual enrollee or employee incentives.

MLRs and rebates must be calculated at the licensed entity level within a state (''entity-state'' level). The requirements apply to an entity's aggregate experience for all plans sold in the state. If a parent corporation has more than one subsidiary licensed in a state, each subsidiary is treated as a separate entity— there is no aggregation of experience across subsidiaries. As specified in the statute, the MLR calculation for 2011 reflects data for 2011 only. For reporting year 2012, experience for 2012 alone will be used if the entity's experience is fully credible (explained later) and combined experience for 2011 and 2012 will be used if otherwise. For 2013 and later, the calculations will be based on aggregate experience for the reporting year and the prior two reporting years (i.e., three-year averaging will be used).[6] Rebates are payable to customers in proportion to their premiums, with allocation among employers and enrollees in group plans depending on the terms of employer/employee contributions.

As elaborated further later, the regulations specify ''credibility adjustments'' to MLRs for smaller plans for which claims experience is subject to greater statistical variation. The term ''credibility'' refers to the statistical reliability of an insurance pool's loss experience. Other things being equal, a larger number of enrollees in a pool reduces statistical variation in the average cost per enrollee, producing a more stable MLR. The regulations' credibility adjustments make it less likely that entities with relatively small numbers of enrollees will have to pay rebates for years when their MLRs fall below the minimums due to chance (without giving them the ability to add surcharges to premiums when random experience causes their loss ratios to go higher than expected).[7]

The MLR calculations and rebates are based on insurers' claims and premiums without deducting amounts for commercial reinsurance, whereby a portion of risk and premiums is transferred to one or more reinsurance companies to reduce volatility.[8] Beginning in 2014, however, the calculations will reflect payments and collections under the ACA's required risk adjustment program and, for the period 2014–2016, payments and collections under the ACA's transitional reinsurance and risk corridor programs.

The MLR provisions and regulations were adopted in tandem with the ACA's rate review provisions and regulations. Section 2794 of the ACA, ''Ensuring that Consumers Get Value for Their Dollars,'' stipulates that the HHS secretary, in conjunction with the states, establish a process for annual review of ''unreasonable'' health insurance rate increases. Section 2794 does not require prior approval of rate changes by state regulators or permit HHS to deny increases.[9] But insurers must provide the HHS secretary and relevant state regulators with justifications of unreasonable rate increases prior to implementation, and ''prominently post such information on their Internet websites,'' with public disclosure otherwise ensured by the secretary. Insurers with rate increases that are deemed unreasonable after state and/or HHS review risk exclusion from the health insurance exchanges in 2014.

HHS regulations implementing Section 2973 set 10% as the threshold for ''unreasonable'' rate increases for a given product in a state beginning September 1, 2011. Starting in 2012, states could apply for state-specific thresholds, based on the ''the cost of health care and health insurance coverage.'' Insurers that propose increases above 10% must file a preliminary justification with the Center for Consumer Information and Insurance Oversight (CCIIO) and the state, which then is posted on the CCIIO website. If the state or the CCIIO deems an increase unreasonable, and if the insurer nonetheless implements the

increase, the insurer must submit a final justification to regulators and post it on the insurer's website. The CCIIO has thus far identified a number of rate increases as unreasonable.[10]

While HHS and drafters of the law and regulations regard the ACA's minimum MLR and rate review requirements as complementary (see the next section), there is some conflict between the requirements. Rate review focuses on whether proposed rates are "unreasonable" in relation to projected medical costs, administrative costs, and profit at the time policies are issued, including whether projected rates are expected to satisfy the minimum MLR requirements. The minimum MLR provisions seek to limit realized margins for administrative expenses and profits after policies are in force. The combination creates an environment where rates deemed reasonable ex ante (at the time policies are issued) may be viewed as unreasonably high ex post (after medical costs have been paid).

Stated Rationales vs. Economic Aversion to Price Controls

As noted earlier, the stated rationales for the minimum MLR standards and associated disclosure/reporting requirements are to promote transparency, consumer value, and greater efficiency by health insurers. According to the CCIIO, the rate review regulations complement the minimum MLR and its reporting/disclosure regulations to help achieve affordable health insurance, in part by moderating rate increases.[11]

The traditional view of economic regulation poses a three-prong test for efficient regulation.[12] First, demonstrable market failure should exist. Second, there should be a reasonable expectation that the benefits of regulation will outweigh its direct and indirect costs. Third, appropriate regulatory tools should be matched with specific market failures. Broadly construed, the MLR and rate review regulations both represent forms of price controls, which are subject to the limitations inherent in such controls and not easily reconciled with this view of regulation.

The economic rationale for price regulation focuses on whether firms are able to charge prices above marginal costs. If so, price regulation has the potential to reduce welfare losses by lowering prices and increasing consumption. Given the direct costs of regulation, potential distortions in incentives, and other unintended consequences, however, price regulation is generally viewed as a last resort—to be used only in cases where significant market power is inherent, such as natural monopoly or near natural monopoly. Otherwise, the preferred strategy is to promote more effective competition by, for example, antitrust policy and/or improving information disclosure.

Proponents of MLR minimums and detailed disclosure of insurers' claim costs and administrative expenses argue that such rules are an appropriate response to insufficient transparency and competition in health insurance markets, which they believe have resulted in excessive administrative expenses and profits.[13] Administrative expense ratios for individual and small group coverage in particular are seen as providing prima facie evidence of dysfunctional markets. Such arguments notwithstanding, the use of minimum MLR regulation as a means to make health insurance significantly more affordable overall is not readily reconciled with aggregate trends in MLRs and insurers' profit margins. Using data from the National Health Expenditure accounts, for example, the estimated ratio of medical costs to premiums (i.e., the traditional MLR calculation) for all private health coverage has averaged 87.7% since 1965, with little or no trend (see Figure 1).[14] Aggregate reported profit margins for publicly traded health insurers averaged 3.5% of revenues during the period 1991–2011 and 4.1% during the period 2002–2011 (see Figure 2), with generally lower margins for not-for-profit insurers.

Analyses of private health insurance markets have provided limited evidence of the scope and effectiveness of health insurance competition and little or no analysis of why minimum MLR regulation would be an appropriate vehicle for addressing market imperfections. Health insurance market concentration is often high at the state and metropolitan levels, especially for individual insurance (e.g., Robinson 2004; American

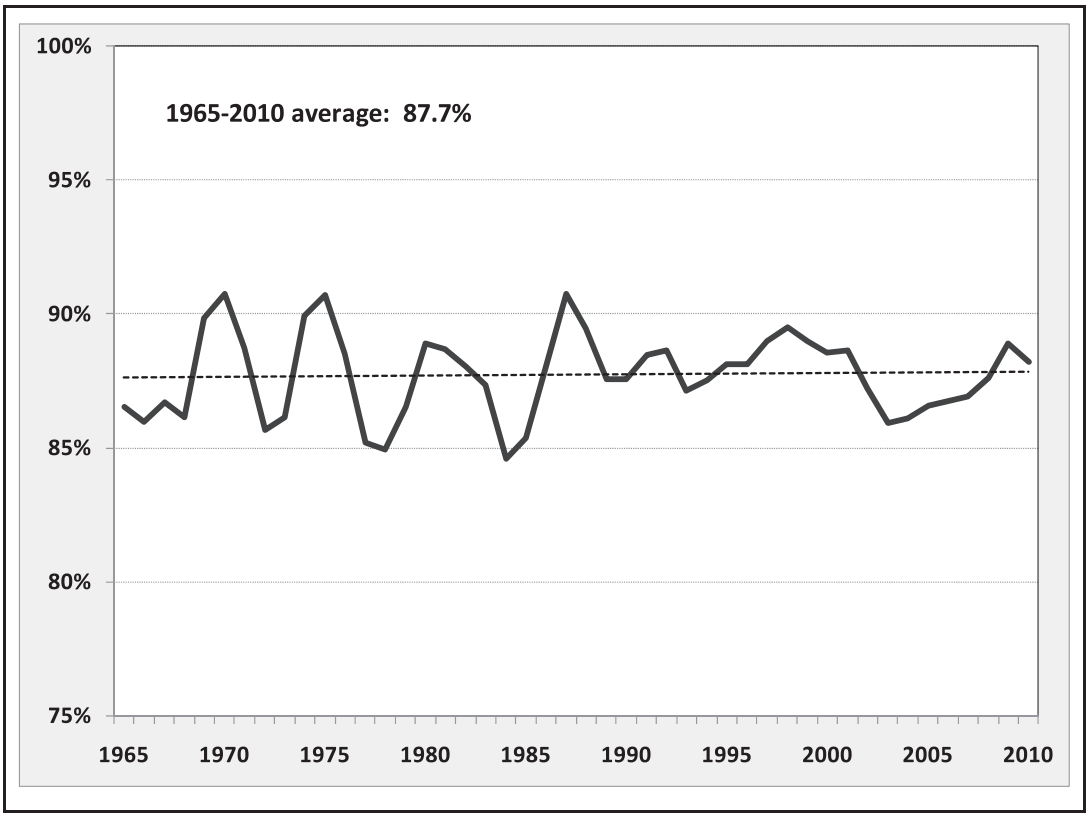

Figure 1. Estimated U.S. medical loss ratios for private health insurance, 1965-2010 (including premium equivalents for self-funded plans) (Author's calculations with national health expenditure data: National Health Expenditure [NHE] Amounts by Type of Expenditure and Source of Funds: Calendar Years 1965–2010 in PROJECTIONS format. Projections for 2010 based on the 2009 version of the NHE released in January 2011)

Medical Association 2007; U.S. GAO 2009; Austin and Hungerford 2009; Cox and Levitt 2011; also see Scanlon et al. 2006), raising concerns about market power.[15] But concentration varies widely across states and market segments (individual, small group, and large group), the causes of such variation and the nature and scope of possible barriers to entry and growth are not fully understood, and research has provided only mixed evidence of adverse effects from increased concentration (see, for example, Dafny 2008; Dafny, Duggan, and Ramanarayanan 2012; Moriya, Vogt, and Gaynor 2010; also see Conover and Miller 2010, and Gaynor and Town 2011).[16]

State regulation of health insurance rates has received little analysis, in contrast to research that has considered the effects of state rate regulation of automobile insurance and, to a lesser extent, workers' compensation insurance, including numerous comparisons of loss ratios (ratios of claim costs to premiums) in states with and without prior approval rate regulation. The results generally indicate that since the 1970s prior approval regulation on average had no effect on loss ratios, but periods of regulatory rate suppression in inflationary environments in some states were associated with reduced availability of coverage and/or a significant increase in insurer exits.[17] The implications for health insurance are uncertain, in part because of higher market concentration in many states' health insurance markets compared with property/casualty insurance markets.

Regulatory and compliance costs, incentive distortions, and other inefficiencies and unintended consequences ultimately transformed federal regulation of transportation (airline

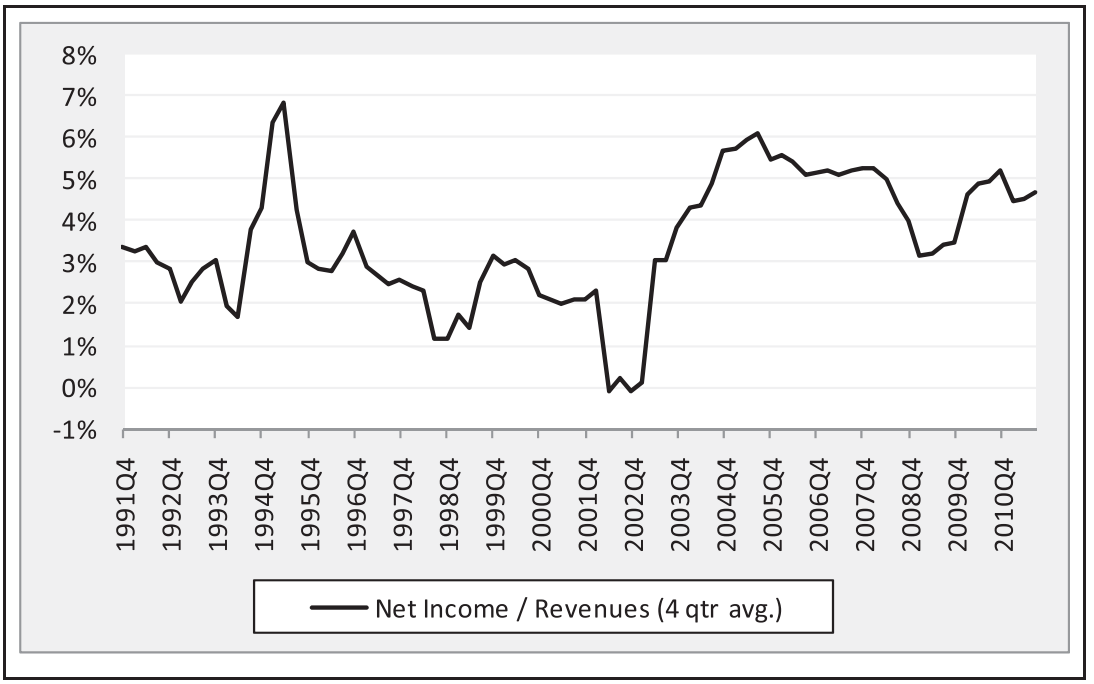

Figure 2. Quarterly net income as a percentage of revenues for publicly traded managed care organizations, 4th quarter 1991 to 3rd quarter 2011 (four quarter moving average) (Author's calculations using S&P Compustat quarterly data.)

and trucking) rates in the 1970s and 1980s. Those problems have also contributed to a significant emphasis on stimulating competition and consumer choice and to the adoption of novel forms of regulation for utility services, as opposed to the historic use of cost of service rate regulation. In the case of regulated public utilities, the drawbacks of traditional cost of service (or "rate of return") regulation—including, for example, weakened incentives for cost efficiency, arbitrary allocations of costs and assets across services, and difficulty in setting an appropriate rate of return on capital—ultimately led many regions to adopt some form of "price cap" regulation, often in conjunction with constraints on realized profits over time (e.g., Braeutigam and Panzar 1993). Under "pure" price cap regulation, a firm is permitted to raise the price of a given service over time in relation to changes in a price index, often with an efficiency adjustment to reflect the potential for improved productivity. The firm is otherwise allowed to retain all profits, thus incentivizing efficiency in production.[18]

In principle, minimum MLR regulation might be viewed as aiming to retain some incentives for efficiency consistent with arguments for price cap regulation in that, absent potential restrictions on projected profits in the rate review process, insurers are permitted to earn and retain profits from improvements in efficiency, provided that they meet the minimum MLR standard. That potential has to be weighed against the other consequences of MLR regulation. Moreover, significant differences between minimum MLR regulation and basic price cap regulation include the former's focus on influencing specific types and magnitudes of production costs and its application without regard to the extent of competition and potential market power in different states or market segments.

Statistical Volatility and Credibility Adjustments

Insurers' projected (target) MLRs will vary for different products and regions at time of sale due to many factors apart from any

potential variation that may arise from market power, costly consumer search, or other market imperfections. Those factors include: the magnitude of an insurer's fixed vs. variable administrative costs; the number of enrollees; the average morbidity and medical care utilization of enrollees; the average size of deductibles and other forms of cost sharing; the degree of focus on medical cost control; the types of relationships with providers; enrollee growth and turnover rates; and distribution methods (e.g., Robinson 1997; Harrington 2010). This complexity alone makes it difficult to predict the outcomes of the MLR rules and increases the likelihood of significant, unintended consequences. The effects of the rules on prices, coverage availability, distribution, cost control, quality improvement, coverage design, and contractual relationships with providers will also depend on uncertain consumer responses to any changes in insurers' offerings and strategy, as well as on the extent to which insurers' adjustments are constrained by prior contracts and pricing arrangements (such as guaranteed renewable coverage).

The uncertainty and risk of unanticipated consequences are amplified by an insurer's obligation to pay rebates on actual MLRs that may differ significantly from those projected when policies are issued (and by amounts greater than any permitted credibility adjustments, which are described in detail later). Health insurance premiums are based on the projected costs of providing coverage during the contract term, generally based on data available some months before the term commences. The variability between the average costs realized during the coverage period and the costs projected when coverage was priced depends on random (chance) statistical variation arising from the underlying probability distributions of medical costs and the unavoidable imprecision in estimating those distributions (i.e., projecting trends in medical costs).[19] As noted earlier, statistical variation in the average medical cost per enrollee for a health plan diminishes as the number of enrollees increases. Large enrollee pools have less variation in average costs than small pools. Even for very large pools, however, risk remains due to the inability to project precisely trends in costs. For example, unpredictable changes in disease and illness trends or in prices and utilization of medical care can occur at the state, regional, or even national level, regardless of the volume and quality of data and analysis used to project cost growth.

MLR Regulation Credibility Adjustments

The MLR rules authorize specific credibility adjustments to reduce the likelihood that rebates will be payable as a result of chance statistical variation. The relevant credibility adjustment, if any, is added to the insurer's MLR for the purpose of determining any obligation to pay a rebate and the amount. The eligibility for and magnitude of any credibility adjustment depend on the entity's number of covered life-years in the state (the total number of months of coverage provided to enrollees divided by 12). If an insurer's experience is based on 75,000 or more life-years, it is considered sufficiently reliable for full application of the rebate requirements without any credibility adjustment. If an insurer's experience is based on fewer than 1,000 life-years, its experience is considered insufficiently reliable (''non-credible'') for application of the requirements, and the insurer is exempt from paying rebates. For insurers with life-years ranging from 1,000 up to 75,000, a credibility adjustment that declines with the number of life-years is added to its MLR for the purpose of calculating rebates.[20]

The permitted credibility adjustments are greater for issuers of plans that have higher average deductibles because these plans experience more volatility in covered medical claims (see, for example, Milliman 2010a,b and Litow et al. 2012). Table 1 summarizes the permitted credibility adjustments for different numbers of life-years and average deductibles.

The permitted credibility adjustments are based on analysis by an actuarial consultant under guidelines provided by the NAIC (Milliman 2010a, b). The analysis used statistical simulations of MLRs for plans of different sizes and cost-sharing arrangements, assuming: 1) an underlying distribution of

Table 1. Permitted credibility adjustments for medical loss ratios (MLRs)

	Credibility adjustment for different average deductibles[a]			
Life-years	< $2,500	$2,500	$5,000	$10,000
< 1,000	Exempt from rebate requirements			
1,000	8.3%	9.7%	11.6%	14.4%
2,500	5.2%	6.1%	7.3%	9.0%
5,000	3.7%	4.3%	5.2%	6.4%
10,000	2.6%	3.0%	3.6%	4.5%
25,000	1.6%	1.9%	2.2%	2.8%
50,000	1.2%	1.4%	1.7%	2.1%
75,000	0.0%	0.0%	0.0%	0.0%

[a] The credibility adjustment for a given volume of life-years and average deductible is added to the insurer's MLR for the purpose of determining its obligation to pay rebates. Author's calculation of factors for $2,500, $5,000, and $10,000.

enrollee medical costs based on the experience of a large number of plans (21 million lives) as of July 2010, and 2) a target MLR of 80% for individual and small groups and 85% for large groups. The process involved simulating the annual medical costs paid for each enrollee in a plan of a given assumed size and then calculating the MLR for that plan-year. The process was repeated 5,000 times, producing an empirical MLR distribution for a plan of that size.

The NAIC requested credibility adjustments for two ranges, a "50 percent range," where the adjustment is based on the 25th percentile of the generated MLR values, and an "80 percent range," based on the 10th percentile. Basing the adjustments on the 25th percentile implies that—under the assumptions of the simulation—a plan with a target loss ratio of 80% would have to pay rebates on average one year out of four as a result of chance statistical variation in medical costs (vs. one year in 10 if the 10th percentile value were chosen). While there was concern that the simulations produced too many "false positives," the NAIC ultimately recommended—and the HHS adopted—the credibility adjustments based on the 25th percentile.

If the authorized credibility adjustments were accurate, an insurer that covered between 1,000 and 75,000 life-years and had an 80% target MLR would face a 25% probability of having to pay rebates for any given year due to chance alone (on average once in four years). In addition, insurers with a target MLR above 80% for individual or small group coverage would face some probability of paying rebates due to chance alone, with the probability declining from 25% as the difference between its target MLR and 80% increased. Those insurers would likely consider that possibility in their decision making.

The actuarial analysis underlying the credibility adjustments noted a number of limitations, including several arising from the scope of the analysis directed by the NAIC. Those limitations included: 1) the assumed claim probability distributions reflect nationwide experience and do not necessarily apply to any given insurer's business, 2) the assumed distributions need not apply to experience following health care reform, 3) the analysis did not consider variation that could arise from the MLR formula's dependence on expenditures for quality improvement and for taxes and fees, and 4) the analysis focused only on "unforeseen statistical variation" rather than potential "pricing errors."

Related to the last limitation, and presumably as directed by the NAIC, the analysis and resulting credibility factors assume that an insurer would know the underlying probability distribution of medical costs when it established premiums. That assumption abstracts from a central aspect of real-world pricing decisions. Insurers do not know the underlying claims distribution—it must be estimated—and errors in projecting trends in claim costs represent an inherent source of risk in pricing, even for the largest insurers. For premiums based on a given target MLR, that source of uncertainty and resulting forecast errors will cause variation in MLRs above and beyond that contemplated in the simulations supporting the authorized credibility factors. An individual or small group

market insurer with a target MLR of 80%, for example, might have a materially greater likelihood of experiencing a lower MLR due to chance than is implied by the simulations, with correspondingly higher likelihoods that insurers with higher target MLRs would have to pay rebates.[21] Historical data provide evidence consistent with this prediction. Analysis of the volatility in annual, entity-state level MLRs in the individual market during the period 2001–2010 suggests materially greater volatility than implied by the authorized credibility adjustments, with both higher likelihoods of paying rebates and higher than expected amounts.[22]

Basing MLR and rebate calculations on three years of experience, beginning with 2013, will reduce volatility but not eliminate the risk of having to pay rebates due to statistical volatility. MLRs based on three years of experience will reflect roughly three times as many lives. While three-year MLRs will have correspondingly less volatility (e.g., American Academy of Actuaries 2010), they will also receive lower credibility adjustments.[23] An insurer with, for example, 50,000 lives over three years would expect to have volatility roughly equivalent to an insurer with 50,000 lives in a single year. Even the largest insurers will still face volatility in three-year MLRs due to unavoidable inaccuracies in forecasting claim cost trends.

Risk Adjustment, Reinsurance, and Risk Corridors

The effects of the MLR rules will become much more complicated in 2014 when three other ACA provisions and attendant regulations (U.S. HHS 2012b; 2013a, b) take effect: 1) a permanent risk adjustment program for all non-grandfathered individual and small group plans; 2) a three-year transitional reinsurance program for high claim costs for individual enrollees in non-grandfathered individual market plans to be funded by contributions from all issuers and third-party administrators of group health plans; and 3) a three-year transitional risk corridor program for Qualified Health Plans (plans offered through the exchanges). Insurer payments and collections under these programs will be added to, and deducted from, the numerator when calculating MLRs and rebates, except for contributions to the reinsurance program, which will be deducted from the denominator.

Risk adjustment should primarily affect the calculations and rebates based on whether an insurer's enrollees have above average or below average ex ante risk characteristics as incorporated in the risk adjustment models, as opposed to unexpectedly higher or lower realized costs for enrollees as a group. On the other hand, insurers' contributions to the temporary reinsurance program would reduce the denominator of the MLR calculation, and collections for any enrollees with annual insured medical costs exceeding the reinsurance thresholds (attachment points) will decrease the numerator. By reducing individual market insurers' contributions in relation to payments received, the contributions from self-insurers will tend to lower individual market MLRs, depending on premium adjustments in anticipation of those transfers.

The risk corridor program during the 2014–2016 period will provide payments from HHS to Qualified Health Plans whose allowable costs (costs included in the numerator of the MLR calculation) exceed target amounts by specified percentages; it will require payments to HHS from insurers whose allowable costs are lower than target amounts by specified percentages. Given statutory language, it was originally anticipated that the risk corridor calculations would be at the plan level within a state, thus increasing the statistical variation compared with performing calculations at the licensed entity (insurer) level, as is done under the MLR rules. An HHS interim final rule, however, would essentially allow calculation at the insurer level (U.S. HHS 2013a).

The risk corridor program will likely reduce volatility in insurers' MLRs for rebate calculations over the 2014–2016 period, making it less likely that an insurer will have to pay rebates due to unexpectedly favorable claims experience. Plans with unexpectedly low costs below the thresholds in the risk corridors will be required to make payments to HHS, without any credibility adjustments, which will offset or potentially exceed any reduction in obligations to pay rebates. Conversely, under the risk corridor program

insurers will receive payments if unexpectedly high medical costs produce allowable costs sufficiently greater than the target amounts.

Potential Effects and Unintended Consequences

Reductions in administrative costs that could accompany rating reforms and the operation of health insurance exchanges in 2014 and later years could make it easier for insurers to meet the MLR thresholds. On the other hand, market dynamics during the first few years of the new environment are unknown, and the interactions between the MLR minimums, risk adjustment, and transitional reinsurance and risk corridors add another layer of complexity. The effects of the regulations generally will be greater for firms with lower target MLRs, most obviously for any insurers that have (or otherwise would have had) targets below the 80% and 85% thresholds. As stressed earlier, insurers with target MLRs above the thresholds will also face the possibility of having to pay rebates due to unexpectedly low medical costs that cause their actual MLRs to drop below the thresholds, after including any credibility adjustments.

Premium Margins for Non-Claim Expenses and Profits

The MLR regulations are predicted to exert downward pressure on overall margins for some insurers' administrative expenses and profits in certain markets to reduce the likelihood of having to pay rebates and the magnitude of rebates if they are necessary. Consistent with reports of reduced agent and broker commissions, the requirements will generally lower payments to agents and brokers, especially for insurers that otherwise would be unwilling to continue providing coverage.[24]

For some insurers, expected profits will likely decline compared with what would have occurred without the MLR rules, at least until they adjust their operations and business models. Any firms that are unable to achieve appropriate expected returns from selling coverage will shrink and ultimately exit. Arguments that lowering profitability is an appropriate objective of the MLR rules dismiss or ignore solvency considerations and are not based on compelling evidence that profit margins have been excessive. Other things being equal, lower profits reduce insurers' financial ability to withstand unexpected increases in medical costs.

In response to the MLR regulations, some insurers could choose to lower premium rates vis-a-vis projected medical costs in certain markets, but just how much of a reduction may occur is unclear. It is possible that some insurers instead might increase premium rates. With that strategy, an insurer would plan to pay rebates unless medical costs turned out to be unexpectedly high, in which case the higher premiums charged would help fund the higher costs. To the extent that occurs, the dynamics of pricing will shift toward higher upfront premiums, with rebates expected in more years, from a pre-regulation environment characterized by lower premiums but no rebates. That result would tend to increase risk to customers. A potential regulatory response would be to deny or otherwise discourage rate increases; over time, however, such action could create solvency issues and inhibit innovation.

Spending on Cost Control and Quality-Improvement Activities

The MLR requirements are likely to reduce spending designed to lower the average cost of medical claims per enrollee, thus increasing medical costs and, other things being equal, putting upward pressure on premiums. Without the MLR requirements, and for simplicity ignoring possible effects on consumer demand, a profit-maximizing insurer will invest in cost control up to the point where an additional dollar of spending reduces expected medical costs by a dollar. Under the MLR rules, additional spending on medical cost control in many instances will also increase an insurer's expected rebate, thus reducing the marginal benefit and amount of such spending.[25] That prediction also holds for spending on fraud prevention, which can only be counted in the MLR calculation up to the amounts collected from such efforts. The reduced incentive for medical cost control with attendant pressure on costs and premiums may represent a significant unintended consequence of the regulations.

Regarding spending on quality improvement activities, without the MLR rules and potential rebates, profit-maximizing insurers will incur such expenditures to the point where the marginal revenues from higher prices and/or the attraction of additional customers equal the marginal costs. In a rebate environment, increased spending on quality improvement activities for many insurers will also reduce the expected cost of paying rebates, thus providing additional incentive to increase spending (as long as consumers value the improved quality more than the potential rebates).[26] On the other hand, the requirement that quality improvement activities demonstrate their effectiveness over time creates uncertainty about the types of expenditures that will ultimately be counted as improving quality, and it fails to recognize the fundamental challenge of demonstrating the effectiveness of innovations in care delivery to enhance quality.

The MLR requirements also create tension between the concepts of "cost reduction" and "quality improvement." Activities that improve quality cannot be sharply distinguished from activities designed primarily to control costs. Attempting to draw fine distinctions and requiring that quality-improvement activities be shown to have measurable results (even though initial demonstration is not required) will likely discourage risky, but potentially beneficial innovation and national efforts to encourage experimentation.

Innovation, Insurer/Provider Contracting, and Integrated Care Delivery

An important and specific goal of the ACA and many private sector initiatives to control medical costs while maintaining or enhancing quality is to promote efficient delivery of medical care, through, for example, innovative models of care integration and coordination, such as accountable care organizations, episode-based payments, medical homes, and wellness and disease management programs. Health insurance companies are involved in numerous initiatives along these lines, in addition to traditional network and capitation arrangements with providers and related organizations.

It is desirable for health insurers to invest actively in innovation to develop new coverage arrangements, more cost-efficient provider networks and delivery arrangements, and information systems to guide consumer choice, including evidence on medically effective and cost-efficient care. Such investment requires upfront expenditures, with a reasonable expectation of earning returns over time at least commensurate with the risk involved. Because investment in innovation commonly has a high failure rate, large potential returns from successful innovations are often required to incentivize investment. Although the MLR regulations may stimulate some insurers to reduce administrative expenses and the potential for rebates, the caps on potential returns from innovation will likely reduce investment in risky innovations that, if successful, could yield large benefits. The MLR requirements add another layer of uncertainty that health insurers and parties that contract with health insurers must confront when considering investment in innovation to meet the challenges confronting U.S. health care.

Considerable uncertainty exists concerning the types of arrangements and levels of "administrative" expenses that might help achieve efficient, integrated care, and thus whether the MLR rules might discourage efficient arrangements that otherwise would be feasible. An important issue is the treatment under the MLR rules of health insurers' payments to providers and other entities in integrated or managed care arrangements. The framework and decisions regarding the extent to which payments are considered reimbursement for clinical services and thus seen as incurred claims (or expenditures on activities to improve quality)— which can be included in the numerator of the MLR calculation— versus non-claim costs— which cannot be included— have important implications for the costs and risks of entering into such arrangements and developing more innovative ones.

Regarding this issue, Section 158.140(b)(3) of the MLR Final Rule, and several rounds of technical guidance issued by the CCIIO, set forth detailed requirements and criteria for identifying the amounts in health plan payments to clinical risk-bearing entities (such as independent practice associations,

physician hospital organizations, and accountable care organizations) and third-party vendors that can be considered medical claims in MLR calculations, as opposed to administrative costs. Guidance issued on February 10, 2012 (Cohen 2012), regarding insurers' payments to clinical risk-bearing entities stipulates that "functions other than clinical services that are included in the payment… must be reasonably related or incident to the clinical services, and must be performed on behalf of the entity or the entity's providers." If any administrative functions are performed on behalf of the health plan issuer, however, "that portion of the issuer's payment attributable to administrative functions may not be included in incurred claims."

These provisions and guidance suggest the difficulties and costs of crafting, enforcing, and complying with applicable rules, and the inherent complexity and uncertainty that can arise in applying seemingly simple regulatory requirements to complicated economic relationships. Regulators could fear that some arrangements might be designed, at least in part, to shift administrative costs to vendors in an attempt to circumvent the MLR rules and reduce the likelihood or magnitude of rebates. Such concern notwithstanding, narrow construction of payments that qualify as incurred claim costs under the MLR rules, along with uncertainty about how payments may be treated under existing or innovative arrangements, could disrupt current and future arrangements to better provide coordinated, integrated care. That result would undermine the key objective of achieving more efficient spending. The trade-off favors rules that err on the side of flexibly promoting coordination and integration.

Coverage Design

Varying policy designs with respect to covered services, cost sharing, and plan differences in average medical costs (covered and uncovered) for enrollees tend to produce different target MLRs. Thus, the possibility exists that the MLR regulations could lead to changes in the supply of certain types of coverage in different regions, reducing the diversity of health plan choices. In the extreme, the MLR's sensitivity to different plan types could make it difficult or even infeasible to specialize in or even offer some types of benefit and cost-sharing arrangements. A variety of observers and commentators, for example, have expressed concern about the future of high-deductible health plans (HDHPs) under the MLR regulations (with or without health savings accounts) and whether HDHPs generally will be able to meet the 60% actuarial value requirement for the lowest cost (bronze) plans beginning in 2014.

Given some amount of fixed costs at the policy level and with all else being equal, target MLRs will be lower for plans with greater cost sharing and thus lower actuarial values, or with lower expected medical costs at any cost-sharing level, or both. Litow et al. (2012) provide detailed examples illustrating how plans with lower actuarial values and/or lower average medical costs for enrollees are likely to have lower target MLRs and thus be more likely to violate the MLR minimums, regardless of credibility issues. This could reduce the prevalence of such plans and any associated benefits from greater incentives for cost control.

Consolidation, Concentration, and Capacity

The fixed costs of complying with the ACA's MLR and other insurance regulations will weigh more heavily on smaller insurers and increase the costs of entry by new insurers. The MLR regulations also could make it more difficult for new insurers to achieve sufficient scale, even permitting temporary deferral of experience on new business that exceeds 50% of an insurer's volume. The MLR rules could encourage insurers to consolidate to obtain product portfolios more likely to meet the minimum MLR requirements (e.g., from pooling expenses or reducing statistical volatility in MLRs), or simply to achieve additional economies of scale in administration. The MLR rules are therefore likely to increase market concentration above and beyond the influence of exchanges and other insurance market reforms. An associated reduction in the number of insurers and increased market shares of larger insurers would represent another unintended consequence of the rules.

Another possible unintended consequence involves insurers' investments in capacity to meet growing demand. Health insurance sector capacity will need to expand significantly to meet the increased demand for coverage from the ACA's premium subsidies and individual and employer mandates. The MLR regulations could reduce some insurers' incentives to build capacity to meet that demand both inside and outside the exchanges. The inherent caps on profitability, the expected cost of rebates, and the actual payment of rebates will likely shrink available resources, make it more difficult for insurers' to raise additional capital, and potentially reduce the number of insurers willing to participate in the exchanges. To the extent this occurs, the requirements would undermine the goal of achieving orderly and vibrant health insurance markets in 2014.

Alternatives

Accompanying development of the MLR regulations was discussion of a variety of methods to reduce the potential for unintended consequences. Among the examples were permitting insurers to consolidate results for subsidiaries and/or permitting greater use of reinsurance to reduce MLR volatility, and possibly allowing insurers to pool large claims to help reduce statistical volatility and the likelihood of having to pay rebates due to chance statistical variation (e.g., American Academy of Actuaries 2010). Given the potential for significant unintended consequences and other drawbacks, it would be desirable to reconsider such proposals, along with revisiting the adequacy of credibility adjustments prior to 2014 and making sure that appropriate credibility adjustments are permitted in 2014 and later years.

More fundamental is the need for less prescriptive alternatives that could help increase transparency, efficiency, and consumer value with fewer potentially adverse effects. An overall strategy would promote more effective competition, informed consumer choice, and pro-competitive regulatory oversight of rates. An important part of that strategy would be to better understand and then reduce any artificial barriers to entry and growth by new or smaller insurers, especially in states with highly concentrated markets. That would require more analysis of the reasons that some health insurance markets are highly concentrated, and the extent to which that concentration primarily reflects efficiency, market power, or other influences.

Regarding information disclosure, some consumer advocates strongly pressed for and endorsed the ACA's required disclosure of MLRs as a means to assist consumers in identifying high-value coverage. Given the MLRs' dependence on insurers' coverage design, statistical variation, and other complexities, however, providing reliable and meaningful information on MLRs at the entity-state level to guide consumers' decisions is problematic. Rather than convey detailed information on MLRs and administrative expenses, information disclosure should focus on reliable metrics that determine ultimate value to consumers, including: 1) premium rates, 2) covered benefits, 3) cost-sharing and actuarial values, 4) provider networks and specialist access, 5) quality of care and claims administration, and 6) insurer financial strength.

Given information on those attributes, data on an insurer's MLR in a particular state is unlikely to enhance consumers' ability to make informed decisions, including helping them evaluate trade-offs among the various plan features. Because of statistical variation, it makes sense at best to inform consumers whether an insurer's MLR is significantly different from the average for comparable products (as is done, for example, in the Medicare Hospital Compare system for hospital mortality rates).

Even apart from the statistical credibility / reliability issue, comparing MLRs across different types of products could just as easily confuse as inform. The fact that an insurer focusing on HDHPs, for example, might have a lower target MLR than an insurer with higher actuarial value plans does not imply that the HDHP provides reduced value for consumers given their individual needs and preferences. It would not even imply that the absolute dollar amount included in the premium calculation for administrative expenses and profits was higher for the HDHP. Furthermore, for plans with similar actuarial values

and a similar network of providers, target MLRs will tend to be highly and inversely correlated with premiums, offering little, if any, additional information beyond premiums—that is, plans with low target MLRs will have high premiums and vice versa. Finally, a higher realized MLR, if not due to short-term, statistical variation, might indicate poor operating performance and financial weakness, rather than better overall value.

Conclusions

The MLR regulations established by the ACA are designed to guarantee that a specific, minimum percentage of health insurance premiums in a particular market be spent on medical care and activities to improve health care quality. The regulations pose substantial risk of unintended consequences, including those due to, or exacerbated by, the sensitivity of rebates to statistical variation in medical costs. If medical claim costs are lower than projected, the regulations likely will expose many insurers whose target MLRs are equal to or above the specified minimums to a non-trivial risk of having to pay rebates, despite the permitted credibility adjustments. Insurers will not be able to charge consumers additional amounts to offset losses if costs are higher than projected.

The risk of having to pay rebates due to statistical variation magnifies the potential for such unintended consequences as higher upfront premiums for some insurers; more limited consumer choice of coverage and insurers; less innovation in products that help align consumer, provider, and health plan incentives; and increased consolidation and concentration in health insurance markets. In contrast to the traditional state regulatory use of projected MLRs as a metric to help monitor premiums in relation to medical benefits and solvency considerations, and despite the inherent volatility of insurers' MLRs and their limitations in measuring value to consumers, too little attention has been paid to the possibility of such consequences. Policymakers should consider adopting alternatives —or at a minimum modifications— to the MLR regulations to help achieve their objectives with a lower chance of adverse effects.

Notes

Thanks are due Gary Bacher and the editors for helpful comments.

1 Earlier studies of insurers' MLRs prior to 2011 had projected that rebates for 2011 experience would exceed $1 billion (U.S. HHS 2010; Abraham and Karaca-Mandic 2011; U.S. GAO 2011b; Hall and McCue 2012; Herbold 2012; Cox, Levitt, and Claxton 2012).

2 Medicare supplemental coverage is subject to minimum ratios of incurred medical costs to premiums that must be met in rate filings and that can trigger refunds to policyholders under certain conditions.

3 Robinson (1997) provides early discussion of this and related issues.

4 Denials of requested adjustments generally concluded that exits were unlikely to occur in the state even though some insurers would experience operating losses after paying projected rebates. Details of the applications and decisions are provided at http://cciio.cms.gov/programs/marketreforms/mlr/index.html.

5 The Final Rule did not adopt a proposal approved narrowly by the NAIC in November 2011 that would have allowed an insurer to deduct agent and broker commissions from premiums when calculating its MLR. Subsequent proposed legislation (H.R. 1206) would exclude payments to agents and brokers from the MLR calculation, require the HHS secretary to defer to a state's findings that application of the MLR rules would destabilize the individual market, and allow state waivers from the MLR requirements for the small group market in addition to the individual market (see CBO 2012).

6 The numerator for the 2013 MLR reporting year may include any rebate for the 2011 or 2012 MLR reporting year, and the numerator for the 2012 MLR reporting year may include any rebate for the 2011 reporting year if the 2012 MLR experience was not fully credible. Whether prior rebates can be included in the calculations in later years remains uncertain.

7 In addition, an insurer with 50% or more of its total earned premium in a state attributable to newly issued policies with less than 12 months of experience may defer inclusion of the experience for those policies from its MLR calculation until the following year.

8 There is an exception for "assumption reinsurance," where an insurer transfers all obligations for a block of business to a reinsurer.
9 State oversight of rate changes was (and is) diverse across and within states for individual and small group coverage. About half the states required prior regulatory approval of rate changes for individual health insurance in 2009 (NAIC 2009; Korlette and Lundy 2010).
10 The ACA authorized the HHS to assume responsibility for rate review if it deems that a state does not have effective rate review. The CCIIO is conducting rate reviews in six states (CCIIO 2011).
11 The CCIIO website (http://cciio.cms.gov/programs/marketreforms/rates/index.html) provides examples where enhanced rate review is asserted to have saved consumers money by reducing insurers' requested rate increases (also see Korlette and Lundy 2010).
12 See, for example, the treatment by Associate Supreme Court Justice Stephen Breyer in his 1982 volume on regulation and its reform (Breyer 1982).
13 These views have a long history. See, for example, the discussion in Robinson (1997).
14 The MLR equals the ratio of medical benefits to premiums, including "premium equivalents" for self-funded plans, which reflect estimated fees to insurers and others under administrative service contracts.
15 The limited federal antitrust exemption for the "business of insurance" has little effect on health insurers. Insurers' relationships with medical care providers, such as the inclusion of "most favored customer" clauses in hospital contracts, are not exempted. In contrast to property/casualty insurance, health insurance has no history of joint rate making that is protected by the exemption. Health insurer mergers have been subject to federal antitrust scrutiny since at least the early 1970s, and mergers and acquisitions of health insurers are subject to approval by state regulators.
16 Potentially most germane to the MLR regulations, Cebul et al. (2011) posit a model in which search frictions can lead to high marketing expenses and prices in health insurance markets. Based on comparison of premium distributions for insured and self-insured employer plans, they conclude that frictions significantly increase premiums and that a public health insurance option could improve efficiency by reducing distortions in pricing and marketing expenses. The theoretical model does not consider the potential role of brokers in reducing search frictions, and the empirical conclusions depend on the authors having adequately controlled for risk-related and other factors that could produce premium differences between insured and self-insured plans.
17 See, for example, Cummins (2002) and the papers therein.
18 In practice, price cap regulation in the United States generally has included some mechanism for limiting firms' profits over time in relation to a benchmark, thus reducing its incentive effects.
19 The latter source of risk is known as "parameter uncertainty." Wacek (2005) provides a technical treatment of parameter uncertainty for property/casualty insurance loss ratios.
20 For the 2013 MLR reporting year, the credibility adjustment for partially credible experience is zero if both: 1) "the current MLR reporting year and each of the two previous years included experience of at least 1,000 life-years," and 2) "without applying the credibility adjustment, the issuer's MLRs for all years were below" the minimum MLR requirement.
21 An August 2010 letter to the Office of Consumer Information and Insurance Oversight (later the CCIIO) by Rowen Bell, chair of the Medical Loss Ratio Work Group of the American Academy of Actuaries, explained (American Academy of Actuaries 2010): "MLR volatility of small blocks of business is also driven by uncertainties in setting premium rates (in addition to the statistical fluctuations of claims)…. Credibility factors derived from an analysis of statistical fluctuations only… would need to be set at a very high confidence level in order to compensate for other sources of volatility." Bell's comment about uncertainties in setting rates also applies qualitatively to large insurers.
22 Details are provided in the working paper version of this paper (Harrington 2012).
23 Any positive correlation in annual MLRs would increase the volatility of three-year averages.
24 In its budget score of H.R. 1206 (see note 5 previously), the CBO projected that the current MLR rules will reduce premiums by "about one-half of one percent, on average over the next few years, declining to approximately one-tenth of one percent by the end of the 10-year projection period" (CBO 2012). McCue and Hall (2012) report that nationwide administrative expenses and profits per member for the individual market declined in 2011 (the first year of required rebates) vs. 2010. Administrative expenses per member also declined for the small group and large group markets, but higher profits per member offset most or all of the reductions. The study does not consider trends in administrative expenses, medical costs, and profits that could have affected insurers' results apart from the MLR regulations.
25 The effects could be smaller if consumer demand depends on the magnitude of expected rebates.
26 Any changes in spending on quality improvement activities could also depend on the

regulations' effects on spending to control medical costs. If declines in cost control spending increase savings in medical costs from certain types of quality improvement activities, some increase in those types of spending is likely. For example, the MLR regulations classify prospective utilization management, but not concurrent or retrospective utilization management, as a quality improvement activity. If reductions in spending on concurrent or retrospective utilization review increase the marginal benefit from spending on prospective review, some increases in the latter form of spending could occur.

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