

Reinsurance in Washington State

**Report to the Washington Office of Financial Management and
Office of the Insurance Commissioner**

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Reinsurance in Washington State: Executive Summary

This report responds to legislative interest in reinsurance as one component of reforms to promote health insurance in the state of Washington. It provides information about health coverage and costs as of 2007, quantitative estimates of impacts from different interventions through publicly funded reinsurance and of costs to the state, and qualitative input on associated issues. This information is meant to inform deliberations on three key questions suggested by legislation: (i) is public reinsurance feasible and worth exploring further in Washington state, (ii) what costs and benefits are reasonably foreseeable, and (iii) what additional information is needed to make effects more predictable?

Given nationwide interest in reinsurance, the Reinsurance Institute project was created in 2006 by State Coverage Initiatives, a national program of the Robert Wood Johnson Foundation program. The Reinsurance Institute provided quantitative modeling and qualitative analytical support for states considering publicly funded reinsurance programs. They reduce uninsurance by reimbursing insurers for some share of large claims costs, which allows the subsidized insurers to lower premiums to enrollees.

Building upon Reinsurance Institute work, Washington contracted with the Reinsurance Institute team for additional assistance. First, the model was modified to incorporate state survey information to better approximate Washington population characteristics. Second, revised modeling addressed two important features of Washington health insurance: Association Health Plans (AHPs) sold to small firms but outside the small group market, and the Washington State Health Insurance Plan (WSHIP), the state's high risk pool.

The model first creates a baseline of information on Washington's current population, informed by the Washington State Population Survey. This descriptive information provides a backdrop against which reinsurance or other interventions may promote coverage. For example, among people under 65 years old, an estimated 15 percent of those with family incomes below the poverty line were uninsured, compared with just 9 percent of others. Only 39 percent of individuals reporting fair or poor health had employer-sponsored insurance, compared with 67 percent of healthier people. The less healthy are more likely to have public coverage, however, which reduces their overall uninsured rate to 11.4 percent, almost as low as the 10.3 percent of those in better health.

The baseline statistics also suggest how different the effects of reinsurance are likely to be under reinsurance alternatives that cover different corridors of medical claims expense. Even before formal modeling, it is clear that reinsuring only very high spending corridors cannot much reduce underlying claims costs borne by primary insurers and passed on in premiums because the lion's share of total dollars occur in the lower spending corridors. For example, over 67 percent of non-group enrollees had less than \$1,000 of annual health spending (2007\$). (Non-group is also called individual coverage.) In contrast, slightly fewer than half of small-firm enrollees (48 percent). Fully 62 percent of annual expenditures per person insured through a small firm occur within the low-end corridor of \$0 to \$10,000.

Second, the model simulates changes in baseline coverage and premium levels caused by reinsurance. Overall, simulated reinsurance programs were found to reduce premiums

more and increase coverage more when the subsidies are more generous—that is, when programs offer lower thresholds, wider corridors of coverage, and lower carrier retention percentages (coinsurance). Having large impacts, however, requires substantial government funding. Further, widening corridors and spending more on reinsurance always creates larger impacts, but the distribution of impacts across different insured people varies according to reinsurance design.

Qualitative expertise and experience added practical dimensions to the quantitative analysis, for example, as in specifying rating rules and checking the face validity of modeled premiums in light of state-specific reports and interview information.

Initial simulations done by the Reinsurance Institute project applied to all non-group and coverages from small firms. These estimations thus included enrollees in AHPs and WSHIP. Targeting this broad population of eligibles and providing broad reinsurance (covering 90 percent of spending from \$10,000 to \$90,000) would achieve the following:

- The number of uninsured Washingtonians would fall by about 15 percent.
- Small-firm premiums for single coverage would fall by 30.5 percent on average, 33.0 percent for family coverage; non-group, by 38 percent for either coverage.
- Increased employer offer in small firms is the main driver of change, followed by increased take-up among employees not previously offered coverage.
- Gains in coverage are lower among lower income families; they are less able to afford even subsidized coverage.
- Estimated reinsurance costs to the state are some \$886.8 million, including \$534.3 million for small-firm coverage and \$352.4 million for the non-group market.

Eleven other variations of reinsurance were also simulated for all non-group and small-firm coverages. One other notable finding was that catastrophic reinsurance—covering 70 percent of per-person annual claims above \$100,000, for example—would not cost the state much, but would likewise have little impact on premiums and would thus reduce uninsurance by about 4 percent as much as the broad program would.

The second set of reinsurance simulations covered a smaller population—the conventional small group and non-group markets, excluding coverage obtained from AHPs or WSHIP. The simulation built in the observations that conventionally insured small groups contain more expensive enrollees than AHPs, and that WSHIP enrolls higher spending people than conventional non-group coverage.

The reconfigured simulation for non-group resulted in similar premium cuts. As expected, government spending fell because the reinsurance subsidy was targeted at fewer people. Omitting an AHP-like population created a modeling population of small group enrollees only about half the size of the prior simulation for all small firms. This changed estimated results considerably.

- Estimated government spending fell by 35 to 45 percent,
- Conventional small group premiums dropped more for both single coverage and family coverage, and
- Non-group reinsurance achieved larger changes in uninsurance than small group reinsurance, and at lower public cost.

The decrease in premiums was somewhat muted because reinsurance affects only the medical claims component of premiums, not insurers' administrative-cost loading, which

is very high for small firms and non-group coverage. The cost of non-group reinsurance was lower mainly because its target population was smaller.

The modeling done here provides reasonable estimates of the magnitudes of reinsurance costs and impacts across populations and subpopulations in Washington. It does not provide budgetary estimates, however, as actual program spending would depend upon many design and implementation choices not yet specified. Moreover, it omits some possible savings and new costs. For example, the reduced riskiness of small-firm or non-group coverage might allow insurers to reduce premiums slightly, but reduced incentive to manage claims in the newly reinsured corridor would likely raise premiums. Such factors need more attention, but they are to some degree offsetting and are not estimated here. Two other limitations of modeling deserve mention: The model assumes that all savings on reinsured claims are passed through as lower premiums, which may not occur. The model had no information by which to simulate variations of premiums across subpopulations of people covered by different insurers or by different blocks of coverage that an insurer may price separately. Nor was there direct evidence on the difference in medical claims spending between AHP and conventional small group coverage; the simulations simply made a not unreasonable assumption. The model was constructed, however, to accurately reflect the variation observed across the entire small-firm and non-group populations.

Additional qualitative observations can be made. The main benefit usually cited for reinsurance subsidy is increased insurance coverage. However, only a small fraction of public spending pays for newly insured people (about one tenth in one key simulation of broad reinsurance for all small-firm and non-group enrollees combined). Most spending serves to make conventional coverage more affordable for already insured people. This encourages some non-group enrollees to upgrade to employer-sponsored coverage, and may well encourage firms to retain existing coverage over time and could reduce the costs and uncertainty of frequent changes. Reinsurance also reduces the incentives for medical underwriting, to an unmeasured extent, thus likely curtailing risk segmentation. If targeted as in the second simulations, reinsurance would support a sector in which public policy calls for premiums to ignore health risk. Reinsurance for small firms may also be seen as supportive of an important economic sector, offsetting the higher administrative loadings they pay relative to somewhat larger firms.

Over all, we draw the following key lessons:

- Reinsurance subsidy can expand coverage among the previously uninsured.
- Impacts differ somewhat by employer and individual characteristics.
- Most reinsurance dollars typically go to support existing coverage, with other benefits than newly insuring people.
- Eligibility targeting affects what share of the subsidy goes to expanding coverage, and what share goes to improving or solidifying existing coverage.
- Reinsurance can also reduce incentives for risk segmentation.

Public reinsurance is technically feasible and seems worth exploring further in Washington state as public policy goals for health insurance reform are clarified. Different design of reinsurance may emphasize different policy emphases as between

reducing uninsurance and reducing risk segmentation. In addition to retrospective reinsurance, full analysis should consider other mechanisms with similar goals: For insurance subsidies, alternatives include vouchers, other premium subsidies, and public program expansion. To address risk segmentation, alternatives include expanded regulatory support for forms of community rating, risk-adjusted premium contributions paid in advance, ceding of identified high risk people or groups in advance (prospective reinsurance), and withholds from premiums or pooling of assessments that are distributed at the end of the year according to the risks actually enrolled by an insurer. Many such alternatives call for more thoroughgoing public control or oversight of flows of insurance funds than does reinsurance.

Reinsurance may thus be one useful tool among others for expanding coverage, making insurance more affordable for those with existing coverage, and for dampening incentives for risk segmentation. Reinsurance may be most effective as part of a broader set of reform initiatives. In the current market, for example, reinsurance or other risk-related intervention for the conventional small group market appears supportive of the goals embodied in open enrollment and modified community rating sought to be enforced in that market.

Contents

Reinsurance in Washington State: Executive Summary.....	i
Table of Contents.....	v
Reinsurance in Washington State	1
What Is Reinsurance?	1
Origins of this Project	2
How the Simulation Model Works	3
How Qualitative Input Supplements the Model’s Quantitative Analyses	5
Characteristics of Washingtonians and Their Existing Health Insurance.....	6
Population Coverage Data	6
Target Populations for Public Reinsurance.....	7
The Impacts of Reinsurance on Coverage and Public Spending	10
Results for Full Target Populations—Small Firms and Non-Group Purchasers Combined, Including All Types of Coverage	10
Results for Sub-Populations—Separate Reinsurance for Small Firms and for Non- Group Purchasers	17
Results for Revised Target Populations—Small Firms and Non-Group Purchasers, Including Only Those with Conventional Insurance Coverages	19
Factors Not Modeled that May Affect Reinsurance Results	22
Benefits and Costs of Reinsurance in Policy Perspective.....	23
Benefits for Insured Washingtonians.....	24
Benefits for the Insurance Market.....	25
Policy Alternatives to Reinsurance.....	26
Limitations of these Reinsurance Analyses	28
Feasibility Issues for Public Reinsurance	29
Concluding observations.....	30
Appendix: Estimates of Demographic Characteristics, Washington State Population under 65 Years Old	31
Attachment A: December Memo – Washington Specific Requests of Reinsurance Institute	32

Reinsurance in Washington State

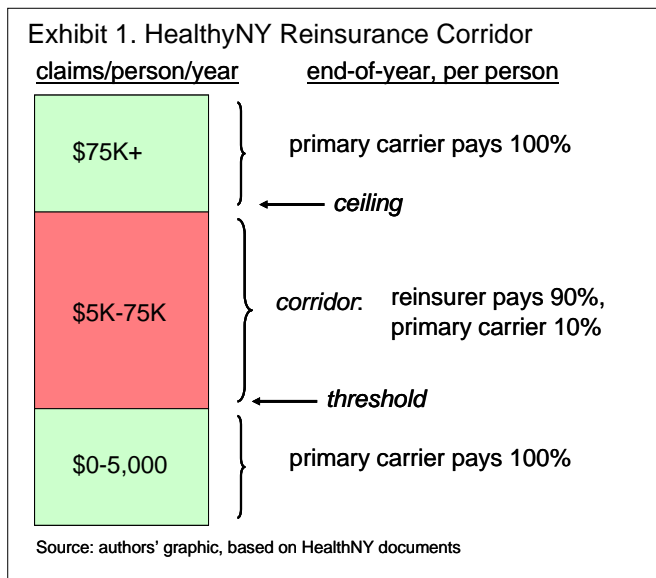
This report has been written to help policymakers respond to legislative interest in reinsurance as one reform component supportive of expanding health insurance coverage in the state of Washington. It provides information about health coverage and costs as of 2007, quantitative estimates of how much this baseline coverage would be increased (and existing coverages sustained) by different interventions of publicly funded reinsurance and at what cost to the state, and qualitative input on associated issues. This information is meant to inform deliberations on three key questions suggested by recent legislation:¹ (i) is public reinsurance feasible and worth exploring further in Washington state, (ii) what costs and benefits are reasonably foreseeable, and (iii) what additional information is needed to make effects more predictable? Some statutorily requested analyses are themselves not yet feasible, and others are for now addressable mainly in qualitative terms.

What Is Reinsurance?

Reinsurance is insurance for insurance companies.² It is a long familiar adjunct of private insurance markets, where insurers including HMOs, self-insured employers, and capitated provider groups buy reinsurance to protect themselves against unexpectedly large claims expense that is unacceptably high relative to their assets or expected

earnings. Very large and well capitalized carriers have little need for such protection.³ The most familiar form of reinsurance is per-person, year-end coverage of a share of high-end medical claims expenditures. For example, a private reinsurance policy or public program could reimburse an insurer for 90 percent of annual per-enrollee costs above a threshold of \$5,000 and up to a ceiling of \$75,000 (as illustrated in Exhibit 1).

These amounts are the corridor of spending reinsured under Healthy New York, a landmark state initiative begun in 2001, lowered from a starting level of



¹ House Bill 1569 (reinsurance under new Health Insurance Partnership) and Senate Bill 5930 (study and recommendation called for), 60th Legislature, 2007 Regular Session.

² Vaughan, Emmett J. and T. M. Vaughan. 1999. *Fundamentals of Risk and Insurance*. New York: John Wiley & Sons; American Academy of Actuaries, "Medical Reinsurance: Considerations for Designing a Government-Sponsored Program," Issue Brief, January 2005 http://www.actuary.org/pdf/health/reinsurance_jan05.pdf.

³ Bovbjerg, Randall R. 1992. "Reform of Financing for Health Coverage: What Can Reinsurance Accomplish?" *Inquiry* 29(2):158-175 (Summer).

\$30,000 to \$90,000.⁴ HealthyNY prompted considerable national attention as a key new component of a coverage-expansion strategy. It targeted previously uninsured workers with streamlined HMO coverage and was particularly innovative in funding the reinsurance with new public monies. It thus lowered the cost of new coverage without raising the cost of existing coverages and could be expected to increase the overall number of insured people in the state. In response to lower than expected early enrollment in HealthyNY, its reinsurance corridor was lowered in 2003 to \$5,000 to \$75,000 per year. This change increased the subsidy (and state costs), participating HMO premiums dropped, and enrollment quickly expanded to over 100,000 people.

Origins of This Project

The analyses reported here build upon prior work. Given nationwide interest in reinsurance, the Reinsurance Institute project was created in 2006 by State Coverage Initiatives, a national program of the Robert Wood Johnson Foundation program. The project was designed to help states assess reinsurance in the style of Healthy New York, so that costs and benefits could be better estimated in advance, reducing the likely need for major post-enactment modification such as occurred in New York. The Urban Institute (UI) and its key consultants won the grant to run the Reinsurance Institute.⁵

In November 2006, Washington state was competitively selected as one of three states to receive detailed assistance from the project's reinsurance microsimulation model as well as qualitative input from UI's Reinsurance Institute team.⁶ Each state also received very small grant funding to use in support of reinsurance development or assessment. Throughout 2007, the UI team built the simulation model, then benchmarked it to local conditions through consultation with officials and insurers in the three participating states, and simulated the results of state reinsurance subsidies under program parameters specified by each state.

Washington and the other two states were all interested in helping residents seeking coverage through a small employer or in the non-group insurance market—just as HealthyNY did.⁷ People in these small group and non-group markets were much more

⁴ See State Coverage Initiatives program, *Profiles in Coverage: Healthy New York*, January 2005 <http://statecoverage.net/newyorkprofile.htm>. The Healthy NY webpage is www.ins.state.ny.us/website2/hny/english/hny.htm. For an overview of early experience, see Swartz, Katherine. 2005. *Reinsurance: How states can make health coverage more affordable for employers and workers*. New York: Commonwealth Fund, available from http://www.commonwealthfund.org/publications/publications_show.htm?doc_id=286904.

⁵ The Reinsurance Institute was “a new technical assistance offering” of 2006-07 that brought “states together that are seriously considering the development and design of a state public reinsurance program [in part] to create a network of interested states that can exchange knowledge about this strategy” <http://www.statecoverage.net/reinsuranceinstitute.htm>. The project was led by The Urban Institute in collaboration with Pool Administrators, Inc., and Actuarial Research Corporation, along with insurer and academic consultants. This report draws heavily upon the work done under this prior project.

⁶ See “Reinsurance Institute: Washington State's Participation,” [document produced by Office of Financial Management], included as Appendix to Deborah Chollet (2007) “The Affordability of Coverage for High-Cost Individuals: Options for Washington State” http://www.insurance.wa.gov/publications/health/2118-Report_Reinsurance5.pdf. The two states other than Washington were Rhode Island and Wisconsin.

⁷ This report, like many others, uses “non-group” to describe insurance bought by individuals rather than employer groups. Such insurance is also called “individual” or “direct-pay” coverage. But “individual” coverage can also mean coverage of only a single employee under an employer group policy, as distinguished from “family” coverage.

apt to lack coverage than those in large workplace groups. However, unlike HealthyNY, Washington and the others were interested in helping people who already have coverage and people of all incomes—not just the previously uninsured who also have low incomes or work for low-wage employers as in New York. Washington specified different corridors of reinsurance and a target population of people working for small employers or in the non-group market. Estimated costs and benefits for each state’s reinsurance program parameters were then reported to each state. Key findings from this initial work for Washington state are repeated below.

Starting in mid-2007, Washington contracted with UI and the Reinsurance Institute team to do further work. This was consistent with the Blue Ribbon Commission’s recommendation for state officials to coordinate state analyses with the UI effort already under way.⁸ First, the model was modified to incorporate state survey information. Second, additional work was undertaken to take account of two important features of Washington small group and non-group insurance markets: Association Health Plans (AHPs) are sold to small groups. The Washington State Health Insurance Plan (WSHIP) is the state’s high risk pool and offers the only coverages available for the top 8 percent of non-group applicants in terms of expected claims cost. Then, similar reinsurance program parameters were applied to only the conventionally insured small groups and non-group enrollees (that is, excluding AHP and WSHIP enrollees). Key findings are reported below.

How the Simulation Model Works

The model created by the Reinsurance Institute operates through two key modules. First, it creates a baseline of information on any state’s current population.⁹ This includes socio-demographic characteristics, household structure, employment status, coverage status, and per person medical spending. We started with national data from the Medical Expenditure Panel Survey, Household Components. MEPS-HC provides rich, individual-level data on the national population, and we pooled three years’ worth of data to obtain a larger sample size that more fully reflects variation in characteristics. We then adjusted the reported expenditures to correct for known shortcomings in the data.¹⁰ We also updated dollars to 2007 value. The resulting national baseline dataset is generic, modifiable to correspond to any state.

⁸ Washington State Blue Ribbon Commission on Health Care Costs and Access, *Final Report*, January 2007, accessible from <<http://www.leg.wa.gov/Joint/Committees/HCCA/>>.

⁹ For much more detail on the model, see Randall R. Bovbjerg, A. Bowen Garrett, Lisa Clemans-Cope, and Paul Masi, *The Reinsurance Institute and State Health Reform* (UI report to State Coverage Initiatives, draft of Nov. 2007, final forthcoming), hereafter referred to as UI-SCI report. On Washington-specific baseline construction, see Memorandum to Jenny Hamilton (OFM) and Pete Cutler (OIC) from Lisa Clemans-Cope, Bowen Garrett, Paul Masi, and Randall R. Bovbjerg (Reinsurance Institute), Dec. 2007, hereafter referred to as the December Memo, Attachment A to this report.

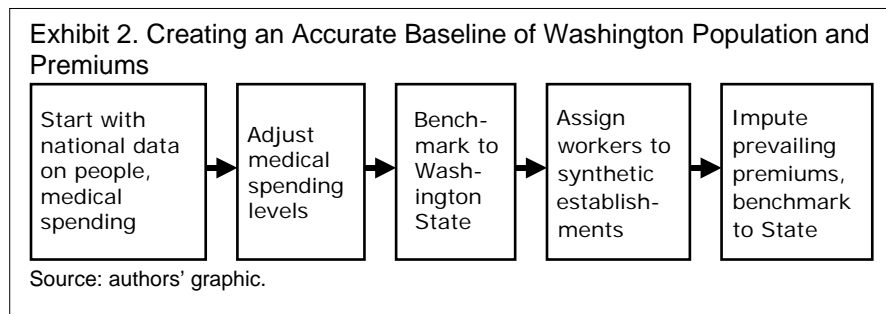
¹⁰ The reported spending is made consistent with the two other sources: (1) the National Health Accounts maintained by federal actuaries <<http://www.cms.hhs.gov/NationalHealthExpendData/>>, using methods similar to those of Merrile Sing, Jessica S. Banthin, Thomas M. Selden, Cathy A. Cowan, and Sean P. Keehan, “Reconciling Medical Expenditure Estimates from the MEPS and NHEA,” *Health Care Financing Review* 28(1): 25-40, Fall 2006, and (2) high-cost claims data maintained by actuaries. See Society of Actuaries, “Medical Large Claims Experience Study,” webpage with hyperlinked publications and databases <<http://www.soa.org/research/health/research-medical-large-claims-experience-study.aspx>>.

Next, we reweighted these national data to match Washington state’s known demographics and assigned each worker and dependents to a set of “synthetic” employers whose composition matches the establishment sizes and industry mix known to exist in the state.¹¹ For Washington, most data on residents’ demographics and insurance status came from the Washington State Population Survey.¹² The WSPS is used in place of the generic model’s reliance on the federal Current Population Survey, although CPS data were used in one instance where the WSPS response rate was insufficient. For Washington, the generic model was also modified to focus on conventional small group and non-group coverages, that is, excluding AHPs and WSHIP as just noted. (Data were lacking to identify the subpopulation served by the Basic Health program.)

Finally, and importantly, baseline information includes the estimated insurance premium faced by each person in the relevant private markets. Premium levels mainly depend on the person’s (or family’s) health spending, the size of any available workplace group, and the applicable insurance rating rules (modified community rating for small group coverage). Non-group coverage and very small group premiums include a much higher administrative “loading” expense on top of medical claims cost than do the largest small groups. Loading covers non-claims expenses of operating insurance, from sales to claims settlement and return on capital.

Initial premium estimates were benchmarked to prevailing premiums as seen in Washington employers’ responses to a federal insurance survey.¹³ The results were then double-checked through interviews with insurers and others in Washington state.

Exhibit 2 summarizes these five key steps. The result is an accurate baseline of data for Washington state. Unusually, it combines demographic detail at the individual and household level with premium estimates made at the level of individuals and firms.



Second, the model simulates the impacts of reinsurance, the changes in the baseline that would be caused by a new reinsurance program funded by Washington state. Here, participating state officials specify hypothetical reinsurance program parameters of policy

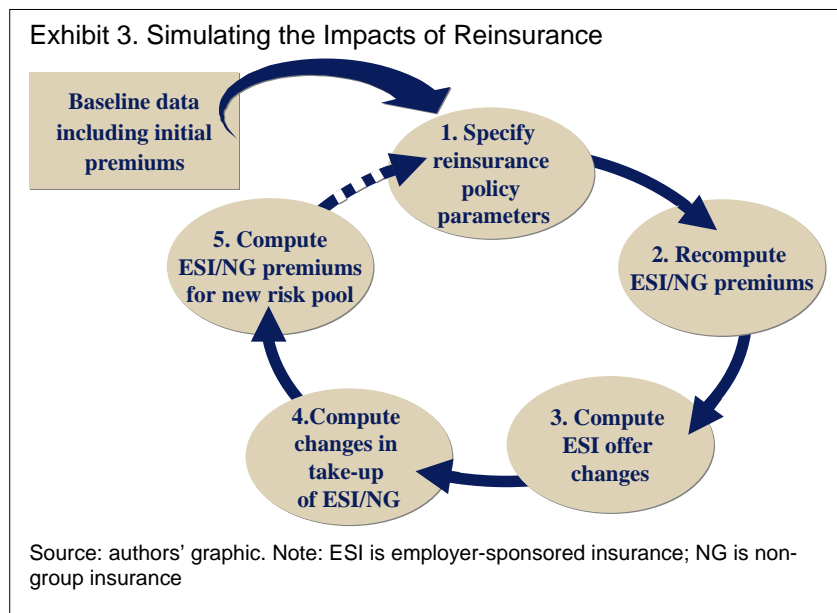
¹¹ Data on businesses come from the federal survey Statistics of United States Business (SUSB) for 2004, accessible from <<http://www.census.gov/epcd/susb/introusb.htm>>.

¹² The model reflects the 2006 findings of the WSPS from the Office of Financial Management; see <http://www.ofm.wa.gov/sps/default.asp>. WSPS staff provided survey output in the format appropriate to feed into construction of the model’s baseline dataset. The model’s baseline microdata do not match the WSPS exactly because the simulation methodology requires benchmarking to many other important distributions as well, such as the distribution of employment by firm size.

¹³ This federal survey is also part of MEPS, but the Insurance Component, or MEPS-IC, rather than the Household Component described above.

interest. This means saying what population is to be targeted (e.g., small group workers and dependents) and what dollar values of medical spending are to be reinsured (e.g., 90 percent of per person annual spending of \$50,000–\$100,000). Then the model estimates how much insured medical spending would be reinsured and therefore how much premiums would be lowered by each set of parameters.

Each simulated change in medical spending and associated premiums in turn drives changes in insurance behavior: More employers are estimated to offer coverage and more employees to take up those offers. Similarly, reduced non-group premiums stimulate more purchase of coverage outside the workplace. Changes in who enrolls thus change the insured risk pool, which in turn somewhat changes premiums for other enrollees, and so on. The simulation estimates the ultimate changes achieved by successive responses to price shifts. Finally, the model estimates the number of people ultimately enrolled and the cost in state subsidy. (Exhibit 3 shows all the steps in simulation of reinsurance impacts.)



Construction of the baseline is a linear process, in which each stage succeeds the prior one. Estimating reinsurance impacts is an iterative process, with multiple stages of reaction leading to one estimate of ultimate impact.

The workings of this model emphasize that “reinsurance” is not one thing but rather a family of interventions. How high the threshold is, how broad the corridor is, and what the retention percentage is all substantially change the nature and extent of the intervention. The extent of impact on premiums can be small or substantial, depending on the configuration of reinsurance and the resulting size of funding relative to the targeted population. The distribution of the impact across the population depends upon who faces what premiums, which is affected by the rate-making conventions built into the model. (For example, for small firms in Washington state, we used the small group rating rules.)

How Qualitative Input Supplements the Model’s Quantitative Analyses

Our quantitative simulation modeling addresses the major goal of publicly funded reinsurance, to reduce premiums for primary coverage through reinsurance and hence

increase coverage. Qualitative expertise and experience added practical dimensions to the quantitative analysis, for example, as in specifying rating rules and checking the face validity of modeled premiums in light of state-specific reports and interview information.

In addition, only qualitative assessment is possible at this stage for a second broad category of goals sometimes cited for reinsurance: That is, to alter insurer and employer behavior so as to reduce risk selection and help stabilize markets for coverage over time. Quantitative modeling is not helpful here in part because the interventions and their goals are incompletely specified, in part because information is lacking about what Washingtonians are eligible for and have what types of coverage, and in part because insurer marketing and pricing strategies are not straightforward and easily modeled.

Characteristics of Washingtonians and Their Existing Health Insurance

The model generates baseline descriptive information that is of policy interest in its own right. It builds upon prior surveys by combining information about population socio-demographics, employment, and insurance status with new estimates of likely insurance premiums.

Population Coverage Data

Baseline estimates of uninsurance rates reconfirm previous observations that about 90 percent of Washingtonians under age 65 have health coverage, private or public (Exhibit 4).¹⁴

Ex. 4. Sources of Health Coverage (2006 estimates, under-65 population)		
Coverages	No.	%age
Employer-sponsored	3,667,377	64.5%
Non group	287,851	5.1%
Medicaid	860,735	15.1%
Medicare	162,467	2.9%
Other public	117,311	2.1%
Uninsured	593,037	10.4%
Total <65 pop'n	5,688,778	
Source: Urban Institute estimates using WA-specific Reinsurance Model; see footnote		

This exhibit omits those aged 65 and above, almost all of whom have Medicare.¹⁵ About two thirds of those under 65 have employer-sponsored insurance (ESI), another 5 percent have private non-group coverage, and the balance of the insured have some form of public coverage. These and other data presented categorize people as having a single source of coverage for the year, the dominant category if more than one applies.

¹⁴ Washington State Office of Financial Management, *2006 Washington State Population Survey: The Uninsured Population in Washington State*, Research Brief No. 39 (Revised) 1, November 2006 (Contributor: Erica Gardner) <http://www.ofm.wa.gov/researchbriefs/brief039.pdf>. Figures reported here differ slightly from those reported by WSPS because the WSPS numbers have been reweighted to provide an accurate representation of the under-65 population by type of employer.

¹⁵ Medicare also covers people under age 65, notably those with long term disabilities. Appendix Table 4 shows that Medicare covers nearly 89,000 Washingtonians in fair or poor health, about 16 percent of those in fair or poor health and 1.6 percent of the population.

Demographic characteristics affect who is uninsured (Appendix Tables 1-4): Low-income individuals are relatively more likely than others to be uninsured. Public coverage keeps uninsurance low among Washingtonians with family incomes below the federal poverty level (FPL), but the near poor (100-200 percent of FPL) have double the average rate of uninsurance.

Employment status is also influential; the employed are far more likely to have coverage than the unemployed; people not in the labor force have low uninsurance rates because so many are covered by public programs. Among those employed, uninsurance is highest among the smallest firms.¹⁶ Health status is also related to coverage: Individuals reporting fair or poor health status, about 10 percent of Washingtonians, are also much less likely to have private coverage than are those with better health, and are more likely to have public coverage.¹⁷

Target Populations for Public Reinsurance

Two populations were designated as of most interest for new reinsurance assistance. The first is privately employed people in small employer groups.¹⁸ This omits people employed in the public sector, believed to be already adequately insured. Such small-group workers have noticeable differences from the general population or all private workers: They are younger, lower income, and less likely to receive an employer offer of insurance (Attachment A, App. Table 1). People who buy non-group insurance are the second group of interest. The two targeted populations are disadvantaged by insurers' higher loads, as noted above. Making small group and non-group coverage more affordable through reinsurance were the interventions to be modeled, and the baseline results reported here come from these populations.

Medical expenditures differ across the populations. Non-group enrollees as of 2007 average \$3.2 thousand per year in insured expenditure, compared with \$3.9 thousand for small group enrollees.¹⁹ Spending varies substantially by person, however. Half or more of people have much less than average spending (67 percent of non-group enrollees, 48 percent for small group). At the high end, a small percentage of very expensive people

¹⁶ Employers are less likely to offer coverage and to a smaller share of employees among smaller than larger firms (Exhibit 8, below, column on baseline offer rates). Employees within small firms also earn lower wages and have lower household incomes, estimated annual mean wages of \$32,665, compared with \$44,011 for all employees (Attachment A, Table 1), and more of them are poor or near-poor—by about 31 to 19 percent. Poor means having a family, or household, income under 100 percent of FPL; near-poor means 100 to 199 percent.

¹⁷ We present MEPS household survey respondents' stated status in preference to their listing of specific health conditions. All the information is self reported, but the status measure could be benchmarked to similar results from Washington's own household survey. Moreover, the listed conditions vary substantially in clinical importance.

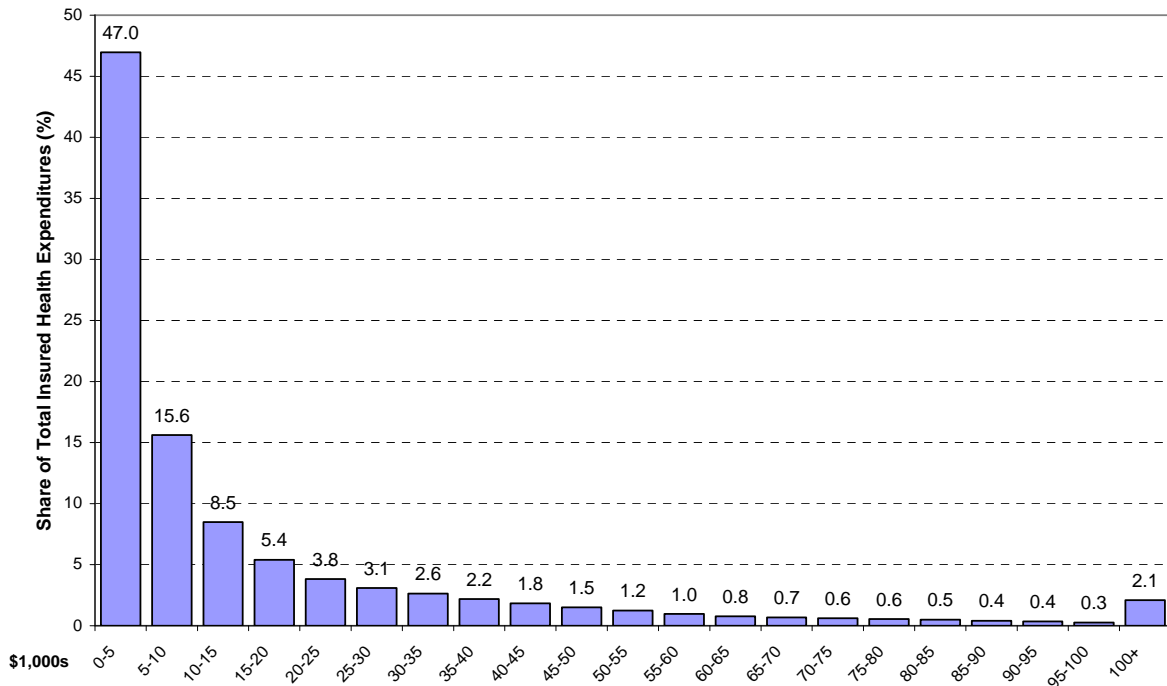
¹⁸ For our estimations, small firms were those with 2 through 49 employees; data limitations made it infeasible to follow the insurance regulatory definition of 2-50 employees. Based upon the distribution of firms and employees by firm size, we estimate that only a few thousand people work in firms of exactly 50 employees and are therefore unrepresented in our data on small firms—a very small fraction of the total. No simple correction is possible, as characteristics of these people are unknown.

¹⁹ Estimates are for a standardized package of benefits, which serves to make spending comparable across the privately insured populations; these figures include enrollees' out-of-pocket spending.

accounts for a large share of total annual expenditures, as has often been noted in Washington and nationally.²⁰

From the perspective of HealthyNY style reinsurance, it is more instructive to consider how often per person annual spending exceeds various benchmarks—because that is what such a new program would cover. For example, insured spending of above \$90,000 a year accounts for under 3 percent of total spending in the small group sector (Exhibit 5), whereas fully 62 percent of total dollars spent by insurance fall under \$10,000 per year per person. (The picture differs if one asks what share of spending is attributable to individuals with greater than \$90,000 in total expenditure. They account for approximately 10 percent of total spending. The 10 percent figure is so much higher than 3 percent because most spending even for high-spending people occurs in lower corridors of expense.)

Exhibit 5. Per Person Insured Spending Experienced at Different Annual Levels of Expenditure (for Employees and Dependents in Small Groups; estimated as shares of total by category in 2007 \$1,000s)



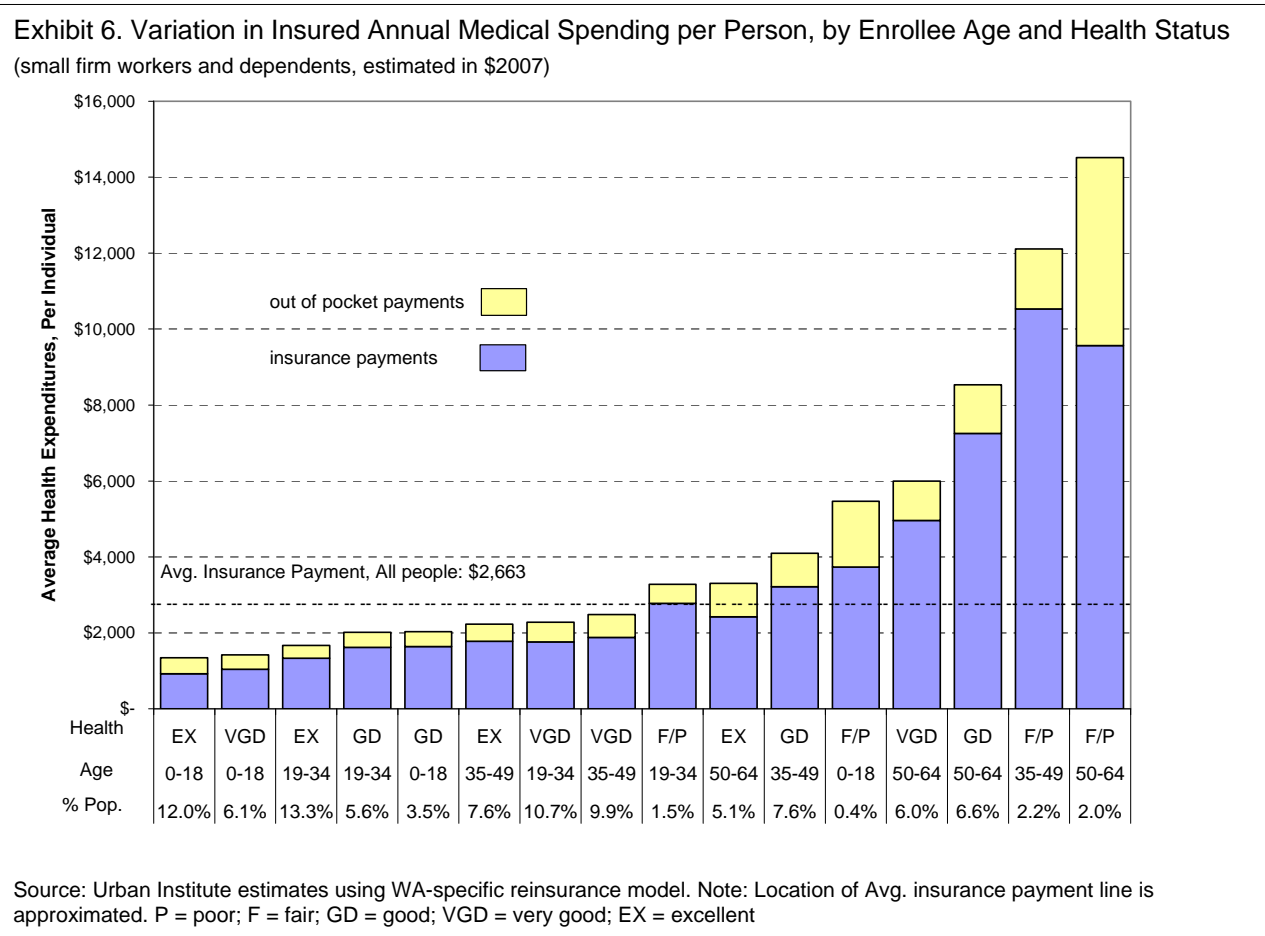
Source: Urban Institute estimates using WA-specific reinsurance model.

Even before formal modeling, it is thus clear that reinsuring only at very high spending corridors cannot much reduce underlying claims costs and therefore will little affect premiums. Achieving a large difference in premiums charged by primary insurers calls for having a much lower threshold for reinsurance.

²⁰ Chollet, Deborah The Affordability of Coverage for High-Cost Individuals: Options for Washington State, April 30, 2007 <www.insurance.wa.gov/publications/health/2118-Report_Reinsurance5.pdf>; Marc L. Berk and Alan C. Monheit, “The Concentration of Health Care Expenditures, Revisited,” *Health Affairs* 20(2):9-18 (2001); Linda Blumberg and John Holahan, “Government as Reinsurer: Potential Impacts on Public and Private Spending,” *Inquiry* 41(2):130-43 (Summer 2004).

The baseline data also confirm the common wisdom that insured spending increases with age. For example, Washingtonians covered through small firms and aged 0 to 18 years are estimated to spend about \$2,600 on health care in 2007, mainly through insurance but also out of pocket. This figure is close to the average for the entire small firm subpopulation, whereas those aged 51 to 64 average some \$10,500 (data not presented).

Health status also greatly affects spending. At any age, people rating themselves in fair or poor health spend more than those in good health, good more than very good, and very good more than excellent (Exhibit 6, using data for the small-firm population). Conversely, at any given level of health status, older cohorts of people spend more than younger ones. The combination of age and health leads to quite large divergences, even without taking account of just what health history leads a person to self identify with a given health status. People under 18 in excellent health average annual insured spending of about \$1,000, compared to about \$10,000 for those in fair or poor health at upper ages. People in fair or poor health also pay substantially more per year out of pocket than do those in better health.



This wide variation in average spending levels has important implications. For one thing, it illustrates one reason that health insurance is a risky business. An insurer needs to know the mix of risks within any risk pool being covered to avoid losses. Moreover, variation in expected spending across insured groups or individuals is the source of

pressure for risk segmentation within markets where premium rate-making can take account of age and health status—that is, the tendency for relatively younger or healthier groups to separate from risk pools containing older and less healthy groups, so as to get lower premiums. Finally, data like those in Exhibit 6 suggest that risk pools that contain more higher-cost enrollees will benefit disproportionately from state-funded reinsurance that covers most of spending in a high-cost corridor of annual claims expense.

The Impacts of Reinsurance on Coverage and Public Spending

Our project simulated the effects of numerous different configurations of potential reinsurance subsidy programs, in response to requests from state officials. The first set of simulations done covered everyone in small firms (including dependents) or in the non-group market. Large groups and public coverages were not simulated.²¹ A second set included only those in the conventionally insured markets; these simulations omitted people insured through association health plans or the state’s high-risk pool.

The first and second sets of simulations are presented in turn next. Not surprisingly, in each case simulated reinsurance programs were found to reduce premiums more and increase coverage more when the hypothesized subsidies are more generous—when programs offer lower thresholds, wider corridors of coverage, and lower carrier retention percentages. Having large impacts, however, requires substantial government spending to pay for them.

Results for Full Target Populations—Small Firms and Non-Group Purchasers Combined, Including All Types of Coverage

Initial simulations done at state request applied to all coverage through small firms or in the non-group market.²² These estimations thus included enrollees in association health plans or the high risk pool—all of whom are unidentified as such in the available survey data.²³ We simulated results separately for small firms and non-group combined, then for small firms and non-group separately. The number of potential programs is vast, so that state officials chose to provide high and low anchors to ground and inform discussion on the value of continued public policy exploration of reinsurance issues. Simulations also covered corridors requested in statute.

Multiple configurations of reinsurance were applied within each eligible population, defined by corridors of coverage and by the extent of coinsurance required of primary carriers, also known as their retention of risk. Configurations included very narrow reinsurance (\$5,000–\$10,000 per year with 10 percent coinsurance), broad coverage (a number of corridors including \$50,000–\$100,000 and \$10,000–\$90,000 and coinsurance of 10 or 20 percent), and catastrophic reinsurance (above \$25,000 or \$100,000 per year,

²¹ By design, public employees were also excluded, per discussion above.

²² These estimates were mainly done under the Reinsurance Institute through December 2007, partly supported by the current add-on project.

²³ Enrollees in the Basic Health program are also not identified in the spending data. If they self identify as having private coverage, they are likely included within the non-group market; to the extent that they say they have state coverage, they are excluded from analyses in this report.

with higher coinsurance).²⁴ In all, 12 configurations of reinsurance reform were modeled (Exhibit 7).²⁵

Exhibit 7. Alternative Configurations of Publicly-Funded Reinsurance Simulated by Model

Eligible Populations and Reinsurance Parameters	Reinsurance Configurations						
	"Narrow"	"Broad"				"Catastrophic"	
Small Firms and Non-Group							
Corridor (in 2007 \$)	\$5,000 - \$10,000	\$10,000 - \$90,000	\$10,000 - \$90,000	\$25,000 - \$90,000	\$50,000 - \$90,000	\$25,000 and up	\$100,000 and up
Carrier retention (%)	10%	10%	20%	10%	10%	25%	30%
Small Firms Only							
Corridor (in 2007 \$)	\$5,000 - \$10,000	\$10,000 - \$90,000					\$100,000 and up
Carrier retention (%)	10%	10%					30%
Non-Group Only							
Corridor (in 2007 \$)	\$5,000 - \$10,000	\$10,000 - \$90,000					
Carrier retention (%)	10%	10%					

Source: Urban Institute table of Washington state reinsurance specifications.
 Note: blank cells were not simulated (see footnote)

We highlight first key findings from one configuration of reform—a broad reinsurance program covering non-group and small group coverages combined and reimbursing 90 percent of medical claims costs from \$10,000 to \$90,000 per person per year, that is, with a 10 percent carrier retention (Ex. 7, col. 2, row 1). Under this configuration the two markets are reinsured under the same rules—but rules and practices are not the same in the affected markets for primary coverage; there is no market merger at the level of primary coverage. The small group and non-group markets continue to differ in underwriting, rate-making rules, “standard” benefit packages, and administrative loads, all of which are unchanged by reform. (For purposes of this report we refer to the results of reinsurance as “post reform”.)

The first set of results estimates the impact of this reinsurance simulated program by type of coverage (Exhibit 8, top rows, Health Coverage Status). Overall, this simulated reform would decrease the number of uninsured Washingtonians by about 15 percent, providing new coverage to some 87,200 people. This is the most important single finding, as reducing the uninsurance level is a central goal of reinsurance, although not the only one.

The biggest percentage impact on coverage occurs among non-group enrollees: About ten percent more people are estimated to buy non-group coverage after the reform. However, in terms of number of people newly enrolled, the impact is larger for employer-sponsored insurance (ESI) because the baseline size of that market sector is much larger. The ESI percentage changes are lower for ESI than for non-group, both under ESI for employees (“policy holders” in Exhibit 8) and for dependents.

²⁴ The December memo, Attachment A, presents the full array of reinsurance specifications in Table 4 and accompanying text.

²⁵ For a complete explanation, see December Memo, Attachment A.

Exhibit 8. Changes in Coverage under Broad Reinsurance

(for Small Firm & Non-Group Coverages state pays 90% of per-person annual insured costs \$10,000 to \$90,000; carrier retains 10%)

	Baseline	Post Reform	Change %age	no.
Health Coverage Status				
ESI, as Policy-holder	1,682,640	1,722,980	2.4%	40,340
ESI, as Dependent	2,047,200	2,065,020	0.9%	17,820
Non-group	285,960	315,000	10.2%	29,040
Medicaid/SCHIP	880,040	880,040	--	--
Medicare	730,160	730,160	--	--
Other public	117,620	117,620	--	--
Uninsured	590,200	503,000	-14.8%	-87,200
Total	6,333,820	6,333,820	--	--
How change occurs:				
proportion of firms (by no. employees) offering ESI*				
2- 9	0.387	0.521	34.6%	
10-24	0.678	0.746	10.0%	
25-49	0.846	0.891	5.3%	
proportion of employees receiving offer				
2- 9	0.384	0.490	27.6%	
10-24	0.540	0.605	11.9%	
25-49	0.674	0.702	4.2%	
proportion of employees receiving offer who take it up				
2- 9	0.632	0.681	7.8%	
10-24	0.776	0.788	1.5%	
25-49	0.746	0.758	1.6%	

Source: Urban Institute table of Washington state reinsurance specifications. Note: Offer is defined as sponsorship and eligibility. Population is all Washington residents, including those over 64 years old.

The majority of the estimated gains in ESI occur within firms that did not offer coverage in the baseline, but that decide to offer coverage “post reform” (Ex. 8, lower rows, How change occurs). The reinsurance subsidy induces more firms to make offers to employees because it makes coverage for them more affordable.²⁶ The change in offer rate is estimated to be greatest among very small firms (with two to nine employees), where offer rates were lowest to begin with. Expected changes in the rates of firms’ offers fall as firm size increases, as for these somewhat larger firms, the offer rate was at relatively higher levels to begin with. The largest firms (50+ employees) are unaffected because their insurers receive no reinsurance subsidy.

After the reform, just over half of firms with 2 to 9 employees are expected to offer health insurance—an increase of almost 35 percent from their baseline offer rate. The percentage increase in the firm offer rate is much less among the largest small firms—those with 25 to 49 employees in our model²⁷—but still reaches essentially the same level as the baseline level for firms with 50 to 99 employees. Changes in the rates of employees’ expected take up of health insurance mirror the changes estimated for their firms’ offer rates. Again, the impact is greatest among very small firms (the 2-9’s).

²⁶ Note that the model assumes that primary insurers, whose costs are reduced by reinsurance subsidy, pass through the full value of the subsidy as lower premiums for buyers. The model does not simulate whether the subsidy attracts new insurers to offer coverage, possibly reducing premiums by increasing competition in the reinsured market.

²⁷ The model’s small firms are those with under 50 employees, slightly different from the market definition, as noted above.

The main impact of reinsurance was just noted, an overall 15 percent decrease in the number of people uninsured in Washington state. After reinsurance, people previously uninsured acquire non-group or employer-group coverage in small firms. A secondary coverage impact is that after reform some covered people who had non-group coverage at baseline “upgrade” to group coverage, which offers richer benefit packages. This impact is smaller, affecting about 7 percent of people with non-group coverage at baseline. The following discussion covers how these impacts differ by age, health status, and family income.

The youngest cohort benefits least from reinsurance among the three age cohorts presented (Exhibit 9), whether measured as the number of people helped or as a percentage change—fewer than 8,000 people and under 10 percent.²⁸ More young people would get employer coverage, as dependents, than would get non-group insurance. Those aged 19 to 34 would see uninsured numbers cut by 15 percent (Exhibit 9), almost exactly the overall average of almost 15 percent (Exhibit 8). The 35 to 64 cohort is expected to experience the largest decline in uninsurance. Of the 247,780 uninsured people targeted at baseline in this age group, 6.9 percent are expected to take up ESI as either a policyholder or a dependent, while another 10.8 percent are expected to enroll in the non-group market.

Exhibit 9. Impacts of Broad Reinsurance by Age						
(state pays 90% of per-person annual insured costs \$10,000 to \$90,000 for Small Firms & Non-Group Coverages; carrier retains 10%)						
Baseline Status		Post-Reform Change in Coverage				
Health & coverage status	No. at Baseline	To Employer Group		To Non-Group	Change	
		as policyholder	as dependent		no.	%age
Age 0-18 years						
uninsured	76,860	0	4,280	3,600	7,880	10.3
non-group	47,620	0	2,440	--	2,440	5.1
Age 19-34 years						
uninsured	264,500	14,680	2,600	21,360	38,640	14.6
non-group	74,380	5,440	1,160	--	6,600	8.9
Age 35-64 years						
uninsured	247,780	12,940	4,240	26,720	43,900	17.7
non-group	163,960	7,040	3,200	--	10,240	6.2

Source: Urban Institute table of Washington state reinsurance specifications.
 Note: Presentation omits people in baseline with public coverage—Medicaid, Medicare, and other publicly-funded health insurance

The secondary, upgrade effect also varies by age: Here, too, the youngest cohort has the least change. The oldest group (35-64) has the most upgrades from non-group to ESI coverage, over 10,000 people. However, the rate of upgrading is highest in the middle age cohort.

The broad reinsurance program simulated should disproportionately reduce primary insurers’ costs of enrolling people who have high health costs. Simulation results show

²⁸ Exhibit 9 is a simplified version of the December Memo’s Table 6 (see Attachment A). Its estimates derive from a different iteration of the same “broad” policy reinsurance simulated in other Exhibits here, with underlying assumptions and policy configuration preserved. Slightly different totals across iterations result from randomness built into the model for simulation purposes.

that about 15 percent of the 60 thousand uninsured in fair or poor health indeed get more coverage (Exhibit 10). Surprisingly, this level of change is little different from that simulated for healthier uninsured people. Why higher health risks are not estimated to receive more help needs further exploration. The model may not sufficiently capture differences in premiums that result from health differences, or there may be as yet unexamined links with income and ability to pay for coverage.

Exhibit 10. Impacts of Broad Reinsurance by Health Status
 (for Small Firm & Non-Group Coverages state pays 90% of per-person annual insured costs \$10,000 to \$90,000; carrier retains 10%)

Baseline Status		Post-Reform Change in Coverage				
Health & coverage status	No. at Baseline	To Employer Group		To Non-Group	Change	
		as policy-holder	as dependent		no.	%age
Fair or Poor Health						
uninsured	63,380	2,800	1,720	5,080	9,600	15.1
non-group	16,080	880	400	--	1,280	8.0
Healthier (gd, v. gd, ex.)						
uninsured	526,820	25,040	9,260	43,380	77,680	14.7
non-group	269,880	11,620	6,440	--	18,060	6.7

Source: Urban Institute table of Washington state reinsurance specifications.
 Notes: Presentation omits people in baseline with public coverage—Medicaid, Medicare, and other publicly-funded health insurance; gd = good, v.gd = very good; ex. = excellent, self-rating by MEPS household survey respondents.

When income effects are examined in isolation, gains in coverage are seen to be lower among lower-income families. Presumably this occurs because they are less able to afford even subsidized coverage. Below 200 percent of the federal poverty level (FPL), 12 percent of the previously uninsured gain coverage, compared with over 18 percent at higher incomes (data not presented).

The mechanism by which reinsurance helps insure more people is by reducing their premiums. The model estimates reductions in premium at the level of firms and individuals buying in the non-group market. Small firms' premiums for single coverage (employee only) would fall on average by about 30 percent (Exhibit 11). For family coverage (including dependents), they would drop by about 33 percent. The exhibit shows total, or average, decreases; all the variations by size of firm and enrollee characteristics are not presented.²⁹

Non-group premiums are estimated to fall by about 38 percent for both single and family coverage. However, people who are older (or in worse health to the extent that such rating is allowed) are expected to experience above-average reductions. For the single coverages shown, reductions range from 32 to 49 percent. For family coverage the

²⁹ Estimated levels of premiums are not shown. Among small firms at baseline they appear somewhat lower than small firm premiums in the MEPS-IC in Washington state for single coverage and somewhat higher for family coverage. More detailed results appear in the December Memo, Attachment A, Table 8. The model proxies the rating rules that pool risk among employers in the small group market (2-50 employees), which promote uniformity in premium changes. As noted above, our small firm results in Exhibit 11 and prior exhibits include small firms insured via AHPs, and we appreciate that this modeling considers together populations that are separate in real-world premium setting. The second set of simulations done sought to separate conventional small group from AHP-like enrollees (below).

range of premium change is broader, from 20 to 45 percent. (The lower figure does not appear in Exhibit 11, which omits categories containing fewer than 1,500 policyholders statewide.)

Exhibit 11. Impact of Broad Reinsurance on Premiums and Public Spending		
(for Small Firm & Non-Group Coverages state pays 90% of per-person annual insured costs \$10,000 to \$90,000; carrier retains 10%)		
	Premium Decrease	Policyholders
Small-firm premiums, single coverage -- total	-30.4%	172,190
Small-firm premiums, family coverage -- total	-33.3%	115,659
Non-group premiums, single coverage -- total	-38.5%	158,801
by rating category:		
Healthy, under 25 years	-36.6%	32,171
Healthy, 25-44 years	-38.9%	58,101
Healthy, 45-64 years	-34.7%	56,511
Fair/poor health, under 25 years	-31.8%	342
Fair/poor health, 25-44 years	-42.9%	3,503
Fair/poor health, 45-64 years	-47.7%	8,173
Non-group premiums, family coverage -- total	-38.2%	43,258
by selected categories:*		
All healthy, none 15-44 yrs, two 45+	-37.3%	12,139
All healthy, at least one 15-44, none 45+	-33.5%	15,501
All healthy, at least one 15-44, one 45+	-44.7%	7,811
All healthy, at least one 15-44, two 45+	-31.6%	2,254
At least one fair/poor hlth, none 15-44, two 45+	-40.9%	1,872
Public reinsurance spending (2007\$ millions)		
total	\$886.8	
for non-group coverage	\$352.4	
for group coverage	\$534.3	

Source: Urban Institute table of Washington State reinsurance specifications.
Note: *Categories with 1,500+ statewide policyholders.

Premium reductions of one third or more are achieved because of the large state reinsurance subsidy implied by this “broad” configuration of reinsurance. Required funding is estimated at \$886.8 million (in 2007 dollars) per year once the program is fully implemented (Exhibit 11, bottom section). This total includes spending of \$534.3 million for small firms and \$352.4 million for non-group coverage. These amounts are the medical expense reimbursements paid to primary insurers. They do not include administrative costs or other costs that would be included in modeling for state budgetary purposes. Nor is there any allowance for any secondary effects of reinsurance on insurer spending or administrative loadings, which are discussed below.

Other reinsurance configurations are possible, and we simulated a variety of them, as already noted (Exhibit 7 above). Here we present major findings on the other configurations simulated for the full target population of small firms and non-group buyers in Washington state (Exhibit 12). The configurations range from “narrow” to “catastrophic.” The “broad” configuration presented just above (and first of the four in Exhibit 12) is the most generous, with a wide corridor of coverage, low carrier retention percentage—and, accordingly, the biggest impacts on uninsurance and the highest public spending (Exhibit 12, top and bottom sections).

Exhibit 12. Seven Reinsurance Configurations: Major Impacts and Public Spending

(for Small Firm & Non-Group Coverages, corridors of state reinsurance and coinsurance rates for carriers as shown)

Reinsurance Corridor:	Reinsurance Configurations						
	"Narrow"	"Broad"				"Catastrophic"	
	\$5,000- 10,000 10%	\$10,000- 90,000 10%	\$10,000- 90,000 20%	\$25,000- 90,000 10%	\$50,000- 90,000 10%	\$25,000+ 25%	\$100,000+ 30%
Carrier retention percentage:							
Change in coverage (no. enrollees)							
Employer Sponsored Insurance	+27,260	+58,160	+50,960	+27,360	+10,300	+27,500	+3,420
Nongroup	+7,820	+29,040	+24,480	+12,640	+4,800	+11,660	+260
Uninsured	-35,080	-87,200	-75,440	-40,000	-15,100	-39,160	-3,680
<i>change in number of uninsured</i>	-5.9%	-14.8%	-12.8%	-6.8%	-2.6%	-6.6%	-0.6%
Change in premium for small firms							
Single coverage	-\$642	-\$1,340	-\$1,191	-\$543	-\$159	-\$570	-\$89
	-14.6%	-30.5%	-27.1%	-12.4%	-3.6%	-13.0%	-2.0%
Family coverage	-\$1,823	-\$4,160	-\$3,692	-\$2,157	-\$876	-\$2,100	-\$187
	-14.5%	-33.0%	-29.3%	-17.1%	-7.0%	-16.7%	-1.5%
Change in offer rate by firm size							
<i>(percentage change in offer)</i>							
2-9 employees	+18.5%	+39.6%	+35.0%	+17.5%	+6.4%	+17.8%	+2.5%
10-25 employees	+5.2%	+12.0%	+10.5%	+5.0%	+1.5%	+5.1%	+0.6%
26-49 employees	+3.5%	+7.2%	+6.1%	+3.2%	+1.3%	+3.3%	+0.5%
Change in average NG premium							
Single coverage	-\$601	-\$1,591	-\$1,411	-\$807	-\$312	-\$830	-\$59
	-15.0%	-39.0%	-34.1%	-19.5%	-7.1%	-18.9%	-1.3%
Family coverage	-\$1,381	-\$4,126	-\$3,664	-\$2,163	-\$876	-\$2,235	-\$264
	-13.0%	-38.0%	-33.9%	-20.0%	-8.0%	-20.4%	-2.4%
Public reinsurance spending							
<i>(in millions of 2007 \$)</i>	\$364.6	\$886.8	\$774.2	\$414.3	\$159.9	\$415.4	\$41.3

Source: Urban Institute table of Washington State reinsurance specifications. Notes: Figures are estimations, and the higher the threshold of the reinsured corridor, the less precise are the estimates, as variability of individual spending increases at higher levels.

At the high end—catastrophic coverage—reinsuring only insured medical expenses above \$100,000 per person per year is estimated to be relatively inexpensive in terms of public spending for reinsured medical claims.³⁰ At about \$40 million per year, this is less than 5 percent of the amount estimated for the broadest reinsurance program.³¹ By the same token, however, catastrophic reinsurance also has little impact on premiums or on the number of uninsured. It would reduce uninsurance by just over 4 percent as much as the broad program would (Exhibit 12, cols. 8 and 3 compared). The simulation results thus confirm the descriptive observation that little spending occurs in such high corridors (Exhibit 5, above).

Widening corridors and thereby spending more on reinsurance always creates larger impacts on premiums (Exhibit 12, middle sections). However, the distribution of these impacts across different categories of insured people varies according to the reinsurance design. The reason for this result is that reinsurance especially helps higher-cost underlying insurance premiums and that the underlying distribution of health expenses varies by age and health status. For example, in our simulations, those insured in the non-

³⁰ As noted above, these estimates omit changes in insurer behavior in response to reinsurance, which might be greatest in catastrophic coverage, which would cover medical expenses without upper limit. See discussion below.

³¹ As noted for Table 12, the precision of the \$40 million estimate is less than that for the \$880 million.

group market at baseline have a slightly larger share of their total insured dollars in the \$10,000 to \$100,000 corridor than those currently insured in small firms. Therefore, programs targeting this corridor reduce premiums more for the non-group market than for the small-firm market.

The wider reinsurance corridors and lower carrier retention percentages show the largest expected impacts on firms' offer rates (Exhibit 12, middle section). Regardless of the configuration specified for a reinsurance program, the percentage increase in offer rate is always much larger for smaller firms than larger ones. The extent of the difference is greatly affected by the rising offer rates by firm size visible in the baseline (Exhibit 8, above).³²

Results for Sub-Populations—Separate Reinsurance for Small Firms and for Non-Group Purchasers

All the foregoing simulations have applied to small firms' and non-group coverages combined. If state subsidy is focused only on small firms, the results are slightly different in magnitudes but very similar in general nature (Exhibit 13). Three configurations of

Exhibit 13. Reinsurance Configurations for Small Firms Only: Major Impacts and Public Spending
(corridors of state reinsurance and coinsurance rates for carriers as shown)

Reinsurance Corridor:	Reinsurance Configurations		
	"Narrow" \$5,000- 10,000	"Broad" \$10,000- 90,000	"Catastrophic" \$100,000+
Carrier retention percentage:	10%	10%	30%
Changes in coverage (no. enrollees)			
Employer Sponsored Insurance	+27,360	+58,080	+3,420
Nongroup	-10,460	-19,300	-1,020
Uninsured	-16,900	-38,780	-2,400
<i>change in number of uninsured</i>	-2.9%	-6.6%	-0.4%
Change in premium for small groups			
Single coverage	-\$642 -14.6%	-\$1,340 -30.5%	-\$89 -2.0%
Family coverage	-\$1,802 -14.3%	-\$4,159 -33.0%	-\$187 -1.5%
Change in offer rate by firm size <i>(percentage change in offer)</i>			
2-9 employees	+19.2%	+39.5%	+2.5%
10-25 employees	+5.3%	+12.0%	+0.6%
26-49 employees	+3.4%	+7.2%	+0.5%
Change in average NG premium			
Single coverage	+\$30 +0.7%	+\$58 +1.4%	+\$7 +0.2%
Family coverage	-\$15 -0.1%	+\$132 +1.2%	+\$10 +0.1%
Public reinsurance spending* <i>(in millions of 2007\$)</i>			
	\$248.9	\$533.2	\$25.7

Source: Urban Institute table of Washington State reinsurance specifications. Notes: Figures are estimations, and the higher the threshold of the reinsured corridor, the less precise are the estimates, as variability of individual spending increases at higher levels.

³² The percentage *point* increase in share of firms offering is about two and a half times as large for firms with 2-9 employees as for firms with 26-49. See slightly different presentation in December Memo, Table 9.

reinsurance were simulated where the eligible population was limited to small firms—one each of “narrow,” “broad,” and “catastrophic” reinsurance programs.

As for small firms and non-group combined, broad reinsurance has the largest effects, reducing premiums by about one third, and cutting uninsurance by nearly 7 percent. The major mechanism of increase is, again, increases in offer rates among small firms, which is largest among the very small firms, those with 2 to 9 employees.

Correspondingly, the broad configuration is highest in public spending for reinsured medical claims. At an estimated \$533 million, the public expense is about 60 percent of the amount for small firms and non-group combined.

The final simulation focuses state subsidy on non-group purchasers only, which again somewhat changes the impacts and spending seen under reinsurance (Exhibit 14). Two configurations of non-group reinsurance were simulated—one “narrow” and one “broad”—showing the expected changes in individuals’ and families’ decisions to purchase coverage, the reductions in non-group health insurance premiums for individuals and families targeted by the reform, and the public medical claims spending likely to occur under each alternative configuration.

Exhibit 14. Reinsurance Configurations for Non-Group Only: Major Impacts and Public Spending
(corridors of state reinsurance and coinsurance rates for carriers as shown)

Reinsurance Corridor	Reinsurance Configurations	
	"Narrow" \$5,000- 10,000	"Broad" \$10,000- 90,000
Carrier retention percentage	10%	10%
Change in coverage (no. enrollees)		
Nongroup	+16,280	+55,540
Uninsured	-16,280	-55,540
<i>change in number of uninsured</i>	-2.8%	-9.4%
Change in average NG premium		
Single coverage	-\$648 -14.7%	-\$1,824 -41.4%
Family coverage	-\$1,457 -13.3%	-\$4,272 -39.1%
Public reinsurance spending <i>(in millions of 2007\$)</i>	\$122.7	\$395.9

Source: Urban Institute table of Washington State reinsurance specifications. Notes: Figures are estimations, and the higher the threshold of the reinsured corridor, the less precise are the estimates, as variability of individual spending increases at higher levels.

The broad configuration as expected achieves more impact than the narrow one—but higher impact comes at higher cost in state reinsurance spending. Broad reinsurance would reduce non-group premiums by about 40 percent and induce some 55,540 previously uncovered people to purchase coverage. Expected public spending is just under \$400 million. The narrow reinsurance simulated would newly insure some 16,280 people, for \$123 million. The narrower version costs less overall, but actually costs about 5 percent more per newly insured person because of its lower impact on willingness to buy coverage. It should be remembered, however, that the 55 thousand new enrollees is not the only benefit of spending the \$400 million. The almost 300 thousand people who already

have non-group coverage would also receive premium cuts of 40 percent, which should increase their willingness to maintain coverages, and hence continuity of medical care.

It is also instructive to compare the costs and results of broad reinsurance for non-group coverage only (Exhibit 14) with the same reinsurance configuration for small-firm coverage only (Exhibit 13). Notably, the small-firm reinsurance subsidy achieves less in new enrollment per dollar of public spending. Several factors explain this difference: Most of the small-firm subsidy goes to people who already have small-firm coverage. Another increment of subsidy goes to upgrade people who already have non-group coverage to small firm coverage.³³ Such assistance helps many Washingtonians, but does not reduce uninsurance. Moreover, the distribution of health expenses within the insured risk pools after reform varies by sector, which makes reinsurance spending per person vary as well.

Results for Revised Target Populations—Small Firms and Non-Group Purchasers, Including Only Those with Conventional Insurance Coverages

The second set of reinsurance configurations adjusted the earlier small-firm and non-group reinsurance analyses to take account of the existence of Association Health Plans (AHPs) serving small groups and non-group coverage obtained through the state's high risk pool (WSHIP).³⁴ The simulations allowed reinsurance subsidy to go only to coverage bought in the conventional non-group market (not through AHPs), and through conventional non-group, not including WSHIP. These modifications called for using factors not observable from survey data, which were accomplished as follows.

We simulated existing conventional small group coverage to consist of 295,000 covered lives, an OIC estimate based on 2006 enrollment data and trends in AHP enrollment reported to the OIC in 2007. The simulation model then also built in the observation that these conventionally insured people are more expensive than the AHP population, owing to medical underwriting in the AHP market segment. How much more expensive is not documented. Lacking direct information, we discussed possible assumptions with state policymakers and outside consultants. We decided to model reinsurance using the assumption that the 295,000 conventional small group enrollees on average have 25 percent higher medical spending than other small-firm enrollees, who are presumed to have AHP coverage. The direction of this difference is consistent with observed market behavior, but its magnitude is only an assumption.³⁵

In parallel fashion, we simulated the non-group market without WSHIP high-risk enrollees, who by design have much higher medical claims.³⁶ Here, after consulting state reports and policymakers, we removed from the earlier model's non-group insured population the 1,820 private, non-Medicare enrollees in WSHIP. We selected them from

³³ In this simulation of non-firm market reform, as for all reforms, the model assumes that individuals and families do not move from small firm coverage to non-group coverage.

³⁴ All WSHIP coverage is non-group, but some comes from the Medicare population not included in these reinsurance simulations. Most AHP coverage is believed to be sold to small firms, although a substantial minority is said to consist of large firms. AHPs are regulated mainly like large group coverage.

³⁵ Modeling additional assumptions is desirable but infeasible within the time and resources available.

³⁶ Our process was explained in two January memoranda—to WSHIP and to large insurers of AHPs—sent via OFM and OIC. Helpful feedback was obtained, but making improvements on the simulations done here must await the availability of further time and resources.

among the model’s baseline non-group insureds such that their medical claims costs would equal the reported WSHIP total of \$29.2 million.³⁷

With these adjustments, the baseline population eligible for reinsurance was set to include only conventional enrollees of the appropriate numbers and with the appropriate levels of medical spending, along with the uninsured, and not including our simulated AHP- and WSHIP-like enrollees.³⁸ With these new baseline data, we ran multiple simulations. As for the earlier analyses, we simulated three configurations of reinsurance corridors and retention percentages—narrow (\$5,000 to \$10,000 with 10 percent retention), broad (\$10,000 to \$90,000 with 10 percent), and catastrophic plan (\$100,000+ at 30 percent retention rate). We modeled each of these configurations for the aggregated small group and non-group markets, and the narrow and broad corridors for the small group and non-group markets separately (Exhibit 15, next page).

The most notable result is that these revised configurations reduce uninsurance to nearly the same extent as the prior estimations, and with lower state spending. For example, for combined small group and non-group reinsurance, the “broad” configuration would newly insure almost 86,000 Washingtonians, little smaller than the 87,000 when all small firms were eligible for subsidy. Yet estimated spending is substantially less—\$612 million, compared with \$887 million. A key reason for lower spending is that the AHP population is not subsidized.³⁹ Other results are broadly similar to findings of the earlier simulations: The “broad” configuration of reinsurance most reduces premiums and therefore the rate of uninsurance. It also requires higher state spending than do the “narrow” or “catastrophic” options. Likewise, reinsurance targeted at the non-group population alone achieves more reduction in uninsurance, and with lower state spending, than does reinsuring only small groups. The impacts on small groups mainly occur because of changes in offer rates (there is little change in the take up rate, not presented), and changes in offer rates are much bigger in the smallest small groups than in the largest ones.

Our scope of work did not include simulating the impacts of spending a fixed amount of state dollars through reinsurance. It is apparent, however, that a given level of total state subsidy would reduce premiums more within the conventional small group market than within the much larger small firm market that also includes AHP enrollees.

³⁷ Sources included annual reports of WSHIP, Elizabeth Leif and John Gabriel, *Washington State Health Insurance Pool: A Study of Eligibility Standards for Pool Coverage*, Denver, Colorado: Leif Associates, December 1, 2007; and the annual databook from the National Association of State Comprehensive Health Insurance Plans, *Comprehensive Health Insurance for High-Risk Individuals: A State-by-State Analysis*, 21st ed., 2007-08, Leif Associates for NASCHIP. The WSHIP figures come from 2006. A WSHIP source suggested adjusting these data to 2007, which seems desirable but was not feasible at the time of simulation.

³⁸ We were unable to simulate premiums in the AHP sector, lacking any information about the nature of risk pooling or health status factors used there. Accordingly, the model simply assumed that those currently insured who are assumed to have AHP coverage would not be induced by reinsurance to shift back to conventional small group coverage and accept adjusted community rating.

³⁹ To a smaller degree this lower cost also reflects the assumption noted above that AHP enrollees would not return to conventional small group coverage.

Exhibit 15. Reinsurance Configurations Adjusted for Existence of AHPs and WSHIP Coverage: Major Impacts and Public Spending

(eligible populations, corridors of state reinsurance, and coinsurance rates for carriers as shown)

Eligible Population:	Reinsurance Configurations							
	SG and NG			SG only		NG only		
	"Narrow"	"Broad"	"Catastrophic"	"Narrow"	"Broad"	"Narrow"	"Broad"	
Reinsurance Corridor:	\$5,000-10,000	\$10,000-90,000	\$100,000+	\$5,000-10,000	\$10,000-90,000	\$5,000-10,000	\$10,000-90,000	
Carrier retention percentage:	10%	10%	30%	10%	10%	10%	10%	
Change in coverage (no. enrollees)								
Employer Sponsored Insurance	+20,173	+52,022	+2,637	+20,152	+52,062	--	--	
Nongroup	+8,798	+33,681	+101	-6,704	-17,696	+15,864	+54,337	
Uninsured	-28,970	-85,703	-2,738	-13,448	-34,366	-15,864	-54,337	
<i>change in number of uninsured</i>	-4.9%	-14.5%	-0.5%	-2.3%	-5.8%	-2.7%	-9.2%	
Change in premium for small group								
Single coverage	-\$655	-\$1,552	-\$120	-\$655	-\$1,553	--	--	
	-14.0%	-33.0%	-2.6%	-14.0%	-33.0%	--	--	
Family coverage	-\$1,952	-\$5,018	-\$264	-\$1,954	-\$5,021	--	--	
	-15.0%	-38.0%	-2.0%	-15.0%	-38.0%	--	--	
Change in offer rate by firm size								
<i>(percentage change in offer)</i>								
2-9 employees	+15.4%	+38.9%	+2.3%	+15.5%	+38.9%	--	--	
10-25 employees	+7.9%	+20.9%	+1.0%	+7.9%	+20.9%	--	--	
26-49 employees	+3.2%	+7.3%	+0.6%	+3.2%	+7.2%	--	--	
Change in average NG premium								
Single coverage	-\$593	-\$1,661	-\$78	-\$2	+\$36	-\$589	-\$1,663	
	-14.0%	-41.0%	-1.9%	-0.0%	+0.9%	-14.0%	-41.0%	
Family coverage	-\$1,244	-\$3,624	-\$189	+\$35	+\$154	-\$1,281	-\$3,662	
	-13.0%	-38.0%	-2.0%	+0.4%	+1.6%	-14.0%	-39.0%	
Public reinsurance spending								
<i>(in millions of 2007 \$)</i>								
	\$220.6	\$612.1	\$19.8	\$138.4	\$341.9	\$84.5	\$275.2	

Source: Urban Institute table of Washington State reinsurance specifications. Notes: Figures are estimations, and the higher the threshold of the reinsured corridor, the less precise are the estimates, as variability of individual spending increases at higher levels. Other assumptions explained in text. SG = small group market; NG = non-group market.

A note on estimation: All figures just presented above constitute reasonable estimates of the numbers of people targeted and affected, magnitudes of dollars, and extent of insurance response. There is some uncertainty inherent in the survey data on population numbers and characteristics upon which the model is based.⁴⁰

We do not purport to make budgetary predictions about the configurations of reinsurance simulated here, as among other things many parameters of reinsurance design and operations remain unspecified. As only one example, the model assumes a standardized benefits package, and the benefits reinsured might be somewhat less than standard, as they are in HealthyNY. (If reinsurance applies to lesser benefits, state costs would be reduced but their perceived subsidy would also be reduced, so that the impact of reinsurance on premiums and coverage choices would be less.)

Moreover, there will always be some uncertainty about a newly implemented program. HealthyNY built in a coping mechanism, the authority to reduce the state's

⁴⁰ Moreover, the model's grouping of individuals and families within synthetic workplaces builds in some randomness. Thus, different iterations of the model can yield slightly different results even though the underlying assumptions and configuration of reinsurance is preserved.

percentage coverage of the reinsured corridor of insurer cost should covered claims cost exceed budgeted revenues at year's end. This ability to make retrospective cuts in coverage is a very useful budgetary fallback strategy but undercuts insurers' incentives to fully pass through premium savings in advance. Our estimates may also be imprecise because new costs and savings may be created by reinsurance, as discussed next.

Factors Not Modeled that May Affect Reinsurance Results

The modeling just presented does not take into account some new costs that will tend to reduce the effective size of the intended subsidy, nor some new savings that might increase it. Our perspective is that the size of these additional factors is too uncertain to warrant formal modeling at this stage, and that the new costs and savings offset one another, so that both can reasonably be omitted from current analyses.

In brief, reinsurance will create new administrative costs for both the state program and for reinsured primary carriers, notably for claims processing and monitoring. These costs should not be large and can be held down by keeping new public standards and processes consistent with existing private practices wherever possible. From other experience, we estimate that state administrative costs would amount to at most an additional 1 to 3 percent of claims costs, depending upon how activist administrators are.⁴¹

Moreover, primary carriers' medical claims costs can be expected to increase in the reinsured corridor because carriers' cost-containment efforts will be more helpful to the state than to the carriers.⁴² Hence, reinsurance program countermeasures will be needed. Having an upper bound to reinsurance coverage helps maintain primary insurers' incentives to manage high-cost cases, lest they again become fully responsible for all claims above the ceiling. (This is true if the reinsurance ceiling is set below the prevailing upper limits of the reinsured private market; if reinsurance goes to higher levels or is unlimited, private ceilings can be expected to rise, expanding health spending.) The coinsurance or retention feature already noted also helps maintain some incentives to manage high-cost claims even in the reinsured corridor. Additional measures are likely also desirable, including such requirements as early reporting for impending large claims and mandatory use of the same forms of disease management and high cost case management that the same insurers use for their fully private accounts. Private reinsurers have the advantage that they can raise premiums or drop coverage if a primary insurer undermanages claims. Further work is needed in this area.

On the other hand, reinsurance should to some extent reduce the risk that insurers take in underwriting the targeted population. It could thus lower their costs by the reduced extent of risk-based capital they need to hold or by the reduction in "risk

⁴¹ These estimates draw upon the experience of Pool Administrators, Inc., in operating reinsurance pools for states under prior small group market reforms.

⁴² In insurance this phenomenon is called "moral hazard." Only in extreme cases, however, is such behavior immoral, as where fraudulent claims are submitted to obtain higher reimbursement. Typically, spending more where spending is subsidized is merely a normal and predictable response to a fiscal incentive. One goal of primary insurance is to enable insured people to spend more on health services; that is one reason that insured people have better health and live longer than the uninsured. Reinsurance, however, is not meant to increase spending by primary insurers.

premium” they need to charge in light of risk to their capital. Conceptually, some such savings should occur. However, we believe they are likely to be small.⁴³

In addition, non-catastrophic reinsurance might reduce the extent of insurers’ medical underwriting (because higher risks’ higher costs are subsidized), thus reducing insurers’ administrative costs. Finally, reinsurance subsidy might also make employers’ premiums enough cheaper that fewer firms would shop for new coverage in a given year, thus saving on search, sales, and underwriting expenses. Nationally, smaller firms are much more likely to change coverage from year to year than are large firms.⁴⁴ This project developed no information specific to Washington, nor about the dynamics of turnover and the costs involved. Again, the extent of savings is unknown, and they are justifiably omitted from modeling.

Finally, insurers’ pricing behavior is not part of the model. Results accordingly do not include how insurers might respond to reinsurance in marketing and pricing. The model assumes that carriers pass through 100 percent of the reinsurance subsidy into lower premiums, and continue to manage high cost claims as before. Different assumptions could increase estimated government spending on reinsurance.

Benefits and Costs of Reinsurance in Policy Perspective

How should analysis view the comparative costs and benefits of reinsurance? Many different benefits have been cited for reinsurance programs, often without specifying what configuration of reinsurance might achieve them.⁴⁵ The goals of reinsurance for Washington have not been definitively set out, nor is it clear just what the policy context is expected to be within which reinsurance would apply—coverage purchase by small firms, only conventional small-group coverage, the anticipated new Partnership coverages, a reformed insurance market operating under different rules, and/or with different benefit offerings, and so forth.

This report has estimated costs and coverage impacts only in the existing market and its subsets of the conventionally insured small group and non-group markets. The following discussion considers two possible goals and associated benefits the state might seek from reinsurance: One goal is to subsidize insurance to make coverage more

⁴³ Evidence appears to be limited. Plausibly, a higher risk premium is one reason for higher insurance loadings for smaller firms. See estimates made by Hay/Huggins (now Hay Group) for House Comm on Educ. & Labor, "Costs and Effects of Extending Insurance Coverage," Comm. Print 100-EE, Lib. of Congr., Congr. Rsrch Serv., Oct. 1988, discussed in Claudia Williams and Jason Lee, (2002). "Are Health Insurance Premiums Higher for Small Firms?" Robert Wood Johnson Foundation, Policy Brief No. 2, Sept. 2002 http://www.rwjf.org/pr/synthesis/reports_and_briefs/pdf/no2_policybrief.pdf. It should be noted, however, that small firm and non-group buyers have a higher business risk as well; they are more likely than large firm buyers to go out of business or otherwise be unable to pay anticipated premiums.

⁴⁴ Stephen H. Long and M. Susan Marquis, "Trends in Offering Employer-Sponsored Coverage," Data Bulletin No.15, Center for Studying Health System Change, fall 1998 <http://www.hschange.com/CONTENT/47/>.

⁴⁵ See OIC, "Pooling Risk, Reducing Cost" 2005 http://www.insurance.wa.gov/legislative/factsheets/pooling_risk.shtml; Katherine Swartz, *Reinsuring Health: Why More Middle-Class People Are Uninsured and What Government Can Do*. New York: Russell Sage Foundation Publications, 2006; Deborah Chollet, "The Role of Reinsurance in State Efforts to Expand Coverage," State Coverage Initiatives Issue Brief, AcademyHealth 5.4, 2004, www.statecoverage.net/pdf/issuebrief1004.pdf.

affordable and get more or better coverage for Washingtonians. Another goal is to affect the operations of health insurance markets in Washington so as to support broader risk pooling. Finally, any policy analysis must also take at least general note of other policy options that might achieve the same or similar goals.

Benefits for Insured Washingtonians

Reinsurance operates by subsidizing insurance claims costs at targeted levels of expense per person year. It reduces premiums generally where funds come from outside the insurance sector; if funded by an assessment on insurers, one population’s premiums will be lowered only by raising another’s. The most often noted benefit of publicly subsidized reinsurance has been to expand health coverage. This is one reason that this report has highlighted the number of newly insured Washingtonians as a key impact.

Viewed only as benefit for the newly insured, reinsurance is a very expensive way to subsidize new enrollees, generating many thousands of dollars of public spending per newly insured person. However, this is a very incomplete view. If the only goal were to subsidize new enrollees, then support could readily be limited to the previously uninsured, as was done under HealthyNY.⁴⁶

The impacts of reinsurance on coverage can instead be broken into three parts—new coverage, existing non-group coverage that is upgraded to small firm coverage, and existing non-group or small firm coverage that is made more affordable. A huge majority of the people helped by the type of reinsurance simulated here are already covered. Existing insureds outnumber newly insureds by ten to one for the “broad” configuration discussed first above, about 870 to 87 thousand people (Exhibit 16). Almost all of the already insured are estimated to maintain the same coverage after reinsurance. Some 20 thousand people upgrade from non-group to group coverage.

Exhibit 16. Reinsurance Impacts and Public Spending (small firm and non-group combined, broad reinsurance, corridor of \$10,000-90,000, 10% retention)	
Impacts estimated	all small firms & NG
range of premium reduction	30-39%
new coverage	87,200
<i>NG coverage</i>	29,040
<i>small firm coverage</i>	58,160
upgrade NG to small firm	19,280
assist existing coverage	860,960
<i>NG coverage</i>	285,960
<i>small firm coverage</i>	575,000
total people assisted	1,054,640
public spending (millions of 2007\$)	\$887
subsidy per person (2007\$)	\$841

Source: same simulation as Exhibit 11 above.

Total estimated medical spending costs are high, almost \$890 million, as previously noted (Exhibit 11). They are much less high per person subsidized, under \$850 each

⁴⁶ Eligibility rules for other types of public assistance also often build in mechanisms to reduce the tendency of public help to “crowd out” self-help or other private initiative.

(Exhibit 16). That level of subsidy reduces insurance premiums by about 30 to 39 percent, varying by size of firm and type of coverage.

The newly insured get clear benefits in terms of better access to medical care and its beneficial effects on health and longevity.⁴⁷ For others, the most obvious benefit is that subsidy makes existing coverage more affordable for individuals and small business. Such subsidy may make them more likely to maintain coverage from year to year. Subsidizing already insured people as well as the uninsured avoids creating any incentive to drop coverage so as later to qualify for public reinsurance targeted only to the uninsured. It can also be seen as fairer to subsidize those already helping themselves on the same basis as those not buying their own coverage.

Reinsurance subsidy can also be seen as promoting societal fairness in other ways. It would offset the higher administrative loading that small firms and individuals bear relative to large employer groups. The broad reinsurance discussed most above would make small-firm premiums cost almost exactly the same as for smaller large firms (50–99 employees) for the same coverage. (Traditionally, smaller firms spend no more per enrollee than larger ones, but buy less generous coverage.) Insurance subsidy would also offset the tax subsidies that disproportionately help higher wage people and are generally seen as higher among larger employers.

From another perspective, such subsidy can be seen as helping make employment more attractive in the small business sector, often seen as economically and politically important. Such observations remain speculative, in the absence of clearer statements of the goals sought to be achieved by broad reinsurance as well as tighter connection between goals and a particular specification of reinsurance proposed.

Benefits for the Insurance Market

For the goal of improved operations of insurance markets, two possible benefits merit brief discussion.⁴⁸ First, reinsurance might reduce year-to-year premium variation in response to high medical expenses within particular small groups, and thus also reduce the frequency with which small firms change coverage. Such “churning” often draws complaints.⁴⁹ To what extent it may be a problem in Washington seems to depend on existing insurer market behavior and regulatory oversight, about which this project generated no information. Just how much impact a given reinsurance configuration might have is another empirical question not addressed here.

Second, reinsurance may help reduce risk segmentation across market sectors. Selection appears to occur now, as conventional small group coverages and AHP coverages operate under different rating regimes. As already noted, because conventional coverage cannot charge premiums based on health risk and AHPs can, AHPs naturally attract lower-health-risk customers, those with lower average expected health

⁴⁷ Randall R. Bovbjerg and Jack Hadley, “Why Health Insurance Is Important,” Health Policy Brief, DC-SPG no.1, November 2007, accessible from <http://www.urban.org/url.cfm?ID=411569>.

⁴⁸ Other suggestions appear even more speculative. For example, reinsurance might induce new insurers to enter the market, after which enhanced competition would improve the value of coverages sold. The market is not very large and the cost of new entry in the face of large existing players seems considerable.

⁴⁹ Milt Freudenheim, “Small Businesses’ Premiums Soar After Illness,” New York Times, May 5, 2007 <http://www.nytimes.com/2007/05/05/business/05insure.html>.

expenditures. If a firm's experience worsens, they can evidently readily return to the community rated sector.

This project lacked evidence on the extent to which AHPs have grown by attracting previously uninsured small firms or by offering more attractive terms to firms previously in the conventional small group market. How and how much segmentation occurs is an empirical issue; whether it constitutes a social problem is a normative issue.

State law has elected to have small group health insurance use modified community rating. This social preference may not be sustainable where lower-risk small firms can easily leave the small group sector and obtain very similar but cheaper coverage under an AHP, although such firms do thereby incur transition costs, and their premiums presumably must pay for some level of medical underwriting not done for the small group market's modified community rating. Providing reinsurance subsidy only to the conventional small group sector supports the conventional sector's rating rules by offsetting the sector's evidently higher risk.

Reinsurance makes conventional premiums more competitive with AHP premiums and reduces the motivation of conventionally covered firms to leave that sector. At the same time, reinsurance does not undercut the ability of AHP plans to attract currently uninsured firms, so long as the plans can offer attractive value. More information and a different mode of analysis than used here is needed to assess what configuration of reinsurance and what level of subsidy would have desired effects on the incentives to leave the community rated sector. What this basic assessment has shown is merely that reinsurance targeted on the conventional sector would reduce the latter's premiums absolutely and relative to the AHP sector, assuming that carriers pass the subsidy through in lower premiums.

Policy Alternatives to Reinsurance

Alternatives need to be considered for reinsurance both as a subsidy and as a tool for reducing risk segmentation. Insurance subsidy can take other forms. For poor and near poor people, Medicaid and the Basic Health program offer large public subsidies also meant to increase insurance. For higher income people, subsidies can take the form of vouchers, tax credits, or premium subsidies. These subsidies directly offset premiums at the time of enrollment, whereas reinsurance covers high spending after the fact, thereby indirectly reducing premiums at the time of enrollment.

The comparative merits of such alternative subsidies are especially dependent upon how many of what type of person would be induced to enroll and at what cost—about which only preliminary qualitative observations are possible at this point. Flat per-person premium subsidies are more attractive to people whose risk-rated premium is closest to their willingness to pay; for instance, a fixed subsidy increases the attractiveness of coverage more for a younger person than for an older one where premiums vary by age. In contrast, reinsurance to some extent gives greater benefits to people and firms with higher expected spending levels, depending upon the design of reinsurance and the context of its implementation, including applicable premium rating conventions of insurers.

Another consideration is the relative complexity and costs of administration. Vouchers require dealing with many possible individual claimants; reinsurance calls for

relating to relatively few primary insurers. Implementing reinsurance, however, might well call for new administrative oversight over primary insurers' pricing, to make sure that subsidies are passed through as premium reductions. Only a few large insurers are apparently dominant, and a judgment will be needed about whether competition would lower rates as much as reinsurance cuts claims costs.

Budgetary controls are also different. Spending controls for vouchers or public insurance often involve eligibility freezes or waiting lists, whereas reinsurance can use a pro rata change in the retention rate. Of course, the possibility of cutbacks undercuts the attractiveness of reinsurance as a reliable means of support and may reduce .

Risk segmentation is a very broad topic, and reinsurance is only one mechanism. In addition to retrospective reinsurance, full analysis should consider other mechanisms with similar goals: more regulatory support for forms of community rating, risk-adjustment of premiums, ceding of identified high risk people or groups in advance (prospective reinsurance), and withholds from premiums as paid to be distributed at the end of the year according to the risks actually enrolled by competing plans. All of these mechanisms call for substantial managerial information and control over funding flows and may or may not be feasible outside of a large employment group or absent full systems reform for all of health coverage. A 2007 reinsurance report under different authorship also noted many of these interventions related to risk segmentation and differential premiums, also without drawing firm conclusions.⁵⁰

Although reinsurance and a high-risk pool are sometimes thought of as alternatives, they differ in a number of ways. Reinsurance is a risk pooling mechanism whereas a high-risk pool is a risk segmentation mechanism. The main goal of a high-risk pool is to maintain the viability of a voluntary non-group market.⁵¹ The operative mechanism is medical underwriting that excludes high-risk people from the non-group risk pool: In Washington, about 5 percent of applicants fail the state-approved health screen. In contrast, reinsurance targeted at the conventional small-group market, for example, seems designed to help keep different-risk enrollees together in the same risk pool under modified community rating, and to avoid medical underwriting. A high-risk pool does pool the experience of the small high-risk subpopulation—but separately from other coverage.

A high-risk pool does subsidize premiums, but not to reduce them below otherwise prevailing levels, rather to keep premiums a designated amount above standard coverage. WSHIP premiums are high enough that many potential eligibles do not enroll. A final difference is that high-risk pool subsidies are inexpensive in terms of direct state spending, as they are targeted to a very limited number of people.⁵² Moreover, they come

⁵⁰ Deborah Chollet, *The Affordability of Coverage for High-Cost Individuals: Options for Washington State*, Report to the Washington State Insurance Commissioner, April 30, 2007 http://www.insurance.wa.gov/publications/health/210_Report_WSHIP.pdf/

⁵¹ In Washington non-group enrollment was 223,320 in 2005, according to *Annual Report 2006*, Washington State Health Insurance Pool <https://www.wship.org/Docs/2006%20WSHIP%20Annual%20Report%203-13-07.pdf>. Exhibit 8 suggests higher numbers for 2007.

⁵² This report does not purport to analyze high risk funding. It can be noted that funding for WSHIP beyond collected premiums comes from insurers' cross-subsidization, as well as state and federal sources including funds allocated under the trade adjustment act.

mainly from the insurance industry rather than directly from public funds. The configurations of reinsurance simulated here are much more expensive.

Evidence is limited and mixed on whether states with pools insure a higher share of individuals,⁵³ but WSHIP seems to have kept the state's non-group market viable. Reinsurance would provide direct help to far more people, but at a far higher cost to the state .

Limitations of these Reinsurance Analyses

The modeling presented here does not answer all possible questions about reinsurance. The quantitative simulations done address the type of reinsurance that the model was constructed to simulate—retrospective coverage like that of HealthyNY that pays primary insurers for most of the per-person annual medical claims cost within specified corridors. In private markets, this is called specific reinsurance. We did not model aggregate reinsurance, that is, coverage of annual claims that all together substantially exceed a primary insurer's expected total claims cost, e.g., above 120 percent of expected. Nor did we address prospective reinsurance, that is, public coverage of individual high cost people “ceded” to a reinsurance pool by a primary insurer, much as non-group carriers refer applicants to the high risk pool.⁵⁴

Moreover, our quantitative model is painstakingly constructed to accurately reflect many characteristics of individual Washingtonians and some characteristics of their employers. It estimates pre-reinsurance premiums that are consistent with average premiums and with the range of premiums observed in the state. The model also builds in solid research about the extent to which employers and individuals change their purchases of health coverage in response to changes in price of coverage.

The model does not, however, emulate the existing insurance market by including information about insurers and their behavior, nor does it contain information on different underwriting and rating practices by type of insurance policy. Incomplete information notably includes the differences between people and workplaces covered by AHPs and those within conventional coverage sold to small groups. Our analyses of the conventionally insured small group market thus appropriately reflect that direction of difference expected as against the full small group market including AHPs, but the magnitude of the modeled differences in reinsurance costs and impacts only reflects the stated assumptions about how much higher medical claims risk is in the conventional market.

⁵³ Beth C. Fuchs, *Expanding the Individual Health Insurance Market: Lessons from the State Reforms of the 1990s*, RWJF Research Synthesis Report no. 4, June 2004 http://www.rwjf.org/pr/synthesis/reports_and_briefs/pdf/no4_synthesisreport.pdf; Mark V. Pauly and Len Nichols, “The Nongroup Insurance Market: Short on Facts, Long on Opinions and Policy Disputes,” *Health Affairs* Web Exclusive, October 23, 2002 W325-44.

⁵⁴ In other states, although not in Washington, small group insurance reforms in the 1990s created reinsurance pools to which participating small group carriers could “cede” the excess risk of identified high risk individual enrollees. Large carriers often do not participate where their participation is not mandatory, as shown by the experience of Pool Administrators, Inc., a Reinsurance Institute team member. For written discussion of mixed experience see Deborah Chollet, “The Role of Reinsurance in State Efforts to Expand Coverage,” State Coverage Initiatives Issue Brief, vol. 5, no. 4, October 2004 www.statecoverage.net/pdf/issuebrief1004.pdf.

A final comment on how well reinsurance achieves various goals is that different forms of reinsurance appear to address different goals or at least different subpopulations. For instance, catastrophic reinsurance, say, above \$75,000 or \$100,00 per year per person, seems best suited to reduce chance variation in the very small number of very high expenditures—which is a problem mainly for newer or smaller risk bearers. Mid-level reinsurance, starting at \$15,000 or \$20,000 seems likely to capture much of the risk of chronically ill populations. Very low reinsurance, down to HealthyNY’s \$5,000 threshold would subsidize a large share of enrollees’ expenses—nearly every hospitalization, for example. Even retrospective reinsurance is not one policy intervention but rather a family of not dissimilar mechanisms.

Feasibility Issues for Public Reinsurance

One legislative question was whether reinsurance is feasible in Washington state. The short answer is yes, there seems little question that it is technically feasible to operate many different varieties of reinsurance program to subsidize targeted coverages in the state. This project’s modeling has addressed reinsurance mainly as a subsidy for primary coverage. It suggests that with further analysis, target populations can be identified and costs can be modeled and budgeted with reasonable certainty. Other projects have at least sketched important design and operational components that need to be created to implement such a program.⁵⁵ The state has some limited experience running a reinsurance program for Medicaid managed care, and private vendors are available to provide expertise or to manage the program under contract.

Political feasibility is another matter, one best judged by Washington state policy makers themselves. What analysis can do is to highlight likely costs and benefits, as above, often without being able to put a dollar value on benefits. For public reinsurance programs like those modeled here, the large public budget needed to fund a broad reinsurance program for Washington is the main cost to consider. (Note that in order to increase overall insurance levels, moreover, this funding needs to come from a broad revenue source, not from an assessment on insurance, which would raise premiums elsewhere and reduce coverage.) Budgetary requirements are reduced where reinsurance is targeted more narrowly, e.g., only to the non-group market or only to conventionally insured small groups. Overall costs could also be reduced if only the smallest firms were targeted, say, those with 2-9 employees. Wisconsin has been considering that approach, which was not modeled here.

The benefit usually cited for reinsurance subsidy from public funds is increased insurance coverage. Only a small fraction of public funding, however, directly pays for newly insured people, so perhaps only this part of the total cost should be balanced against increased insurance. After all, total reinsurance costs could be held to approximately this smaller amount if a subsidy program followed HealthyNY and helped only those without pre-existing coverage. The coverage expansion from reinsurance as a subsidy might also be weighed against the expansion achievable by the same dollars used as a premium subsidy for individuals, for example, possibly targeted to relatively low-income people, as under the Basic Health program.

⁵⁵ See UI-SCI Report and OIC 2005, notes 9 and 45 above.

Concluding observations

The modeling results constitute good preliminary estimates of public costs for a number of configurations of reinsurance along with the likely impacts on Washingtonians' health insurance coverage. The estimates are not precise, as noted above, but provide a reasonable approximation of the reality that can support policy analysis. Modeling offers less insight into the effectiveness of reinsurance in stabilizing insurance markets over time or reducing risk segmentation between different market sectors.

Public reinsurance seems worth exploring further in Washington. It seems one useful tool among others either for subsidy or for dampening incentives for risk segmentation. It is plausibly most useful not as a stand alone intervention but as part of a broader set of initiatives. Future assessment of public reinsurance would benefit from clarification of reinsurance design in light of broader market reform goal(s). In the current market, for example, reinsurance or other risk-related intervention for the conventional small group market appears supportive of the goals embodied in open enrollment and modified community rating sought to be enforced in that market. Yet good assessment calls for much more information about existing premiums and subpopulations.

Appendix: Estimates of Demographic Characteristics, Washington State Population under 65 Years Old

Appendix Table 1. Health Coverage, by Age Group

	Total	0-18 years	19-34 years	35-54 years	55-64 years
Employer-sponsored	3,667,377	61.7%	60.9%	69.9%	63.1%
Non group	287,851	2.9%	5.5%	5.6%	7.6%
Medicaid	860,735	28.9%	11.7%	8.6%	7.6%
Medicare	162,467	0.4%	0.7%	4.2%	8.7%
Other public	117,311	1.5%	1.6%	1.9%	4.7%
Uninsured	593,037	4.7%	19.6%	9.8%	8.2%
Total	5,688,778	1,657,853	1,360,137	1,943,671	727,118

Appendix Table 2. Health Coverage, by Income Level

	Total	<100% FPL	100-200%	200-400%	400%+
Employer-sponsored	3,667,377	21.1%	37.1%	70.1%	85.7%
Non group	287,851	2.7%	3.7%	6.1%	5.7%
Medicaid	860,735	52.9%	30.4%	7.7%	1.0%
Medicare	162,467	5.8%	7.1%	2.6%	0.6%
Other public	117,311	2.1%	2.2%	1.9%	2.1%
Uninsured	593,037	15.5%	19.7%	11.5%	4.9%
Total	5,688,778	912,113	770,825	1,564,258	2,441,583

Appendix Table 3. Health Coverage, by Work Status of Individual

	Total	18 and under	Employed	Unemployed	NILF
Employer-sponsored	3,667,377	61.7%	73.0%	42.5%	41.2%
Non group	287,851	2.9%	6.2%	4.4%	5.2%
Medicaid	860,735	28.9%	4.8%	22.2%	25.2%
Medicare	162,467	0.4%	0.8%	3.6%	15.8%
Other public	117,311	1.5%	2.1%	2.3%	2.9%
Uninsured	593,037	4.7%	13.0%	25.1%	9.6%
Total	5,688,778	1,657,853	3,085,977	143,322	801,627

Appendix Table 4. Health Coverage, by Health Status

	Total	Fair or Poor	Healthy
Employer-sponsored	3,667,377	39.0%	67.2%
Non group	287,851	2.9%	5.3%
Medicaid	860,735	28.9%	13.6%
Medicare	162,467	16.0%	1.4%
Other public	117,311	1.8%	2.1%
Uninsured	593,037	11.4%	10.3%
Total	5,688,778	557,543	5,131,235

Source: Urban Institute Reinsurance Model re-weighted to 2006 WSPS. Notes: Sample is Washington population under 65 years old; "healthy" = respondent self-designated health status of "good," "very good," or "excellent."

Attachment A: the December Memo

Memorandum to Jenny Hamilton (OFM) and Pete Cutler (OIC) from Lisa Clemans-Cope, Bowen Garrett, Paul Masi, and Randall R. Bovbjerg (Reinsurance Institute), December 17, 2007, revised January 8, 2008, follows.

TO: Jenny Hamilton, OFM, and Pete Cutler, OIC

FROM: Lisa Clemans-Cope, Randall Bovbjerg, Bowen Garrett, Paul Masi, Reinsurance Institute

DATE: December 17, 2007, revised January 8, 2008

SUBJECT: Washington Specific Requests of Reinsurance Institute

Background and Motivation

Thank you for all you have done to help us understand insurance markets in Washington, as well as evolving Washington plans for health insurance reform with a reinsurance component. Our background draws on available public documents, additional information you supplied, as well as the series of conversations we have had over the past year.¹ This memo summarizes our interactions over the course of the Reinsurance Institute and specifically documents our replies to the final data requests you made after the July meeting we had here in DC, which after some back and forth culminated in our agreed scope of final simulation work.² (How the simulation model works is explained separately in our final report.)

You wished to explore both the underlying distributions of health expenses in the state (overall and within subgroups defined by demographic characteristics and various health insurance risk pools), as well as the impact on premiums and coverage of a number of different reinsurance policy configurations. The design of the “Healthy New York” reinsurance program was originally intended to be the prototypical policy configuration. However, that program did not fit the on-the-ground reality of policy makers in Washington. In particular, you were interested in broad reform of both the small group and direct pay (non-group) markets, assuming different reinsurance corridors and coinsurance rates. Several of your priority research questions for the Reinsurance Institute were outlined in a document from the Washington State Office of the Insurance Commissioner (2007).³

¹ Sources included, for example, Washington State Blue Ribbon Commission on Health Care Costs and Access, webpage with materials, including link to Final Report of January 2007 <<http://www.leg.wa.gov/Joint/Committees/HCCA/>> and subsequent legislation <<http://apps.leg.wa.gov/documents/billdocs/2007-08/Pdf/Bills/Session%20Law%202007/5930-S2.SL.pdf>>; Office of Financial Management, materials on Access to Health Insurance, accessible from <<http://www.ofm.wa.gov/healthcare/spg/default.asp>>; Washington State Health Insurance Pool, Annual Report 2006 <<https://www.wship.org/Docs/2006%20WSHIP%20Annual%20Report%203-13-07.pdf>>; Pooling and Reinsurance in Washington State Health Insurance Markets: Review of the OIC Proposal, Review Team: C. Watts, D. Chollet, K. Swartz, J. Matthisen, with Funding from The Commonwealth Fund, February 25, 2005 <<http://www.insurance.wa.gov/legislative/reports/CommonwealthPRCCreport.pdf>>.

² See “Summary of Final Modeling Specifications under SCI Reinsurance Institute,” September 13, 2007.

³ See “Reinsurance Institute: Washington State’s Participation,” [document produced by Office of Financial Management], included as Appendix to Chollet D. (2007) “The Affordability Of Coverage For High-Cost Individuals: Options For Washington State” <http://www.insurance.wa.gov/publications/health/2118-Report_Reinsurance5.pdf>.

To provide you with our best possible estimates of the impacts of a wide variety of reinsurance policies, it was essential to create an underlying database which closely approximated the demographic and employer profile of the state. Ultimately, Washington requested that we use their own state survey for use in benchmarking our database. In addition, Washington requested a variety of summary statistics detailing the composition of different sub-populations of their state. Washington was also interested in gaining a better understanding of the distribution of insured expenditures within their state. They requested estimates of expenditures by expenditure category, as well as estimates of how many people have expenditures within different categories. Washington requested to see a number of results in finer detail, including estimates of how different reinsurance policy configurations would affect the offer rate of health insurance by employers, take-up rate of insurance by individuals and coverage status and premiums across different sub-populations by firm size and non-group cohort. Lastly, Washington sought consultation from the Reinsurance Team in helping to narrow the focus of their reinsurance policy proposals to a well-defined set of policies that could be practically implemented within their state.

To meet these requests, the Reinsurance Team consulted with policymakers in Washington in benchmarking our estimates of their population, delivered estimates of the demographic and employer characteristics to help guide policymakers' thinking of different reinsurance policies, and estimated the distributional impacts of various policies. Work and consultation provided to Washington was the result of considerable interaction with state officials and policymakers. The reinsurance team provided numerous draft versions of results in order to receive input from policymakers regarding consistency with state impressions of the reality in coverage markets. Further, the reinsurance team sought and received state input through telephone, email, and in-person communication. These exchanges improved the quality and relevance of our estimates, and yielded useful information to help guide policymakers' decisions regarding different reinsurance policy options.

Washington Requests: Summary Statistics

To help shape policymakers' thinking about reinsurance policy specifics, Washington requested expenditure distributions of different sub-populations. Early in the process of exchanging with states, we shared with Washington initial estimates of the share of total insured expenditures of the state's small group insured population under age 65 years which fall within different expenditure categories.⁴ This illustrated for policymakers the relative costs of different reinsurance corridors. Later, after we finished benchmarking our state-level expenditure estimates, we created estimates of the amount of insured expenditures in the small group (firms with a total of 2 to 50 employees at all establishment locations) market which fall within expenditure categories of \$5,000 increments. These final estimates provided Washington with our best estimate of how many actual dollars fall within different expenditure corridors for different populations of interest. Additionally, these final estimates included a count of the number of people in Washington we estimated to have expenditures within these different expenditure corridors. This provided Washington with a richer picture of how much a reinsurance policy might cost, and how many individuals may be affected. Washington was very interested in this interactive policy tool, as it allowed them to calculate the amount of insured expenditures within different expenditure

⁴ See Appendix Table 1.

corridors, across different markets. This ability provided them with an idea of how much different reinsurance policies would cost, based on a selected reinsurance corridor and carrier retention percentage.

Additionally, Washington was interested in seeing a number of demographic statistics describing their state population. First, we provided them with a profile of their state demographic and employer characteristics, including estimates of coverage rates, racial and ethnic composition, educational, marital and work status, income level, firm size and industry rates, which we estimated using the Washington state data from the Current Population Survey (CPS) Annual Social and Economic (ASEC) Supplement and the national Medical Expenditure Panel Survey (MEPS). After sharing these initial estimates, we consulted with Washington to compare our estimates of state population characteristics compared with their own numbers. After this consultation, Washington requested that we use their own state survey microdata, the Washington State Population Survey (WSPS), for the purposes of benchmarking our database, to approximate the demographic and employer profile of the state.

As Washington entertained different configurations for reforming its small group market, they requested detailed demographic and employer statistics of their overall workforce, privately-employed persons between the ages 19 to 64, henceforth referred to as “target” employees, and target employees who worked in small firms with under 50 employees. These data are shown in Table 1. Using our final Washington dataset, we estimated the percentage of workers in these different populations that fall within certain age brackets (19 to 24 years, 25 to 34 years, 35 to 44 years, 45 to 54 years, and 55 to 64 years), income levels (0 to 99% of the federal poverty level (FPL), 100 to 199% of FPL, 200 to 399% of FPL, and 400+% of FPL), health insurance coverage status, the number reporting their health status as fair or poor, and the number of workers whose employer offered health insurance. Additionally, Washington requested that we estimate the number of workers in these different populations who report dependent coverage, and the firm size of the policyholder providing these dependents with coverage. We estimated that Washington’s target, small group workers tend to be younger, have lower income, are slightly less likely to have an employer who offers health insurance, and are slightly more likely to report their health status as fair or poor than the overall workforce and the population of target workers in Washington.

Table 1. Washington Summary Statistics of Income, Age and Health Coverage by Employee Type

	Whole Population	All Employees	Target Employees ¹	Target Emp's Firms 2-49
Total Number	6,375,713	3,221,950	2,087,335	685,246
Family Income, by Percentage of FPL				
0-99% FPL	15.5%	7.4%	8.9%	13.6%
100-199% FPL	14.6%	11.1%	12.6%	17.8%
200-399% FPL	28.0%	27.5%	29.0%	33.3%
400%+ FPL	41.9%	54.0%	49.5%	35.2%
Mean worker yearly wage (\$2007)	n/a	44,011	42,703	32,665
Age				
19-24 years	8.3%	12.2%	15.6%	22.8%
25-34 years	13.1%	21.2%	24.6%	24.3%
35-44 years	14.3%	22.8%	24.3%	21.4%
45-54 years	16.2%	25.3%	24.0%	21.6%
55-64 years	11.4%	14.3%	11.5%	10.0%
Health Coverage				
ESI-policyholder	27.1%	50.6%	57.4%	44.9%
ESI-dependent	32.6%	21.3%	18.5%	18.1%
Non-group	5.0%	6.7%	4.8%	8.5%
Medicaid	13.9%	4.6%	5.5%	7.4%
Medicare	11.5%	4.1%	1.0%	1.1%
Other Public	1.9%	2.0%	1.6%	2.1%
Uninsured	8.0%	10.6%	11.1%	17.8%
Health Status				
Fair/poor health	11.0%	7.8%	7.7%	8.7%
Offer				
% with employer offer ²	n/a	66.2%	66.7%	45.5%
Number with dependent coverage:	n/s	n/s	n/s	123,874
Number with dependent coverage and policyholder is in firm with >100 employees:	n/s	n/s	n/s	26,149
Number with dependent coverage and policyholder is in firm with <100 employees:	n/s	n/s	n/s	47,624
Number with dependent coverage and firm size not ascertained:	n/s	n/s	n/s	50,101

Source: Urban Institute tabulations of the reinsurance model's baseline file for Washington estimated with national 2001-2003 Medical Expenditure Panel Survey data, re-weighted to reflect the 2007 Washington State Population Survey and estimates from the Statistics of United States Business (SUSB).

n/a= not applicable

n/s=not shown

¹Private employees, ages 19-64.

²Employee received offer of employer-sponsored insurance, from own employer.

Washington Requests: Input into the Reinsurance Simulation Model

After our initial consultation with Washington, in which we shared with them our demographic and employer estimates of the state after benchmarking to CPS data, Washington requested that we use their own state survey for the purposes of benchmarking our database to key Washington characteristics. Fulfilling this request involved tailoring the process by which we reweight national MEPS data to match characteristics of interest for a given state. We substituted our CPS state database for a database created from data resulting from the 2006 Washington State Population Survey (WSPS). We had several exchanges with Washington State by phone and email in order to assure that the measures used in the WSPS dataset were defined consistently with those same measures in our underlying database. This involved sharing with Washington precisely how different measures of coverage, employment, race/ethnicity and education, among other variables, were defined in our database.

As described above, the micro-data prepared for the simulation model for Washington incorporated the best available data on state health care costs, current health insurance coverage, demographic, and employer characteristics. In particular, we designed the Washington dataset to reflect the distribution of health insurance coverage in the state shown in the WSPS. The data reflect the following health insurance coverage types: employer-sponsored insurance (ESI) policyholder, ESI dependent coverage, non-group coverage, Medicaid, Medicare, and other publicly-funded health insurance (i.e. CHAMPUS), and uninsured. It is important to note that in the simulations presented here, the non-group market includes those who would be in Washington State Health Insurance Pool (WSHIP). Enrollment in WSHIP is 3,382 (as of September 2007)⁵ and expenses in 2006 were approximately \$45.8 million.⁶ In addition, those defined as having ESI through the small group market in the simulation data include those who receive coverage through Association Health Plans (AHPs). In 2006, there were roughly 248,000 enrollees in AHPs in Washington State.⁷ Simulations including both the WSHIP and Washington AHPs will be included in future simulation work.

Appendix table 2 shows the demographic distributions of the national MEPS and Washington as estimated by the 2006 WSPS, compared to our final analytical dataset for Washington State. Appendix tables 3 through 9 show the distribution of health expenditures in the final dataset are distributed over the population in the small group market, non-group market, by age category, and by health status. Consultation with Washington State allowed us to investigate the details of the state's health insurance markets, and we recognized the importance of incorporating a specified population of individuals enrolled in the high risk pool, as well as an Association Health Plan market. These refinements will be modeled as extensions to the work presented in this report.

After consultation with Washington State as described above, we were able to produce refined baseline estimates reflecting Washington's target population for reinsurance policies. While the WSPS was used as a benchmarking dataset, our final reweighted microdata does not match the WSPS exactly since the simulation methodology requires us to benchmark to many other important distributions, such as the distribution of employment by firm size from the SUSB.

⁵ <https://www.wship.org/Docs/Sept%2007%20Monthly%20Operations%20Report.pdf>

⁶ <https://www.wship.org/Docs/2006%20WSHIP%20Annual%20Report%203-13-07.pdf>

⁷ <http://www.insurance.wa.gov/news/dynamic/newsreleasedetail.asp?rcdNum=537>

Table 2 shows final estimates of the state population, by age and family work characteristics. Washington State showed interest in targeting a reinsurance program to different combinations of small group employees and enrollees in the non-group market. Table 2 explores the share of non-elderly adult employees in firms of size 2 to 49 employees, and shows the share of children and non-elderly adult dependents of these target employees. Table 2 also shows the populations not targeted by a small group policy; these individuals and families may be affected by reinsurance programs applied to the non-group market.

Table 2. Baseline population characteristics for Washington State

	Baseline Estimate
Total Washington State Population (in millions)	6.376
Children Age 0-18 years (in millions)	1.658
Children, dependents of employee in firm with 2-49 employees	.284
Children, not dependents of employee in firm with 2-49 employees	1.374
Adults Age 19-64 years (in millions)	4.031
Adult employees in firm with 2-49 employees	.685
Adult employees not target, dependent of eligible	.080
Adult employees not target, not dependent of eligible	1.886
Adults, not employed or NILF, dependents of employee in firm with 2-49 employees	.066
Adults, not employed or NILF, not dependents of employee in firm with 2-49 employees	.871
Adult workers, self-employed, not dependent of eligible	.443
Population, Age 65+ (in millions)	.687

Source: Urban Institute analysis, Reinsurance Institute 2007.

Table 3 shows estimates of the number of employees and the number of firms by firm size categories. This level of detail allows considerable flexibility in defining the target populations, and allows us to generate detailed estimates of premiums based on risk pooling, rating rules, and appropriate administrative loading factors (provided by actuarial consultation) for employer-sponsored health insurance (ESI) by firm size. It should be noted that these estimates depart somewhat from other MEPS estimates of number of employees by firm size. These are estimates of the number of target employees (private employees, age 19 to 64) by firm size, and not overall workers. Additionally, we match our counts of target employees by firm size to a benchmark derived from the 2004 Statistics of U.S. Businesses (SUSB) and CPS estimates for Washington.⁸

⁸ For the purposes of this simulation model, a firm is defined as that part of an enterprise within a particular state and industry, following definitions provided by the SUSB (<http://www.census.gov/epcd/susb/introusb.htm>). The number of employees in a firm includes only those employees in the state, while the firm size category is determined by the number of employees in the firm across all states. In addition, the number of employees of a firm in a particular industry includes only those employees in the industry in the state, while the firm size category is determined by the number of employees in the firm across all industries and states. Thus, while this firm definition is necessary for our simulation model, summing the firms across state and industries would overstate the number of unique firms. Therefore, in our data, counterintuitive results are possible. For example, there may be only 90 employees in a firm of a particular industry even when the firm is categorized as a firm with 100 employees or more.

Table 3. Baseline employer characteristics for Washington State

	Baseline Estimate
Number of private employees, age 19 to 64 years, by firm size category	
2-9 employees	298,240
10-24 employees	224,012
25-49 employees	162,951
50-99 employees	150,811
100 or more employees	1,429,694
Total	2,265,707
Number of firms by firm size category	
2-9 employees	52,027
10-24 employees	16,949
25-49 employees	7,431
50-99 employees	5,103
100 or more employees	40,814
Total	122,323

Source: Urban Institute analysis, Reinsurance Institute 2007.

Note: output from "WA: 28 Sep 11 19"

Washington Requests: Consultation to Sharpen Focus of Reinsurance Policies

Throughout the Reinsurance Institute, Washington displayed an active interest in a wide range of potential reinsurance policies. The Reinsurance Team continued a lively exchange with Washington, as Washington considered reforms including narrow and broad corridors of reinsurance, different coinsurance rates, merging of their small group market and non-group (also referred to as “direct pay”) market, implementing a basic, catastrophic coverage plan, a reinsurance corridor without an upper limit, and reform of their high risk pool. Throughout this exchange, Washington requested insight into the impact, distributional effects, and feasibility of these different policies from the experts on the Reinsurance Team. We consulted in-person, over the phone, and through email to help guide Washington’s policymakers in thinking about ways to structure a reinsurance policy. Ultimately, Washington wanted the simulation work show their policymakers the differing impacts of various reinsurance configurations, in order to help them to define appropriate goals and expectations. We therefore modeled a wide range of policy options for the state, including the impact of a narrow reinsurance corridor, broad reinsurance corridors, and the impact of reinsuring against catastrophic claims (those in excess of either \$25,000 or \$100,000). We modeled the catastrophic configuration of reinsurance in response to a specific request from a Washington legislator. The corridors selected for simulation modeling are described in more detail below. These modeling exercises would be performed with different eligible populations, to observe the distributional implications of allowing different populations to be eligible.

In the results presented here, it is important to note that modeling simulations of reinsurance policies targeted at both the small group and non-group market maintain the separation between

the two markets. Separate current law rating rules, separate “standard” benefit packages (i.e. standard coinsurance and deductible levels defined for each market for the purposes of simulation), and different administrative loads in each market are maintained throughout. Simulation of a merger between the small group and non-group markets would involve resolving substantial technical complexities, including integrating and defining rating rules.

Washington Requests: Output from the Reinsurance Simulation Model

Our analysis simulates the potential effects of implementing alternative configurations of a publicly-funded reinsurance program within the existing private health insurance markets in Washington State. In these simulations, we assume that the full cost of the reinsurance policy is borne by the state government, and that no reinsurance premiums are charged to carriers in either the group or non-group markets.

The reinsurance programs simulated in this study were developed in consultation with Washington State. The alternative eligible populations and policy parameters (reinsurance corridors and carrier retention percentages) used in simulations are summarized in Table 4, below.

Reinsurance corridors. As described above, Washington’s primary goal for the reinsurance simulation was to describe the magnitude of policy impacts of various reinsurance configurations to aid policymakers in defining appropriate goals and expectations. We therefore modeled a wide range of policy options for the state, including the impact of narrow reinsurance corridors, broad reinsurance corridors, and the impact of reinsuring against catastrophic. We use several alternative corridors for determining eligible expenses: “narrow,” (\$5,000 to \$10,000); “broad,” (\$10,000 to \$90,000; \$25,000 to \$90,000; \$50,000 to \$90,000;) and “catastrophic,” (\$25,000 and up; \$100,000 and up).⁹ These corridors provide a broad range of possible policy choices, in order to inform Washington State about the implications of varying the reinsurance corridor and of not capping the corridor. The “broad” corridor \$10,000 to \$90,000 was a particular focus of the simulations, since this specification is derived from Washington policymakers’ specific direction in E2SSB 5930 and its predecessor, which were under discussion as Reinsurance Institute work progressed. As described above, the catastrophic configurations of reinsurance in response to inquiries from a Washington legislator.

Carrier retention percentages. Without a mechanism allowing the carriers to retain some of the risk within the reinsurance corridor, reinsurance programs could create disincentives to manage cases efficiently by shifting risk away from carriers within the corridor. This could potentially increase total health spending among those eligible for reinsurance, which could lead to unexpectedly large government program costs or could lead to a reduction in the desired impact of the program on premiums.¹⁰ It is important to note that increases in health spending resulting from efficiency disincentive are not modeled in the simulations presented here. However, addressing the issue of efficiency disincentives is a key design consideration. Therefore, we simulate all reinsurance programs with a mechanism to address this concern: a carrier retention

⁹ While the term “catastrophic” has been used in previous literature to describe health expenditures that are both extremely high and abnormal for a particular individual, in the context of this analysis we describe a reinsurance program reimbursing costs for any individual with costs over \$100,000 as “catastrophic,” regardless of health expenditures in previous years.

¹⁰ American Academy of Actuaries, (2005).

percentage, in which the carrier retains a specified percentage of health spending within a given reinsurance corridor . We model this parameter in selected simulations at 10 percent, 20 percent, 25 percent and 30 percent, in order to investigate the relative impact of varying the carrier retention percentage compared to varying the reinsurance corridor.

Table 4. Alternative configurations of publicly-funded reinsurance in Washington State simulated for the Reinsurance Institute

Eligible populations by policy parameters	Reinsurance Configurations						
	"Narrow"		"Broad"			"Catastrophic"	
Nongroup market and firms with 2 to 49 employees							
Reinsurance Corridor (in 2007 \$)	\$5,000 to \$10,000	\$10,000 to \$90,000	\$10,000 to \$90,000	\$25,000 to \$90,000	\$50,000 to \$90,000	\$25,000 and up	\$100,000 and up
Carrier retention percentage (%)	10%	10%	20%	10%	10%	25%	30%
Firms with 2 to 49 employees							
Reinsurance Corridor (in 2007 \$)	\$5,000 to \$10,000	\$10,000 to \$90,000					\$100,000 and up
Carrier retention percentage (%)	10%	10%					30%
Nongroup market							
Reinsurance Corridor (in 2007 \$)	\$5,000 to \$10,000	\$10,000 to \$90,000					
Carrier retention percentage (%)	10%	10%					

Current Baseline Coverage and Offer Rates and Changes Expected Under Reinsurance Programs

For Washington State, we estimated that approximately 590,200 residents—about 9.3 percent of the state population or 10.5 percent of the non-elderly population—are currently uninsured. Table 5 shows all estimated baseline health insurance coverage levels and rates, as well as the baseline rates of firms’ offer of health insurance and the rates of employees’ offers by firm size category. We will first describe the results of a particular simulation of a publicly-funded reinsurance program in detail, and we will then compare and contrast this program with alternative configurations.

An Example of a “Broad” Reinsurance Reform

Results from the reform option that we will present first are shown in Table 5. This reform includes both the non-group market and firms with 2 to 49 employees in Washington State among those eligible for reinsurance reimbursement, with a "broad" reinsurance corridor of \$10,000 to \$90,000 and a carrier retention percentage of 10 percent. As noted above, reform simulations with a reinsurance policy that targets both the small group and non-group market, such as those shown in Table 5, maintain separation between the two markets. Current law rating rules, “standard” benefit packages, and different administrative loads in the small group and in the non-group market are unchanged.

This “broad” program is expected to decrease the share of the uninsured population in Washington State in the “post reform” period to about 9.0 percent of the non-elderly population. The share covered by ESI is expected to increase, with a 0.7 percentage point increase in ESI policyholders and a 0.3 percentage point increase in ESI dependents. The share of the non-elderly population obtaining health insurance coverage through the non-group market is expected to increase from 5.1 percent to 5.6 percent.

The majority of the gains in ESI estimated to occur under the “broad” reinsurance program shown in Table 5 are changes in take-up of ESI for employees in firms that did not offer coverage in the baseline, but who decide to offer coverage “post reform.” By shifting costs to the state government, there are some firms that do not offer health insurance in the baseline, but would decide to offer coverage when the cost of health insurance is subsidized through this program. Expected changes in the rates of firm’s offer fall as firm size category increases, as the firm offer rate was at relatively low levels to begin with among the smallest firms. After the reform, 52.1 percent of firms with 2 to 9 employees are expected to offer health insurance—an increase of 13.4 percentage points from the baseline firm offer rate. The percentage point increase in the firm offer rate among firms with 10 to 24 employees was 6.8. The percentage of firms with 25 to 49 employees who are expected to offer health insurance after the reform is 89.1 percent—nearly the same share as among firms with 50 to 99 employees. Changes in the rates of employee’s offer of health insurance mirror those among firms.

Table 5. Baseline and post-reform changes for a broad configuration of publicly-funded reinsurance, nonelderly population in Washington State.

Post-reform changes for broad configuration of publicly-funded reinsurance
Eligible population: Nongroup market and firms with 2 to 49 employees in Washington State

"Broad" Policy: Reinsurance Corridor \$10,000 to \$90,000 with Carrier retention percentage 10%

	Baseline	Post Reform	Change (Percentage point change)
Health Insurance Coverage			
ESI, as Policy-holder	1,682,640	1,722,980	40,340
Column percent (%)	30.0%	30.7%	0.7%
ESI, as Dependent	2,047,200	2,065,020	17,820
Column percent (%)	36.5%	36.9%	0.3%
Non-group	285,960	315,000	29,040
Column percent (%)	5.1%	5.6%	0.5%
Medicaid/SCHIP	880,040	880,040	0
Column percent (%)	15.7%	15.7%	0.0%
Other public	117,620	117,620	0
Column percent (%)	2.1%	2.1%	0.0%
Uninsured	590,200	503,000	-87,200
Column percent (%)	10.5%	9.0%	-1.6%
Total	5,603,660	5,603,660	0
Column percent (%)	100.0%	100.0%	0.0%
Percent of firms that offer ESI, by firm size (%)			
2 to 9 employees	38.7%	52.1%	13.4%
10-24 employees	67.8%	74.6%	6.8%
25-49 employees	84.6%	89.1%	4.5%
50-99 employees	90.0%	90.0%	0.0%
100 or more employees	97.7%	97.7%	0.0%
Total	67.4%	74.3%	6.9%
Percent of employees who are offered* ESI, by firm size (%)			
2 to 9 employees	38.4%	49.0%	10.6%
10-24 employees	54.0%	60.5%	6.4%
25-49 employees	67.4%	70.2%	2.9%
50-99 employees	69.0%	69.0%	0.0%
100 or more employees	69.1%	69.1%	0.0%
Total	63.4%	65.6%	2.2%
Percent of employees taking up ESI (conditional on offer), by firm size (%)			
2 to 9 employees	63.2%	68.1%	4.9%
10-24 employees	77.6%	78.8%	1.3%
25-49 employees	74.6%	75.8%	1.2%
50-99 employees	76.3%	78.2%	1.9%
100 or more employees	79.1%	83.0%	3.9%
Total	77.2%	80.3%	3.1%

* Offer is defined as sponsorship and eligibility.

Source: Urban Institute analysis, Reinsurance Institute 2007.

Table 6 offers a comparison of expected changes in coverage by age category. Those age 35 to 64 years old are expected to experience the largest declines in uninsurance. Of the 247,780 uninsured at baseline among this group, 6.9 percent are expected to take up ESI as either a policyholder or a dependent, while 10.8 percent are expected to enroll in the non-group market. Changes among

those age 19 to 34 years old are similar; however, there is a larger movement among those already insured at baseline—8.9 percent of those with non-group coverage at baseline are expected to take-up ESI after reform. Among the 76,860 children estimated to be without insurance in the baseline, 5.6 percent are expected to gain coverage through ESI while 4.7 do so through the non-group market. Among children with non-group coverage at baseline, 5.1 percent are expected to gain dependent coverage through ESI after reform.

Table 6. Baseline and post-reform changes in health coverage under a broad configuration of publicly-funded reinsurance, by age category

Post-reform changes in health coverage under publicly-funded reinsurance, by age category
 Eligible population: Nongroup market and firms with 2 to 49 employees in Washington State
 "Broad" Policy: Reinsurance Corridor \$10,000 to \$90,000 with Carrier retention percentage 10%

	Post-Reform Coverage				Total
	ESI Policyholder	ESI Dependent	Non-group	Uninsured	
Age categories by baseline coverage*					
Age 0-18 years					
ESI Policyholder	0	0	0	0	0
Row percent (%)	0.0	0.0	0.0	0.0	0.0
ESI Dependent	0	1,015,720	0	0	1,015,720
Row percent (%)	0.0	100.0	0.0	0.0	100.0
Non-group	0	2,440	45,180	0	47,620
Row percent (%)	0.0	5.1	94.9	0.0	100.0
Uninsured	0	4,280	3,600	68,980	76,860
Row percent (%)	0.0	5.6	4.7	89.8	100.0
Total	0	1,018,120	48,780	68,980	1,135,880
Row percent (%)	0.0	89.3	4.3	6.1	100.0
Age 19-34 years					
ESI Policyholder	485,560	0	0	0	485,560
Row percent (%)	100.0	0.0	0.0	0.0	100.0
ESI Dependent	0	337,080	0	0	337,080
Row percent (%)	0.0	100.0	0.0	0.0	100.0
Non-group	5,440	1,160	67,700	80	74,380
Row percent (%)	7.3	1.6	91.0	0.1	100.0
Uninsured	14,680	2,600	21,360	225,860	264,500
Row percent (%)	5.6	1.0	8.1	85.4	100.0
Total	505,680	340,840	89,060	225,940	1,161,520
Row percent (%)	43.5	29.3	7.7	19.5	100.0
Age 35-64 years					
ESI Policyholder	1,144,460	0	0	0	1,144,460
Row percent (%)	100.0	0.0	0.0	0.0	100.0
ESI Dependent	0	660,460	0	0	660,460
Row percent (%)	0.0	100.0	0.0	0.0	100.0
Non-group	7,040	3,200	153,720	0	163,960
Row percent (%)	4.3	2.0	93.8	0.0	100.0
Uninsured	12,940	4,240	26,720	203,880	247,780
Row percent (%)	5.2	1.7	10.8	82.3	100.0
Total	1,164,440	667,900	180,440	203,880	2,216,660
Row percent (%)	52.5	30.1	8.1	9.2	100.0

Sample size 316,691

Source: Urban Institute analysis, Reinsurance Institute 2007.

* Those with public coverage (Medicaid, Medicare, and other publicly-funded health insurance) in the baseline are not shown.

Table 7 shows coverage changes expected in response to this “broad” reinsurance program by health status. Of the 63,380 in fair or poor health who are uninsured at baseline, 7.1 percent are expected to take up ESI as either a policyholder or a dependent, while 8.4 percent are expected to enroll in the non-group market. Of the 16,080 in fair or poor health who have non-group coverage

at baseline, 8.1 percent are expected to take up ESI as either a policyholder or a dependent, which has a richer benefit package than in the non-group market. In addition, we calculated coverage changes by family income as a percent of the federal poverty level (FPL) (data not shown). Among those in low-income families (those with family income below 200 percent of FPL), over 12 percent of those uninsured at baseline gain coverage after reform. In contrast, among those with higher family income, over 18 percent of individuals who are uninsured at baseline gain coverage after reform. The difference was driven primarily by lower take-up of non-group policies by low-income uninsured compared to higher-income uninsured.

Table 7. Baseline and post reform changes in health coverage under a broad configuration of publicly-funded reinsurance, by health status among nonelderly

	Post-Reform Coverage				Total
	ESI Policyholder	ESI Dependent	Non-group	Uninsured	
Health status by baseline coverage*					
Fair or Poor Health					
ESI Policyholder	117,320	0	0	0	117,320
Row percent (%)	100.0	0.0	0.0	0.0	100.0
ESI Dependent	0	112,060	0	0	112,060
Row percent (%)	0.0	100.0	0.0	0.0	100.0
Non-group	900	400	14,780	0	16,080
Row percent (%)	5.6	2.5	91.9	0.0	100.0
Uninsured	2,800	1,720	5,300	53,560	63,380
Row percent (%)	4.4	2.7	8.4	84.5	100.0
Total	121,020	114,180	20,080	53,560	308,840
Row percent (%)	39.2	37.0	6.5	17.3	100.0
Not Fair or Poor Health					
ESI Policyholder	1,565,320	0	0	0	1,565,320
Row percent (%)	100.0	0.0	0.0	0.0	100.0
ESI Dependent	0	1,935,140	0	0	1,935,140
Row percent (%)	0.0	100.0	0.0	0.0	100.0
Non-group	11,580	6,400	251,900	0	269,880
Row percent (%)	4.3	2.4	93.3	0.0	100.0
Uninsured	24,960	9,260	46,380	446,220	526,820
Row percent (%)	4.7	1.8	8.8	84.7	100.0
Total	1,601,860	1,950,800	298,200	446,300	4,297,160
Row percent (%)	37.3	45.4	6.9	10.4	100.0

Source: Urban Institute analysis, Reinsurance Institute 2007.

* Those with public coverage (Medicaid, Medicare, and other publicly-funded health insurance) in the baseline are not shown.

Baseline, reform and reductions in health insurance premiums for groups or individuals targeted in this particular “broad” reform are shown in Table 8. Baseline premiums in the small group appear somewhat lower than single small group premiums in the MEPS-IC in Washington State, and somewhat higher than family small group premiums published in the MEPS-IC in Washington State.¹¹ Rating rules that pool risk among employers in the small group lead to uniformity in the percentage decrease in premiums expected after reform. As noted above, small group includes those in AHPs. Single group premiums for those eligible for reinsurance drop by 30.5 percent, while family group premiums for those eligible for reinsurance drop by 33.0 percent. Overall, single and family non-group premiums fall by approximately 38 percent, however those who are

¹¹ Inflated to the year 2007, MEPS-IC premiums for firm size under 10 employees in Washington State was \$4,217 for single and \$11,960 for family. Premiums from the MEPS_IC were inflated 2004 to 2006 using the Kaiser Employer Survey, then inflated 2006 to 2007 using NHA health expenditures inflation.

older and/or in worse health are expected to experience even greater drops in premiums.¹² The substantial increases in firm offer expected under this reform make group coverage newly available to many individuals, some of whom had high expected health costs. Most of those with high expected costs who are newly enrolling in the small group market were uninsured in the baseline, rather than insured through the non-group market at the baseline (data not shown).

The bottom of Table 8 shows the estimated costs to the state from the reinsured health expenses under the same “broad” program. These costs do not include administrative costs or other costs that would be included in modeling for state budgetary purposes. Not including those additional costs, state government spending on the reinsurance program is estimated at \$886.8 million (in 2007 dollars) per year once the program is fully implemented.¹³ This amount includes spending in both the group and non-group markets, which are estimated to incur \$534.3 million and \$352.4 million in state costs, respectively. Importantly, it must be noted that in these simulations we do not account for several potential behavioral responses to the reinsurance program that may impact efficiency and total costs to the state. Shifting risk away from carriers may decrease incentives for carriers to manage high-cost cases, which may lead to increases in total spending. These concerns are addressed in a brief by the American Academy of Actuaries (2005).¹⁴ Disincentives to manage risk aggressively may be offset by increasing the carrier retention percentage, or with other strategies (such as chronic care management) discussed in the conclusion below. A higher carrier retention percentage is explored in the alternative program simulations which follow.

¹² The relatively large decrease in non-group premiums, compared to small group premiums, may be due to both the distribution of expenses within the risk pool, as well as to the relatively high load in the non-group market which tends to magnify covered expenses.

¹³ Estimates of the cost of this program did not include factors which benchmarked health expenditures to premium levels in Washington state, which increased the estimated cost of the reform substantially. In addition, calibration of the final model to elasticities from the literature also increased the number of individuals gaining coverage in the non-group market, which also increased reinsured expenditures.

¹⁴ American Academy of Actuaries, “Medical Reinsurance: Considerations for Designing a Government-Sponsored Program” (Issue Brief), American Academy of Actuaries, 2005. Available at http://www.actuary.org/pdf/health/reinsurance_jan05.pdf.

Table 8. Baseline and post reform changes in health insurance premiums by single/family status and market, and state costs under a broad configuration of publicly-funded reinsurance, for the nonelderly population of Washington State.

Post-reform changes for broad configuration of publicly-funded reinsurance
 Eligible population: Nongroup market and firms with 2 to 49 employees in Washington State
 "Broad" Policy: Reinsurance Corridor \$10,000 to \$90,000 with Carrier retention percentage 10%

	Baseline (in 2007\$)	Post Reform (in 2007\$)	Percentage Change
Single Group Premiums by firm size			
2 to 9 employees	\$4,667	\$3,247	-30.4%
10-24 employees	\$4,351	\$3,030	-30.4%
25-49 employees	\$4,172	\$2,905	-30.4%
Family Group Premiums by firm size			
2 to 9 employees	\$13,420	\$8,953	-33.3%
10-24 employees	\$12,522	\$8,357	-33.3%
25-49 employees	\$12,023	\$8,026	-33.2%
Single Non-group Premiums			
Healthy, under 25 years	\$2,156	\$1,367	-36.6%
Healthy, 25-44 years	\$3,117	\$1,904	-38.9%
Healthy, 45-64 years	\$5,333	\$3,481	-34.7%
Fair/poor health, under 25 years	\$3,318	\$2,262	-31.8%
Fair/poor health, 25-44 years	\$6,217	\$3,547	-42.9%
Fair/poor health, 45-64 years	\$14,177	\$7,414	-47.7%
Average	\$4,131	\$2,540	-38.5%
Family Non-group premiums			
Healthy, none aged 15-44, none older than 44	\$2,892	\$2,286	-21.0%
Healthy, none aged 15-44, one older than 44	\$5,771	\$4,591	-20.5%
Healthy, none aged 15-44, two older than 44	\$9,972	\$6,250	-37.3%
Healthy, one or more aged 15-44, none older than 44	\$7,049	\$4,690	-33.5%
Healthy, one or more aged 15-44, one older than 44	\$15,590	\$8,616	-44.7%
Healthy, one or more aged 15-44, two older than 44	\$9,234	\$6,320	-31.6%
Fair/poor health, none aged 15-44, none older than 44	\$2,893	\$1,989	-31.2%
Fair/poor health, none aged 15-44, one older than 44	\$15,403	\$10,243	-33.5%
Fair/poor health, none aged 15-44, two older than 44	\$25,281	\$14,946	-40.9%
Fair/poor health, one or more aged 15-44, none older than 44	\$14,671	\$8,156	-44.4%
Fair/poor health, one or more aged 15-44, one older than 44	\$24,580	\$15,307	-37.7%
Fair/poor health, one or more aged 15-44, two older than 44	\$22,366	\$12,821	-42.7%
Average	\$10,800	\$6,674	-38.2%
Total Government Costs			
Government costs due to non-group coverage	n/a	\$352,432,128	n/a
Government costs due to group coverage	n/a	\$534,326,208	n/a
Total Government Costs	n/a	\$886,758,336	n/a

n/a = not applicable

Source: Urban Institute analysis, Reinsurance Institute 2007.

Seven Alternative Configurations of Reinsurance Reform Policies

Table 9 shows a comparison of seven alternative configurations of a reinsurance reform policy, which vary both the reinsurance corridor and the carrier retention percentage. Table 9 shows the differences in coverage, small group premiums, small firm offer rates, non-group premiums, and state costs from varying reinsurance policy configurations.

Potential changes in individuals' and families' decisions to purchase coverage.

Reinsurance policies with wider reinsurance corridors and lower carrier retention percentages have a greater impact on coverage. However, coverage increases are modest regardless of policy

configuration. The percentage decrease in the number of uninsured ranges from -12.8 percent to -0.6 percent across alternative reforms. The coverage response to a “narrow” policy shows a larger share of the net coverage increase among ESI, where nearly four-fifths of net coverage gains are in ESI. Among the “catastrophic” reforms, an even greater share of the coverage increase occurs in the group market. Among the broad reforms, only two-thirds of the net coverage gains are in ESI.

Reductions in ESI and non-group health insurance premiums for individuals and families targeted by the reform.

Reinsurance policies with wider reinsurance corridors and lower carrier retention percentages have a greater impact on premiums. However, due to differences in the distribution of health expenses by factors such as age and health status, there are differences in the change in premiums for singles and families in different markets, depending on the attachment point, the width of the reinsurance corridor, and enrollment within each pool. Calculation of the change in premiums in each risk pool depends importantly on the health expenditures of the new enrollees within a given risk pool, as well as those of the existing “baseline” enrollees who retain coverage. The reinsurance programs in this report are simulated with a fixed attachment point which does not vary depending on the relative risks within any given pool. Policies are therefore designed to have a greater impact on premiums in pools that have more health spending in the reinsurance corridor selected in a given policy. For example, those currently insured in the non-group market have a slightly larger share of their total insured dollars in the \$10,000 to \$100,000 corridor than those currently insured in the small group market. Therefore, policies targeting this corridor tend to have a slightly larger percentage change in premiums for the non-group market relative to the small group market.

The results from simulating a “narrow” reinsurance program in Table 9 show that premiums may be reduced between 13 and 15 percent for singles and for families in both the group and non-group markets.¹⁵ Choosing a “broad” corridor of \$25,000 to \$90,000 is estimated to reduce single group premiums by approximately 12 percent, while family group premiums are expected to fall by 17 percent; the difference is likely due to the relatively lower health spending among those with single ESI policies compared to those with family. Non-group premiums are expected to decline by approximately 20 percent under the “broad” corridor of \$25,000 to \$90,000. As noted above, since those in the non-group market have a somewhat larger share of their total insured dollars in the “broad” corridor, premiums in the non-group market are expected to fall slightly more under “broad” corridor policies than in the small group market. Simulation results from the “catastrophic” policy with the corridor of \$25,000 and up are similar to those of the “broad” corridor of \$25,000 to \$90,000, however these policies have different policy design considerations, which are discussed in the conclusion to this report. Results from simulation of the “catastrophic” policy with a corridor of \$100,000 and up show that the impact on coverage and premiums is limited.

Potential changes in employers’ decisions to offer coverage.

The wider reinsurance corridors and lower carrier retention percentages show the largest expected impact on firm’s offer rates. Table 9 shows that regardless of the reinsurance program, the

¹⁵ We first compare this “narrow” program to the “broad” corridor of \$25,000 to \$90,000 because the size of the two programs (as measured by government cost) are relatively similar.

percentage point increase in the share of firms offering is approximately two and a half times as large for firms with 2 to 9 employees relative to firms with 26 to 49 employees, as the smaller business had lower offer rates in the baseline.

Government costs for reinsured expenses.

It is clear that more generous reinsurance policies—those with wider reinsurance corridors and lower carrier retention percentages (i.e. higher shares of the reinsurance costs paid for by the state)—have a greater impact on both coverage and premiums. However, these increase the public cost of the program substantially. The cost estimates vary between \$364.6 million in state costs for the “narrow” program, to \$886.8 million in state costs for the “broad” program. Further, it is important to note that estimates of government cost under the “broad” program would be subject to larger variation than estimates of the other program configurations, since the variance of claims is higher at higher levels of health expenditures.

Table 9. Post reform changes in health coverage, premiums, firm's offer rate, and government program costs under alternative configurations of publicly-funded reinsurance in the non-group market and in firms with 2 to 49 employees, for the nonelderly population in Washington State

Reinsurance Corridor (\$) Carrier retention percentage (%)	Reinsurance Configurations						
	"Narrow"	"Broad"				"Catastrophic"	
	\$5,000 to \$10,000 10%	\$10,000 to \$90,000 10%	\$10,000 to \$90,000 20%	\$25,000 to \$90,000 10%	\$50,000 to \$90,000 10%	\$25,000 and up 25%	\$100,000 and up 30%
Changes in health insurance coverage							
Employer Sponsored Insurance	+27,260	+58,160	+50,960	+27,360	+10,300	+27,500	+3,420
Nongroup	+7,820	+29,040	+24,480	+12,640	+4,800	+11,660	+260
Uninsured	-35,080	-87,200	-75,440	-40,000	-15,100	-39,160	-3,680
<i>(percentage change in number of uninsured)</i>	-5.9%	-14.8%	-12.8%	-6.8%	-2.6%	-6.6%	-0.6%
Change in ESI premium for firm size 2 to 49 employees							
Change in single premiums							
(2007 \$)	-\$642	-\$1,340	-\$1,191	-\$543	-\$159	-\$570	-\$89
<i>(percentage change in premium)</i>	-14.6%	-30.5%	-27.1%	-12.4%	-3.6%	-13.0%	-2.0%
Change in family premiums							
(2007 \$)	-\$1,823	-\$4,160	-\$3,692	-\$2,157	-\$876	-\$2,100	-\$187
<i>(percentage change in premium)</i>	-14.5%	-33.0%	-29.3%	-17.1%	-7.0%	-16.7%	-1.5%
Change in share of firms offering ESI by firm size							
<i>(percentage point change in offer)</i>							
2 to 9 employees	+7.2%	+15.3%	+13.6%	+6.8%	+2.5%	+6.9%	+1.0%
10 to 25 employees	+3.6%	+8.2%	+7.1%	+3.4%	+1.0%	+3.5%	+0.4%
26 to 49 employees	+2.9%	+6.1%	+5.2%	+2.7%	+1.1%	+2.8%	+0.4%
Change in average nongroup premium							
Change in single premiums							
(2007 \$)	-\$601	-\$1,591	-\$1,411	-\$807	-\$312	-\$830	-\$59
<i>(percentage change in premium)</i>	-15.0%	-39.0%	-34.1%	-19.5%	-7.1%	-18.9%	-1.3%
Change in family premiums							
(2007 \$)	-\$1,381	-\$4,126	-\$3,664	-\$2,163	-\$876	-\$2,235	-\$264
<i>(percentage change in premium)</i>	-13.0%	-38.0%	-33.9%	-20.0%	-8.0%	-20.4%	-2.4%
Government cost							
<i>(in Millions, 2007 \$)</i>	\$364.6	\$886.8	\$774.2	\$414.3	\$159.9	\$415.4	\$41.3

Note: Urban Institute analysis for the Reinsurance Institute, 2007.

Reinsurance Reform in the Small Group Market Only

We then simulate a reinsurance program where the eligible population is restricted to the small group market. Table 10 shows the potential changes in individuals' and families' decisions to purchase coverage, the reductions in ESI and non-group health insurance premiums for individuals and families targeted by the reform, the potential changes in employers' decisions to offer coverage, and the state government costs of each alternative configuration.

Table 10. Post reform changes in health coverage, premiums, firm's offer rate, and government program costs under alternative configurations of publicly-funded reinsurance in the small group market only (firms with 2 to 49 employees) , for the nonelderly population in Washington State

		Reinsurance Configurations		
		"Narrow" \$5,000 to \$10,000 10%	"Broad" \$10,000 to \$90,000 10%	"Catastrophic" \$100,000 and up 30%
Reinsurance Corridor (\$)	Carrier retention percentage (%)			
Changes in health insurance coverage				
Employer Sponsored Insurance		+27,360	+58,080	+3,420
Nongroup		-10,460	-19,300	-1,020
Uninsured		-16,900	-38,780	-2,400
(percentage change in number of uninsured)		-2.9%	-6.6%	-0.4%
Change in ESI premium for firm size 2 to 49 employees				
Change in single premiums	(2007 \$)			
(percentage change in premium)		-\$642 -14.6%	-\$1,340 -30.5%	-\$89 -2.0%
Change in family premiums	(2007 \$)			
(percentage change in premium)		-\$1,802 -14.3%	-\$4,159 -33.0%	-\$187 -1.5%
Change in share of firms offering ESI by firm size				
(percentage point change in offer)				
2 to 9 employees		+7.4%	+15.3%	+1.0%
10 to 25 employees		+3.6%	+8.2%	+0.4%
26 to 49 employees		+2.9%	+6.1%	+0.4%
Change in average nongroup premium				
Change in single premiums	(2007 \$)			
(percentage change in premium)		+\$30 +0.7%	+\$58 +1.4%	+\$7 +0.2%
Change in family premiums	(2007 \$)			
(percentage change in premium)		-\$15 -0.1%	+\$132 +1.2%	+\$10 +0.1%
Government cost*				
	(in Millions, 2007 \$)	\$248.9	\$533.2	\$25.7

Note: Urban Institute analysis for the Reinsurance Institute, 2007.

Reinsurance Reform in the Non-Group Market Only

Finally, we show results of simulation of a reinsurance program where the eligible population is restricted to the non-group market. Table 11 shows the potential changes in individuals' and families' decisions to purchase coverage, the reductions in ESI and non-group health insurance

premiums for individuals and families targeted by the reform, the potential changes in employers' decisions to offer coverage, and the state government costs of each alternative configuration. It is interesting to note that a comparison of the average cost of the newly insured is quite different between the reforms implemented in the small group (Table 10) compared to the reforms implemented in the non-group (Table 11). Much of the difference is due to the movement from non-group coverage to small group coverage in the small group reform, which raises the state costs but does not impact the number of uninsured gaining coverage.¹⁶ The remaining differences are due to the distribution of health expenses within the insured risk pools after reform is implemented.

Table 11. Post reform changes in health coverage, premiums, firm's offer rate, and government program costs under alternative configurations of publicly-funded reinsurance in the non-group market only, for the nonelderly population in Washington State

Reinsurance Corridor (\$) Carrier retention percentage (%)		Reinsurance Configurations	
		"Narrow" \$5,000 to \$10,000 10%	"Broad" \$10,000 to \$90,000 10%
Changes in health insurance coverage			
Nongroup		+16,280	+55,540
Uninsured		-16,280	-55,540
<i>(percentage change in number of uninsured)</i>		-2.8%	-9.4%
Change in average nongroup premium			
Change in single premiums (2007 \$)		-\$648	-\$1,824
<i>(percentage change in premium)</i>		-14.7%	-41.4%
Change in family premiums (2007 \$)		-\$1,457	-\$4,272
<i>(percentage change in premium)</i>		-13.3%	-39.1%
Government cost <i>(in Millions, 2007 \$)</i>		\$122.7	\$395.9

Note: Urban Institute analysis for the Reinsurance Institute, 2007.

Conclusion

The data and simulation results presented in this report describe the implications of a program in which the government reinsures certain private health insurance markets. The results show that a relatively low attachment point—between \$5,000 and \$25,000—is necessary in order to have a large expected reduction in health insurance premiums for the groups or individuals eligible for the program. For these relatively low attachment points, however, government costs are substantial. Further, results suggest that even programs with high expected government costs may

¹⁶ In the non-group market reform, as in all reforms, the simulation model restricts individuals and families from moving from small group coverage to non-group coverage.

have relatively small effects on coverage; for example, one program is estimated to cost approximately \$890 million and decrease the uninsured by about 15 percent. While a “narrow” policy corridor and a “broad” corridor of \$25,000 to \$90,000 result in government reinsured costs that are relatively similar, different goals would be achieved through these different corridors. Policies have a greater impact on premiums in pools that have more health spending in the reinsurance corridor selected in a given policy. For example, we found that those insured in the non-group market at baseline had a slightly larger share of their total insured dollars in the \$10,000 to \$100,000 corridor than those currently insured in the small group market. Therefore, policies targeting this corridor tend to have a slightly larger percentage change in premiums for the non-group market relative to the small group market.

We found that the effect of reform is generally linear in the sense that the estimated impact of enacting both a “narrow” and “broad” reform concurrently could be accomplished by aggregating the results of the two separate reforms.

Others have noted that reinsurance programs such as those modeled in this report produce a “one-time” reduction in insurance premiums for the groups or individuals eligible for the program.¹⁷ Overall health spending would not be reduced as a result of this program, and it is not known to what extent efficiency disincentives would accelerate the upward trend in health costs. In addition, compared to commercial reinsurance, a government-funded reinsurance program is particularly vulnerable to inefficiencies; in commercial reinsurance, carriers have incentives to manage large claims since commercial reinsurance premiums are typically adjusted each year to reflect the carrier’s claims experience.

Another consideration is that the simulations presented here hold some movements in coverage fixed. For example, public health insurance program enrollment is constant. Under the simulations modeled above, it is possible that some individuals currently in public programs such as Medicaid may gain an affordable offer of ESI or non-group coverage. Financial protection under Medicaid is generally greater than that of private insurance; therefore we would expect a relatively small movement of coverage from Medicaid to private health insurance. However, some coverage changes away from public coverage may result as other health insurance options become relatively more attractive than under current law.¹⁸ In addition, the simulations above also do not allow for movement from large group coverage (in firms with 50 or greater employees) to non-group coverage, or from large group coverage to small group coverage (which could occur when a family can choose between ESI offers from a small and large employer).¹⁹

¹⁷Collins, P (May 24, 2007) in testimony for “Hearing on Increasing Competition, Reducing Costs, and Expanding Small Business Health Insurance Coverage Using the Private Reinsurance Market.” Available at http://www.actuary.org/pdf/health/reinsurance_may07.pdf

¹⁸For an analysis of the extent to which changes in the availability of ESI influences disenrollment from Medicaid in California, see Perreira KM. Crowd-in: the effect of private health insurance markets on the demand for Medicaid. *Health Serv Res* 2006 Oct;41(5):1762-81.

¹⁹Due to the large differences in administrative costs between these markets, in addition to other factors such as benefit package generosity, these movements may be relatively modest.

Additional policy design issues to consider in addressing carrier incentives include the following issues, outlined by the American Academy of Actuaries (2005)²⁰:

1. Carriers and health plans that negotiate larger price discounts with physicians and hospitals may benefit relatively less from a reinsurance policy with a fixed reinsurance corridor; a reinsurance program may encourage these carriers to renegotiate fees paid to hospitals and physicians. Changes in carrier price discounts are not modeled in the simulations in this report; accounting for changes in these discounts would likely increase estimated government costs.
2. Mandatory reinsurance for carriers may lead to inefficiency as some carriers may then have too much reinsurance coverage, while others may have too little.
3. If the upper limit of the reinsurance corridor is set relatively high, carriers may have incentives to pay claims that they previously would have rejected or disputed through litigation. The simulation model in this report does not account for these potential behavioral changes; accounting for changes in these discounts would likely increase estimated government costs.
4. Disease management programs may also be integrated into a reinsurance program, in order to offset disincentives for carriers to manage risk of high-cost individuals. However, disease management programs may themselves have costs to the government, and consideration must be given as to how and in which cases to integrate these programs into existing health insurance plans.

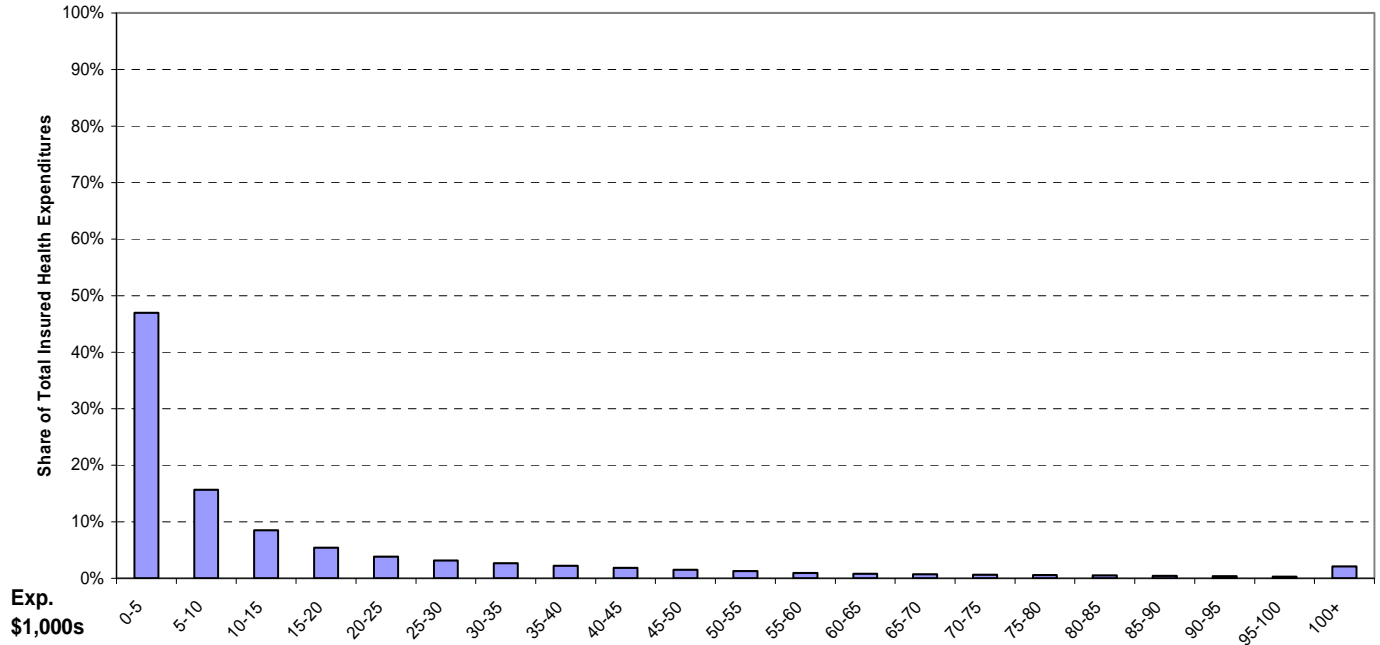
It is important to note that estimates of the cost to state government of reinsured health expenditures do not take into account other state government health care that could be redirected to help finance the reinsurance program. Washington State's expenditures on uncompensated care are one example of such funds. Hadley and Holahan (2004) found that government is the primary source of funding for uncompensated care, and approximately one-third of government spending for uncompensated care comes from state governments.²¹ These payments are largely through disproportionate share hospital (DSH) payments and other payments to hospitals which are intended to compensate hospitals for services provided to uninsured patients and others who do not pay their bills. While uncompensated care costs may fall if coverage increases, it is unlikely that providers would be willing to allow subsidies to be redirected towards the state government's costs for the reinsurance program, since an incremental reform – such as the reinsurance programs simulated in this report – would leave many residents uninsured.

²⁰ American Academy of Actuaries, (2005). Several additional policy design parameters discussed in the American Academy of Actuaries (2005) paper include: (1) indexing the attachment point of the reinsurance corridor in order to decrease the leveraging effect that would cause the state's costs to rise faster than the overall rise in health expenditures; (2) varying the attachment point of the reinsurance corridor to account for geographic cost variation; (3) including claim adjustment expenses, including payments to business that help carriers reduce claim costs, as a reimbursable loss for carriers.

²¹ Hadley J. and J. Holahan. 2004. "The Cost of Care for the Uninsured: What Do We Spend, Who Pays, and What Would Full Coverage Add to Medical Spending? KCMU, Issue Update, May 2004.

Appendix Table 1. Updated Estimates of Expenditure Distribution, Originally Shared with Washington in July 2007

Share of Total Annual Insured Health Expenditures by Expenditure Category, Washington Small Group Insured Employees and Dependents, revised 17 Dec 2007



Note: All amounts are estimates of share of total annual *insured* health expenditures by expenditure category. Estimates do not include administrative expenses of reinsur. program or primary insurers' loading costs. **Source:** Urban Institute tabulations from the Reinsurance Model estimated with 2001-2003 Medical Expenditure Panel Survey data, re-weighted to reflect the 2006 Washington State Population Survey. All dollars inflated to 2007\$, and benchmarked to state estimates of premium levels. Sample is Washington small group employees (2-49 employees) with employer-sponsored insurance, ages 19-64, and their dependents under 65. Urban Institute estimates from the Reinsurance Model are for state use. **Suggested citation** for further calculations by Washington: "Washington calculations using Urban Institute estimates of state health expenditures, produced for the Reinsurance Institute."

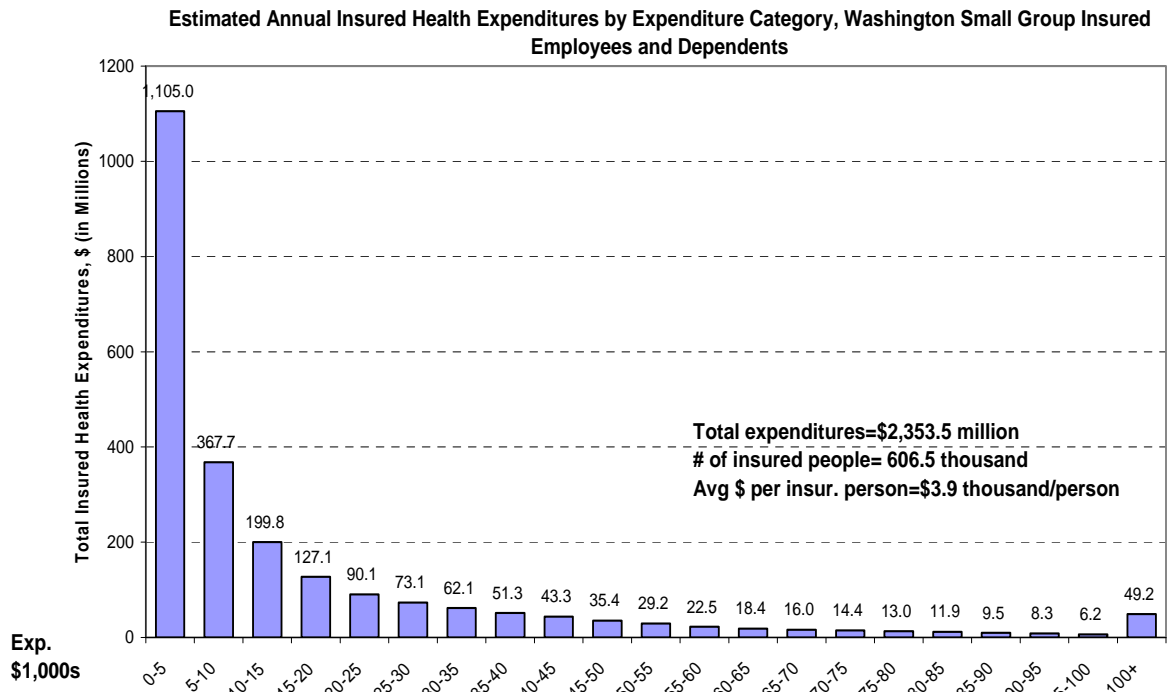
Appendix Table 2. Washington Demographic Estimates, by Data Source

	WSPS	National MEPS	Final Database
Income			
0-99% FPL	16.0%	15.1%	15.5%
100-199% FPL	14.7%	19.2%	14.6%
200-399% FPL	27.7%	30.0%	28.0%
400%+ FPL	41.7%	35.7%	41.9%
Health Coverage			
ESI-policyholder	25.3%	33.3%	26.6%
ESI-dependent	33.7%	29.1%	32.3%
Non-group	4.9%	3.5%	4.5%
Medicaid	13.9%	11.6%	13.9%
Medicare	11.2%	6.0%	11.5%
Other Public	1.7%	1.1%	1.8%
Uninsured	9.3%	15.3%	9.3%
Health Status			
Fair/poor health	11.1%	10.9%	11.0%
Race			
White	84.6%	69.0%	84.7%
Hispanic	8.2%	13.7%	8.1%
Black	2.3%	12.3%	2.2%
Asian	2.9%	4.3%	2.8%
American Indian, other race	2.1%	0.7%	2.1%
Education			
No high school diploma	4.8%	11.9%	4.7%
High School Graduate	41.3%	43.1%	42.0%
College Graduate	17.1%	11.8%	17.3%
Graduate/Professional degree	10.0%	6.3%	10.0%
Under 19	25.8%	26.9%	26.0%

Source: Urban Institute tabulations of the 1) the 2006 Washington State Population Survey, 2) pooled 2001-2003 national Medical Expenditure Panel Survey data, and 3) the reinsurance model's baseline file for Washington estimated with national 2001-2003 Medical Expenditure Panel Survey data, re-weighted to reflect the 2007 Washington State Population Survey and estimates from the Statistics of United States Business (SUSB).

Appendix Table 3.

Note: these expenditures have been benchmarked to state and national premium levels.

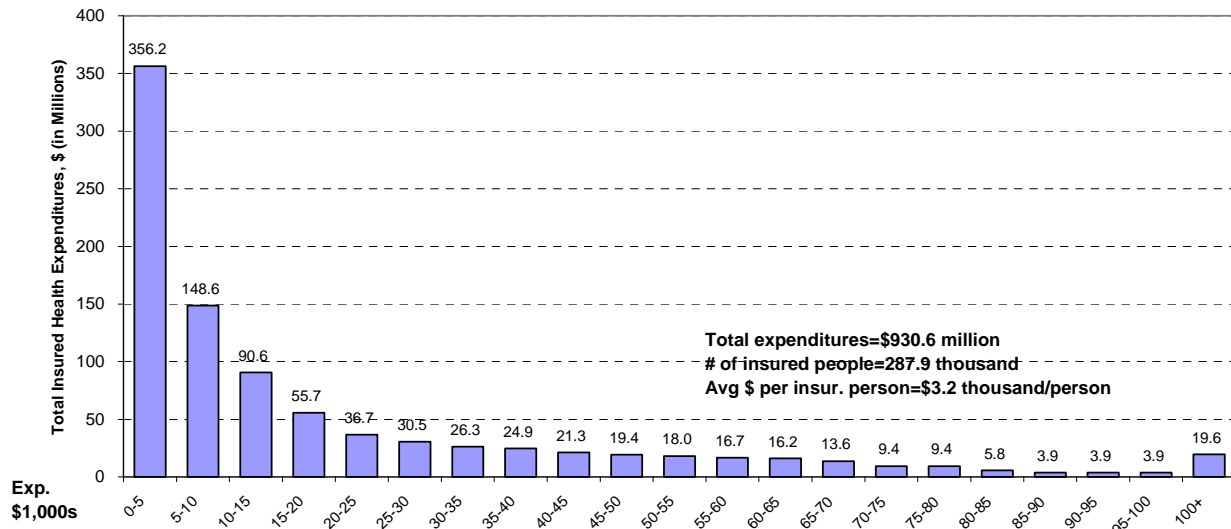


Note: All amounts are estimates of total annual *insured* health expenditures by expenditure category. Estimates do not include administrative expenses of reinsur. program or primary insurers' loading costs. Each bar includes all the expenses within the stated range of all individuals incurring expenses within that range (e.g., an individual with \$10,000 in total annual expenses contributes \$5,000 to the first bar and \$5,000 to the second bar). **Source:** Urban Institute tabulations from the Reinsurance Model estimated with 2001-2003 Medical Expenditure Panel Survey data, re-weighted to reflect the 2006 Washington State Population Survey. All dollars inflated to 2007\$, and benchmarked to state estimates of premium levels. Sample is Washington small group employees (2-49 employees) with employer-sponsored insurance, ages 19-64, and their dependents under 65. Urban Institute estimates from the Reinsurance Model are for state use. **Suggested citation** for further calculations by Washington: "Washington calculations using Urban Institute estimates of state health expenditures, produced for the Reinsurance Institute."

Appendix Table 4.

Note: these expenditures have been benchmarked to state and national premium levels.

Estimated Annual Insured Health Expenditures by Expenditure Category, Washington Non-Group Insured

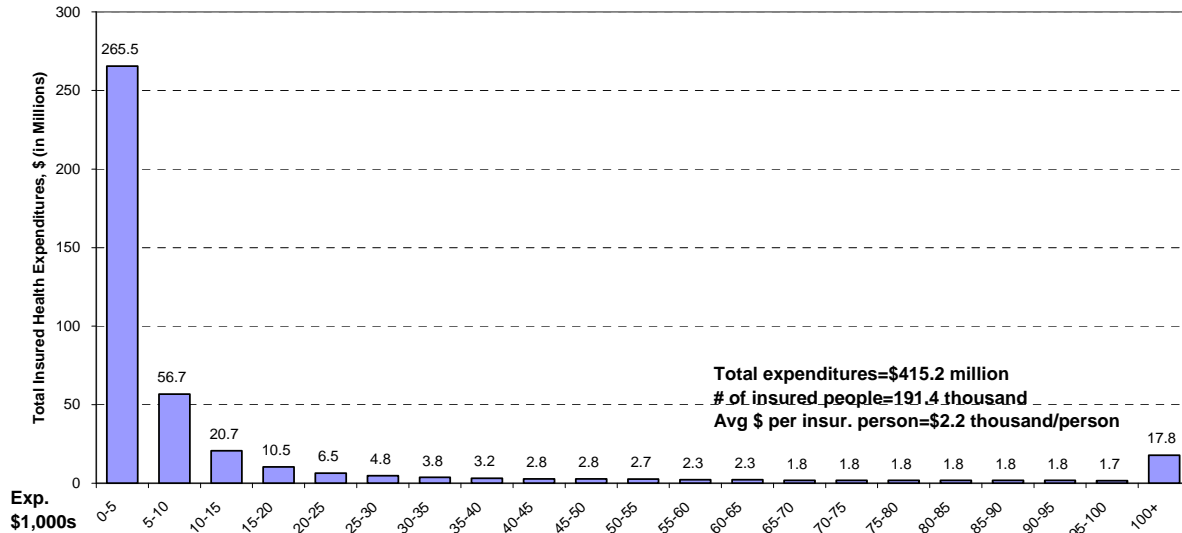


Note: All amounts are estimates of total annual *insured* health expenditures by expenditure category. Estimates do not include administrative expenses of reinsur. program or primary insurers' loading costs. Each bar includes all the expenses within the stated range of all individuals incurring expenses within that range (e.g., an individual with \$10,000 in total annual expenses contributes \$5,000 to the first bar and \$5,000 to the second bar). **Source:** Urban Institute tabulations from the Reinsurance Model estimated with 2001-2003 Medical Expenditure Panel Survey data, re-weighted to reflect the Washington population as estimated by the 2006 WSPS. All dollars inflated to 2007\$, and benchmarked to state estimates of premium levels. Sample is Washington non-group insured, under 65 years. Urban Institute estimates from the Reinsurance Model are for state use. **Suggested citation** for further calculations by Washington: "Washington calculations using Urban Institute estimates of state health expenditures, produced for the Reinsurance Institute."

Appendix Table 5.

Note: these expenditures have not been benchmarked to state and national premium levels, as they represent individuals in different insurance markets.

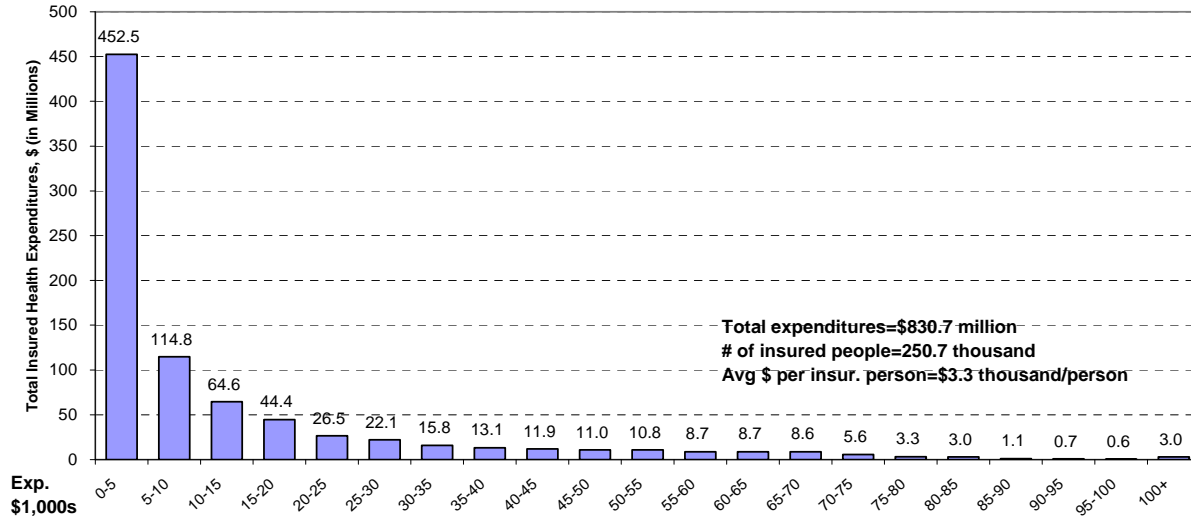
Estimated Annual Health Expenditures by Expenditure Category, Washington Aggregated Small Group and Non-Group Insured, Ages 0 to 18



Note: All amounts are estimates of total annual *insured* health expenditures by expenditure category. Estimates do not include administrative expenses of reinsur. program or primary insurers' loading costs. Each bar includes all the expenses within the stated range of all individuals incurring expenses within that range (e.g., an individual with \$10,000 in total annual expenses contributes \$5,000 to the first bar and \$5,000 to the second bar). **Source:** Urban Institute tabulations from the Reinsurance Model estimated with 2001-2003 Medical Expenditure Panel Survey data, re-weighted to reflect the Washington population as estimated by the 2006 WSPS. All dollars inflated to 2007\$. Sample is Washington small group and non group insured, ages 0 to 18. Urban Institute estimates from the Reinsurance Model are for state use. **Suggested citation** for further calculations by Washington "Washington calculations using Urban Institute estimates of state health expenditures, produced for the Reinsurance Institute."

Appendix Table 6.

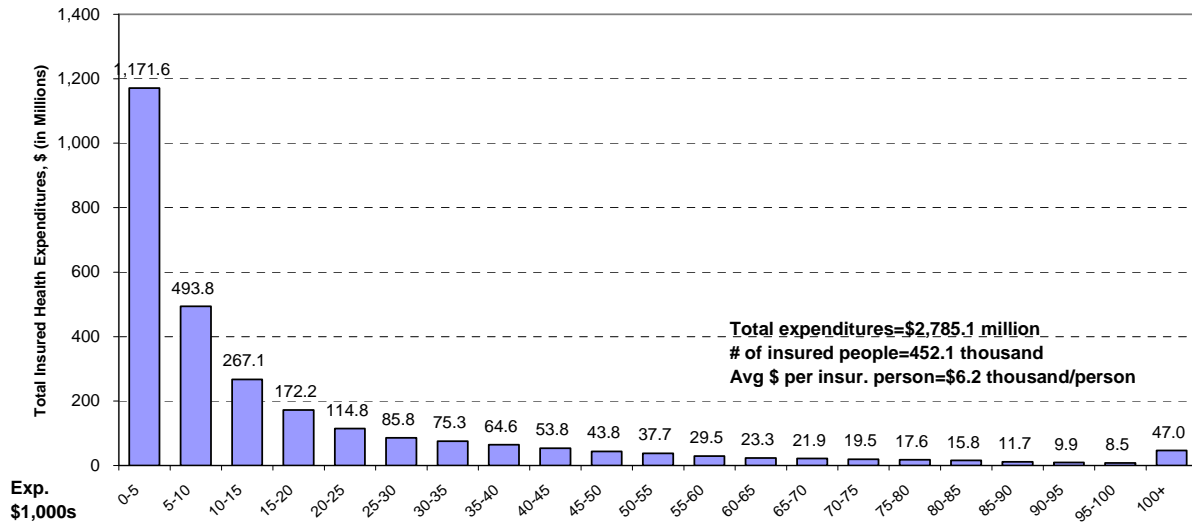
Estimated Annual Health Expenditures by Expenditure Category, Washington Aggregated Small Group and Non-Group Insured, Ages 19 to 34



Note: All amounts are estimates of total annual *insured* health expenditures by expenditure category. Estimates do not include administrative expenses of reinsur. program or primary insurers' loading costs. Each bar includes all the expenses within the stated range of all individuals incurring expenses within that range (e.g., an individual with \$10,000 in total annual expenses contributes \$5,000 to the first bar and \$5,000 to the second bar). **Source:** Urban Institute tabulations from the Reinsurance Model estimated with 2001-2003 Medical Expenditure Panel Survey data, re-weighted to reflect the Washington population as estimated by the 2006 WSPS. All dollars inflated to 2007\$. Sample is Washington small group and non group insured, ages 19 to 34. Urban Institute estimates from the Reinsurance Model are for state use. **Suggested citation** for further calculations by Washington: "Washington calculations using Urban Institute estimates of state health expenditures, produced for the Reinsurance Institute."

Appendix Table 7.

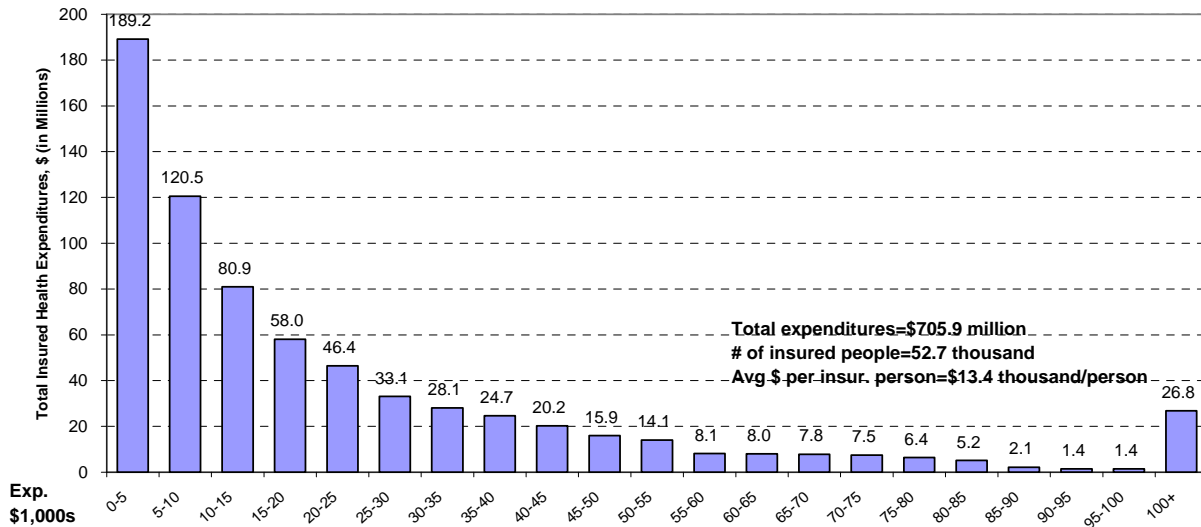
Estimated Annual Health Expenditures by Expenditure Category, Washington Aggregated Small Group and Non-Group Insured, Ages 35 to 64



Note: All amounts are estimates of total annual *insured* health expenditures by expenditure category. Estimates do not include administrative expenses of reinsur. program or primary insurers' loading costs. Each bar includes all the expenses within the stated range of all individuals incurring expenses within that range (e.g., an individual with \$10,000 in total annual expenses contributes \$5,000 to the first bar and \$5,000 to the second bar). **Source:** Urban Institute tabulations from the Reinsurance Model estimated with 2001-2003 Medical Expenditure Panel Survey data, re-weighted to reflect the Washington population as estimated by the 2006 WSPS. All dollars inflated to 2007\$. Sample is Washington small group and non group insured, ages 35 to 64. Urban Institute estimates from the Reinsurance Model are for state use. **Suggested citation** for further calculations by Washington: "Washington calculations using Urban Institute estimates of state health expenditures, produced for the Reinsurance Institute."

Appendix Table 8.

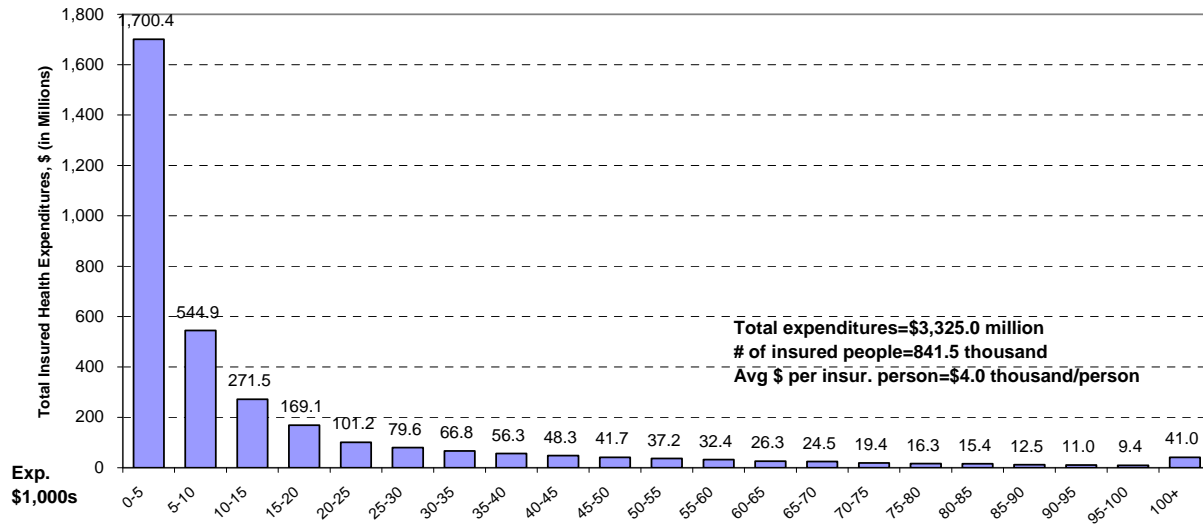
Estimated Annual Health Expenditures by Expenditure Category, Washington Aggregated Small Group and Non-Group Insured, Fair or Poor Health



Note: All amounts are estimates of total annual *insured* health expenditures by expenditure category. Estimates do not include administrative expenses of reinsur. program or primary insurers' loading costs. Each bar includes all the expenses within the stated range of all individuals incurring expenses within that range (e.g., an individual with \$10,000 in total annual expenses contributes \$5,000 to the first bar and \$5,000 to the second bar). **Source:** Urban Institute tabulations from the Reinsurance Model estimated with 2001-2003 Medical Expenditure Panel Survey data, re-weighted to reflect the Washington population as estimated by the 2006 WSPS. All dollars inflated to 2007\$. Sample is Washington small group and non group insured, in fair or poor health. Urban Institute estimates from the Reinsurance Model are for state use. **Suggested citation** for further calculations by Washington: "Washington calculations using Urban Institute estimates of state health expenditures, produced for the Reinsurance Institute."

Appendix Table 9.

Estimated Annual Health Expenditures by Expenditure Category, Washington Aggregated Small Group and Non-Group Insured, Not in Fair or Poor Health



Note: All amounts are estimates of total annual *insured* health expenditures by expenditure category. Estimates do not include administrative expenses of reinsur. program or primary insurers' loading costs. Each bar includes all the expenses within the stated range of all individuals incurring expenses within that range (e.g., an individual with \$10,000 in total annual expenses contributes \$5,000 to the first bar and \$5,000 to the second bar). **Source:** Urban Institute tabulations from the Reinsurance Model estimated with 2001-2003 Medical Expenditure Panel Survey data, re-weighted to reflect the Washington population as estimated by the 2006 WSPS. All dollars inflated to 2007\$. Sample is Washington small group and non group insured, not in fair or poor health. Urban Institute estimates from the Reinsurance Model are for state use. **Suggested citation** for further calculations by Washington: "Washington calculations using Urban Institute estimates of state health expenditures, produced for the Reinsurance Institute."