Introduction
Prior to the passage of the ACA, a majority of states operated “high-risk pools,” which was often the only source of insurance for people in the individual market whose pre-existing conditions made them likely to incur very high medical care costs. However, because of a lack of public funding, premiums were often many times higher than in the lower-risk market, putting insurance out of reach for many people in less-than-perfect health. However, as high risk pools are being considered again to replace portions of the ACA, it is worth revisiting the financial data behind the concept.

Key Findings
- High risk pools have the potential to reduce premiums for the lower-risk population by reducing average costs in the insurance pool. For example, separating out those with costs greater than $60,000, instead of only those with costs greater than $120,000, saves almost $300 in average costs per year for the low-risk group.
- However, the tradeoff in moving to a lower cost cutoff is that a high level of public funding is required. A cutoff of $60,000 in expenditures requires funding of at least $18 billion annually.

Data and Methods
What defines a high risk pool? Depending on the design chosen, it could be that individuals with certain high-cost conditions are eligible for the high-risk pool, or that individuals declined by insurance companies would be eligible, or that there would be a cutoff amount of costs that defines a high-risk or high-cost person. The last option is used here. Based upon the 2013 Medical Expenditure Panel Survey,¹ we show the overall distribution of costs and also separate out the small fraction of the population with extremely high costs to provide calculations of average and total costs in each category. This separation does lower premiums for all those not identified as high-cost; the key is understanding the amount of funding needed to pay for these medical costs. Finally, the analysis below includes employer-sponsored insurance and Medicaid data as well, because if the tradeoff is worthwhile for those in the individual market, it may be worth considering in these other categories as well.

Results
The panels of Figure 1 show the costs per person above and below selected cutoff values of $60,000, $120,000, and $160,000. Thus, it illustrates that with a cutoff of $60,000 being considered a high-cost patient, the average cost in the private non-group market in 2013 for a lower-cost patient was $3,183. In contrast, the average cost for someone in the high-cost group was $96,082. Note that changing the cutoff to $120,000 or to $160,000 increases both averages. Conversely, in order to achieve the lowest average cost for the lower-risk group, a lower cutoff value must be chosen.
The panels of Figure 2 illustrate the other half of the high-risk pool tradeoff. The lower the cutoff selected to define a high-risk pool, the higher the total funding required to cover costs in the pool. At a cutoff of $60,000, funding totaling $18 billion is required (not including administrative costs or profits for the insurer).
Discussion

This brief illustrates the mathematics of high risk pools. We have shown that while tradeoffs can be achieved in terms of somewhat lower costs (and proportionately lower premiums), substantial outlays are required to fully fund and operate a high risk pool with a low cutoff that has greater potential to reduce premiums significantly. It is also worth noting that, because extremely high costs are relatively rare, the most efficient design would group all high-cost patients across states together, as assumed in this exercise. Otherwise, states with lower populations may have trouble predicting risk and cost adequately.

1 The 2013 Full Year Consolidated file of the Medical Expenditure Panel Survey was used for this analysis, with survey weights used to generate U.S. population totals.