Evaluation of Wisconsin's BadgerCare Plus Health Coverage

for

Parents & Caretaker Adults and for Childless Adults

2012 Waiver Provisions

TECHNICAL & SCIENTIFIC REPORT

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University of Wisconsin
Population Health Institute
SCHOOL OF MEDICINE AND PUBLIC HEALTH

PROJECT TEAM

Faculty Investigators

- Marguerite Burns, UW-Madison
- Laura Dague, Texas A&M University
- Thomas DeLeire, Georgetown University
- Lindsey Leininger, University of Illinois-Chicago

UW Population Health Institute Staff

- Donna Friedsam, Project Manager and Researcher
- Kristen Voskuil, Data Manager and Programmer
- Andrew Kidd, Economics Doctoral Student
- Andrea Guglielmo, Economics Doctoral Student
- Mariyana Zapranova, Economics Doctoral Student

Along with

- UW Survey Research Center – Bob Craddock
- UW Institute for Research on Poverty (IRP) – Steve Cook
- UW CHSRA – Richard Ross

This work also benefited from the regular consultation, review and oversight by staff of the Wisconsin Department of Health Services, including

- Rachel Witthoft
- Abbey Brake
- Elizabeth Elgar
- Sabrina Mandel
- Shawn Smith
- Linda Auchue
- Emily Carlson

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A. BACKGROUND

The State of Wisconsin, in 2012, made a series of changes to its BadgerCare Plus (BC+) Health Insurance for Adults and Childless Adults Core Plan programs, via federal 1115 waiver authority.

The Wisconsin Department of Health Services describes the purpose of the waiver as follows:

> *This [amended waiver] implements additional eligibility requirements on [parents, caretaker adults, and childless adults] with incomes above 133% of the FPL, including those parents and caretakers eligible for BadgerCare Plus through Transitional Medical Assistance. The amended Demonstration will enable Wisconsin to test the effects of increasing premiums on program enrollment, utilization of services, and health outcomes by implementing sliding scale premiums in excess of 5 percent of household income and by permitting a 12 month restrictive re-enrollment policy for individuals who do not pay premiums. The amended Demonstration also tests the effects of the application of the 9.5 percent affordability test found under the PPACA.*[1]

These changes added eligibility requirements for non-pregnant, non-disabled adults with incomes over 133% of the federal poverty level (FPL). The changes included the following:

- Increases in premium cost-sharing
- Expansion in restrictive re-enrollment period to 12 months
- Change in eligibility restrictions for persons with offers of employer-sponsored coverage (ESI), disallowing enrollment when a person has an ESI offer that costs the individual less than 9.5% of income for an individual policy – in alignment with the ACA's ESI affordability standard

The federal Centers for Medicare and Medicaid Services (CMS) approved the changes in the premium cost sharing as a limited exception to the maintenance of effort (MOE) requirements within the Affordable Care Act (ACA). Beyond this, however, Wisconsin's considered its premium cost-sharing design an early test of the ACA's cost-sharing model.[2]

The premium-related changes under the 2012 waivers were as follows:

- Parents/Caretakers: Income eligible up to 200% FPL
    - Originally: sliding-scale premiums required for above 150% FPL
    - July 2012: sliding-scale premiums start at 133% FPL;
- TMA Parents/Caretakers: Originally enrolled below 100% FPL, continued eligibility for 12 months following an increase in income
    - Originally: no premiums required
    - July 2012: sliding-scale premiums start at 133% FPL; other premium amounts increased
- Childless Adults: Income eligible up to 200% FPL; 12 month eligibility, program capped in October 2009

[1] Wisconsin Department of Health Services. Request for Proposals #3024-R DHCAA-JH. May 8, 2013.

[2] Wisconsin Department of Health Services. State of Wisconsin Department of Health Services. Wisconsin Medicaid Premium Reforms: Preliminary Price Impact Findings. December 2012. http://www.dhs.wisconsin.gov/publications/P0/P00447.pdf

- Originally: no premiums required
- July 2012: sliding-scale premiums start at 133% FPL

The Special Terms and Conditions of both waivers required Wisconsin to evaluate whether Wisconsin DHS met the demonstration goals and objectives.

Eight hypotheses had been defined by the Wisconsin Department of Health Services (DHS) in its waiver agreement with the federal Medicaid and Medicare Services (CMS). The UW Population Health Institute was engaged in a contract with the Wisconsin DHS to investigate those hypotheses.

This evaluation was conducted over a 14-month period from July 2013 through September 2014. In that timeframe, the research team studied those affected by the July 2012 policy change and exposed to a 12-month restricted-reenrollment period. The study population includes those enrolled in coverage from March 2008 through December 2013. We drew the claims data for this study population up through June 2014 to assess their utilization through December 2013, allowing for attainment of a 6-month "clean-period" to run out any out-standing claims.

The UW Population Health Institute evaluated Wisconsin's BC+ for Parents/Caretaker Adults and Childless Adults Demonstration, as required by DHS evaluation parameters and by CMS in its Special Terms and Conditions. Products delivered under this contract are as specified in the vendor RFP. The Childless Adults component pertains to the BC+ Core Plan, and not to the Basic Plan that was also available for purchase to childless adults on the Core Plan waiting list during this period.

B. EVALUATION DESIGN & DATA COLLECTION

DHS notes to CMS it would provide the following descriptive overview of its waiver populations:

- *The number of members who were subject to premiums, and of those:*
  - *the number of members who paid their premiums between July 2012 and December 2013;*
    - *Of those members who paid premiums, the number of timely and untimely payments*
  - *The number of members who were subject to a premium beginning July 2012 but did not and subsequently entered an RRP;*
- *Sociodemographic information of the waiver population;*
- *The number of members required to pay premiums at each FPL band;*
- *Utilization patterns of the waiver population;*
- *Of all members who were disenrolled from the program for failure to pay premiums:*
  - *sociodemographic information, required premium amount, and utilization patterns stratified by those who re-enrolled after the end of the 12 month RRP and those who did not re-enroll*
- *Results of the evaluation of the hypotheses will be stratified by demographic characteristics to the extent possible.*

Our evaluation adhered to these deliverables. In the following section, we provide a descriptive overview of the waiver populations, followed by detailed description of the eight hypothesis-specific methods and results.

The evaluation assessed effects on enrollment, disenrollment, and re-enrollment, along with utilization of services in each of these periods – including periods of disenrollment. Results of the evaluation of DHS' eight hypotheses were stratified by income and employment characteristics, and other demographic characteristics available within Wisconsin's application and enrollment system known as CARES. Utilization trends were measured using Wisconsin's Medicaid Management Information System (MMIS) claims data, and include measurement of primary and specialty care services, outpatient, inpatient, and hospital emergency department services.

The evaluation methods incorporate various econometric methods, described in each section throughout the report The evaluation required administrative data from the Wisconsin DHS on (a) claims and encounters, (b) diagnostic codes, (c) enrollment, and disenrollment reason codes, and (d) premium payment information. Data sources employed include enrollment, claims, Employer Verification of Health Insurance (EVHI), and the Unemployment Insurance (UI) database. We also conducted a survey of current and dis-enrolled BC+ members, assessing measures of utilization, health, and response to premiums.

Administrative data from Wisconsin DHS

Claims data and diagnostic codes

Claims and encounters were drawn from the State's MMIS claims database. These data files also included detailed ICD-9 diagnostic codes. We drew claims data for the period from February 2008 (the beginning of the BC+ program) through December 2013.

The claims and encounter data contained detailed information on diagnoses, procedure, and billing codes. From these data, we constructed various measures of utilization including emergency department (ED) visits, inpatient hospitalizations, and outpatient visits. We further categorized each of these measures of utilization into ambulatory care sensitive (ACS) ED visits, preventable hospitalizations, and outpatient visits for preventive care. For each member, a "visits per month" measure of utilization was constructed.

ED visits were measured as a day with an ED claim, identified using procedure billing codes. ACS ED visits were defined following Billings et al., (2000) and using the corresponding algorithm. Using this method, an ED visit is classified on a probabilistic basis into one of five categories, with the first three considered ACS: (1) non-emergent, (2) emergent/primary care treatable, (3) emergent but preventable, and (4) emergent not preventable, (5) injuries, mental health, drug or alcohol, other.

Hospitalizations were measured as the number of hospital stays, using bed day revenue codes to identify them in the claims. This analysis was careful to distinguish between new admissions and transfers between hospitals, as transfers should not be considered new hospitalizations. Since transfers cannot be observed directly, this study infers that any gap of less than two days between an admission and a discharge or last bed day is a transfer.

Preventable hospitalizations were measured using AHRQ (2010) Preventive Quality Indices (PQIs). PQIs indicate conditions for which good outpatient care can potentially prevent the need for hospitalization, or for which early intervention can prevent complications or more severe disease. The PQIs considered here are hospital admissions due to the following: (1) short-term complications from diabetes, (2) perforated appendix, (3) long-term complications from diabetes, (4) chronic obstructive pulmonary disease (COPD), (5) hypertension, (6) congestive heart failure, (7) dehydration, (8) bacterial pneumonia, (9) urinary tract infection, (10) angina without procedure, (11) asthma.

Outpatient visits were measured as the number of provider-day visits. Total outpatient visits were defined using a procedure code that is used only for outpatient visits (which includes skilled nursing visits). Preventive care visits were also identified.

Costs for each visit were estimated by using FFS allowable charges for FFS visits and by imputing costs for MMC encounters using the same FFS schedule of allowable charges. Monthly costs per member were calculated by summing the total amount spent on visits by each member, and then dividing by the number of months enrolled.

Enrollment Data

We used longitudinal administrative data from the CARES system to measure enrollment and to collect demographic and income data on members. We drew data on all BC+ parent and caretaker enrollees who were enrolled at any point between February 2008 and December 2013 from the Wisconsin caseload database system and for all Core Plan members who enrolled in that program one enrollment was open in 2009. CARES also contains demographic and income information, including age, sex, educational attainment, county of residence, and income sources. The CARES data may contain data about an applicant's health insurance status at the time of application, although we found that these fields are only regularly filled for the subset of enrollees for which this question is applicable (i.e., those for whom crowd-out provisions pertain).

From these data, we ascertained where relevant, the month a person disenrolled from BC+. We utilized reason codes associated with disenrollment. Further, these data contain "premium payment files" that contain monthly information on the dollar amount of premium owed, whether it was paid, and the date of payment.

Survey Data

We utilized the UW Survey Center to conduct surveys for this project. We conducted a mixed-mode mail and telephone survey to reach a statistically valid sample of the following cohorts:

- individuals in BC+ and Core Plan who exited the program and re-enrolled after the 12 month RRP
- previous Core Plan members who leave the program following the July 1 premium policy change.
- recent applicants to the program, who applied and entered the program following the July 1 policy implementation

The survey design and process was based on that recently utilized by the Oregon Health Study[3] and lessons learned administering the national Medicaid CAHPS[4] and elsewhere. [5] The survey included question pertaining to health care coverage and utilization during time not enrolled in BC+, about current health status, and about the effect of premiums on their enrollment decisions.

[3]Finkelstein A, *et al. The Oregon Health Insurance Experiment: Evidence from the First Year*. National Bureau of Economic Research, NBER Working Paper No. 17190, July 2011.

[4]CMS Technical Assistance Brief Number 3.*Guidance for Conducting the Consumer Assessment of Healthcare Providers and Systems (CAHPS) 5.0H Child Survey*. December 2012.

[5]Beebe TJ, Davern ME, McAlpine DD, Call KT, Rockwood TJ. (2005) *Increasing Response Rates in a Survey of Medicaid Enrollees: The Effect of a Prepaid Monetary Incentive and Mixed Modes (Mail and Telephone*. Medical Care.Vol 43(4).

The survey was fielded from April 1, 2014-August 30, 2014. It included an initial mailing with two follow-letters, and then a telephone follow-up to non-respondents.

C. DESCRIPTIVE OVERVIEW OF THE WAIVER POPULATION

DHS identified the following descriptive items to report to DHS about the waiver population:

1. Sociodemographic information of the waiver population.
2. The number of members who paid their premiums between July 2012 and December 2013
3. The number of members required to pay premiums at each FPL band
4. Of those members who paid premiums, the number of timely and untimely payments
5. The number of members who were subject to a premium beginning July 2012 but did not pay and subsequently entered an RRP
6. Utilization patterns of the population
7. Characteristics of exit and re-enrollment

This section provides the basic information pertaining to items 1-3. Items 4-7 are addressed in detail within the eight hypotheses, in Section D of this report.

Table C1 Sociodemographic Profile of Waiver Populations

	Parents/Caretaker Adults	Childless Adults	TMA Adults
<133% FPL	84.98%	83.08%	60.44%
133%<FPL<150%	6.43%	5.43%	15.78%
150%<FPL<200%	8.59%	11.49%	23.78%
Female	69.03%	53.52%	68.27%
Black-Non Hispanic	16.82%	14.66%	12.18%
Hispanic	8.46%	4.16%	8.71%
Other Race	7.32%	3.07%	7.39%
English Speaker	95.88%	98.32%	95.55%
Age	34.85 years	47.14 years	33.55 years
Missing Education	24.45%	60.63%	26.60%
Education Less Than High School	20.14%	12.63%	16.13%
Education Equal High School	44.15%	20.07%	44.88%
Mean Length of First Enrollment Spell	28.19 months	29.55 months	30.21 months

Table C2 BadgerCare Plus members required to pay premiums within first year of July 2012 policy change, by Eligibility group and FPL band

Month	Total 133%<FPL <150%	Parent 133%<FPL <150%	Childless 133%<FPL <150%	Extension 133%<FPL <150%
07-2012	21,305	16,014	1,351	3,940
08-2012	17,495	13,881	1,270	2,344
09-2012	16,668	13,538	1,229	1,901
10-2012	16,288	13,459	1,184	1,645
11-2012	16,088	13,469	1,147	1,472
12-2012	15,499	13,102	1,105	1,292
01-2013	16,335	14,083	1,063	1,189
02-2013	16,270	14,132	1,029	1,109
03-2013	16,169	14,204	994	971
04-2013	16,029	14,180	978	871
05-2013	15,900	14,160	957	783
06-2013	15,595	13,957	943	695

Month	Total 150%<FPL <200%	Parent 150%<FPL <200%	Childless 150%<FPL <200%	Extension 150%<FPL <200%	Total FPL>200%	Childless FPL>200%	Extension FPL>200%
07-2012	29,428	20,651	2,851	5,926	3,511	342	3,169
08-2012	26,093	20,205	2,587	3,301	1,161	280	1,336
09-2012	25,226	20,138	2,467	2,621	1260	249	1,011
10-2012	24,756	20,111	2,355	2,290	1120	228	892
11-2012	24,342	20,023	2,278	2,041	977	213	764
01-2012	23,534	19,633	2,175	1,726	819	198	621
01-2013	25,096	21,423	2,124	1,549	762	178	584
02-2013	24,983	21,502	2,071	1,410	680	165	515
03-2013	24,838	21,650	2,003	1,185	600	158	442
04-2013	24,497	21,482	1,948	1,067	541	152	389
05-2013	24,227	21,319	1,908	1,000	510	146	364
06-2013	23,723	20,937	1,867	919	437	143	294

Table C3 Exits among BadgerCare Plus members required to pay premiums within first year of July 2012 policy change, by Eligibility group and FPL band

Month	Total 133%<FPL <150%	Parent 133%<FPL <150%	Childless 133%<FPL <150%	Extension 133%<FPL <150%
07-2012	1,951	1,666	36	249
08-2012	4,108	2,937	86	1,085
09-2012	1,196	987	41	168
10-2012	985	785	52	148
11-2012	827	664	39	124
12-2012	1,070	887	41	142
01-2013	640	537	38	65
02-2013	534	438	32	64
03-2013	607	504	35	68
04-2013	573	488	22	63
05-2013	545	459	25	61
06-2013	659	572	14	73

Month	Total 150%<FPL <200%	Parent 150%<FPL <200%	Childless 150%<FPL <200%	Extension 150%<FPL <200%	Total FPL>200%	Childless FPL>200%	Extension FPL>200%
07-2012	3,527	2,919	66	542	443	10	433
08-2012	4,276	1,987	267	2,022	1642	61	1,581
09-2012	1,788	1,323	119	346	230	32	198
10-2012	1,559	1,225	117	217	119	21	98
11-2012	1,433	1,144	82	207	146	15	131
12-2012	1,828	1,469	103	256	136	18	118
01-2013	1,108	904	67	137	72	17	55
02-2013	1,008	845	57	106	68	14	54
03-2013	1,092	915	60	117	82	7	75
04-2013	1,126	980	56	90	66	8	58
05-2013	966	821	46	99	52	5	47
06-2013	1,156	1,027	42	87	57	2	55

D. HYPOTHESIS-SPECIFIC METHODS & RESULTS

Hypothesis 1.

Is there any impact on utilization and/or costs associated with individuals who were disenrolled, but re-enrolled after the 12-month restrictive reenrollment period (RRP)?

Hypotheses 1, Parents and Caretakers

DHS proposed to CMS that it would

- *Compare claims data and the number of encounters of parents and caretakers who re-enrolled in the BC+ after the 12-month RRP period ended to the utilization and encounter data of these same individuals prior to their disenrollment period.*
- *Compare this utilization of services to the utilization of services by members not disenrolled from the program.*

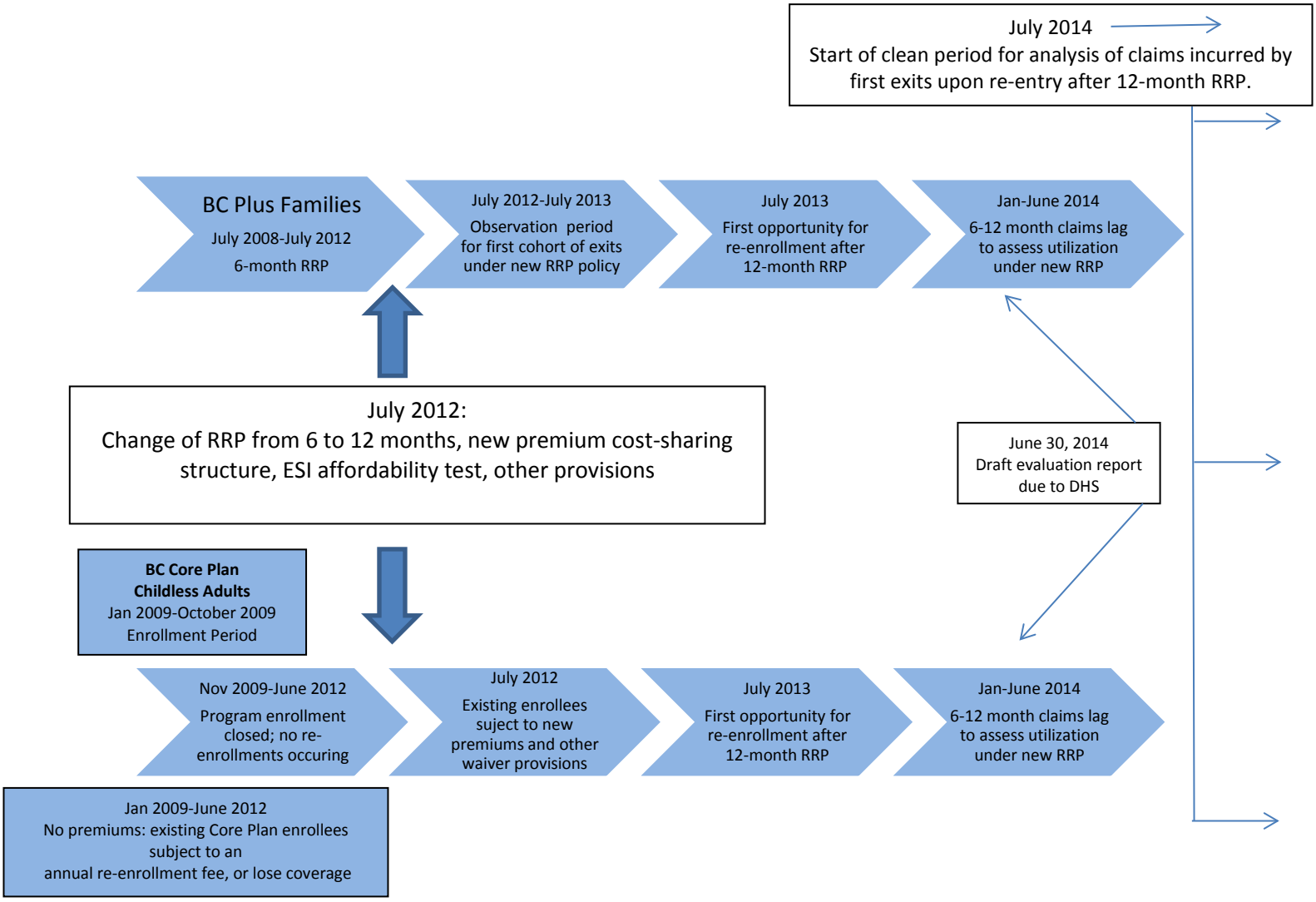
The 12-month restrictive reenrollment period took effect in July 2012, so the *first* enrollees to exit then and be subject to these new rules would not be eligible to re-enroll until July 2013. In our experience, the Medicaid claims data generally have a six-month reporting lag, and are not considered 100% complete for one-year following the incurred service. In this circumstance, a utilization data for those who reenrolled following a 12-month restrictive reenrollment period would not have been available for a sufficient sample for analysis in time for tis evaluation. (See Figure 1.1 Timeline)

As a result of this limitation, our approach was to analyze the impact of the State's 6-month RRP by examining claims data from the pre-July 2012 period, a period during which DHS had a 6-month restrictive reenrollment period in place. We then used these estimates to project the effect a 12-month RRP.

Our approach contained three steps. The first step was to select a sample of parents and caretakers that were subject to the RRP policy, to select a suitable comparison sample, and to draw the enrollment and encounter records of both samples. The sample subject to the RRP policy was chosen as all parents and caretakers who were dis-enrolled from BC+ between March 2008 and December 2011, were subject to a 6-month restricted reenrollment period, and subsequently reenrolled into BC+ by July 2012. We refer to this sample as the "Reenrollment Sample." Our comparison sample was chosen to be all parents and caretakers who were continuously enrolled for at least an 18-month period within the March 2008 to December 2012 period. We refer to this sample as the "Continuously Enrolled Sample."

The second step was to statistically match the Reenrollment Sample to the Continuously Enrolled Sample. The reason for this matching is to make the two samples even more comparable. For example, some continuously enrolled individuals may have incomes that are low or may have high rates of health care utilization, relative to the Reenrollment Sample, which may be why they were continuously enrolled to begin with.

Figure 1.1 Timeline of policy changes and data availability



We matched the samples based on measures from their enrollment files, such as month of enrollment, income level, family size, age, county of residence, and their health care utilization while enrolled, such as measures of hospitalizations and ED visits. We employed propensity score matching methods[6] to conduct the statistical matching and present result from a range of matching models to test the sensitivity of our results. A large literature[7,8,9,10,11,12] has demonstrated that matching on past outcome measures, as we propose here, is an exceptionally strong propensity score matching design.

[6] Heckman J, Ichimura H, Todd P. (1997) Matching as an Econometric Evaluation Estimator: Evidence from Evaluating a Job Training Programme. *Review of Economic Studies*, Vol. 64, pp. 605-654.

[7] Card D and Sullivan D. (1988) Measuring the Effect of Subsidized Training Programs on Movements into and out of Employment. *Econometrica*, Vol. 56, pp. 497-530.

In the third step of this approach, we estimated the impact of the 6-month RRP on utilization by employing a method called "differences-in-differences." In this method, we measure health care utilization and cost for both the reenrollment and continuously enrolled samples in three periods: (i) the pre-disenrollment period, (ii) the RRP, and (ii) the post-reenrollment period. For the Reenrollment Sample, these periods are defined as (i) up to the 12 months preceding disenrollment, (ii) the actual number of months disenrolled and on the RRP, and (iii) up to 12 months following reenrollment. For individuals in the continuously enrolled sample, we assigned the first 12 months of their enrollment to be the "pre-enrollment period", the next 6 to be the "RRP period" and up to the following 12 months to be the "post-reenrollment period."

From these measures, we can estimate forgone utilization in the restricted reenrollment period and any additional utilization in the follow-up period. Forgone utilization in the RRP is the difference in average utilization between the propensity-score matched continuously enrolled sample and the reenrollment sample (who by construction and policy should have zero utilization during the RRP) less the difference in average utilization between the two groups in the pre-disenrollment period.

(1.1) (forgone utilization in RRP) = $(1/N_1) \sum_1 y^R_1 - \{(1/N_1) \sum_1 y^P_1 - (1/N_2) \sum_2 y^P_2\}$

where:

N_1 is the number of individuals in the continuously eligible sample;
y^R_1 is a measure of utilization of medical care services by a member of the continuously eligible sample in the RRP;
y^P_1 is a measure of utilization of medical care services by a member of the continuously eligible sample in the pre-enrollment period;
N_2 is the number of individuals in the reenrollment sample; and
y^P_2 is a measure of utilization of medical care services by a member of the reenrollment sample in the pre-enrollment period.

Added or forgone utilization in the follow-up period is the difference in utilization between the propensity-score matched continuously enrolled sample and the reenrollment sample during the follow-up period less the difference in average utilization between the two groups in the pre-disenrollment period.

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[8]Deheija R and Wahba S. (1999) Causal Effects in Nonexperimental Studies: Reevaluating the Evaluation of Training Programs. *Journal of the American Statistical Association*, Vol, 94, pp. 1053-1062.

[9]Deheija R and Wahba S. (2002) Propensity Score Matching Methods for Nonexperimental Causal Studies. *Review of Economic Studies*, Vol. 84, pp. 151-161.

[10]Heckman J, Ichimura H, Smith J, Todd P. (1996) Sources of Selection Bias in Evaluating Programs: An Interpretation of Conventional Measures and Evidence on the Effectiveness of Matching as a Program Evaluation Method. *Proceedings of the National Academy of Sciences*, Vol. 93, pp. 13416-13420.

[11] Heckman J and Smith J. (1999) The Pre-Program Earnings Dip and the Determinants of Participation in a Social Program: Implications for Simple Program Evaluation Strategies. *NBER Working Paper* 6983, National Bureau of Economic Research, Cambridge: MA.

[12]Smith J and Todd P. (2005) Does Matching Overcome LaLonde's Critique of Nonexperimental Estimators? *Journal of Econometrics*, Vol. 125, pp. 305-353.

(1.2) (added or forgone utilization in follow-up) = $\{(1/N_1)\ \sum_1 y^F{}_1 - (1/N_2)\ \sum_2 y^F{}_2\} - \{(1/N_1)\ \sum_1 y^P{}_1 - (1/N_2)\ \sum_2 y^P{}_2\}$

where:

N_1 is the number of individuals in the continuously eligible sample;
$y^F{}_1$ is a measure of utilization of medical care services by a member of the continuously eligible sample in the follow-up period;
N_2 is the number of individuals in the reenrollment sample; and
$y^F{}_2$ is a measure of utilization of medical care services by a member of the reenrollment sample in the follow-up period.

The total impact of the 6-month RRP on utilization is the sum of the forgone utilization in the RRP and the forgone or added utilization in the follow-up period.

To apply the estimates of the effect of the 6-month RRP to obtain the effect of the 12-month RRP, we assume that the duration of forgone utilization in the RRP is increased from 6 to 12 months, and that the effect on forgone or added utilization in the follow-up period remains the same.

Hypothesis 1, Childless Adults

The expected data limitations for the evaluation of the RRP impact among childless adults are even greater, as there was no 6-month RRP for this group. The first group of Childless Adults eligible to re-enroll in the program following the 12-month RRP will not be in the program until July 2013, which does not allow sufficient time for claims to be incurred and reported in the evaluation window. Therefore, we applied the estimates of the impacts of the RRP for parents and caretakers to the childless adult population.

Hypothesis 2.

Are costs and/or utilizations of services different for those that are continuously enrolled compared to those for individuals who have disenrolled and then re-enrolled?

DHS methods proposed to CMS note that this analysis should focus on costs and utilization differences for parents and caretakers who were continuously enrolled versus those who were disenrolled and subsequently re-enrolled in the program. Comparison should be attempted between the continuously enrolled members and members subjected to an RRP based on patterns of utilization.

Hypotheses 2, Parents and Caretakers

We addressed this hypothesis with an approach similar to that used for hypothesis 1. We again used a comparison sample of parents and caretakers who were continuously enrolled for at least an 18 month period within the March 2008 to December 2012 period but, unlike in the approach we used above, we do not statistically match this sample to our reenrollment sample. We call this comparison group the "unmatched continuously enrolled sample." Our approach was to compare the utilization patterns of these two samples (the unmatched continuously enrolled sample and the reenrollment sample) in three periods, the pre-disenrollment period (the 6 months prior to disenrollment, the RRP, and the follow-up period) using the difference-in-difference methods described for Hypothesis 1.

Hypotheses 2, Childless Adults

Again, as there was no 6-month RRP for this group, we applied the estimates of the impacts of the RRP for parents and caretakers to the childless adult population.

H1 and 2: Mixed mode survey of members

DHS proposed to CMS to conduct a qualitative mail survey members who re-enrolled in the program after their RRP ended, in order to examine utilization trends of individuals during the 12 month RRP. DHS also proposed a survey to examine the response to premium changes.

We conducted a mixed-mode mail and telephone survey of BC+ Parents and Caretaker Adults, Core Plan Childless Adults, and Transitional Medicaid Extensions, with the survey targeted to those within these three groups who had any of three experiences:

Group 1: Parents and caretakers who re-enrolled in the program after RRP ended.

Group 2: Individuals who lose eligibility post July 1, 2012 due to failure to pay premiums.

Group 3: Those who have applied within the past year.

Table S1 shows the total universe for the survey's target sub-groups.

Table S1: Survey Cohorts – Universe of Target Subgroups

	Parents and Caretaker Adults	Childless Adults	TMA/Extensions (excess earnings category)
Total entered into 12-month RRP July 1, 2012-Sept 1, 2012	10,786	457	
Total entered into 12-month RRP July 1, 2012-June 1, 2013	27,045	916	
12-month RRP expired, then re-applied for BC	4,404	28	
12-month RRP expired, with re-application pending	913	75	
12-month RRP ended early	1,043	79	
Entered 12-month RRP, but did not re-apply for BC	21,728	813	
Applied and became eligible for BC in reference period	44,972		
Continuously enrolled prior to and post-July 2012		582	75,970

The survey questions were aimed to assess re-enrollees' responses across the following domains: health care utilization, health status, health insurance, impact of premiums on enrollment and disenrollment decisions, employment, and demographics. Respondents were asked questions about their health care utilization during the prior 12 months and about their health based on "current" conditions (e.g. self-reported health). The survey instrument itself was be based on that utilized by the Oregon Health

Study.[13,14] This landmark study adapted modules from existing national surveys of utilization and health. A copy of the survey instrument is included in the Attachments.

The evaluation contract window provided a relatively narrow time frame for conducting and analyzing a survey of re-entrants. The first month that re-entry may occur under the new policy was July 2013. Thus, our sampling frame would include individuals who exited the BC+ program as early as July 2012 and re-enrolled after the 12-month RRP, between July – September 2013.

Experience with Medicaid populations elsewhere suggests that a survey of current or former BC+ members with this evaluation time frame may yield a 40-50% response rate.[15] The Oregon Health Study achieved a 36% response rate among Medicaid enrollees and a comparison group for its basic survey protocol, and a final response rate of 50% after intensive follow-up with non-responders over an eight month period. Oregon's survey, in addition to mail and telephone follow-up, also included a monetary incentive for response.

A prolonged follow-up period was not feasible within the timeline of this evaluation contract. Thus, our protocol included a $5 incentive and aggressive follow-up with non-responders to maximize the response rate and address potential non-response bias. With these methods, the survey attained 1,084 responses, yielding a 54% response rate, with rates by specific subgroups detailed in Table S2 and by race ethnicity in Figure S1.

Table S2: Survey Response Rates by Subgroup

	Childless Adults	Parents/ Caretaker Adults	TMA/ Extensions	Total	
Total Sample N	300	1,658	42	2,000	
Respondents N	194	869	21	1,084	
Response rate	**65%**	**52%**	**50%**	**54%**	
Mail	153	620	16	789	73%
Phone	41	249	5	295	27%

Results - Hypotheses 1 and 2

We obtain utilization data on 24,131 continuously enrolled parents and caretakers and on 16,264 individuals who exited, were subject to an RRP, and subsequently reenrolled. For the reenrollment sample, up to the 12 months prior to disenrollment are considered the pre-disenrollment period and up to 6 months following reenrollment are considered the follow-up period. For the continuously enrolled sample, the first 12 months on enrollment are considered the pre-enrollment period, the next 6 months are considered the RRP period, and the following 6 months are considered the follow-up period.

We match the continuously enrolled sample to the reenrollment sample by using nearest neighbor propensity score matching. The propensity score was modeled using a set of enrollee characteristics including sex, marital status, race and ethnicity, whether English is the primary language spoken at

[13] Finkelstein A, *et al. (2011) The Oregon Health Insurance Experiment: Evidence from the First Year*. National Bureau of Economic Research, NBER Working Paper No. 17190, July 2011.

[14] Baicker K, Taubma SL, et al. (2013) The Oregon Experiment — Effects of Medicaid on Clinical Outcomes. 2013. The New England Journal of Medicine. N Engl J Med; 368:1713-1722.

[15] Beebe TJ, Davern ME, McAlpine DD, Call KT, Rockwood TJ. (2005) *Increasing Response Rates in a Survey of Medicaid Enrollees: The Effect of a Prepaid Monetary Incentive and Mixed Modes (Mail and Telephone*. Medical Care.Vol 43(4).

home, age, month of initial enrollment, and education. For some specifications, we also added measures of utilization in the pre-disenrollment period: average number of ED visits per month, average number of hospitalizations per month, and average number of outpatient visits per month. Table 1.1 reports the results of these propensity score models.

Figure S1: Percentage of Survey Respondents by Race/Ethnicity

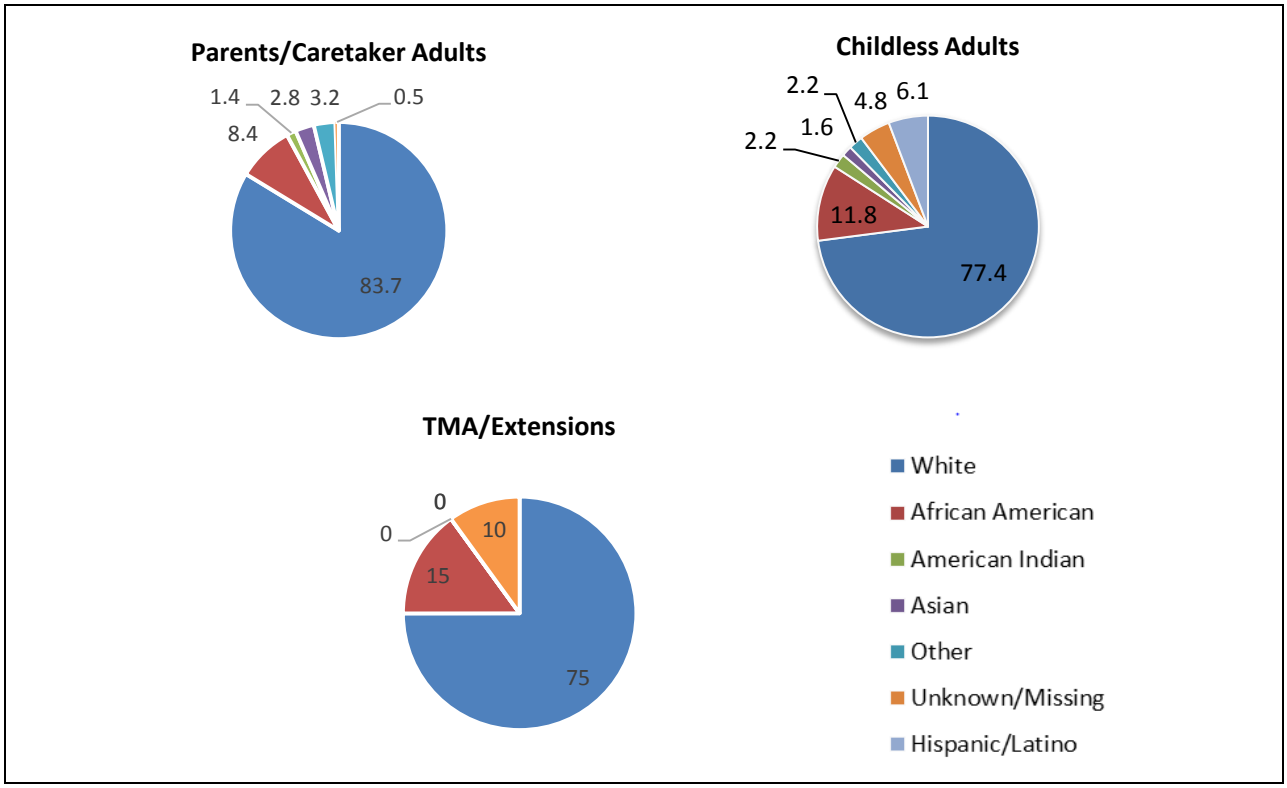


Table 1.2 reports the impact of the RRP on utilization of health services. In the period before disenrollment, the two samples are reasonably well balanced in terms of their utilization of the ED, number of inpatient stays, and number of outpatient visits, which suggests that the propensity score matching method employed did a good job at constructing a comparison group. On average, the reenrollment sample had 0.0474 ED visits per month in the pre-disenrollment period, compared with 0.0408 visits for the matched continuously enrolled sample. The RRP sample had 0.005 inpatient stays per month, compared with 0.006 for the continuously enrolled sample. The RRP sample had 0.4745 outpatient visits per month, compared with 0.5817 visits for the outpatient sample.

During the RRP, the reenrollment sample had no utilization by construction. The continuously enrolled sample exhibited greater utilization of care than in the pre-disenrollment period. As a result, the estimate of forgone utilization for the RRP sample during the RRP period is 0.0515 ED visits per month, 0.0078 hospitalizations per month, and 0.5762 outpatient visits per month.

On balance, the data in Table 1.2 show little evidence of added utilization overall following reenrollment for the RRP sample. The difference-in-difference estimates suggest that ED visits and outpatient visits are 7 percent and 1 percent higher for the RRP sample as a result of the RRP. They also suggest that there are 20 percent fewer hospitalizations in the follow-up period as a result of the RRP.

Table 1.1 Propensity Score Models for Health Care Cost and Utilization Dependent Variable: "In Reenrollment Sample"				
	Demographic		Demographic plus Pre-Disenrollment Utilization	
	Coefficient	***S.E***	**Coefficient**	***S.E***
ER # Visits Pre-RRP			0.00988	*0.01221*
Hospital # Visits Pre-RRP			-0.42509	*0.05345*
Outpatient # Visits Pre-RRP			-0.05970	*0.00188*
Female	-0.03073	*0.02345*	0.09820	*0.02408*
Married	-0.32372	*0.02253*	-0.35394	*0.02305*
Black	0.90201	*0.03921*	0.81245	*0.04015*
Hispanic	0.51162	*0.04678*	0.44828	*0.04760*
Other Race	0.26477	*0.04249*	0.18229	*0.04325*
Alive	0.03976	*0.17285*	-0.26284	*0.17940*
English (1 st Language)	0.06149	*0.06871*	0.11575	*0.06943*
Birthdate (in day since Jan1, 1960)	0.00013	*0.00000*	0.00012	*0.00000*
First Period of Enrollment Spell (months since March 2008)	0.00078	*0.00120*	0.00040	*0.00122*
Missing Education	-0.02617	*0.03795*	-0.09203	*0.03871*
Education Less Than High School	0.34534	*0.03924*	0.30361	*0.04013*
Education Equal High School	0.04366	*0.03059*	0.01480	*0.03131*
Constant	-1.17609	*0.18883*	-0.56222	*0.19567*
Note: The propensity score is estimated using a logit model. The utilization variables count the number of visits (positive amount) in the period pre-RRP.				

Table 1.3 reports the results of the RRP on ambulatory care sensitive (ACS) ED visits, preventable hospitalizations, and outpatient visits for preventive care, each of which is a subset of the visits reported in Table 1.2.

Similar to the results for overall healthcare utilization reported in Table 1.2, the results in Table 1.3 suggest a slight (3%) increase in ACS ED visits in the post-re-enrollment period and a 12% decline in preventable hospitalizations. At the same time, there was a 13% increase in outpatient visits for preventive care in the post-re-enrollment period.

Trends in utilization do not necessarily reflect trends in costs. For example, changes in treatment intensity might more than offsets changes in the prevalence of treatment.

Tables 1.4 and 1.5 present the effects of the RRP on total costs and costs broken down by major service type (ED, inpatient, and outpatient). In Table 1.5, the continuously enrolled sample is matched to the reenrollment sample using the set of enrollee characteristics described above. In Table 1.6, we also match using measures of service utilization in the pre-disenrollment period.

Table 1.2
Utilization of Health Care Services Before, During, and Following Disenrollment

	Continuously Enrolled Sample	Reenrollment Sample	Difference
	PMPM Before Disenrollment		
Emergency Department Visits	0.0408	0.0474	-0.0067
Inpatient Visits	0.0062	0.0050	0.0011
Outpatient Visits	0.5817	0.4745	0.1072
	PMPM During Restricted Reenrollment Period		
Emergency Department Visits	0.0448	0.0000	0.0448
Inpatient Visits	0.0090	0.0000	0.0090
Outpatient Visits	0.6834	0.0000	0.6834
	PMPM After Reenrollment		
Emergency Department Visits	0.0469	0.0568	-0.0099
Inpatient Visits	0.0087	0.0058	0.0029
Outpatient Visits	0.7254	0.6220	0.1034
	Averted Utilization During RRP		
	PMPM Visits per Month	**Percent Change**	
Emergency Department Visits	0.0515	115%	
Inpatient Visits	0.0078	87%	
Outpatient Visits	0.5762	84%	
	Foregone Utilization After Reenrollment		
	PMPM Visits	**Percent Change**	
Emergency Department Visits	-0.0032	-7%	
Inpatient Visits	0.0017	20%	
Outpatient Visits	-0.0038	-1%	

PMPM= per member per month number of visits

Table 1.3

Utilization of Preventable Health Care Services and Preventive Care Before, During, and Following Disenrollment

	Continuously Enrolled Sample	Reenrollment Sample	Difference
	PMPM Before Disenrollment		
ACS Emergency Department Visits	0.024949	0.029336	-0.0044
Preventable Inpatient Visits	0.000238	0.000248	0.0000
Outpatient Preventive Care Visits	0.029765	0.024900	0.0049
	PMPM During Restricted Reenrollment Period		
ACS Emergency Department Visits	0.026822	0.0000	0.0268
Preventable Inpatient Visits	0.000314	0.0000	0.0003
Outpatient Preventive Care Visits	0.031546	0.0000	0.0315
	PMPM After Reenrollment		
ACS Emergency Department Visits	0.028702	0.034023	-0.0053
Preventable Inpatient Visits	0.000332	0.000301	0.0000
Outpatient Preventive Care Visits	0.032085	0.031331	0.0008
	Averted Utilization During RRP		
	PMPM Visits	**Percent Change**	
ACS Emergency Department Visits	0.0312	116%	
Preventable Inpatient Visits	0.0003	103%	
Outpatient Preventive Care Visits	0.0267	85%	
	Foregone Utilization After Reenrollment		
	PMPM Visits	**Percent Change**	
ACS Emergency Department Visits	-0.0009	-3%	
Preventable Inpatient Visits	0.0000	12%	
Outpatient Preventive Care Visits	-0.0041	-13%	

PMPM= per member per month number of visits

The results in Table 1.4 suggest that, during the RRP, total foregone costs to the state Medicaid program were $134 per month per member of the RRP sample.

In addition, during the post-re-enrollment period, there was an additional $48 per month of foregone utilization costs. The foregone costs in the RRP period were mostly the result of foregone inpatient and outpatient costs. The foregone costs in the post-reenrollment period were entirely the result of foregone impatient costs, as there were small offsetting increases in ED and outpatient costs for the RRP sample in the post-re-enrollment period.

The results are somewhat similar when the continuously enrolled sample is matched on service utilization in the pre-disenrollment period, as shown in Table 1.5. Table 1.6 further breaks down these costs into ambulatory care sensitive (ACS) ED visits, preventable hospitalizations, and outpatient visits for preventive care. The state Medicaid agency, while averting $134 RRP utilization costs, at the same time sacrificed premium revenue that would have otherwise been collected during the members' RRP.

We estimate an average premium foregone from BC+ members who enter an RRP of $86.59 per member per month.[16] The net monthly savings from the RRP would be approximately $48 per member per month ($134 less $86) during the RRP.

Table 1.4
Average Monthly Health Care Costs Before, During, and Following Disenrollment

	Continuously Enrolled Sample	Reenrollment Sample	Difference
		PMPM Before Disenrollment	
Total Costs	$112.12	$91.14	20.9803
Emergency Department Costs	$19.49	$24.03	-4.5327
Inpatient Costs	$44.92	$28.13	16.7906
Outpatient Costs	$47.71	$38.99	8.7224
		PMPM During Restricted Reenrollment Period	
Total Costs	**$134.18**	$-	134.1775
Emergency Department Costs	$14.98	0.0000	14.9836
Inpatient Costs	$65.77	0.0000	65.7740
Outpatient Costs	$53.42	0.0000	53.4199
		PMPM After Reenrollment	
Total Costs	$174.47	$105.58	68.8980
Emergency Department Costs	$16.76	$23.08	-6.3203
Inpatient Costs	$103.10	$33.13	69.9677
Outpatient Costs	$54.61	$49.36	5.2507
	Averted Utilization Costs During RRP		
	PMPM Costs	**Percent Change**	
Total Costs	$113.20	84%	
Emergency Department Costs	19.52	130%	
Inpatient Costs	48.982	74%	
Outpatient Costs	44.70	84%	
	Foregone Utilization Costs After Reenrollment		
	PMPM Costs	**Percent Change**	
Total Costs	$47.92	27%	
Emergency Department Costs	-1.79	-11%	
Inpatient Costs	53.18	52%	
Outpatient Costs	-3.47	-6%	

Note: Continuously enrolled sample matched to the reenrollment sample using enrollee characteristics.
PMPM = per member per month

[16] The average premium amount is calculated in the following way. We take as reference the FPL in the last period before the RRP. Then we impute the premium level from table 3.1 to each individual according to their reference FPL level. We then take the average of the imputed premium.

Table 1.5
Average Monthly Health Care Costs Before, During, and Following Disenrollment, Matched Samples

	Continuously Enrolled Sample	Reenrollment Sample	Difference
		PMPM Before Disenrollment	
Total Costs	$61.18	$91.14	-29.9655
Emergency Department Costs	$12.63	$24.03	-11.3969
Inpatient Costs	$19.30	$28.13	-8.8307
Outpatient Costs	$29.25	$38.99	-9.7380
		PMPM During Restricted Reenrollment Period	
Total Costs	$104.11	$-	104.1083
Emergency Department Costs	$12.10	0.0000	12.0977
Inpatient Costs	$52.04	0.0000	52.0428
Outpatient Costs	$39.97	0.0000	39.9678
		PMPM After Reenrollment	
Total Costs	$142.95	$105.58	37.3772
Emergency Department Costs	$13.40	$23.08	-9.6788
Inpatient Costs	$84.81	$33.13	51.6862
Outpatient Costs	$44.73	$49.36	-4.6302
		Averted Utilization During RRP	
	PMPM Costs	**Percent Change**	
Total Costs	**$134.07**	129%	
Emergency Department Costs	23.49	194%	
Inpatient Costs	60.87	117%	
Outpatient Costs	49.71	124%	
		Foregone Utilization After Reenrollment	
	PMPM Costs	**Percent Change**	
Total Costs	$67.34	47%	
Emergency Department Costs	1.72	13%	
Inpatient Costs	60.52	71%	
Outpatient Costs	5.11	11%	

Note: Continuously enrolled sample matched to the reenrollment sample using enrollee characteristics and utilization in the pre-disenrollment period.
PMPM = per member per month

Table 1.6
Average Monthly ACS Health Care Costs Before, During, and Following Disenrollment

	Continuously Enrolled Sample	Reenrollment Sample	Difference
		PMPM Before Disenrollment	
ACS Emergency Department Costs	$7.05	$12.47	-5.4191
Preventable Inpatient Costs	$0.47	$0.54	-0.0643
Preventive Outpatient Costs	$3.69	$3.46	0.2388
		PMPM During Restricted Reenrollment Period	
ACS Emergency Department Costs	$5.97	0.0000	5.9681
Preventable Inpatient Costs	$1.05	0.0000	1.0488
Preventive Outpatient Costs	$4.55	0.0000	4.5476
		PMPM After Reenrollment	
ACS Emergency Department Costs	$6.37	$9.90	-3.5360
Preventable Inpatient Costs	$3.21	$0.82	2.3943
Preventive Outpatient Costs	$4.46	$4.51	-0.0554
		Averted Utilization During RRP	
	PMPM Costs	**Percent Change**	
ACS Emergency Department Costs	11.39	191%	
Preventable Inpatient Costs	1.12	106%	
Preventive Outpatient Costs	4.31	95%	
		Foregone Utilization After Reenrollment	
	PMPM Costs	**Percent Change**	
ACS Emergency Department Costs	1.88	30%	
Preventable Inpatient Costs	2.46	77%	
Preventive Outpatient Costs	-0.29	-7%	

Note: Continuously enrolled sample matched to the reenrollment sample using enrollee characteristics and utilization in the pre-disenrollment period.
PMPM = per member per month

In summary, the results of the analysis for hypothesis 1 indicate the following:

- There is no evidence that the RRP led to an increase in costs for the RRP sample following re-enrollment. Results suggest a 27% decline in costs related to hospitalization.
- The State saves approximately $48 per member per month during the RRP, from foregone utilization balanced against lost premium revenue. This does not account for any increased administrative costs that may be associated with implementing or managing this program.

Hypothesis 2.

Are costs and/or utilization of services different for those that are continuously enrolled compared to those for individuals who have disenrolled and then re-enrolled?

The analysis for address hypothesis 2 mirrors that for hypothesis 1, except that we do not statistically match the continuously enrolled sample to the reenrollment sample. The result show substantial difference between these two samples, underscoring the importance of the statistical matching conducted in the analysis for hypothesis 1.

Table 2.1 reports the differences in average monthly utilization between the unmatched continuously enrolled sample and the reenrollment sample in the pre-disenrollment period and in the post-reenrollment period. It also reports utilization for the continuously enrolled sample during the RRP.

The result show that the continuously enrolled sample uses medical services differently than the RRP sample, even prior to disenrollment. In particular, the continuously enrolled sample visited the ED 12% less often, but visited the hospital 12% more often and had 24% more outpatient visits than the reenrollment sample in the pre-disenrollment period. These differences were also evident in the period following reenrollment. The continuously enrolled visited the ED 42% less often, but had 28% more hospitalizations and 29% more outpatient visits.

Table 2.1
Utilization of Health Care Services Before, During, and Following Disenrollment

	Unmatched Continuously Enrolled Sample	Reenrollment Sample	Difference	Percent Difference
	Before Disenrollment			
Emergency Department Visits	0.0354	0.0474	-0.0121	-34%
Inpatient Visits	0.0057	0.0050	0.0007	12%
Outpatient Visits	0.6269	0.4745	0.1524	24%
	During Restricted Reenrollment Period			
Emergency Department Visits	0.0381	0.0000	0.0381	--
Inpatient Visits	0.0083	0.0000	0.0083	--
Outpatient Visits	0.7259	0.0000	0.7259	--
	After Reenrollment			
Emergency Department Visits	0.0400	0.0568	-0.0167	-42%
Inpatient Visits	0.0080	0.0058	0.0022	28%
Outpatient Visits	0.7719	0.6220	0.1499	19%

These differences were also evident for ACS ED visits, preventable hospitalizations, and outpatient visits for preventive care, as shown in Table 2.2. In terms of costs, there are also differences between the continuously enrolled and reenrollment samples, as shown in Table 2.3. In the pre-disenrollment period, the continuously enrolled had average monthly costs that were $23 higher than those for the reenrollment sample. This difference was $68 in the post-reenrollment period. In both cases the cost difference was almost entirely due to differences in hospitalization costs.

In contrast, there were fairly small differences in costs associated with ACS ED visits, preventable hospitalizations, and outpatient visits for preventive care between the two groups. (Table 2.4)

In summary,

- Substantial differences are observed in utilization and total costs, particularly costs associated with hospitalizations, between the unmatched continuously enrolled sample and the reenrollment sample. The continuously enrolled sample incurs greater costs, compared to the RRP sample, in total inpatient and total outpatient costs, as well as in preventable hospitalizations and outpatient preventive care. The RRP sample incurs greater costs for emergency department utilization and preventable emergency department utilization.

These results suggest that the continuously enrolled group had more health care needs than did the RRP group, and utilized BC+ to attend to those needs.

Table 2.2
Utilization of ACS Health Care Services Before, During, and Following Disenrollment

	Unmatched Continuously Enrolled Sample	Reenrollment Sample	Difference	Percent Difference
	Before Disenrollment			
ACS Emergency Department Visits	0.020858	0.029336	-0.0085	-41%
Preventable Inpatient Visits	0.000283	0.000248	0.0000	13%
Outpatient Preventive Care Visits	0.030238	0.024900	0.0053	18%
	During Restricted Re-Enrollment Period			
ACS Emergency Department Visits	0.022012	0.000000	0.0220	--
Preventable Inpatient Visits	0.000332	0.000000	0.0003	--
Outpatient Preventive Care Visits	0.031212	0.000000	0.0312	--
	After Reenrollment			
ACS Emergency Department Visits	0.023496	0.034023	-0.0105	-45%
Preventable Inpatient Visits	0.000359	0.000301	0.0001	16%
Outpatient Preventive Care Visits	0.031908	0.031331	0.0006	2%

Table 2.3

Average Monthly Health Care Costs Before, During, and Following Disenrollment

	Unmatched Continuously Enrolled Sample	Reenrollment Sample	Difference
		Before Disenrollment	
Total Costs	$114.25	$91.14	23.1101
Emergency Department Costs	$18.24	$24.03	-5.7913
Inpatient Costs	$45.60	$28.13	17.4759
Outpatient Costs	$50.41	$38.99	11.4255
		During Restricted Reenrollment Period	
Total Costs	$138.45	$-	138.4462
Emergency Department Costs	$14.57	0.0000	14.5732
Inpatient Costs	$67.95	0.0000	67.9497
Outpatient Costs	$55.92	0.0000	55.9234
		After Reenrollment	
Total Costs	$173.83	$105.58	68.2535
Emergency Department Costs	$15.78	$23.08	-7.3004
Inpatient Costs	$101.93	$33.13	68.8018
Outpatient Costs	$56.12	$49.36	6.7521

Table 2.4

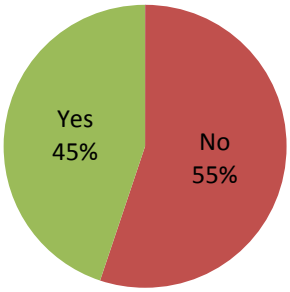
Average Monthly ACS Health Care Costs Before, During, and Following Disenrollment

	Unmatched Continuously Enrolled Sample	Reenrollment Sample	Difference
		Before Disenrollment	
ACS Emergency Department Costs	$9.36	$12.47	-3.1084
Preventable Inpatient Costs	$2.12	$0.54	1.5819
Preventive Outpatient Costs	$4.04	$3.46	0.5873
		During Restricted Reenrollment Period	
ACS Emergency Department Costs	$6.78	$-	6.7843
Preventable Inpatient Costs	$2.31	$-	2.3076
Preventive Outpatient Costs	$4.39	$-	4.3895
		After Reenrollment	
ACS Emergency Department Costs	$6.96	$9.90	-2.9403
Preventable Inpatient Costs	$4.84	$0.82	4.0260
Preventive Outpatient Costs	$4.32	$4.51	-0.1953

Survey Results – Hypotheses 1 and 2

Among 1,066 survey responses to the question about whether they had entered an RRP in the past 12 months,, 478 (44,8%) reported yes, while 588 (55.2%) that they had not entered an RRP. (Figure S2)

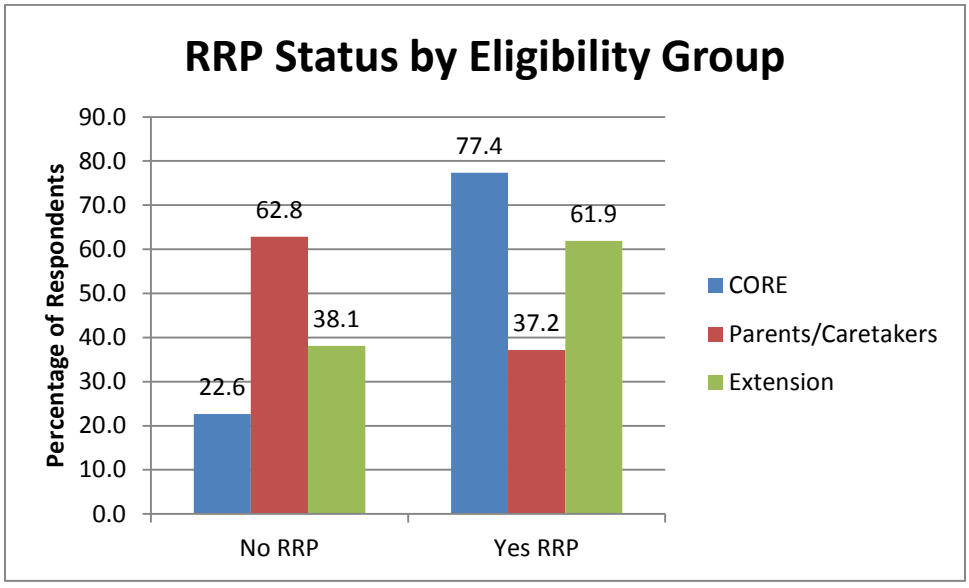
Figure S2: Self-Report – Had an RRP within past 12 Months



Likelihood of having an RRP by eligibility category

Survey cohorts were oversampled by those who had experienced an RRP. Figure S3 illustrates the the distribution of respondents by eligibility group in reporting whether they had experienced an RRP in the prior 12 months. Those on the Core Plan (77.4%) and Extensions/TMA (61.9%) were significantly more likely to enter an RRP than were Parents/Caretakers (37.2%). (Figure S4)

Figure S3



Leaving BadgerCare

Of the 1,066 total responding to this question, 673 (63%) reported that they had left their BC+ coverage at the time of the survey. Of these, 44% report having private coverage, while 19% report being uninsured. Persons who had an RRP in the prior 12 months were more likely to report having left the program (67%) than those who were continuously covered (60%). And those with and RRP were more

likely to report being currently insured (21.3%) compared to those who had been continuously covered (17%). (Figure S4)

Figure S4

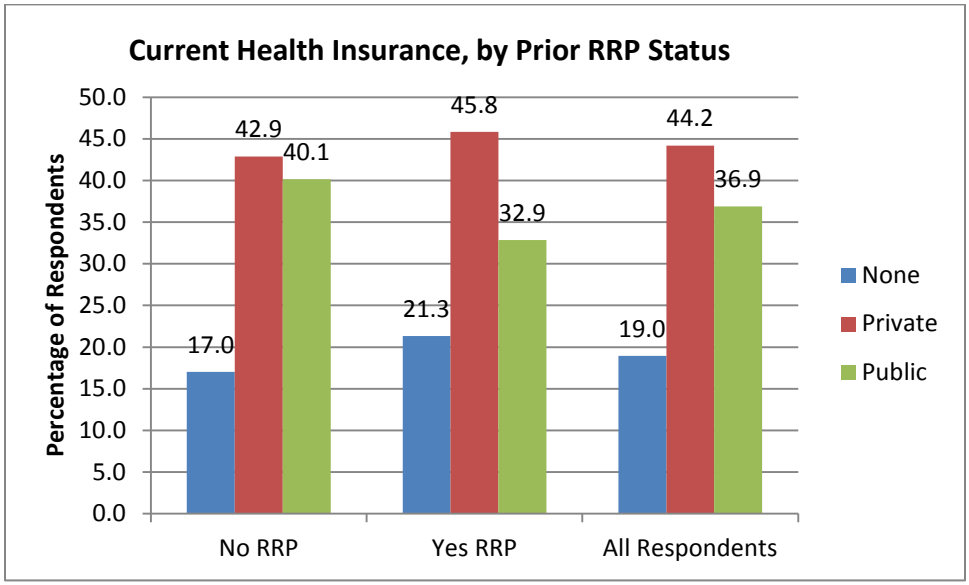
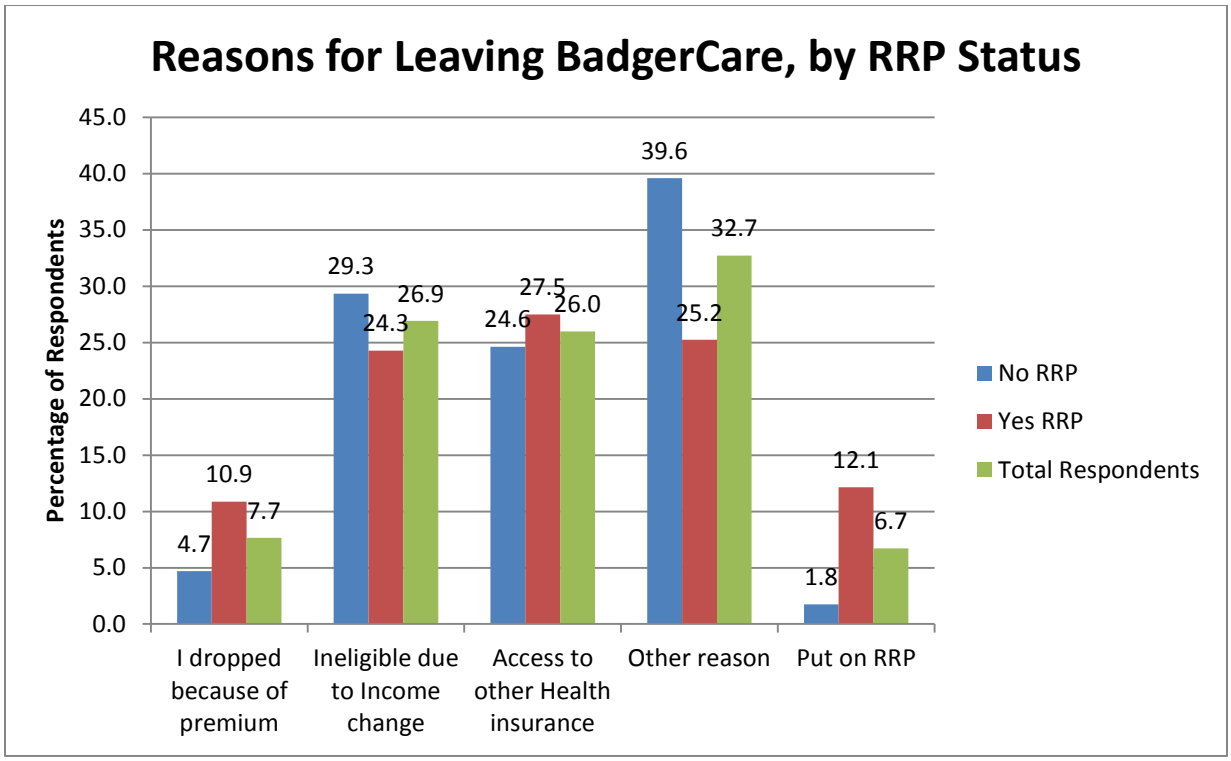


Figure S5



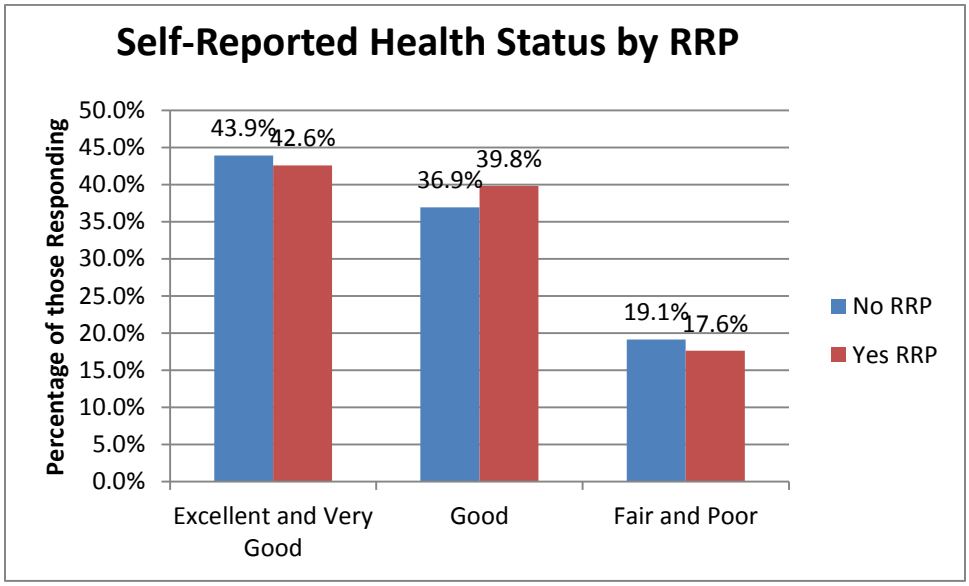
The reasons for leaving this coverage varied, but respondents were, in all eligibility categories, less likely to report that they dropped their coverage because of the premiums. About a quarter of all respondents and in each eligibility category reported that they dropped their coverage because they had access to other coverage. This may have been influenced by the application of the policy change related to affordability standard for employer-sponsored insurance, although it is not certain given the lack of comparable data from prior to the policy change.

Persons who had been subject to an RRP were significantly more likely to report having dropped their BC+ coverage due to premiums (10.9), compared to person who had been continuously enrolled (4.7%). Those who had been continuously enrolled were significantly more likely to report leaving BC+ because of an income change (29.3%) relative to those who had been subject to an RRP (24.3%), and the continuously enrolled were more likely to cite "other reasons" (29.6%) for leaving BadgerCare, compared to those who had been on and RRP (25.2%) . (Figure S5)

Health Status

There was no significant difference in the self-reported health status among those who entered an RRP and those who did not. (Figure S7)

Figure S6



However, those who remain continuously enrolled report with significantly greater frequency (19.1%) that a physical, mental, or emotional problem limits their ability to work at a job or business, relative to those who enter an RRP (11.5%) (Figure S7)

Over 60% of all survey respondents reported having at least one chronic condition (Depression/Anxiety, Diabetes, Asthma, High BP, COPD, Heart Disease, CHF, High Cholesterol, Kidney problems). But those who enter an RRP are less likely to report having at least one chronic condition (56%) relative to those who remain contiuously enrolled (64%).

While 78% of all respondents reported that they needed some kind of medical care in the last 12 months, those who entered an RRP reported so less frequently (75.1 %) than those who remained continuously enrolled (80.6%). (Figure S8)

Figure S7

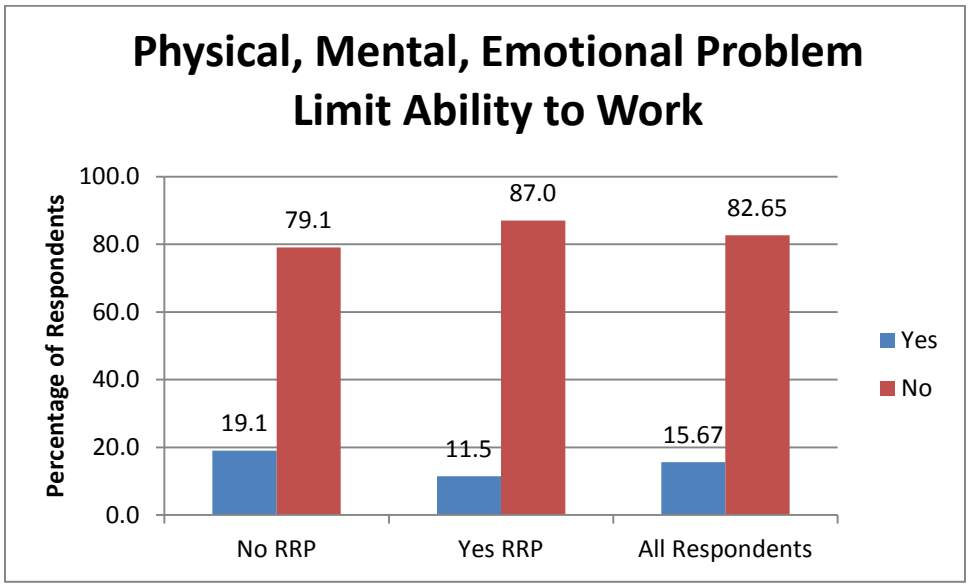
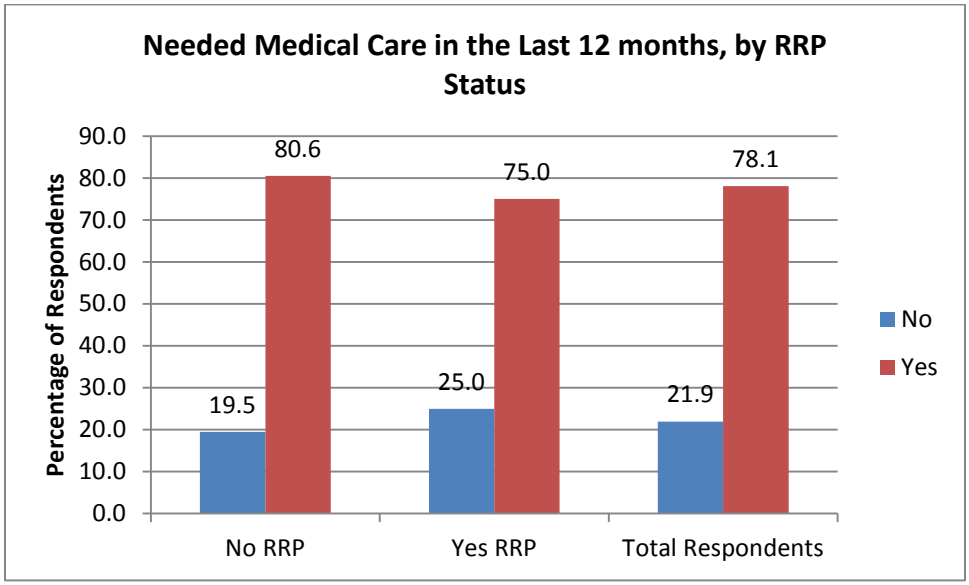


Figure S8



Patterns in the number of prescriptions used varied, but persons on an RRP reported significantly less frequently their use of over 7 prescriptions in the past year (3.3%) compared to persons who remained continuously enrolled (8.0%). (Figure S9)

Persons who enter an RRP report significantly less regular attachment to the health care system. Those who had been on an RRP were significantly less likely to report that they have a place that they usually go to receive medical care (81%), compared to the continuously enrolled (91%). (Figure S10)

Figure S9

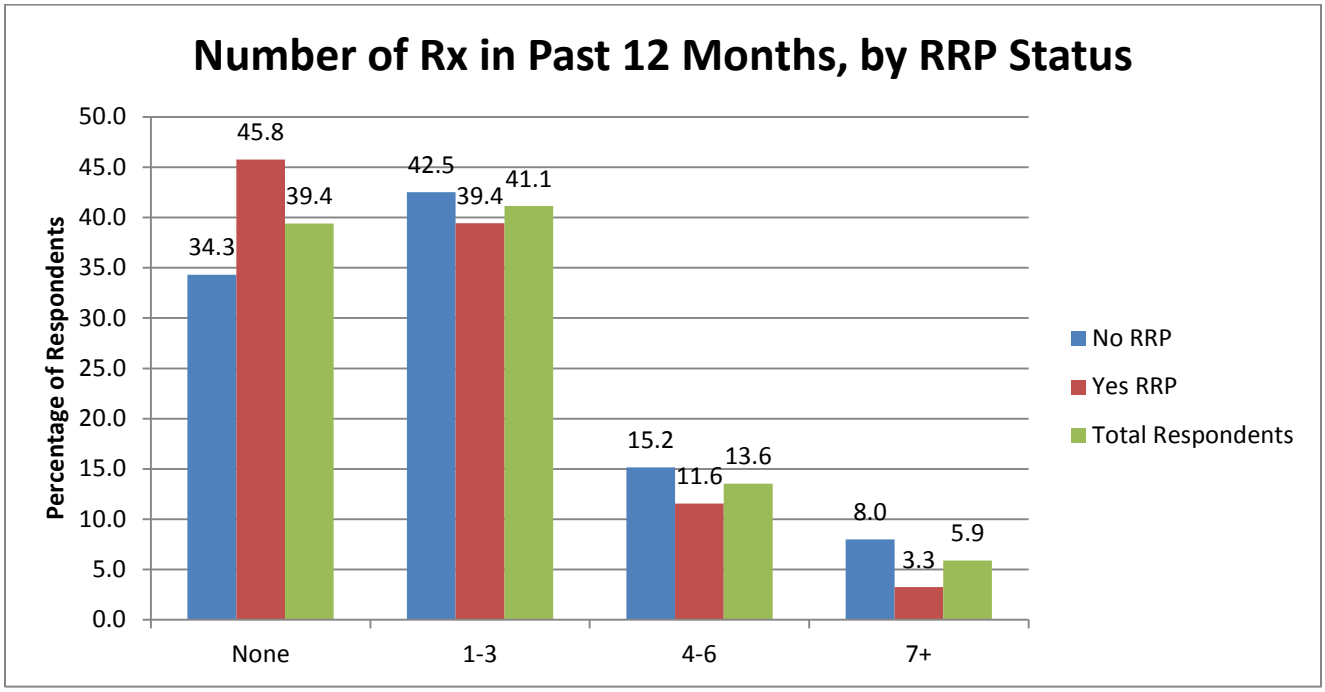
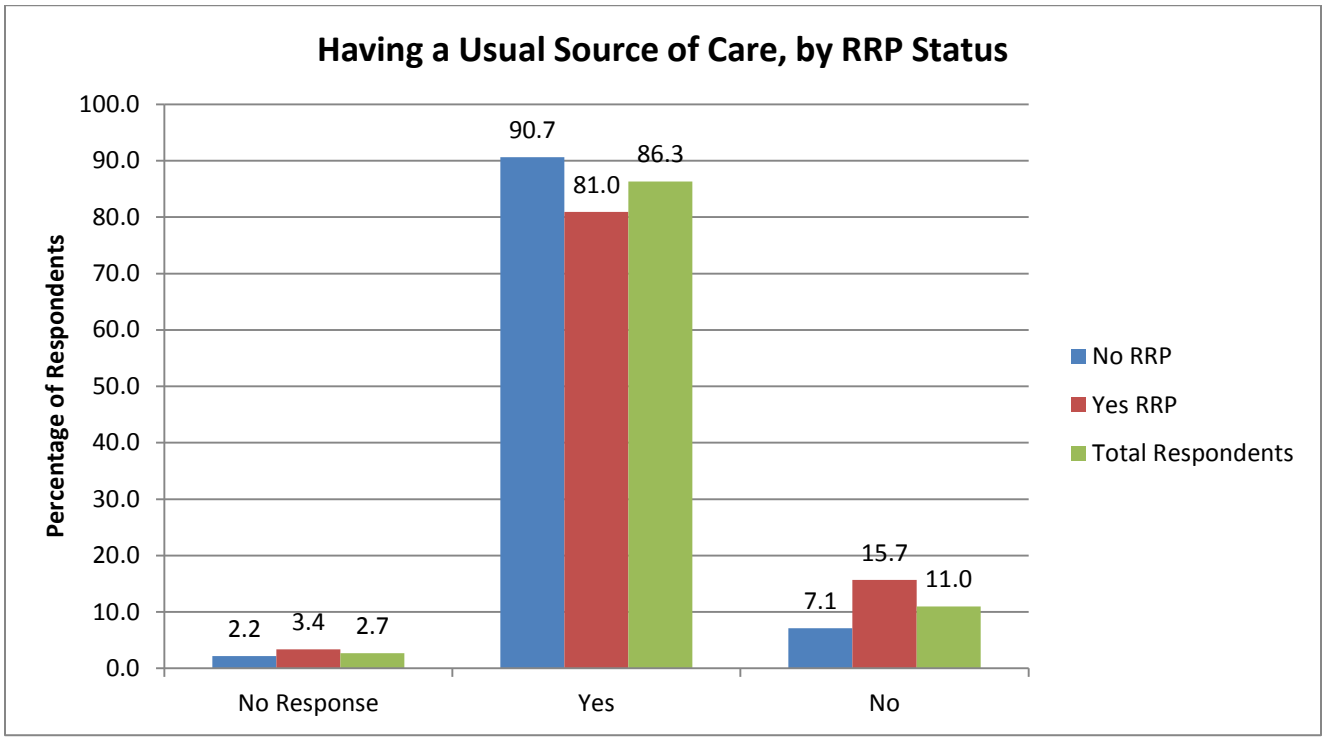


Figure S10



Viewed differently, most 86.3% of all survey respondents reported having a place that they usually go to receive medical care (usual source of care). The continuously enrolled members constituted a significantly greater share (58%) of those who report that they have a usual source of care that those who had an RRP (42%), while those who had an RRP represented a full 64.1% of those who reported not having a usual source of care. (Figure S11)

Similarly, those with an RRP were significantly less likely to report having a personal doctor (72%) relative to the continuously enrolled (83%). And those with an RRP make up a substantial majority (57%) of those who report being without a personal doctor. (Figures S12 and S13)

Figure S11

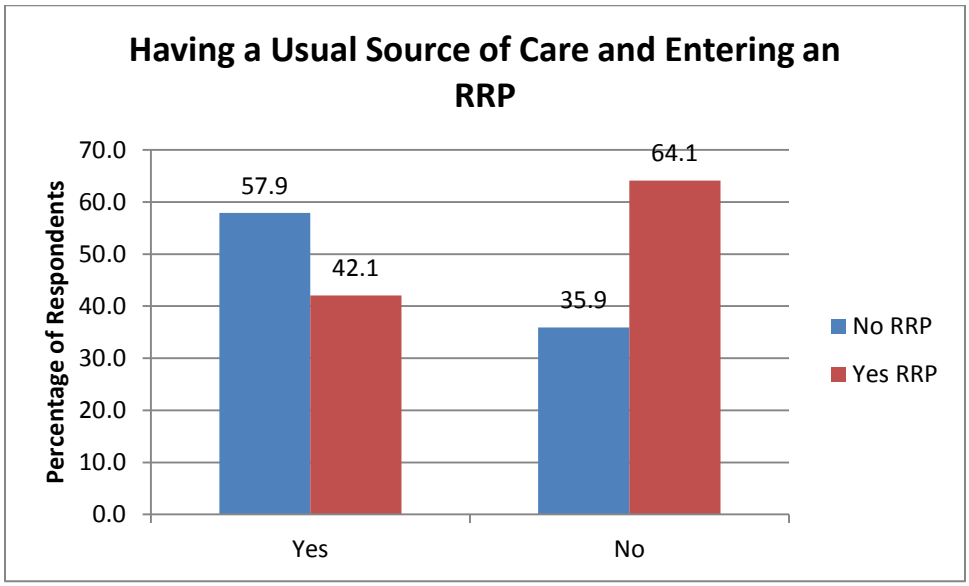


Figure S12

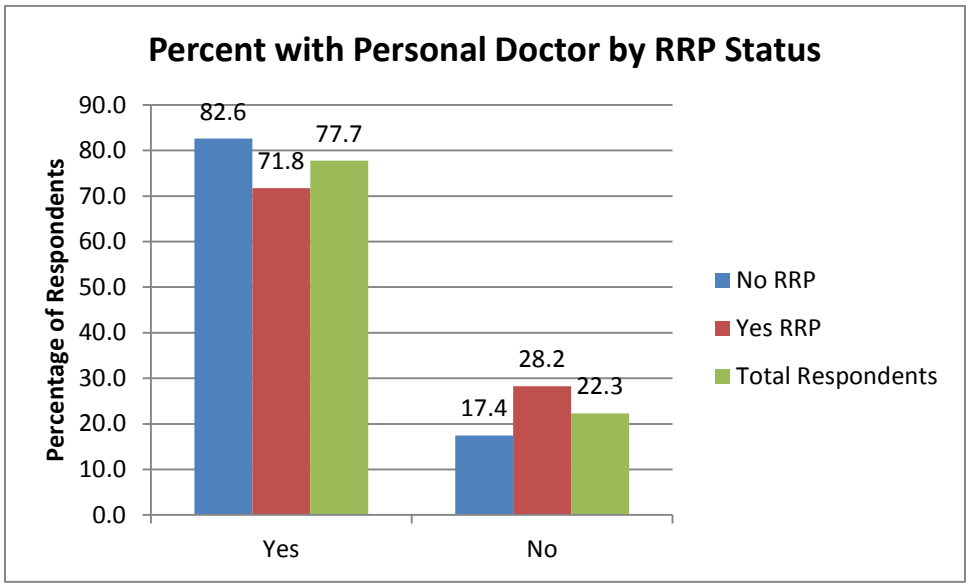
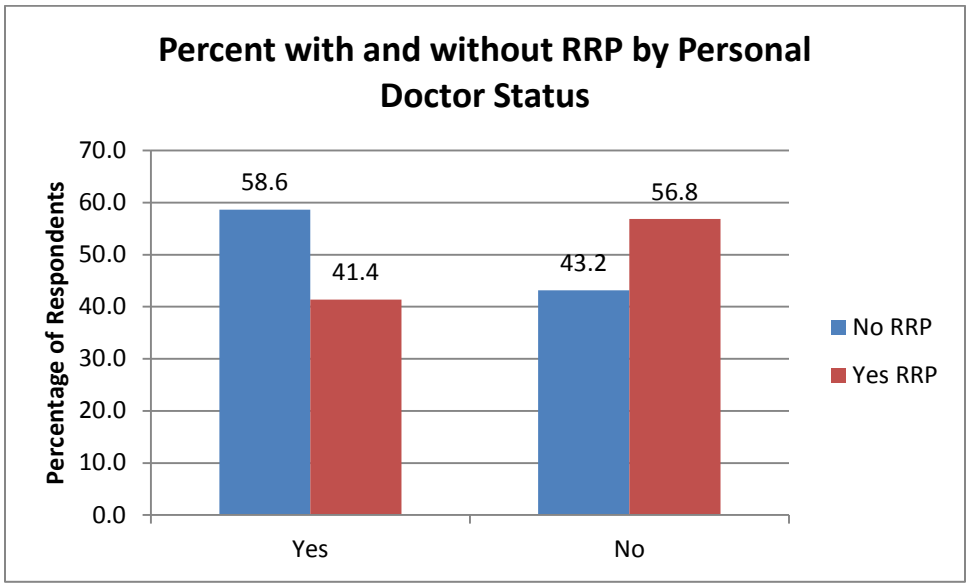


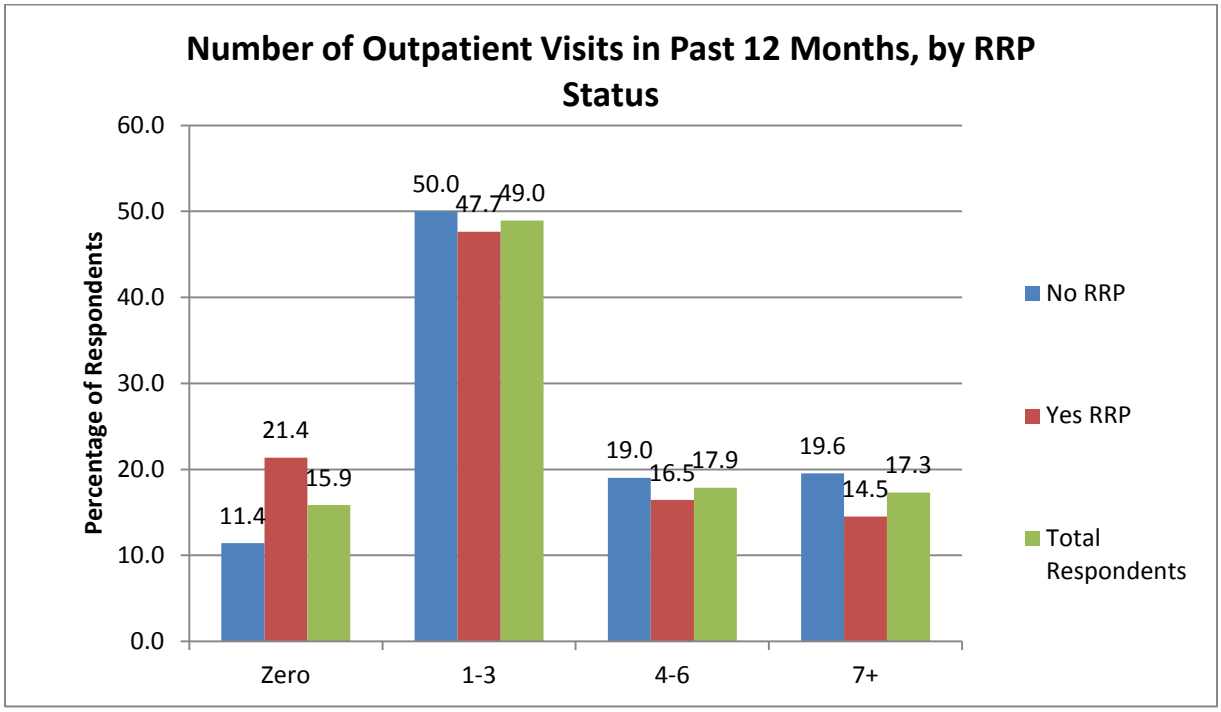
Figure S13



Despite this, no significant difference appeared in the number of emergency department visits between those who had an RRP and those who did not. Nor was any difference reported in occurrence of overnight stays in the hospital in the prior 12 months not related to childbirth, with about 9% of both the RRP and non-RRP groups reporting a hospital stay.

However, those who entered an RRP reported significantly lower use of outpatient visits in the past 12 months at the time of answering the survey. (Figure S14)

Figure S14



Those survey respondents who had an RRP significantly more frequently reported that the were unable to get care they needed in the prior 12 months (27.6%) compared to those continuously enrolled (16.7%). (x2<.0002). They also more frequently reported that they were unable to get medications that they needed in the prior 12 months (28.4%), compared to those continuously enrolled (18.7%). (Figure S15 and S16)

Figure S15

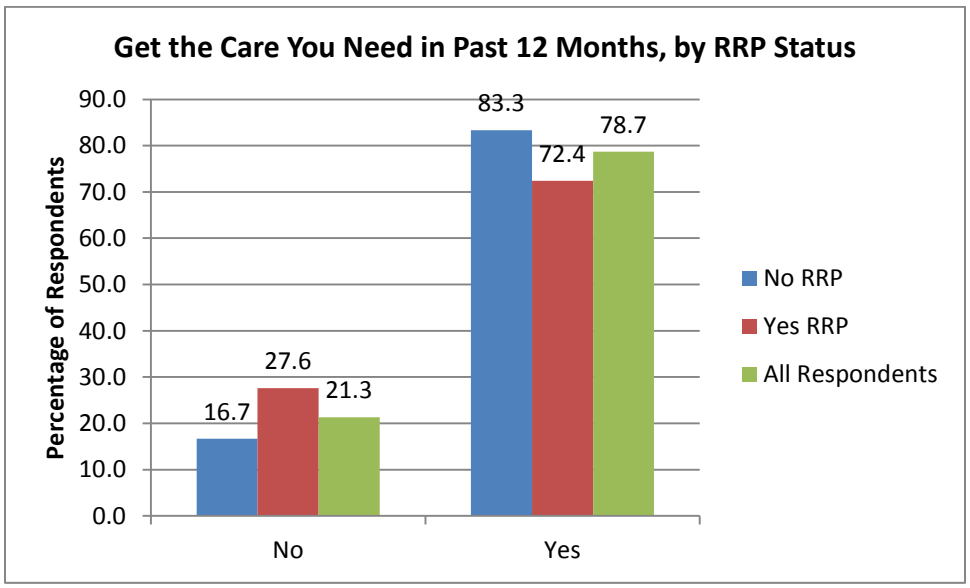
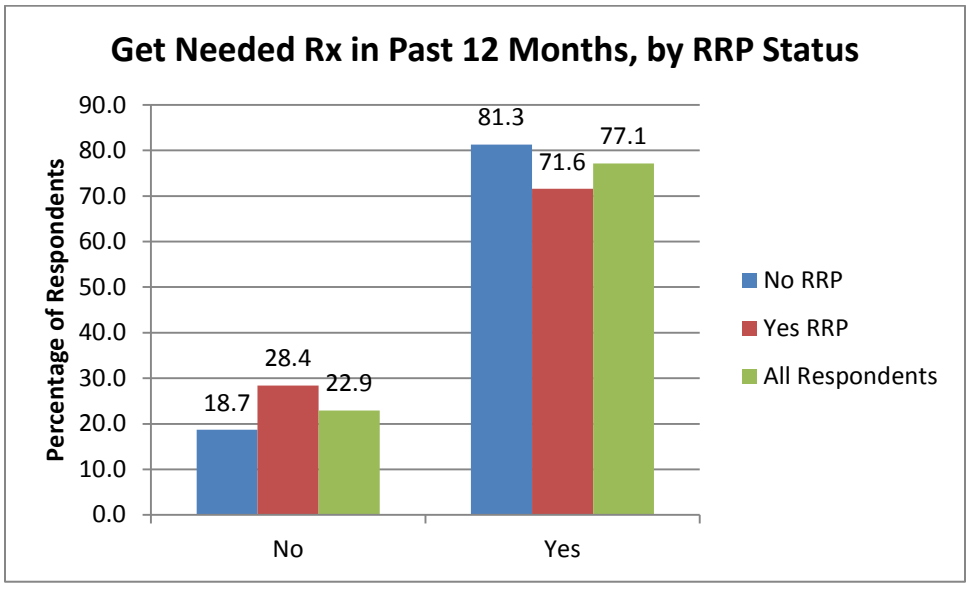


Figure S16



Hypothesis 3.

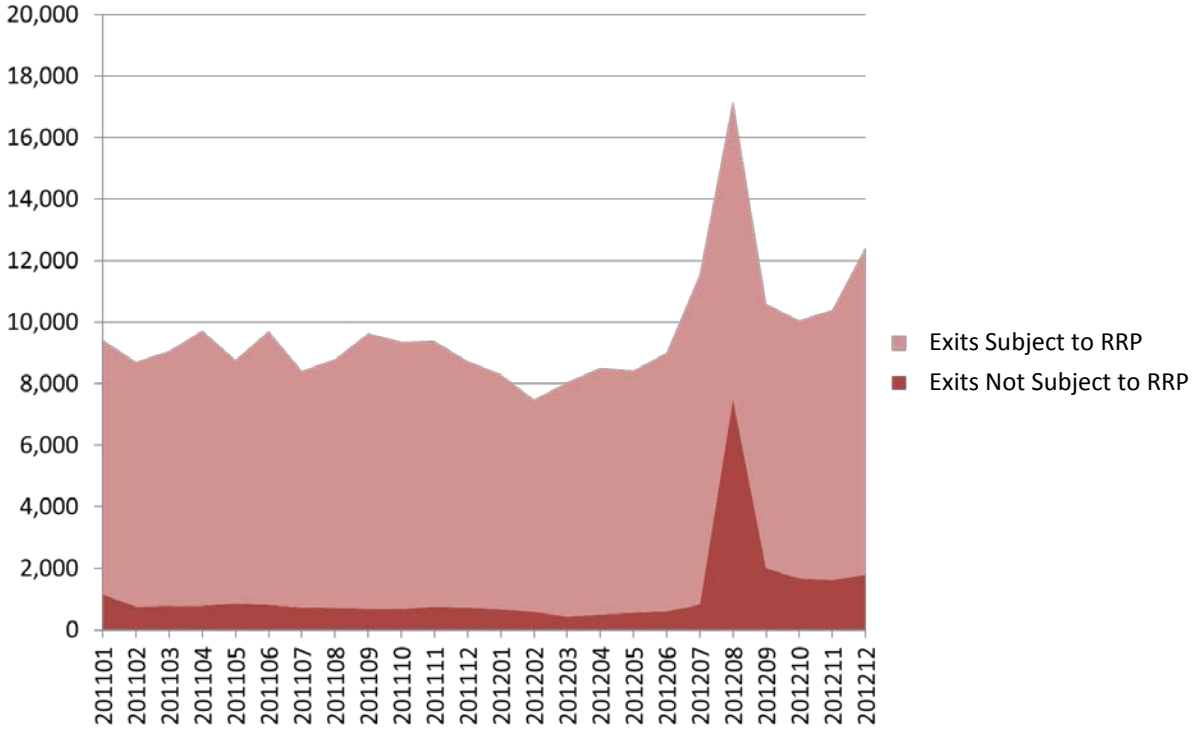
What impact does the 12 month waiting period for failure to make a premium payment have on the payment of premiums and on enrollment? Does this impact vary by income?

Prior to July 2012, an enrollee who did not pay his or her premium by the time it was due would face a six-month restriction on his or her ability to re-enroll in BadgerCare Plus. This is called a restrictive re-enrollment period (RRP). This applied, in the population of adults, only to parents and caretakers with incomes above 150% FPL. In July 2012, along with differences in the populations required to pay premiums, DHS implemented a 12-month RRP for non-payment of premiums. The new premium thresholds and populations meant that this RRP applied to Transitional Medical Assistance (TMA), Childless Adults, and Parents/Caretakers with family incomes greater than 133% FPL.

In order to answer the question of how the RRP affected enrollees' premium payments and their overall enrollment, we looked at CARES enrollment data for adults who were enrolled in BC+ and Core Plan at any point between July 2009 and July 2013. Any individual defined with a medical status code associated with the Parent/Caretaker, Childless Adult or Transitional Medical Assistance (TMA) programs was included in the sample. The analysis includes both exits from the program that were associated with a RRP and re-enrollment after exiting.

We define exits from the program as a lack of enrollment for two consecutive months. The analysis differentiates between exits subject to RRP and exits not subject to RRP (Non-RRP) by the RRP indicator within CARES. FPL is defined at the month of exit. Figure 3.1 illustrates the overall trends in exits and exits subject to RRP over time.

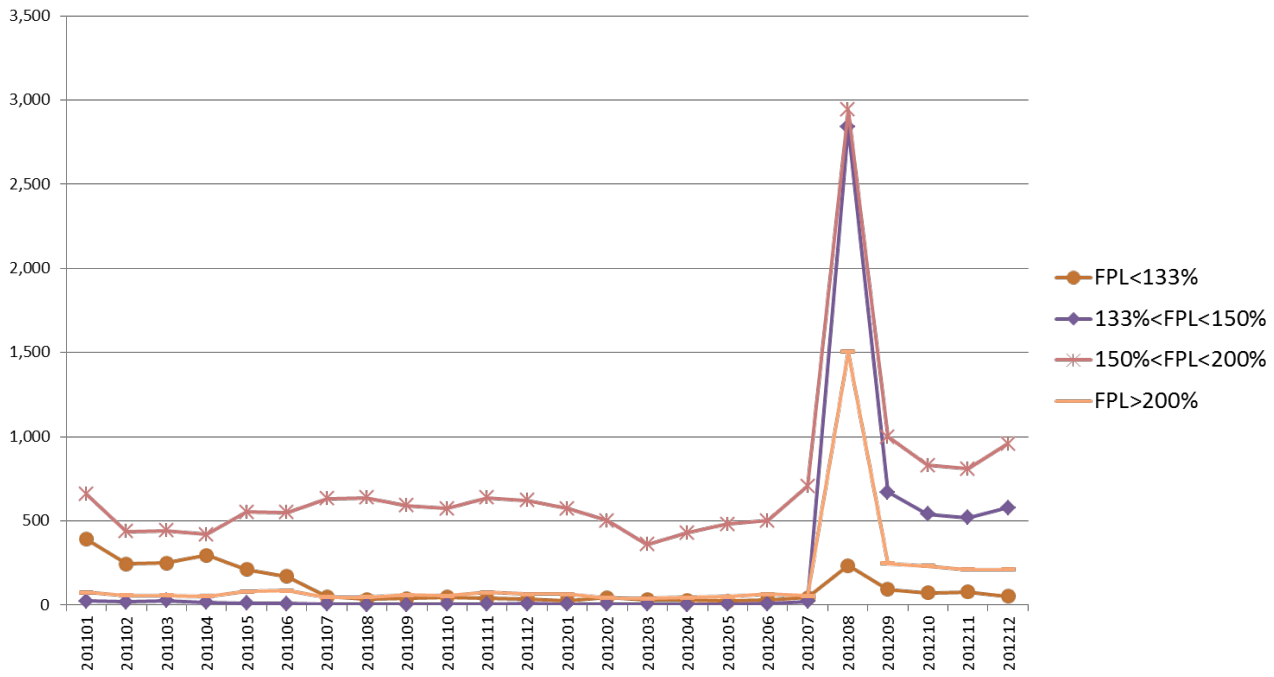
Figure 3.1 Total Exits and Number Due to Restrictive Re-enrollment over Time, January 2011 - December 2012



- The exits immediately following implementation of the new premium payment policies increase substantially but temporarily. This increase is almost entirely due to an increase in RRP exits.
- The increase in overall number of exits subject to RRP is most likely due to the exit of existing enrollees in the program who were not willing or able to pay the new or increased premiums.

Figure 3.2 breaks down the trend in exits subject to RRP by income group. Prior to July 2012, exits due to RRP were only important for enrollees in the 150-200% FPL group, representing parents and caretakers required to pay premiums.

Figure 3.2 Total Exits Subject to RRP, by Income as % Federal Poverty Level at Exit, January 2011 - December 2012



- A large increase occurred among all premium-paying groups associated with the July 2012 premium implementation, and also a small uptick among those with FPL<133% (FPL is measured at the time of exit in this graph), although the reason for this increase is unclear.
- Exits have gone up post-policy among both the RRP and non-RRP groups, with the largest increases among the RRP groups. This is true for both the income groups where premiums were previously required and for those for which premiums are newly required.

Table 3.1: Number of Enrollees and Average Premium Due, by FPL

FPL	Paid Timely				Exit No RRP				Exit RRP			
	Pre Policy		Post Policy		Pre Policy		Post Policy		Pre Policy		Post Policy	
	N	*Mean ($)*	*N*	*Mean ($)*	*N*	*Mean ($)*	*N*	*Mean ($)*	*N*	*Mean ($)*	*N*	*Mean ($)*
< 133	2890	249.1	3805	207.3	181	62.4	369	115	60	39.5	246	116.9
140	313	216.3	28217	76.3	26	72.9	374	76.8	2	40.5	1239	73.5
150	475	198	35577	94.4	46	79.1	479	96.8	5	61.6	1451	92.1
160	31621	26.1	29822	113	195	18.9	391	113.5	237	15.4	907	107.5
170	26481	52.2	24582	134.1	185	42.9	384	130.4	206	42	727	132.2
180	20069	113	19863	153.1	135	98.6	303	148.2	203	103.6	603	153.7
190	16563	153.9	16259	176.7	132	152.8	204	172.2	181	145.3	461	177.7
200	10840	167.5	12521	195.8	99	166.9	192	194	154	162.6	405	199.4
210	635	45.4	2547	148	229	22.8	283	81.9	22	26	197	194.5
220	273	35.3	1707	154.8	212	22.8	213	69.8	11	46.7	149	208.4
230	220	49	1397	165	122	23.4	201	83	10	81.5	161	230.2
240	181	50.4	1072	186.4	107	37.1	155	76.5	7	68.6	109	251.1
250	113	59.2	926	227.6	54	53	116	128.3	10	145.9	87	313.4
260	78	88.8	733	254	55	64.7	90	139.1	13	65.4	89	296.5
270	74	95.7	545	266.1	56	86.9	69	128.3	3	73.3	71	312.4
280	40	101	430	289.7	43	116.1	53	223.2	5	66	63	345.1
290	37	113.2	436	339.9	38	127.3	60	217.5	2	68	52	403.5
300	30	135.6	276	362.8	25	136.2	32	197.8	5	137.6	24	408.9
> 300	157	200.9	1648	502.3	141	177.2	248	288.3	20	139.9	286	695.8
Total	**111090**	**88.6**	**182363**	**132.4**	**2081**	**69.6**	**4216**	**126.9**	**1156**	**83.3**	**7327**	**158.8**

Note: The eligibility for premium was determined using medstat code and required a match to the premium payment file. The unit of observation is individual-months. Parents, Childless and TMA enrollees are included in the sample.

Source is Premium_tabs_mean_09162014, tab Premium Amount Imputed Both

Table 3.1 shows the number and percentage of parents and caretakers who entered an RRP, as well as the average amount of premiums due and the number of times that timely payments were made. Table 3.1 only includes those individuals who were able to be matched positively to the premium file at the time of payment or exit and whose premium requirement status could be positively identified using medical status codes, so overall numbers are lower than in Figure 3.1 and Figure 3.2. The table includes a breakdown of these calculations by FPL band. The table differentiates between the pre (February 2012 - June 2012) and post (August 2012 - December 2012) policy periods in order to ensure comparability in the total possible length of time available for enrollees to exit.

The total number of on-time premium payments appears higher post-policy than pre-policy, but looking closely at the breakdown by income level reveals that this is solely due to the increased number of people required to pay premiums between 133-150% FPL and above 200% FPL. The income levels associated with premium requirements in the pre-policy period (150%-200% FPL) show declines in the number of on-time payments. The observed overall higher post-policy on-time payments is the net effect of newly required premiums in the new-premium-paying group combined with the effect of

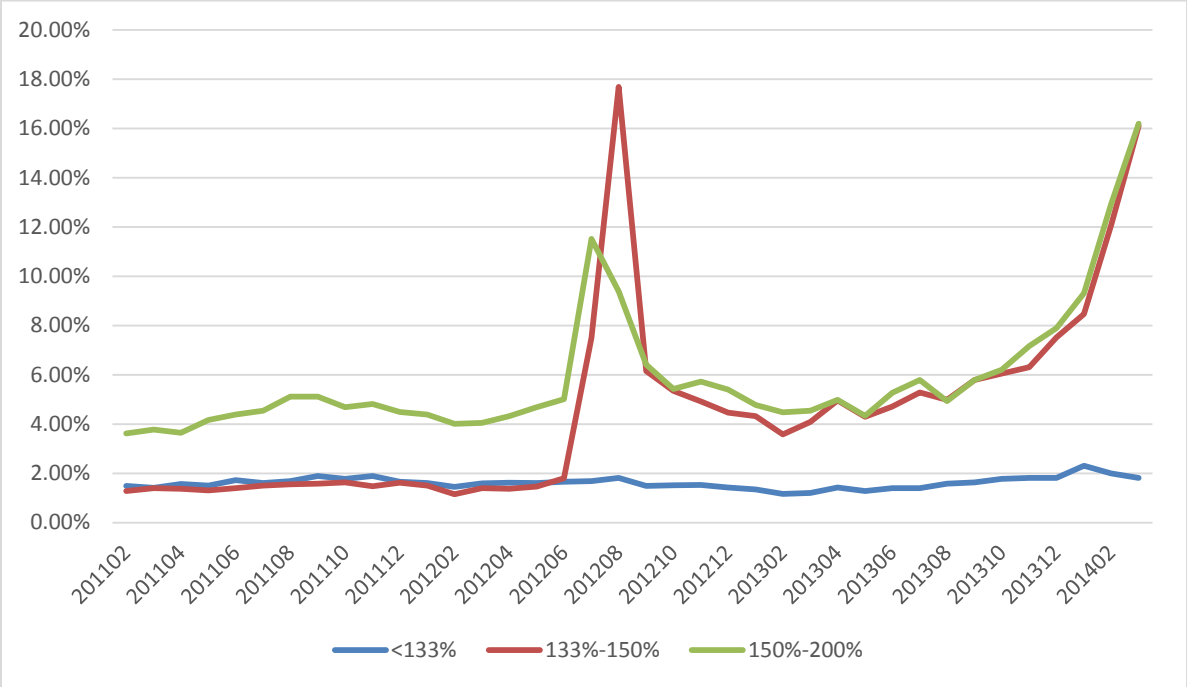
increased premiums among already-paying enrollees. The net difference is modest, while the average premium paid has increased, suggesting that premium revenues should have increased substantially – a point detailed further under Hypothesis 8.

DHS had previously observed from the first months of the program that, while the rate of payment failure increased in July 2012, the rate had reverted back to the baseline mean for the total population subject to premiums.[17] At that time, DHS had concluded that payment compliance rates for the group "are adversely affected in the very early stages of pricing changes, but do not persist at an increased level as the new equilibrium for those who choose to pay at the new price is quickly established."

The findings from the current evaluation show a decline in premium payment (increased in payment failure) for the aggregate period through December 2012 for those who had been subject to premium prior to the policy change. This decline occurs, as DHS had previously observed, in the month immediately following the new policy, when those unable or unwilling to make timely payments quickly exit the program. After that point, rates of exit normalize to approximately the same level as that demonstrated by the group that was subject to premiums prior to July 2012. This is true for both those that exit and become subject to RRP (Figure 3.3) and for those that do not enter an RRP (Figure 3.4)

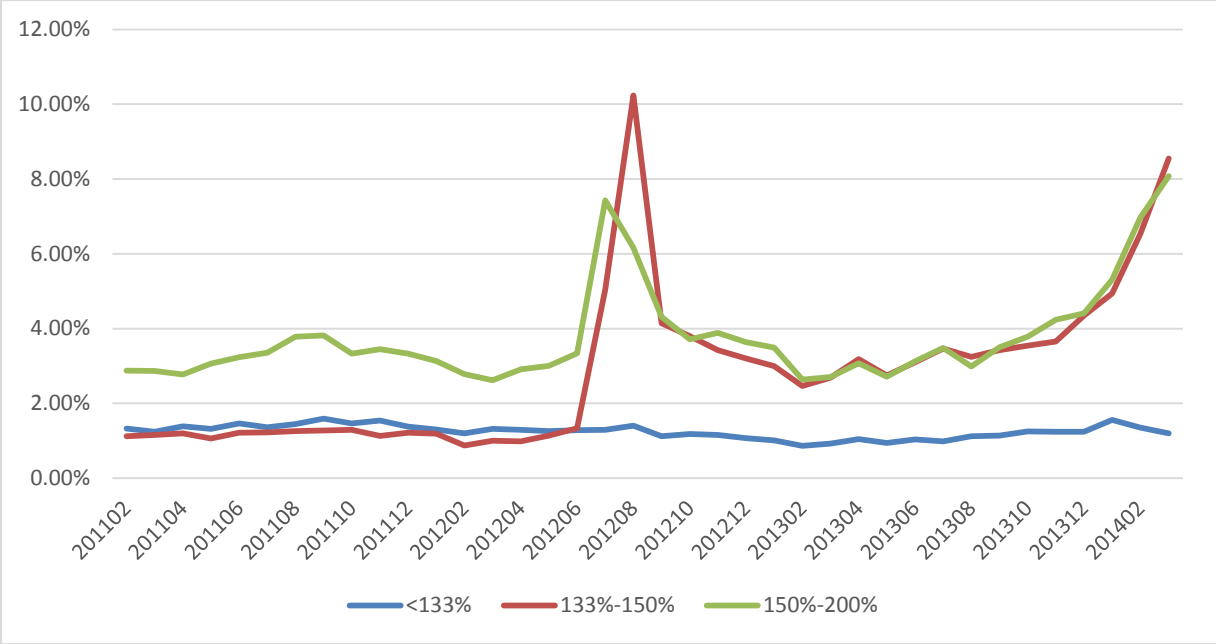
(Note: The increased rates of exit observed in late 2013 and early 2014 reflect the effects of separate policy changes that took effect at that time.)

Figure 3.3 Payment Failure and Exits, Parents/Caretaker Adults, Subject to RRP, Pre-Post July 2012



[17] Wisconsin Department of Health Services. State of Wisconsin Department of Health Services. Wisconsin Medicaid Premium Reforms: Preliminary Price Impact Findings. December 2012. http://www.dhs.wisconsin.gov/publications/P0/P00447.pdf

Figure 3.4 Payment Failure and Exit, Parents/Caretaker Adults Not Subject to RRP, Pre-Post July 2012



Re-Enrollment

The policy change differentially affected the rate of re-entry to the program following an RRP. Table 3.2 shows the number and percentage of parents and caretakers and TMA adults who re-enrolled after exiting due to nonpayment and assigned RRP. Table 3.2 also includes the number and percentage of re-enrollments for those who left the program without being put on RRP. Childless adults are omitted from the table because re-enrollment was generally not allowed for that program. This table and the following consider only individuals at the first exit for both RRP and Non-RRP exit (disregarding further exits and re-enrollments), making the total number slightly different from those in Figures 3.1 and 3.2.

The tables display re-enrollment 6 and 12 months post-exit. Re-enrollment is conditional on exit, and is defined as a snapshot, i.e. whether the individual enrolled 6 or 12 months after exiting. This definition excludes anyone who re-enrolled and dropped in the interim period. Income is measured at the time of exit; some exiting enrollees later re-enter at a lower income level.

Figures 3.5 and 3.6 illustrate the percent of enrollees that re-enroll in BC+ following an RRP, broken down by their FPL status at the time of exit. At six months, persons <133% increased their rate of re-enrollment from 8% pre-policy to 21% post-policy. This seems counter-intuitive, given that the policy increased the length of an RRP from six to twelve months. Discussions with DHS staff of this matter suggest that this observation may reflect an increase in RRP cases reporting a decline in their income or other change circumstance that allowed them to re-enroll in the program prior to the end of the full RRP.

Perhaps the most significant finding among those who exited due an RRP:

- Only members within the income group 133-150% FPL show a substantial increase in the frequency, post-policy change, of re-enrollment at twelve months following their exit.
- Re-enrollments decreased among the 150-200% FPL group at both 6- and 12-months.

These trends may be driven by the imposition of new premium payments on the group of parents/caretaker adults, where they had not previously had them, suggesting that they remain eligible and continue to want and need coverage after the RRP. The higher income groups, while facing premium increases along with the longer RRP, had previously participated in some premium cost-sharing. The change in their exit and re-enrollment rates may have been related to policy changes pertaining to access to affordable employer-sponsored coverage or other circumstances. For those in this group that might have re-enrolled, their entry may have been deterred by the extension of the RRP from six- to twelve months.

For parents and caretakers pre-policy, 12 month re-enrollments are generally higher than 6 month re-enrollments for both the RRP and non-RRP groups. In the post-policy period, however, the pattern has changed; re-enrollment in the non-RRP group is very similar at 6 and 12 months, but for the RRP group, 12- month re-enrollment remains higher. For those income groups already required to pay premiums, re-enrollment patterns are similar to pre-policy, or somewhat smaller, suggesting that the 12-month RRP may have had a limited effect on re-enrollment. However, the numbers of re-enrollees are small overall for this sample of first exits, and so conclusions are limited.

Re-enrollment was higher for the TMA population pre-policy at 12 months than at 6 months as well. There were no RRP exits during this period as TMA enrollees were not subject to RRP policies. After July 2012, overall exits increased in this population, and 12 month and 6 month re-enrollments look similar for the non-RRP groups. However, 12 month re-enrollment is higher than 6 month re-enrollment among those exiting and subject to RRP, for most (but not all) income groups.

This summary of the data describes the observed trends over time, but only suggests the causal impacts of the policy change. Some natural comparison groups exist to help further understand the specific impact the 12-month RRP had on enrollment.

The following describes the outcomes of a "difference-in-differences" research design. This compares the probability of premium payment and exit of the group of adults in income ranges who were and were not subject to premiums, for those who enrolled into BC+ before and after July 2012.

It is important to note, however, that since the premiums were implemented at the exact same time and for the exact same groups, it is not possible to completely separate the effects of the RRP from the effects of charging new and higher premiums. Thus, the empirical discussion reflects the joint effects of premiums and RRPs.[18] The use of the comparison groups outlined by income range supports an "intent-to-treat" research method, rather than trying to directly match to the premium files to identify premium payers.

Using these comparison groups, we estimate the impact of having a 12-month RRP as opposed to a 6-month RRP on the probability of not making a premium payment and dis-enrolling from BC+. To do so, we estimate both Kaplan-Meier models and Cox proportional hazards models[19] that include the vector of available sociodemographic covariates described above. The Cox models, in addition for accounting for time dependence, control for the potentially confounding influences of compositional changes in the demographic profile of enrollees over the study period. To capture the changes in the BC+ program, we include two time indicators in the Cox specification: one reflecting the pre-period (July 2011-June 2012),

[18] The original analysis plan said that we would construct a sample of new enrollees, but new enrollment turned out to be very low in the post-policy period, and so we made some changes to the analysis in order to report more reliable results.

[19] Cox, D. 1972. Regression Models and Life Tables (with Discussion). *Journal of the Royal Statistical Society*, Series B 34: 187-220.

which serves as the reference group; one reflecting the post-period (July 2012-June 2013), and interact these indicators with indicators for whether the individual was subject to premiums.

Figure 3.5 Percent of Existing Enrollees Re-Enrolled by RRP Status and FPL at Exit

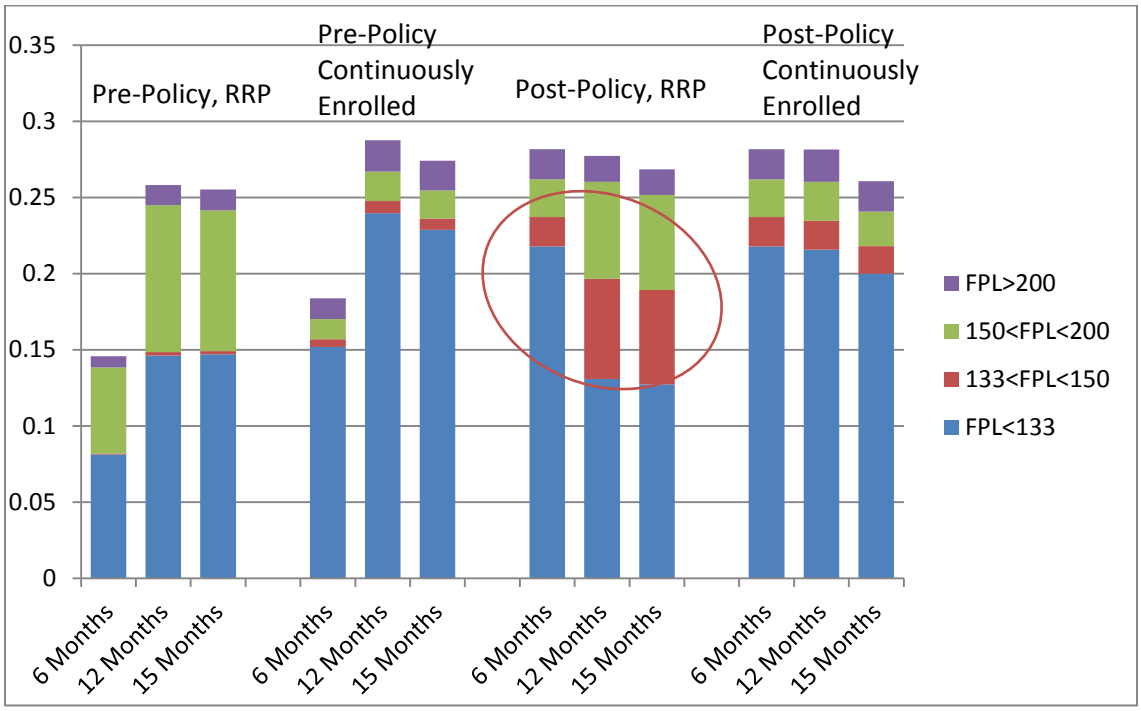


Table 3.6 Re-Enrollment after 12 Month RRP, Pre- and Post-Policy

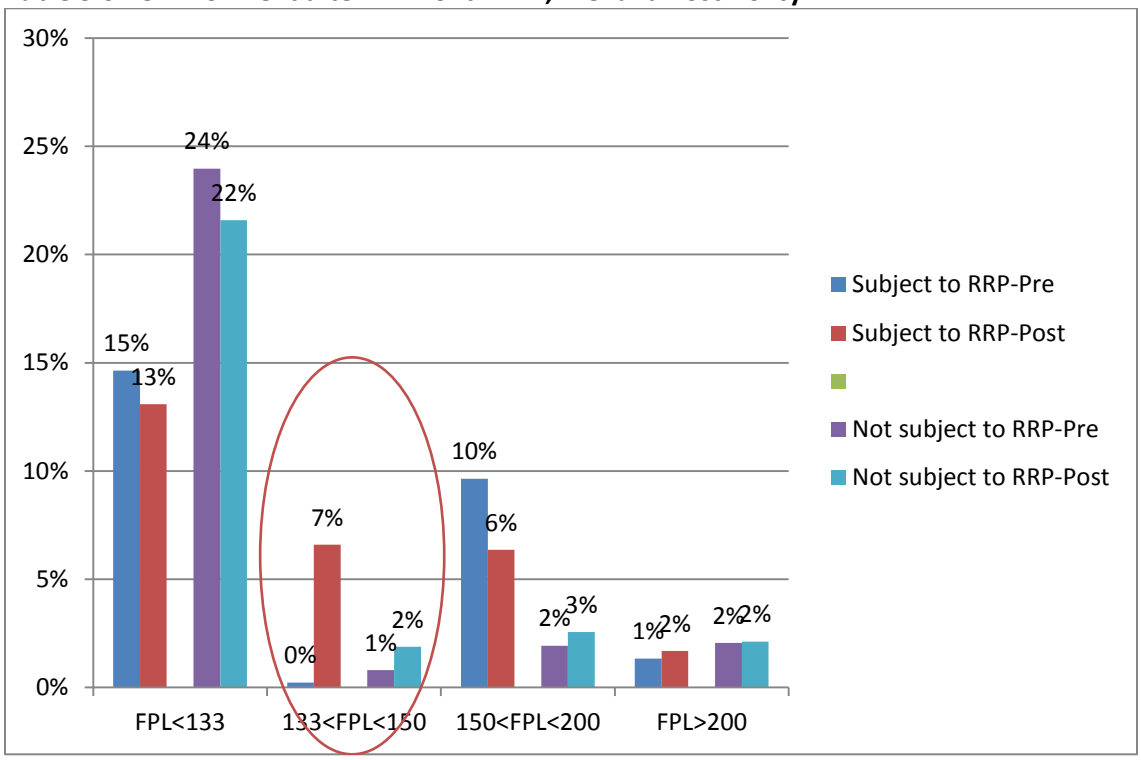


Table 3.2 Number and Percent of Exiting Enrollees Who Re-Enroll, by RRP Status at Exit

Parents/Caretakers

FPL	Pre Policy								Post Policy							
	No RRP				RRP				No RRP				RRP			
	6 months		12 months		6 months		12 months		6 months		12 months		6 months		12 months	
	N.	%	N.	%	N.	%	N.	%	N.	%	N.	%	N.	%	N.	%
< 133	2599	21.2%	4095	33.4%	17	25.8%	22	33.3%	3675	28.2%	3673	28.2%	57	33.3%	68	39.8%
140	60	15.6%	77	20.0%	0	0.0%	1	50.0%	280	39.8%	268	38.1%	203	24.2%	286	34.1%
150	70	14.6%	126	26.3%	1	16.7%	4	66.7%	318	35.3%	310	34.4%	179	18.1%	285	28.9%
160	123	21.7%	163	28.7%	50	19.5%	80	31.3%	208	29.0%	212	29.5%	83	16.5%	119	23.7%
170	87	18.7%	132	28.3%	29	12.9%	49	21.8%	165	26.1%	173	27.4%	41	10.3%	86	21.5%
180	54	14.1%	91	23.8%	36	16.4%	47	21.5%	140	27.4%	162	31.7%	20	6.5%	58	19.0%
190	42	11.8%	59	16.6%	22	11.1%	47	23.6%	78	20.1%	82	21.1%	20	9.1%	50	22.8%
200	36	13.7%	59	22.5%	7	4.3%	24	14.7%	82	23.9%	79	23.0%	22	10.0%	33	15.1%

Transitional Medical Assistance

FPL	Pre Policy								Post Policy							
	No RRP				RRP				No RRP				RRP			
	6 months		12 months		6 months		12 months		6 months		12 months		6 months		12 months	
	N.	%	N.	%	N.	%	N.	%	N.	%	N.	%	N.	%	N.	%
< 133	300	18.2%	519	31.4%	0	0.0%	0	0.0%	483	32.3%	459	30.7%	36	31.3%	37	32.2%
140	27	16.7%	44	27.2%	0	0.0%	0	0.0%	80	34.3%	85	36.5%	166	37.1%	201	44.9%
150	23	12.8%	46	25.6%	0	0.0%	0	0.0%	89	36.0%	79	32.0%	151	27.9%	190	35.1%
160	31	14.0%	47	21.3%	0	0.0%	0	0.0%	68	28.2%	72	29.9%	111	24.2%	138	30.1%
170	26	13.7%	44	23.2%	0	0.0%	0	0.0%	60	27.4%	59	26.9%	68	18.2%	108	28.9%
180	31	16.1%	43	22.4%	0	0.0%	0	0.0%	56	32.0%	42	24.0%	56	16.5%	88	26.0%
190	25	14.0%	31	17.4%	0	0.0%	0	0.0%	28	22.8%	40	32.5%	41	15.4%	65	24.4%
200	19	13.4%	23	16.2%	0	0.0%	0	0.0%	29	27.1%	30	28.0%	42	18.5%	54	23.8%
210	31	18.1%	49	28.7%	0	0.0%	0	0.0%	25	18.4%	26	19.1%	27	14.0%	36	18.7%
220	19	10.6%	29	16.1%	0	0.0%	0	0.0%	19	17.6%	14	13.0%	15	10.7%	28	20.0%
230	13	10.3%	26	20.6%	0	0.0%	0	0.0%	14	13.3%	17	16.2%	17	11.4%	26	17.4%
240	14	15.2%	15	16.3%	0	0.0%	0	0.0%	11	14.1%	12	15.4%	13	12.1%	17	15.9%
250	6	6.4%	14	14.9%	0	0.0%	0	0.0%	12	16.7%	16	22.2%	12	13.6%	11	12.5%
260	6	7.8%	13	16.9%	0	0.0%	0	0.0%	4	8.0%	5	10.0%	15	18.1%	20	24.1%
270	2	3.8%	9	17.3%	0	0.0%	0	0.0%	4	8.0%	6	12.0%	7	10.9%	7	10.9%
280	3	6.0%	9	18.0%	0	0.0%	0	0.0%	7	13.7%	8	15.7%	2	3.4%	4	6.8%
290	4	8.7%	7	15.2%	0	0.0%	0	0.0%	2	5.1%	3	7.7%	5	9.4%	6	11.3%
300	0	0.0%	1	3.3%	0	0.0%	0	0.0%	2	7.1%	1	3.6%	2	7.7%	2	7.7%
> 300	22	7.7%	34	11.8%	0	0.0%	0	0.0%	13	7.5%	10	5.7%	28	9.5%	35	11.8%

Notes: FPL groups determined at exit. Re-enrollment is indicated by being enrolled at 6 or 12 months after exiting. Exits mean that the individual was not enrolled for at least 2 consecutive periods for the first time.

Figure 3.7 shows Kaplan-Meier estimates of the cumulative probability of disenrollment for three groups of parent/caretaker enrollees: those who never had to pay premiums (<133% FPL), those who did not have to pay premiums before July 2012 but did after July 2012, and those who always had to pay premiums (>150% FPL). The figure shows six different cohorts, with each cohort beginning at a different time prior to July 2012. The vertical line indicates July 2012 from that cohort's enrollment perspective.

For example, the 6-month cohort: after 5 months of being enrolled in the program, the 133-150% FPL group had an identical cumulative probability of dis-enrollment to the <133% FPL group of <1%, but just after premiums are implemented, their cumulative probability of dis-enrollment increases by approximately 15 percentage points to almost that of the >150% group. This pattern is very similar for the other cohorts, suggesting that the below 133% group is a good comparison for the 133-150% group, and that the implementation of the policy is what is causing the difference in enrollment patterns.

Figure 3.8 shows the same type of analysis for TMA enrollees. Since exits due to premium non-payment were not possible in the pre-period for these enrollees, no exit cases exist for that reason until post policy-implementation. On average, the highest likelihood of exit is for those paying the highest premium amounts. For the most part, a large fraction of TMA enrollees (20-50%) dropped out immediately and were put in RRP. Following the immediate effect, exits due to RRP became relatively stable.

Table 3.3 shows the results of the estimation for the Cox proportional hazards models for parents and caretakers. Each coefficient in the table should be interpreted as the difference in likelihood of exiting due to RRP relative to the excluded category. Standard errors are in parentheses below the estimate. This shows 2 different samples: "first spell", which includes only those individuals in their first enrollment spell regardless of when they initially enrolled, and "within 18," which includes only those enrollees who enrolled within 18 months prior to or after June 2012. We conducted the tests on two separate samples as a validity check, to double check whether the results are sensitive to different sample selection. We also wanted to make sure the capture enough enrollment in the post-period. The differences in the two samples turned out to be negligible. Note that the two samples are not mutually exclusive, as some members may have had their first spell within the 18 months prior to or after June 2012.

- The relative effect of the 12 month RRP combined with the premium was an increase in exits due to RRP for the new premium paying group, but the models suggest a relative reduction in exits due to RRP among the group already paying premiums.

Table 3.4 considers whether these impacts vary by income level by interacting the pre-and post-period indicators with the level of family income as a percentage of the federal poverty line in the Cox proportional hazards models. This will show any differential in premium paying and dis-enrollment by income level, and, if so, determine its magnitude. Conclusions are very similar for these models as for those in Table 3.3, in that the important variation appears to be at the premium-payer/non premium-payer margin rather than the amount of the required premium.

For the Childless Adult and TMA populations, because there were no premiums in the pre-period (and thus no exits due to failure to pay premiums), there is no comparison group (all groups required to pay premiums were subject to identical RRP requirements). Results for these groups should be interpreted as covariates that are predictive of or correlated with exits due to RRP.

Conclusions from Table 3.5 (the TMA results) and Table 3.6 (childless adults) are similar to those from the Kaplan-Meier analysis. Note that the probability of exiting due to RRP is highest for those in the highest income groups, but this may have been the case prior to the policy change. This *does not*

suggest that the policy change had a greater effect on those at higher income. These tables include only those individuals enrolled in the programs as of June 2012, and only include first enrollment spells.

Figure 3.7 Kaplan-Meier Estimates of Cumulative Parent/Caretaker Exit Due to RRP, by Enrollment Cohort and Income

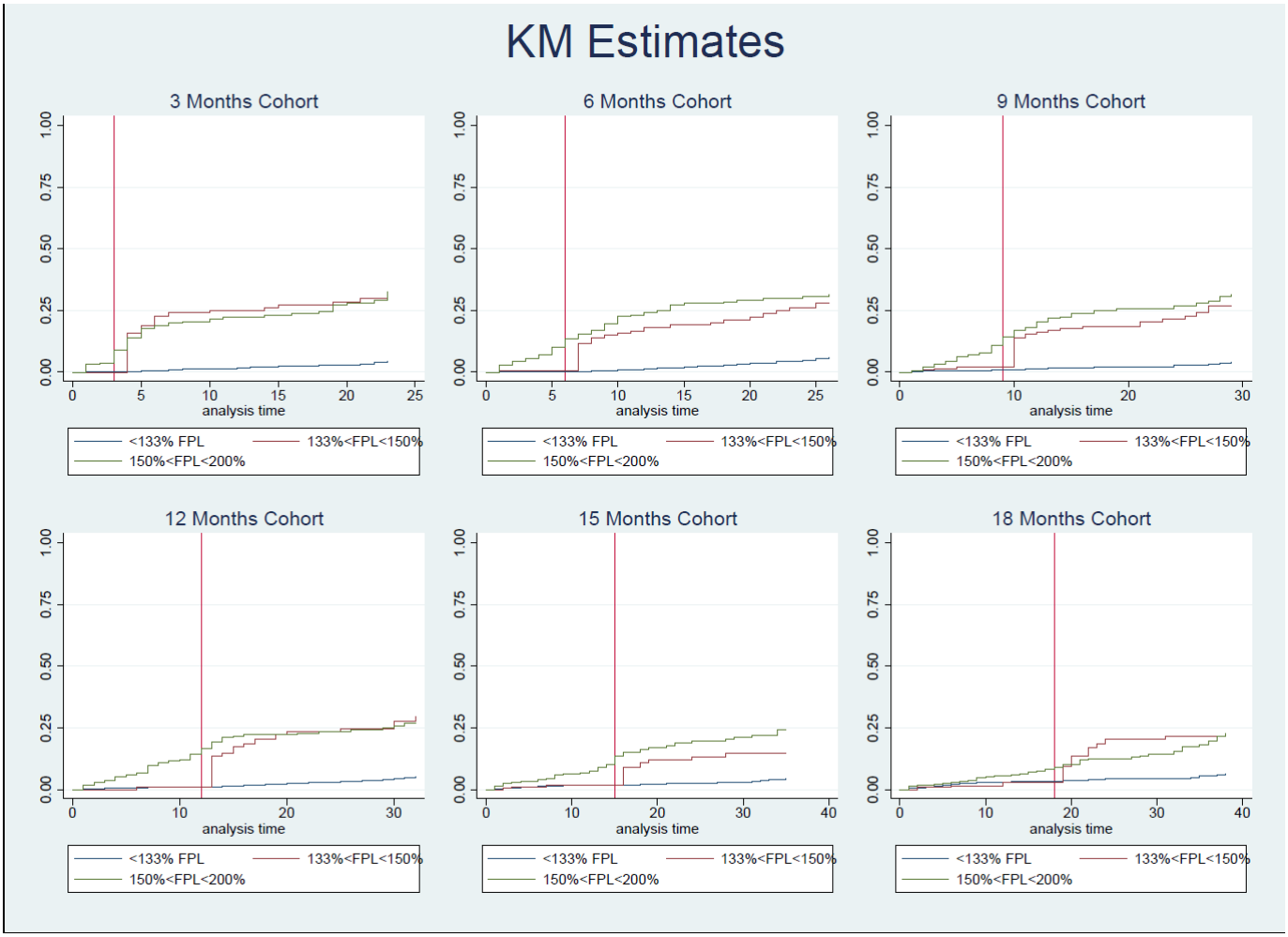


Figure 3.8 Kaplan-Meier Estimates of Cumulative TMA Exit Due to RRP, by Enrollment Cohort and Income

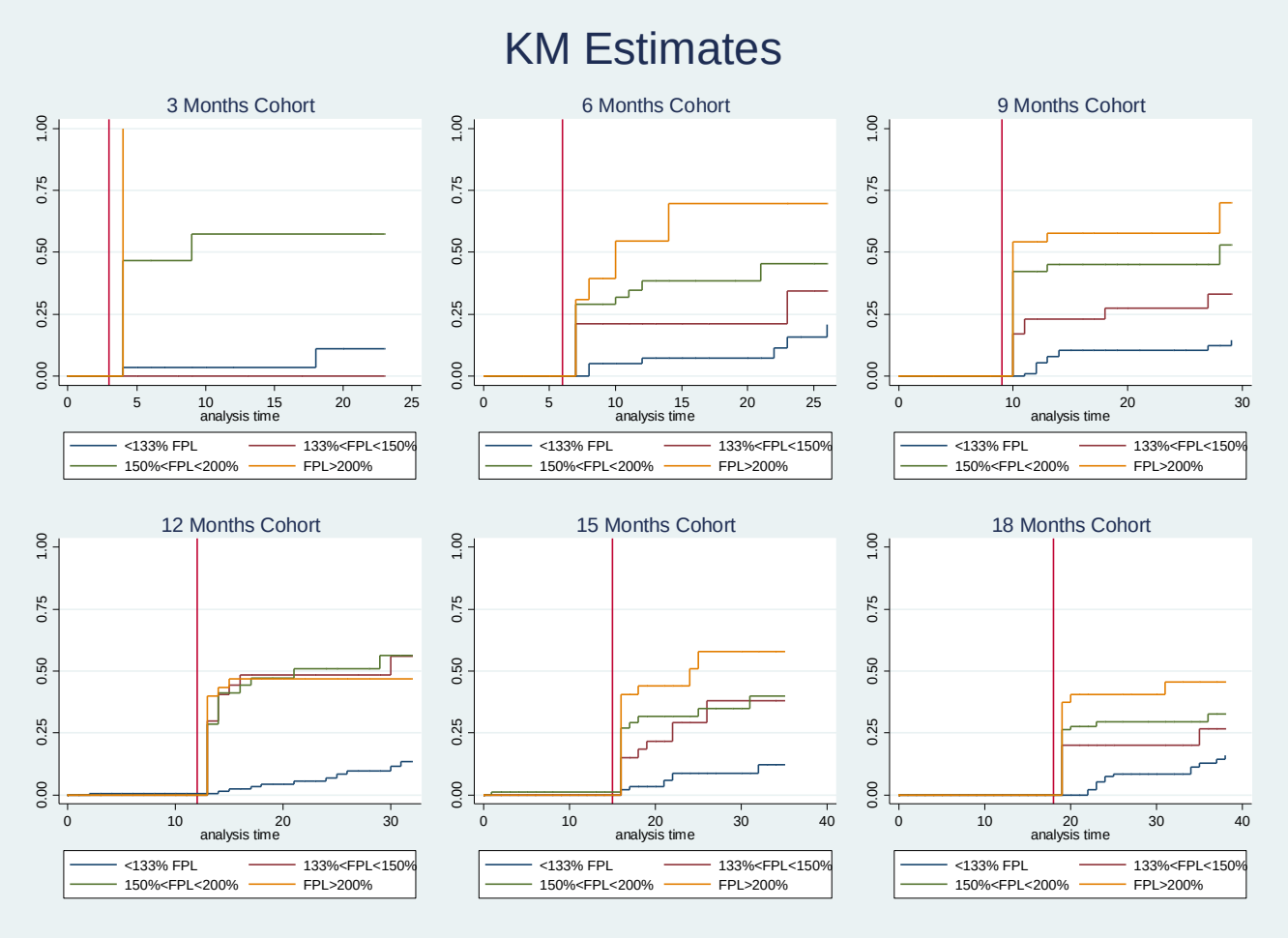


Table 3.3 Cox Proportional Hazards Models for Parents and Caretakers						
	(1)	(2)	(3)	(1)	(2)	(3)
VARIABLES	First Spell			Within 18		
Post 07/12	4.101***	4.149***	4.160***	6.746***	6.644***	6.616***
	(0.125)	(0.130)	(0.132)	(0.581)	(0.573)	(0.571)
133%<June FPL<150%	2.418***	2.299***	2.322***	2.647***	2.403***	2.411***
	(0.140)	(0.134)	(0.136)	(0.491)	(0.447)	(0.448)
150%<June FPL<200%	8.013***	7.402***	7.665***	23.320***	20.285***	20.338***
	(0.263)	(0.254)	(0.263)	(2.166)	(1.914)	(1.919)
(Post)*(133%<June FPL<150%)	1.832***	1.791***	2.082***	2.234***	2.314***	2.367***
	(0.125)	(0.122)	(0.140)	(0.433)	(0.449)	(0.458)
(Post)*(150%<June FPL<200%)	0.341***	0.332***	0.404***	0.168***	0.175***	0.179***
	(0.016)	(0.016)	(0.019)	(0.018)	(0.019)	(0.019)
Youngest household member 1-5 years		2.180***	2.422***		2.027***	2.072***
		(0.198)	(0.219)		(0.367)	(0.374)
Youngest household member 6-12 years		2.505***	2.452***		1.799***	1.812***
		(0.219)	(0.213)		(0.317)	(0.319)
Youngest household member 13-18 years		2.611***	2.350***		1.931***	1.917***
		(0.230)	(0.206)		(0.345)	(0.342)
No children in household		2.458***	2.121***		1.444*	1.432*
		(0.219)	(0.188)		(0.261)	(0.258)
Female		0.851***	0.865***		0.879**	0.883**
		(0.019)	(0.019)		(0.036)	(0.036)
Number of adults in household		1.077***	1.087***		1.120***	1.124***
		(0.019)	(0.019)		(0.037)	(0.037)
Number of kids in household		0.946***	0.919***		0.909***	0.907***
		(0.010)	(0.009)		(0.018)	(0.018)
High school graduate		1.041	1.031		0.990	0.988
		(0.029)	(0.028)		(0.051)	(0.051)
More than high school		1.246***	1.233***		1.140+	1.131+
		(0.043)	(0.042)		(0.079)	(0.078)
Missing education (dummy)		1.154***	1.108**		0.971	0.978
		(0.038)	(0.036)		(0.053)	(0.053)
Rural		0.977	0.973		0.919*	0.923*
		(0.020)	(0.020)		(0.035)	(0.035)
Income (As % of FPL)		1.001***	1.001***		1.001***	1.001***
		(0.000)	(0.000)		(0.000)	(0.000)
Spell Length			1.046***			1.020***
			(0.001)			(0.003)
Observations	4,275,400	4,275,371	4,275,371	583,021	583,021	583,021
Log Likelihood	-112786	-112106	-110797	-27588	-27319	-27308
Notes: Robust s.e. in parentheses. *** p<0.001, ** p<0.01, * p<0.05, + p<0.10						

Table 3.4 Cox Proportional Hazards Models for Parents and Caretakers, Extended Income Treatment						
	(1)	(2)	(3)	(1)	(2)	(3)
VARIABLES	First Spell			Within 18		
Post 07/12	4.100***	4.149***	4.160***	6.744***	6.644***	6.613***
	(0.125)	(0.130)	(0.132)	(0.581)	(0.573)	(0.570)
133%<June FPL<140%	2.057***	1.968***	1.979***	2.000*	1.836*	1.842*
	(0.186)	(0.179)	(0.180)	(0.600)	(0.551)	(0.553)
140%<June FPL<150%	2.685***	2.543***	2.578***	3.158***	2.844***	2.853***
	(0.188)	(0.179)	(0.182)	(0.694)	(0.626)	(0.628)
150%<June FPL<160%	6.545***	6.157***	6.238***	16.961***	14.988***	14.982***
	(0.340)	(0.325)	(0.329)	(2.162)	(1.925)	(1.925)
160%<June FPL<170%	6.693***	6.220***	6.416***	20.237***	17.565***	17.621***
	(0.367)	(0.347)	(0.357)	(2.588)	(2.268)	(2.275)
170%<June FPL<180%	8.858***	8.141***	8.512***	26.166***	22.873***	22.957***
	(0.472)	(0.443)	(0.462)	(3.303)	(2.914)	(2.925)
180%<June FPL<190%	10.267***	9.326***	9.719***	30.100***	25.527***	25.599***
	(0.533)	(0.495)	(0.515)	(3.705)	(3.185)	(3.197)
190%<June FPL<200%	9.376***	8.516***	9.135***	30.016***	26.172***	26.374***
	(0.596)	(0.552)	(0.589)	(4.264)	(3.743)	(3.769)
(Post)*(133%<June FPL<140%)	2.144***	2.099***	2.440***	2.720**	2.819***	2.878***
	(0.223)	(0.219)	(0.249)	(0.846)	(0.877)	(0.894)
(Post)*(140%<June FPL<150%)	1.656***	1.616***	1.881***	1.986**	2.056**	2.108**
	(0.138)	(0.135)	(0.154)	(0.458)	(0.474)	(0.485)
(Post)*(150%<June FPL<160%)	0.460***	0.447***	0.535***	0.251***	0.262***	0.267***
	(0.035)	(0.034)	(0.040)	(0.039)	(0.041)	(0.041)
(Post)*(160%<June FPL<170%)	0.436***	0.424***	0.511***	0.183***	0.192***	0.195***
	(0.036)	(0.035)	(0.041)	(0.030)	(0.031)	(0.032)
(Post)*(170%<June FPL<180%)	0.311***	0.303***	0.372***	0.155***	0.162***	0.168***
	(0.028)	(0.027)	(0.032)	(0.026)	(0.027)	(0.028)
(Post)*(180%<June FPL<190%)	0.208***	0.204***	0.248***	0.110***	0.116***	0.118***
	(0.021)	(0.020)	(0.024)	(0.019)	(0.020)	(0.021)
(Post)*(190%<June FPL<200%)	0.255***	0.247***	0.322***	0.139***	0.143***	0.148***
	(0.030)	(0.029)	(0.037)	(0.029)	(0.029)	(0.030)
Youngest household member 1-5 years		2.177***	2.418***		2.013***	2.060***
		(0.198)	(0.218)		(0.364)	(0.372)
Youngest household member 6-12 years		2.498***	2.444***		1.787**	1.801***
		(0.218)	(0.212)		(0.315)	(0.317)
Youngest household member 13-18 years		2.603***	2.340***		1.915***	1.901***

		(0.230)	(0.205)		(0.342)	(0.339)
No children in household		2.447***	2.109***		1.433*	1.421+
		(0.218)	(0.187)		(0.259)	(0.256)
Female		0.851***	0.866***		0.876**	0.881**
		(0.019)	(0.019)		(0.036)	(0.036)
Number of adults in household		1.076***	1.085***		1.119***	1.122***
		(0.019)	(0.019)		(0.037)	(0.037)
Number of kids in household		0.946***	0.919***		0.910***	0.908***
		(0.010)	(0.009)		(0.018)	(0.018)
High school graduate		1.041	1.032		0.991	0.989
		(0.029)	(0.029)		(0.052)	(0.051)
More than high school		1.244***	1.231***		1.138+	1.130+
		(0.043)	(0.042)		(0.079)	(0.078)
Missing education (dummy)		1.153***	1.106**		0.969	0.977
		(0.038)	(0.036)		(0.053)	(0.053)
Rural		0.977	0.973		0.920*	0.924*
		(0.020)	(0.020)		(0.035)	(0.036)
Income (As % of FPL)		1.001***	1.001***		1.001***	1.001***
		(0.000)	(0.000)		(0.000)	(0.000)
Spell Length			1.046***			1.021***
			(0.001)			(0.003)
Observations	4,275,400	4,275,371	4,275,371	583,021	583,021	583,021
Log Likelihood	-112737	-112061	-110750	-27570	-27303	-27292
Notes: Robust s.e. in parentheses. *** p<0.001, ** p<0.01, * p<0.05, + p<0.10						

Table 3.5 Cox Proportional Hazards Models for TMA, Probability of Exit Due to RRP

	(1)	(2)	(3)
	First Spell		
133%<June FPL<140%	2.786***	2.713***	2.855***
	(0.209)	(0.205)	(0.219)
140%<June FPL<150%	3.245***	3.145***	3.492***
	(0.213)	(0.206)	(0.231)
150%<June FPL<160%	2.760***	2.668***	2.896***
	(0.200)	(0.194)	(0.212)
160%<June FPL<170%	3.016***	2.889***	3.233***
	(0.236)	(0.227)	(0.256)
170%<June FPL<180%	3.217***	3.074***	3.568***
	(0.258)	(0.248)	(0.289)
180%<June FPL<190%	3.369***	3.194***	3.696***
	(0.309)	(0.295)	(0.345)
190%<June FPL<200%	3.975***	3.825***	4.786***
	(0.358)	(0.346)	(0.434)
200%<June FPL<210%	3.022***	2.865***	3.586***
	(0.320)	(0.305)	(0.385)
210%<June FPL<220%	3.144***	2.881***	3.287***
	(0.360)	(0.331)	(0.382)
220%<June FPL<230%	4.311***	4.044***	4.579***
	(0.480)	(0.448)	(0.509)
230%<June FPL<240%	3.115***	2.947***	3.764***
	(0.431)	(0.409)	(0.519)
240%<June FPL<250%	3.928***	3.693***	4.541***
	(0.495)	(0.464)	(0.566)
250%<June FPL<260%	3.445***	3.162***	3.831***
	(0.504)	(0.466)	(0.552)
260%<June FPL<270%	4.115***	3.766***	5.152***
	(0.655)	(0.596)	(0.797)
270%<June FPL<280%	4.848***	4.414***	5.609***
	(0.767)	(0.697)	(0.862)

	(1)	(2)	(3)
	First Spell		
280%<June FPL<290%	4.027***	3.749***	4.272***
	(0.749)	(0.702)	(0.816)
290%<June FPL<300%	3.318***	3.100***	3.319***
	(0.803)	(0.743)	(0.814)
300%>June FPL	4.475***	3.657***	4.195***
	(0.363)	(0.313)	(0.362)
Youngest household member 1-5 years		1.027	1.157
		(0.172)	(0.194)
Youngest household member 6-12 years		2.048***	1.962***
		(0.319)	(0.305)
Youngest household member 13-18 years		2.235***	1.945***
		(0.354)	(0.307)
No children in household		2.418***	1.998***
		(0.388)	(0.320)
Female		0.873***	0.900**
		(0.034)	(0.035)
Number of adults in household		1.011	1.059+
		(0.032)	(0.034)
Number of kids in household		0.959*	0.920***
		(0.019)	(0.018)
High school graduate		0.984	0.955
		(0.051)	(0.049)
More than high school		1.081	1.059
		(0.067)	(0.066)
Missing education (dummy)		1.150*	1.070
		(0.068)	(0.064)
Rural		1.034	1.018
		(0.039)	(0.038)
Income (As % of FPL)		1.000***	1.000***
		(0.000)	(0.000)
Spell Length			1.049***
			(0.002)
Observations	706,286	706,284	706,284
Log Likelihood	-28220	-28061	-27545
*** p<0.001, ** p<0.01, * p<0.05, + p<0.10			

Table 3.6 Cox Proportional Hazards Models for Childless Adults, Probability of Exit due to RRP

	(1)	(2)	(3)
	First Spell		
133%<June FPL<140%	4.364***	3.814***	3.866***
	(0.629)	(0.554)	(0.562)
140%<June FPL<150%	6.609***	5.721***	5.623***
	(0.727)	(0.639)	(0.635)
150%<June FPL<160%	5.327***	4.127***	4.091***
	(0.629)	(0.547)	(0.556)
160%<June FPL<170%	6.696***	4.765***	4.970***
	(0.787)	(0.703)	(0.728)
170%<June FPL<180%	7.220***	5.931***	6.181***
	(0.839)	(0.704)	(0.739)
180%<June FPL<190%	8.753***	6.999***	7.132***
	(0.995)	(0.845)	(0.862)
190%<June FPL<200%	9.751***	7.790***	7.970***
	(1.393)	(1.128)	(1.140)
200%<June FPL<210%	9.244***	8.094***	9.488***
	(2.554)	(2.233)	(2.582)
210%<June FPL<220%	12.084***	10.616***	11.699***
	(3.950)	(3.490)	(3.811)
220%<June FPL<230%	11.773***	11.057***	12.147***
	(3.555)	(3.292)	(3.698)
230%<June FPL<240%	14.449***	11.628***	12.745***
	(4.730)	(3.749)	(4.331)
240%<June FPL<250%	12.863***	10.448***	12.450***
	(4.332)	(3.586)	(4.272)
250%<June FPL<260%	18.008***	14.141***	13.377***
	(7.242)	(5.668)	(5.411)
260%<June FPL<270%	4.462*	3.508*	3.929*
	(2.647)	(2.088)	(2.302)

	(1)	(2)	(3)
	First Spell		
270%<June FPL<280%	7.808***	5.871**	6.461***
	(4.564)	(3.453)	(3.626)
280%<June FPL<290%	8.647***	6.480**	6.881**
	(5.661)	(4.362)	(4.812)
290%<June FPL<300%	9.119**	6.826*	6.722*
	(7.010)	(5.297)	(5.201)
300%>June FPL	7.680***	5.706***	6.412***
	(3.113)	(2.352)	(2.690)
Female		0.783***	0.749***
		(0.051)	(0.049)
Number of adults in household		0.821**	1.000
		(0.058)	(0.069)
Number of kids in household		1.825	1.662
		(0.684)	(0.547)
High school graduate		0.829+	0.797*
		(0.090)	(0.087)
More than high school		0.919	0.877
		(0.131)	(0.125)
Missing education (dummy)		0.908	0.820*
		(0.088)	(0.080)
Rural		1.272***	1.095
		(0.088)	(0.077)
Income (As % of FPL)		1.003***	1.003***
		(0.000)	(0.000)
Spell Length			1.049***
			(0.004)
Observations	1,058,821	1,058,703	1,058,703
Log Likelihood	-9792	-9624	-9540
*** p<0.001, ** p<0.01, * p<0.05, + p<0.10			

Hypothesis 4.
What is the impact of premiums on enrollment broken down by income level and the corresponding monthly premium amount?

In July 2012, BC+ implemented new premium rules for three groups. First, parents and caretakers with family incomes from 133-150% FPL now pay a sliding-scale premium, and those with incomes from 150-200% FPL, who were already required to pay premiums, saw their premiums increase. Second, parents and caretakers eligible under Transitional Medical Assistance (TMA), previously exempt from premiums, were also subject to these new sliding-scale premiums. Finally, all childless adults with family incomes above 133% FPL became subject to the sliding scale premium. These requirements applied to both new and existing program enrollees, although the childless adult program was closed to new enrollees at the time. Table 4.1 summarizes the amounts of the required premiums before and after July 2012 by group and income.

Table 4.1 BadgerCare Plus Monthly Premium Amounts

	Prior to July 2012			Effective July 2012
	Childless Adult	Parent/Caretaker	TMA Parent/Caretaker	All Adults (% Income)
<133%	0	0	0	0
133-140%	0	0	0	3.0%
140-150%	0	0	0	3.5%
150-160%	0	$10	0	4.0%
160-170%	0	$27	0	4.5%
170-180%	0	$68	0	4.9%
180-190%	0	$122	0	5.4%
190-200%	0	$188	0	5.8%
200-210%	0	n/a	0	6.3%
210-220%	0	n/a	0	6.7%
220-230%	0	n/a	0	7.0%
230-240%	0	n/a	0	7.4%
240-250%	0	n/a	0	7.7%
250-260%	0	n/a	0	8.1%
260-270%	0	n/a	0	8.3%
270-280%	0	n/a	0	8.6%
280-290%	0	n/a	0	8.9%
290-300%	0	n/a	0	9.2%
300% and above	0	n/a	0	9.5%

Notes: n/a, not applicable due to ineligibility. For reference, 133% FPL in 2014 was ~$2194/month for a family of 3, so premiums would start at ~$66/month for such a family in July 2012.

To assess the impact of these premium changes, we use CARES enrollment data for adults who were enrolled in BC+ at any point between July 2009 and July 2013. We divide the data into three groups based on the different pre-July 2012 policy they were subject to: parents/caretakers, TMA, and childless adults. Table 4.2 provides a summary of the average personal and family characteristics of the study population.

Table 4.2 Summary Statistics for BadgerCare Plus Enrollees (Estimation Sample)

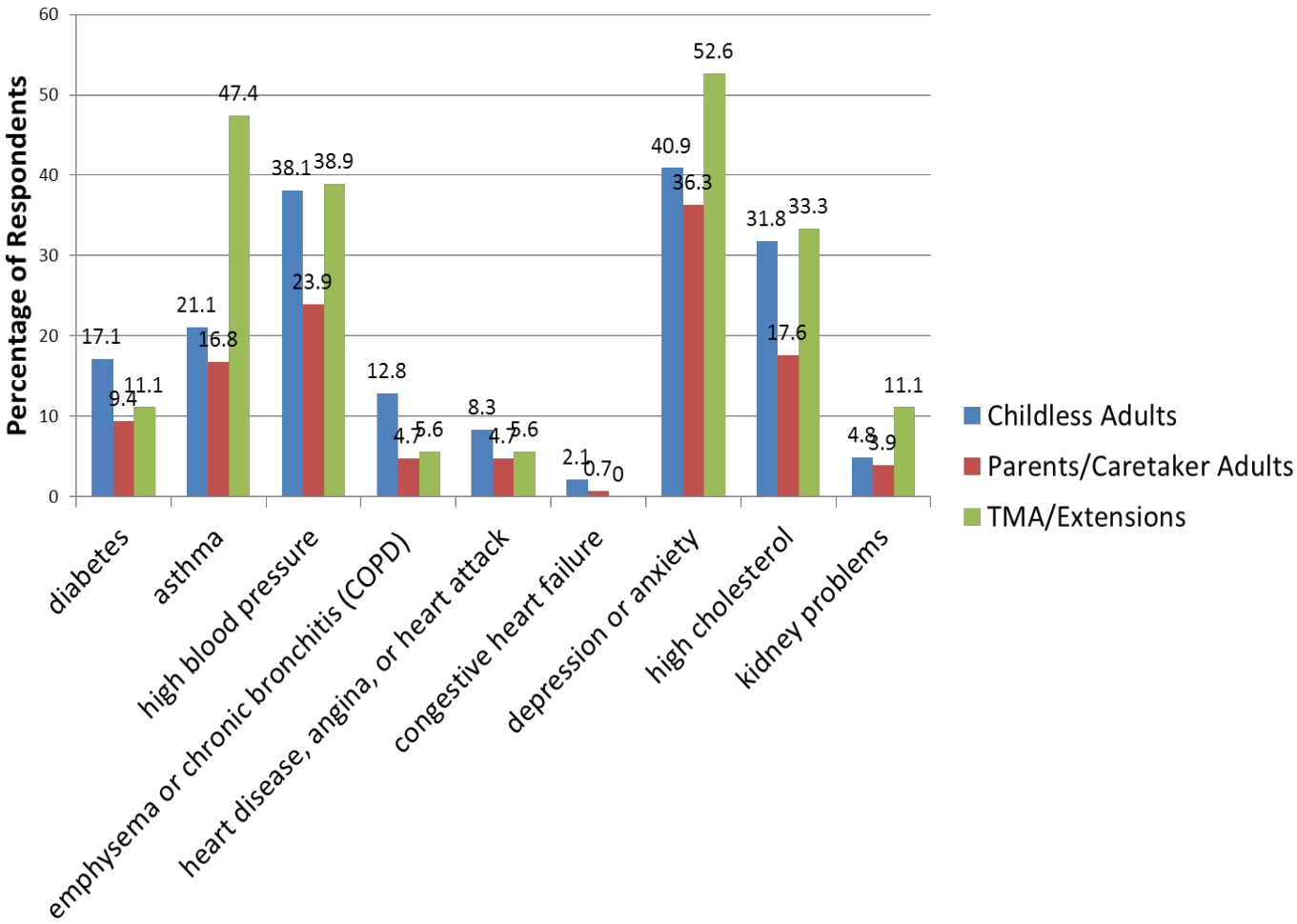
	PARENTS/CARETAKERS		TMA		CHILDLESS ADULTS	
Variable	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Age	34.11	9.81	32.76	9.29	44.31	13.55
Female	0.60	0.49	0.61	0.49	0.51	0.50
Non-Hispanic White	0.67	0.47	0.71	0.45	0.74	0.44
Black	0.14	0.34	0.10	0.30	0.17	0.37
Hispanic	0.08	0.28	0.09	0.28	0.04	0.20
Other/unreported	0.07	0.26	0.08	0.26	0.03	0.18
Citizen	0.96	0.19	0.96	0.20	0.99	0.11
itizenship missing	0.00	0.01	0.00	0.00	0.00	0.05
Speaks English	0.96	0.21	0.95	0.21	0.98	0.13
Less than high school	0.22	0.41	0.18	0.38	0.15	0.36
High school/GED	0.47	0.50	0.48	0.50	0.24	0.43
More than high school	0.13	0.34	0.15	0.36	0.08	0.26
Education missing	0.18	0.38	0.19	0.39	0.53	0.50
Rural	0.38	0.49	0.40	0.49	0.13	0.33
Num of kids in household	1.94	1.14	2.26	1.36	0.01	0.13
Num of adults in household	1.69	0.62	1.80	0.60	1.22	0.49
Family income %FPL	77.50	56.29	151.14	191.38	64.38	72.60
Countable Family Income (in $)	1360.12	1066.45	2635.87	3400.27	629.96	743.03
Length of spell	17.54	15.10	21.53	13.59	19.10	14.10
Number of Enrollees	7,208,916		852,569		1,620,603	

Notes: Sample includes only enrolled adults--childless adults and parents/caretakers-- in BC+ from February 2008 to December 2012. Only enrollment spells are considered. Left censored spells are excluded. One month drop outs are counted as exiting enrollees.

Childless adults, with an average age of 44, were about 10 years older than the other two groups, and more likely to be male and non-Hispanic white. Educational attainment is missing for many childless adults, but looks similar for TMA and parents/caretakers, with around half achieving a maximum of a high school education or GED. Only 13% of childless adults are located in rural areas, substantially fewer than either parents/caretakers or TMA, who have a similar likelihood of living in a rural area (40%). Those in TMA tend to have slightly larger families than parents/caretakers. There are also some important differences in average income, with average income as percent of FPL and in dollars the smallest for childless adults. TMA tend to stay enrolled longer than the average parent/caretaker; average spell length is slightly smaller than TMA for childless adults but still greater than parents/caretakers.

The self-reported health status among these groups also appears substantially different. Figure S17 shows that Childless Adults and TMA adults more frequently report a range of health problems.

Figures S17 Told by a doctor of health professional that you have….



Further analyses of the administrative data are illustrated in Figures 4.1-4.8 on pages 64-48.

Figure 4.1 shows total enrollment over time and by income as percent of FPL (measured concurrently) for parents/caretakers; Figure 4.2 for TMA parents/caretakers; and Figure 4.3 for childless adults. For childless adults, new enrollment was null as the program was closed. For parents/caretakers, overall enrollment was mostly stable.

There was a downward trend in total enrollment among premium-paying categories after the July 2012 changes, but total enrollment recovered at the end of 2013 before eventually again trending down in 2014. Roughly 80% of parent/caretaker enrollees were in families with incomes below 133% FPL, with smaller fractions in the higher income groups. TMA enrollment trended up during 2011, but began to decline at the beginning of 2012 and then dropped in July 2012 across all of the newly premium paying income categories, but not in the non-premium-paying category. The childless adult program was closed to new enrollment, and so the total enrollment is decreasing across all income groups. An accelerated decline occurred among the highest income group associated with the time of the premium implementation.

Figure 4.4 shows total exits over time and by income as percent of FPL (measured at the time of exit) for parents/caretakers; Figure 4.5 for TMA parents/caretakers; and Figure 4.6 for childless adults. Exits are stable for parents above 133% FPL until July 2012, when there is a sudden increase followed by a higher than previous level of total exits. Exits for the below 133% FPL group are less stable over time, and also trend upwards after July 2012, reaching their highest point in November 2012, after which they suddenly return to a lower level and trend upward throughout 2013. TMA exits exhibit a very similar pattern to other parents/caretakers; the spike in exits in July 2012 occurs across all new premium-paying groups (the number of enrollees in the 133-150% group is very low). They also show a similar pattern below 133% FPL, with the increase in July 2012 and peak exits in December 2012 followed by a decrease and an upward trend through 2013. Exits for childless adults are declining steadily over this period, since the total level of enrollment is also decreasing. Increases in exits occur among premium-paying groups following premium implementation as well as a slight increase in exits among those with FPL<133%.[20]

Figure 4.7 shows new enrollment for parents/caretakers. New enrollment in this context could mean either a re-entry after a period of non-enrollment or a person completely new to the program. Parents/caretakers show declines in new enrollment among the new premium-paying group beginning in July 2012, but eventually the number of new enrollees returned to its previous average before a spike in the number of new enrollees across income groups at the beginning of 2013. TMA new enrollment is not shown as they are “transitional,” and childless adult new enrollment is also omitted as that program was closed at the time.

Next, we compare the enrollment of parents and caretakers subject to a given premium requirement to those subject to no or a different premium requirement, before and after the policy change. In other words, we study the impact of premiums on enrollment by using the structure of the premium requirement to create comparison groups. This allows us to measure the causal effects of the premiums on enrollment and report them separately by income level.

[20] The original proposal mentioned we would show the total number of disenrollments for the waiver population by reason for disenrollment if possible. However, as expected, we found the reason codes within CARES associated with separation from coverage to often be missing, and therefore unreliable for program evaluation purposes. We did separate those with premium non-payment as a reason for dis-enrollment in the analysis of H3.

This “difference-in-differences” design compares the probability of premium payment and exit of the group of adults in income ranges who were and were not subject to premiums, for those who enrolled into BC+ before and after July 2012. Using the comparison groups outlined by income range, we take an “intent-to-treat” approach rather than trying to directly match to the premium files to identify premium payers. The major difference between the results in this section and those of Hypothesis 3 is that Hypothesis 3 only considers dis-enrollments classified as due to failure to pay premiums, as indicated by their RRP status within CARES. This further analysis considers the changes in any type of exit.

Figure 4.8 shows estimated Kaplan-Meier curves for parents/caretakers and TMA adults who started their program either 6 or 12 months prior to the policy change. These graphs take the cohort of people who enrolled in January 2012 and June 2011 and follow them over time, showing the cumulative percent who have exited at each month. For the six month cohort, these estimates indicate an increase in the percent no longer enrolled exactly at the policy implementation point and increases in the rates of exit (slopes of the curves) thereafter. The twelve month cohort shows a very similar pattern, but twelve months out rather than six months out. These effects are not evident for the non-premium-paying income group. These graphs help verify that it is the timing of the policy that is changing exit rates rather than other possible explanation.

To further understand the effects of premiums by estimating the exact size of these effects and controlling for different enrollee characteristics among the different income groups, we embed this framework in a Cox proportional hazard model, a form of discrete-time hazard model. The hazard model, relative to a linear model, incorporates duration dependence in behavior. The model can be characterized as a discrete time hazard regression discontinuity analysis, which uses the differences in behavior at the threshold as an important source of variation, in specifications that include linear controls for FPL in addition to the comparison group terms.

The results are reported separately for each of the three groups: parents/caretakers, TMA, and childless adults. Each group includes three different specifications. Specification (1) includes only controls for income group, defined broadly as <133% FPL (the excluded group), 133-150% FPL, and 150-200% FPL for parents, and including a >200% FPL group for childless adults and TMA, whether the month was prior to or after policy implementation (Post), and interactions of Post with the income groups.

This interaction term is what tells how exit rates differed among the income groups after the policy, so it is the coefficient of interest for analysis purposes. Specification (2) includes all of the variables in (1) and adds individual and household characteristics (age of youngest household member, sex, number of adults in the household, number of children in the household, education, urban/rural, and income as percent of FPL. Childless adult regressions exclude household characteristics related to children. Specification (3) includes all of the variable in (1) and (2), and adds a control for spell length.

Table 4.3 summarizes the results of these models. Each coefficient in the table should be interpreted as the difference in likelihood of exiting relative to the excluded category.

Parents/Caretaker Adults:

> The coefficient on “Post” for parents/caretakers indicates that the overall level of exits increased after July 2012, by 14-21% depending on the specification. The interaction of Post with the income groups tells us how they were differentially affected. In the new premium-paying group, those with incomes 133%-150% FPL, had exit rates that were 2.8-3.1 times higher than the comparison group once they were required to pay premiums, depending on the exact specification. Those facing increased premiums, in the 150-200% FPL group, had exit rates 1.7-1.8 times higher than previously, relative to the comparison group.

Table 4.3 Cox Proportional Hazard Models, Probability of Exit

	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
VARIABLES	Parents/Caretakers			TMA			Childless Adults		
Post (07/12-12/12)	1.206***	1.192***	1.139***	1.803***	1.648***	1.588***	0.613***	0.606***	0.752***
	(0.007)	(0.007)	(0.007)	(0.025)	(0.024)	(0.025)	(0.017)	(0.018)	(0.028)
133%<June FPL<150%	0.675***	0.671***	0.675***	0.524***	0.524***	0.523***	0.245***	0.238***	0.244***
	(0.010)	(0.010)	(0.010)	(0.018)	(0.018)	(0.019)	(0.019)	(0.018)	(0.020)
150%<June FPL<200%	1.074***	1.049***	1.052***	0.689***	0.678***	0.686***	0.276***	0.262***	0.270***
	(0.011)	(0.010)	(0.011)	(0.015)	(0.015)	(0.015)	(0.014)	(0.013)	(0.014)
200%<June FPL	-	-	-	1.097***	1.031	1.035+	0.700***	0.661***	0.681***
	-	-	-	(0.022)	(0.021)	(0.021)	(0.047)	(0.044)	(0.045)
(Post)* (133%<June FPL<150%)	2.933***	2.867***	3.116***	3.530***	3.567***	3.788***	5.638***	5.563***	5.654***
	(0.060)	(0.059)	(0.065)	(0.162)	(0.164)	(0.182)	(0.530)	(0.523)	(0.541)
(Post)* (150%<June FPL<200%)	1.741***	1.711***	1.848***	3.204***	3.186***	3.361***	6.410***	6.364***	6.303***
	(0.026)	(0.026)	(0.028)	(0.105)	(0.105)	(0.113)	(0.398)	(0.397)	(0.411)
(Post)* (200%<June FPL)	-	-	-	2.691***	2.710***	2.822***	4.209***	4.153***	4.257***
	-	-	-	(0.097)	(0.099)	(0.104)	(0.515)	(0.496)	(0.501)
Youngest household member 1-5 years		0.495***	0.503***		0.382***	0.367***		-	-
		(0.007)	(0.011)		(0.013)	(0.015)		-	-
Youngest household member 6-12 years		0.505***	0.537***		0.479***	0.477***		-	-
		(0.007)	(0.011)		(0.015)	(0.019)		-	-
Youngest household member 13-18 years		0.469***	0.502***		0.462***	0.468***		-	-
		(0.007)	(0.010)		(0.015)	(0.019)		-	-
No children in		0.485***	0.523***		0.473***	0.489***		-	-

household									
		(0.007)	(0.011)		(0.015)	(0.020)		-	-
Female		0.972***	1.023***		0.992	1.044**		0.842***	0.846***
		(0.005)	(0.006)		(0.011)	(0.014)		(0.011)	(0.015)
Number of adults in household		1.243***	1.237***		1.270***	1.269***		1.091***	1.063***
		(0.005)	(0.006)		(0.011)	(0.012)		(0.015)	(0.017)
Number of kids in household		0.931***	0.939***		0.943***	0.954***		-	-
		(0.002)	(0.003)		(0.005)	(0.006)		-	-
High school graduate		0.955***	0.959***		0.972+	0.971+		0.866***	0.895***
		(0.006)	(0.007)		(0.015)	(0.017)		(0.016)	(0.025)
More than high school		1.006	1.017+		1.045*	1.050*		0.841***	0.912**
		(0.009)	(0.010)		(0.019)	(0.023)		(0.023)	(0.030)
Missing education (dummy)		1.083***	1.099***		1.045*	1.056**		0.848***	0.906***
		(0.009)	(0.010)		(0.019)	(0.022)		(0.014)	(0.025)
Rural		1.045***	1.059***		0.979+	0.998		0.936**	0.983
		(0.005)	(0.006)		(0.011)	(0.013)		(0.021)	(0.026)
Income (As % of FPL)		1.000***	1.000***		1.000***	1.000***		1.001***	1.001***
		(0.000)	(0.000)		(0.000)	(0.000)		(0.000)	(0.000)
Spell Length			0.922***			0.871***			0.869***
			(0.002)			(0.004)			(0.008)
Observations	4,320,513	4,257,759	4,257,759	577,736	573,834	573,834	877,388	877,129	877,129
Log Likelihood	-1953000	-1907000	-1899000	-262024	-256792	-254163	-257756	-256895	-254525
Notes: Robust s.e. in parentheses *** p<0.001, ** p<0.01, * p<0.05, + p<0.10									

For TMA adults, the post period was associated with a much higher rate of exit overall, at 1.6-1.8 times higher. All income groups were new premium payers, and the interaction of post with the income group indicator shows that the premium requirement was associated with 2.6-3.8 times higher exit rates, depending the group and specification. The smallest increases were for the above 200% FPL group, who were paying the highest premiums. This could be explained by higher income enrollees being most able to pay the premiums, or by selection; only high-need enrollees may be enrolled at that income level.

For childless adults, the post period was associated with slightly lower exit rates overall. However, there was a relative increase in exits among the new premium-paying enrollees in the post policy period for them as well: exit rates were 4.2-6.4 times higher, depending on the exact specification and group. Similar to TMA adults, the smallest effect appears to be for the >200% FPL group.

We also estimated these models with an extended definition of income groups, including separately every group subject to a different required premium amount. These results are available in Table 4.4. We are again interested in the coefficients on the interaction of post and the income groups. The conclusions from Table 4.4 are overall very similar.

For parents/caretakers, the size of the effect is, for the most part, decreasing in income, and is significantly larger for the new premium-paying groups than for those already required to pay premiums. What we learn from Table 4.4 with respect to parents/caretakers is that the within the already paying premium income ranges, the largest effects on exit rates are for the highest income enrollees.

The results for TMA adults do not indicate a pattern of exit rates increasing with income in the more narrowly defined income groups. For childless adults, the number of enrollees in the very highest income groups is sometimes too small to get reliable results (reflected in the large standard errors on the estimates). Despite the finding above that the highest effects were in the largest income group, effects do not seem to be increasing overall with respect to income here; the size of the coefficients does not have a clear pattern.

Summary: Effects of Premiums on Exits

- More significant than the amount of the premium is the application of new premiums where there had previously been no premiums.
    - Parents: Exit rates vary by income groups, with the increase in exit rate much larger for the 133-150% FPL group than 150-200% FPL group.
    - TMA: The premium requirement was associated with 2.6-3.8 times higher exit rates, depending the group and specification.
    - Childless Adults: Exit rate were 4.2-6.4 times higher, depending on the income category.

Table 4.4 Extended Income Groups Cox Proportional Hazard Models, Probability of Exit

	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
VARIABLES	Parents/Caretakers			TMA			Childless Adults		
Post (07/12-12/12)	1.206***	1.191***	1.139***	1.801***	1.646***	1.587***	0.613***	0.606***	0.752***
	(0.007)	(0.007)	(0.007)	(0.025)	(0.024)	(0.025)	(0.017)	(0.018)	(0.028)
133%<June FPL<140%	0.644***	0.642***	0.645***	0.543***	0.546***	0.553***	0.290***	0.282***	0.276***
	(0.015)	(0.015)	(0.015)	(0.027)	(0.027)	(0.028)	(0.030)	(0.030)	(0.033)
140%<June FPL<150%	0.698***	0.693***	0.698***	0.510***	0.508***	0.501***	0.211***	0.204***	0.217***
	(0.014)	(0.014)	(0.014)	(0.023)	(0.023)	(0.024)	(0.023)	(0.023)	(0.024)
150%<June FPL<160%	0.934***	0.916***	0.918***	0.611***	0.604***	0.616***	0.258***	0.245***	0.244***
	(0.018)	(0.018)	(0.018)	(0.025)	(0.025)	(0.026)	(0.025)	(0.024)	(0.025)
160%<June FPL<170%	0.994	0.975	0.982	0.655***	0.652***	0.658***	0.307***	0.294***	0.313***
	(0.020)	(0.020)	(0.020)	(0.028)	(0.028)	(0.029)	(0.031)	(0.030)	(0.032)
170%<June FPL<180%	1.123***	1.095***	1.099***	0.682***	0.672***	0.680***	0.232***	0.224***	0.238***
	(0.023)	(0.023)	(0.023)	(0.032)	(0.031)	(0.032)	(0.026)	(0.025)	(0.027)
180%<June FPL<190%	1.179***	1.142***	1.146***	0.744***	0.723***	0.728***	0.281***	0.259***	0.263***
	(0.026)	(0.025)	(0.025)	(0.036)	(0.034)	(0.035)	(0.032)	(0.030)	(0.030)
190%<June FPL<200%	1.332***	1.299***	1.299***	0.871**	0.844***	0.843***	0.340***	0.321***	0.332***
	(0.031)	(0.031)	(0.031)	(0.042)	(0.041)	(0.042)	(0.045)	(0.043)	(0.045)
200%<June FPL<210%	-	-	-	1.010	0.989	1.000	0.699*	0.658**	0.689**
	-	-	-	(0.046)	(0.045)	(0.046)	(0.098)	(0.094)	(0.095)
210%<June FPL<220%	-	-	-	1.145**	1.099*	1.120*	0.856	0.784	0.830
	-	-	-	(0.053)	(0.052)	(0.053)	(0.151)	(0.143)	(0.147)
220%<June FPL<230%	-	-	-	1.111+	1.058	1.071	0.673+	0.648*	0.690+
	-	-	-	(0.060)	(0.059)	(0.060)	(0.137)	(0.131)	(0.138)
230%<June FPL<240%	-	-	-	1.190**	1.106+	1.091	0.678+	0.664+	0.588*
	-	-	-	(0.065)	(0.062)	(0.062)	(0.148)	(0.146)	(0.133)
240%<June FPL<250%	-	-	-	1.100	1.071	1.088	0.759	0.672*	0.680+
	-	-	-	(0.073)	(0.072)	(0.072)	(0.152)	(0.130)	(0.134)
250%<June FPL<260%	-	-	-	1.034	0.963	0.923	0.447**	0.412**	0.435**
	-	-	-	(0.075)	(0.069)	(0.080)	(0.136)	(0.126)	(0.131)
260%<June FPL<270%	-	-	-	1.105	1.044	1.032	0.849	0.838	0.880
	-	-	-	(0.101)	(0.091)	(0.090)	(0.249)	(0.255)	(0.262)

270%<June FPL<280%	-	-	-	1.017	0.964	0.976	0.457*	0.450*	0.473*
	-	-	-	(0.093)	(0.091)	(0.092)	(0.169)	(0.163)	(0.169)
280%<June FPL<290%	-	-	-	1.089	1.015	1.035	0.368	0.384	0.408
	-	-	-	(0.111)	(0.108)	(0.108)	(0.267)	(0.282)	(0.297)
290%<June FPL<300%	-	-	-	1.075	0.974	0.987	0.735	0.705	0.733
	-	-	-	(0.108)	(0.104)	(0.105)	(0.255)	(0.235)	(0.241)
300%<June FPL	-	-	-	1.125**	0.995	0.991	0.774	0.733+	0.771
	-	-	-	(0.046)	(0.043)	(0.043)	(0.132)	(0.122)	(0.126)
(Post)*(133%<June FPL<140%)	2.967***	2.903***	3.165***	3.170***	3.207***	3.328***	4.280***	4.233***	4.412***
	(0.092)	(0.090)	(0.099)	(0.214)	(0.217)	(0.233)	(0.581)	(0.574)	(0.619)
(Post)*(140%<June FPL<150%)	2.915***	2.847***	3.086***	3.838***	3.873***	4.188***	7.109***	7.004***	6.977***
	(0.077)	(0.075)	(0.082)	(0.232)	(0.234)	(0.262)	(0.926)	(0.911)	(0.907)
(Post)*(150%<June FPL<160%)	1.886***	1.859***	2.025***	3.178***	3.148***	3.334***	5.987***	5.974***	5.795***
	(0.052)	(0.051)	(0.056)	(0.188)	(0.189)	(0.199)	(0.703)	(0.704)	(0.728)
(Post)*(160%<June FPL<170%)	1.929***	1.894***	2.040***	3.271***	3.247***	3.439***	5.743***	5.705***	5.700***
	(0.057)	(0.056)	(0.061)	(0.209)	(0.209)	(0.224)	(0.732)	(0.727)	(0.727)
(Post)*(170%<June FPL<180%)	1.666***	1.633***	1.762***	3.284***	3.287***	3.462***	8.334***	8.178***	8.076***
	(0.052)	(0.051)	(0.055)	(0.232)	(0.235)	(0.246)	(1.106)	(1.086)	(1.092)
(Post)*(180%<June FPL<190%)	1.582***	1.557***	1.678***	3.241***	3.199***	3.388***	6.433***	6.442***	6.664***
	(0.053)	(0.052)	(0.057)	(0.245)	(0.246)	(0.259)	(0.906)	(0.913)	(0.948)
(Post)*(190%<June FPL<200%)	1.548***	1.512***	1.616***	3.310***	3.308***	3.382***	5.870***	5.780***	5.627***
	(0.060)	(0.058)	(0.063)	(0.255)	(0.256)	(0.260)	(0.991)	(0.975)	(0.978)
(Post)*(200%<June FPL<210%)	-	-	-	2.696***	2.732***	2.795***	4.563***	4.568***	4.863***
	-	-	-	(0.229)	(0.231)	(0.236)	(1.236)	(1.212)	(1.237)
(Post)*(210%<June FPL<220%)	-	-	-	2.389***	2.366***	2.445***	3.511***	3.244***	3.207***
	-	-	-	(0.207)	(0.215)	(0.221)	(1.193)	(1.071)	(1.008)
(Post)*(220%<June FPL<230%)	-	-	-	2.318***	2.424***	2.532***	3.214***	3.208***	3.288***
	-	-	-	(0.252)	(0.257)	(0.263)	(1.120)	(1.099)	(1.096)
(Post)*(230%<June FPL<240%)	-	-	-	2.746***	2.753***	2.933***	4.857***	4.671***	5.310***
	-	-	-	(0.297)	(0.356)	(0.372)	(1.884)	(1.772)	(2.023)
(Post)*(240%<June FPL<250%)	-	-	-	2.700***	2.623***	2.756***	4.148***	4.272***	4.283***
	-	-	-	(0.325)	(0.311)	(0.321)	(1.479)	(1.451)	(1.468)
(Post)*(250%<June FPL<260%)	-	-	-	2.511***	2.490***	2.606***	8.163***	8.102***	8.016***

	-	-	-	(0.335)	(0.338)	(0.359)	(2.978)	(2.955)	(2.843)
(Post)*(260%<June FPL<270%)	-	-	-	3.203***	3.329***	3.491***	2.196	2.107	2.222
	-	-	-	(0.529)	(0.549)	(0.558)	(1.407)	(1.330)	(1.407)
(Post)*(270%<June FPL<280%)	-	-	-	3.889***	3.756***	3.819***	8.247***	7.735***	7.271***
	-	-	-	(0.616)	(0.610)	(0.612)	(4.696)	(4.309)	(3.946)
(Post)*(280%<June FPL<290%)	-	-	-	2.338***	2.511***	2.709***	7.023+	6.913+	6.693
	-	-	-	(0.421)	(0.447)	(0.468)	(8.027)	(8.061)	(7.768)
(Post)*(290%<June FPL<300%)	-	-	-	2.567***	2.506***	2.681***	1.316	1.377	1.423
	-	-	-	(0.428)	(0.424)	(0.437)	(1.143)	(1.203)	(1.236)
(Post)*(300%<June FPL)	-	-	-	3.021***	3.059***	3.165***	5.127***	5.043***	5.080***
	-	-	-	(0.229)	(0.236)	(0.240)	(1.815)	(1.673)	(1.643)
Observations	4,320,513	4,257,759	4,257,759	577,736	573,834	573,834	877,388	877,129	877,129
Log Likelihood	-1.952e+06	-1.907e+06	-1.899e+06	-261979	-256754	-254129	-257738	-256878	-254506
Notes: Robust s.e. in parentheses *** p<0.001, ** p<0.01, * p<0.05, + p<0.10. Other characteristics included in the regressions as described in text are not reported, but coefficients are similar to those in Table 4.3									

Figure 4.1 Total Enrollment over Time and by Income, Parents/Caretakers

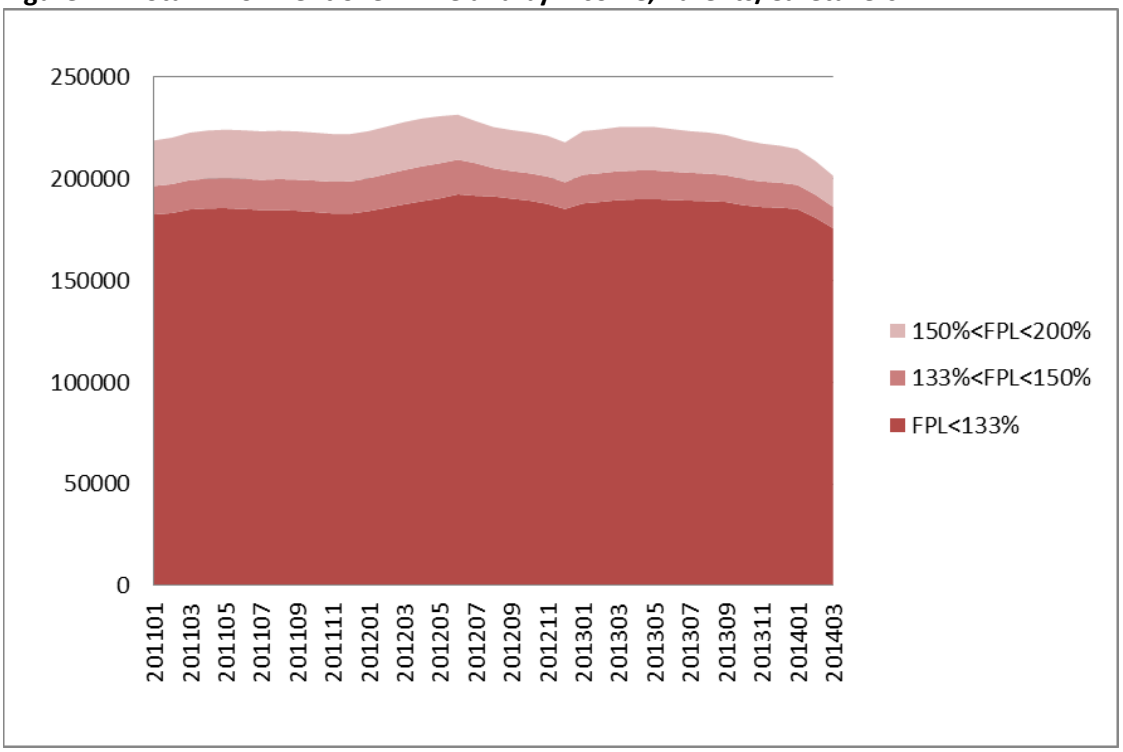


Figure 4.2 Total Enrollment over Time and by Income, TMA

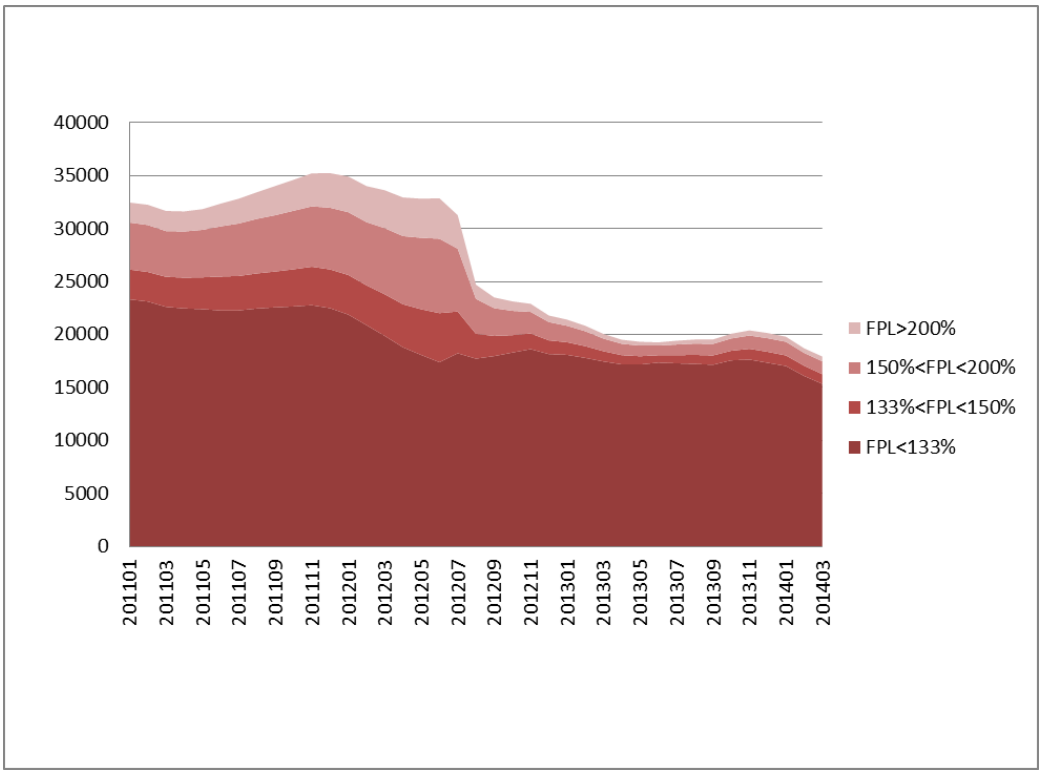


Figure 4.3 Total Enrollment over Time and by Income, Childless Adults

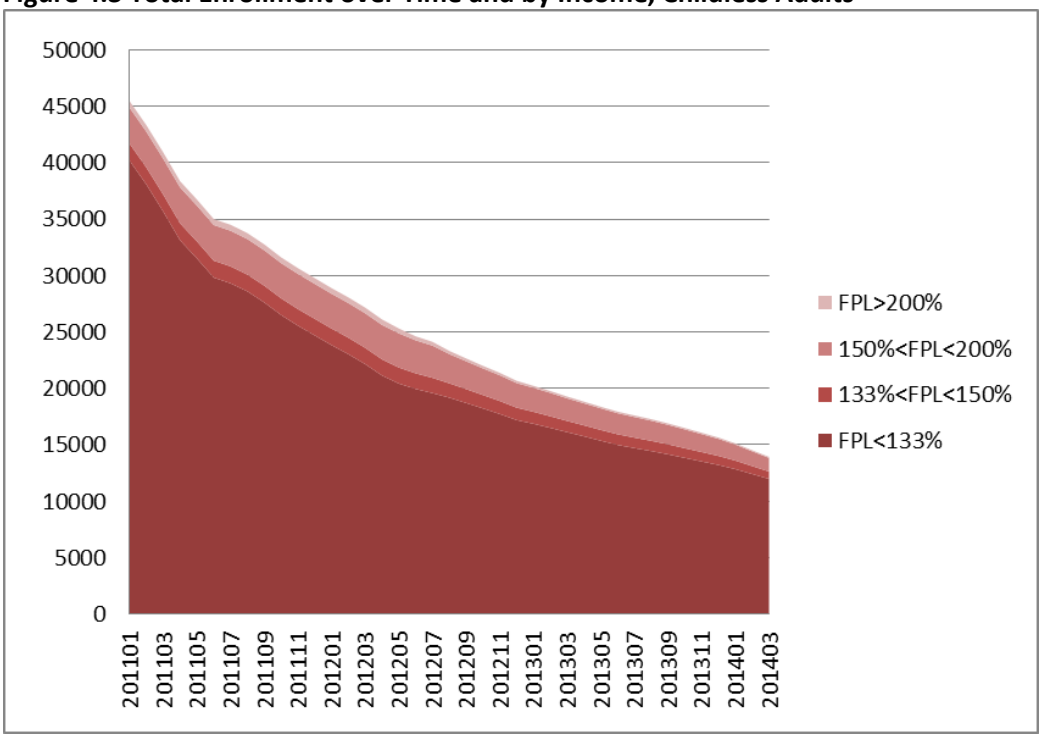


Figure 4.4 Exits over Time and by Income, Parents/Caretakers

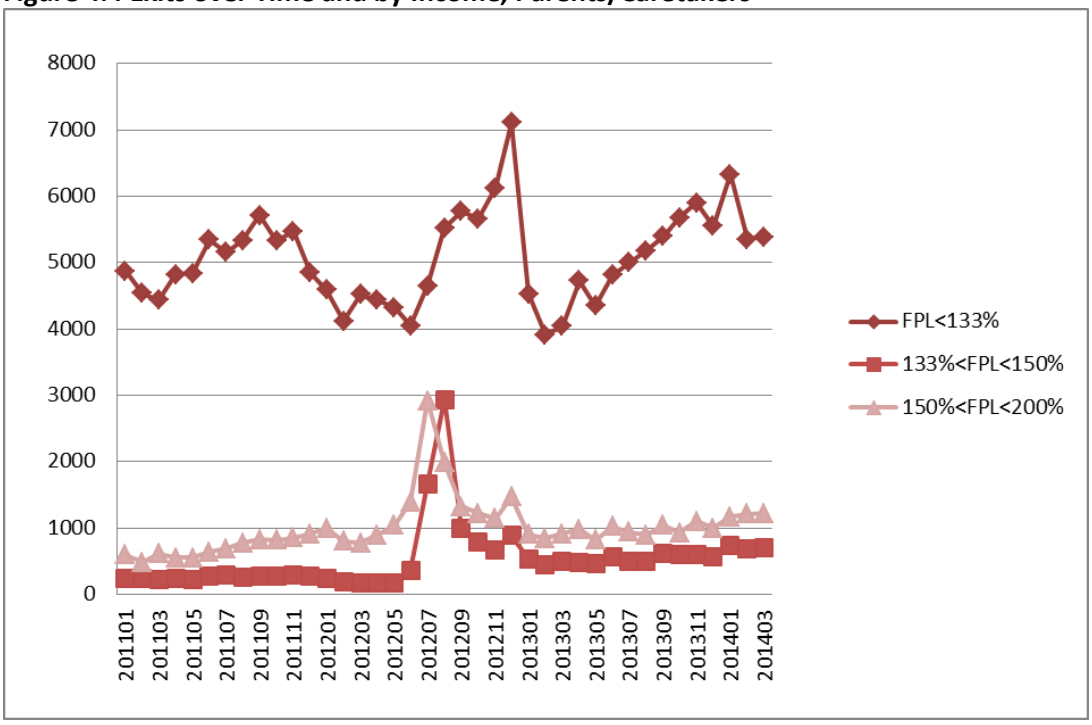


Figure 4.5 Exits over Time and by Income, TMA

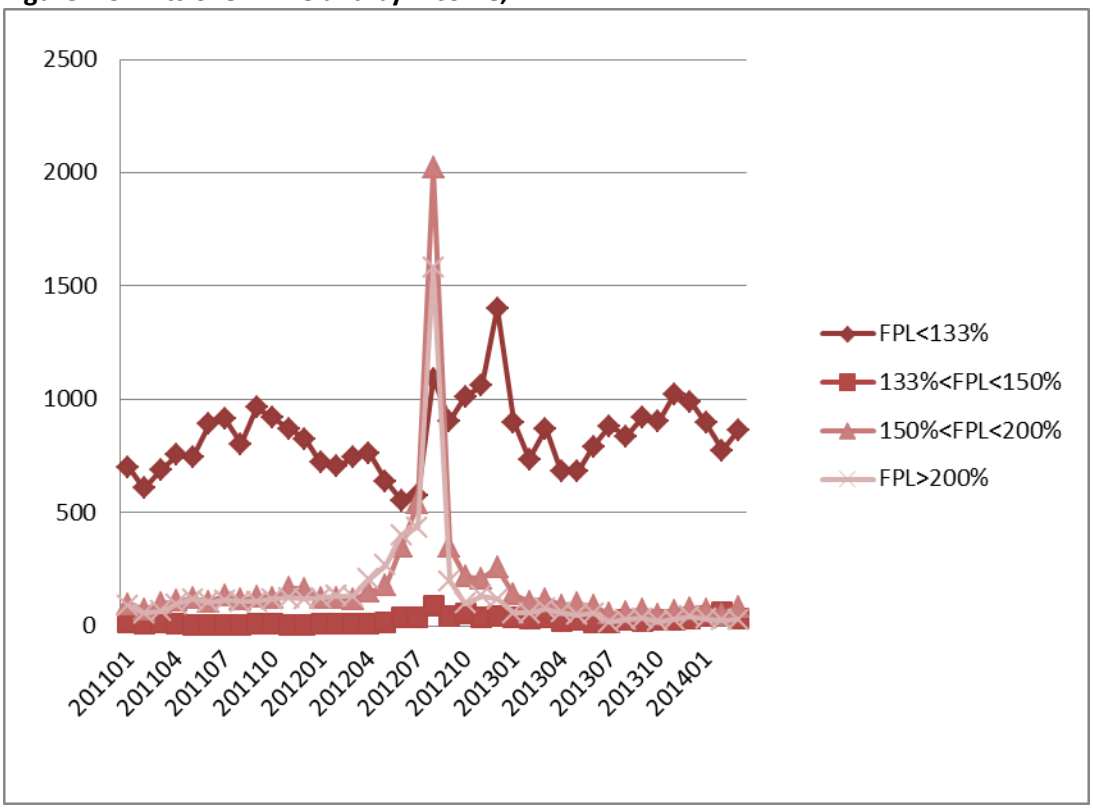


Figure 4.6 Total Exits over Time and by Income, Childless Adults

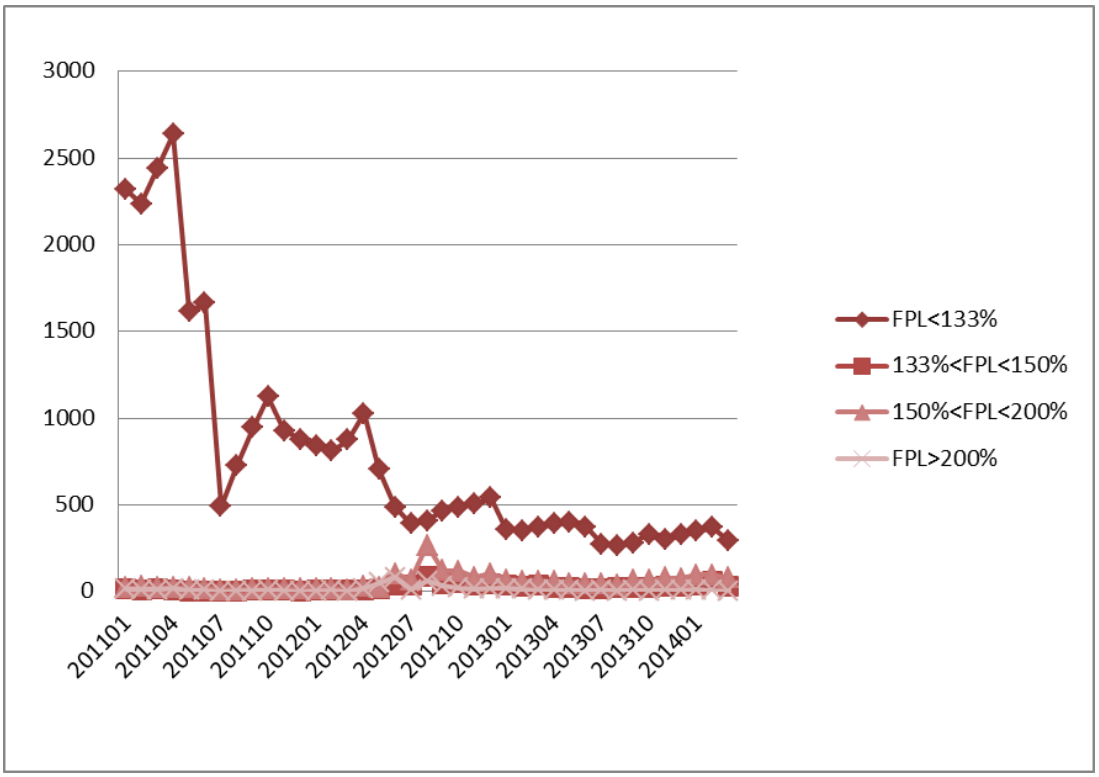


Figure 4.7 Total New Entrants (New Enrolled or Re-Enrolled) over Time and by Income, Parents/Caretakers

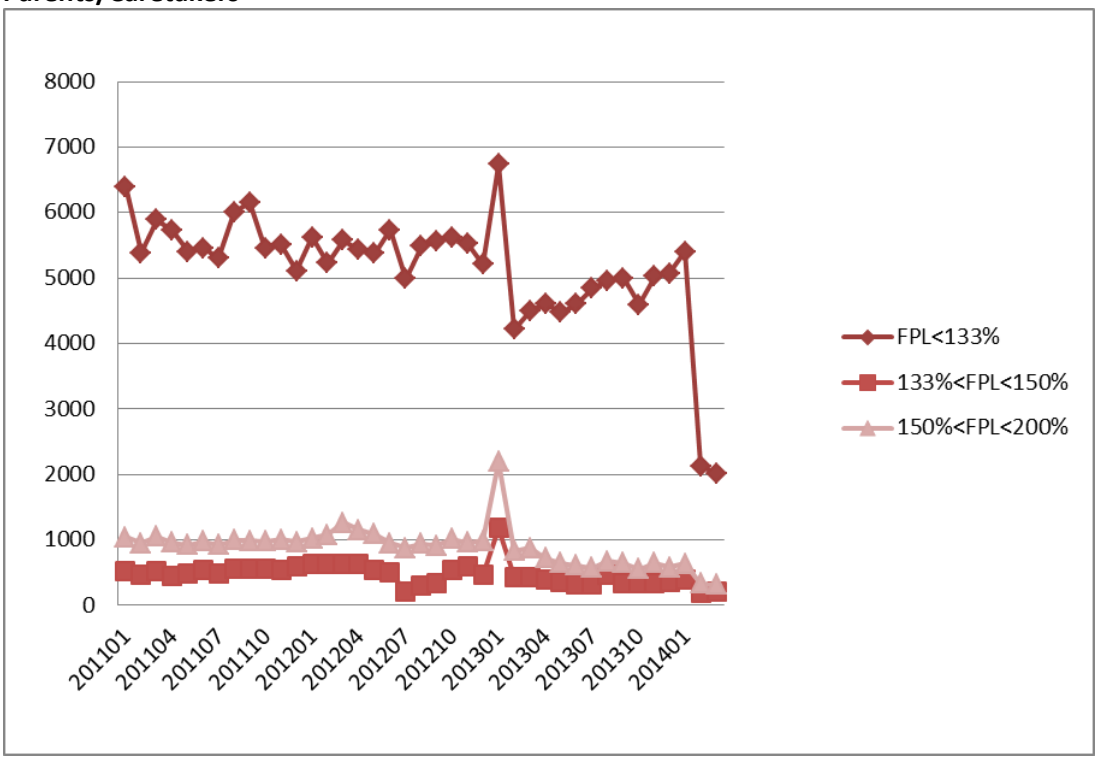
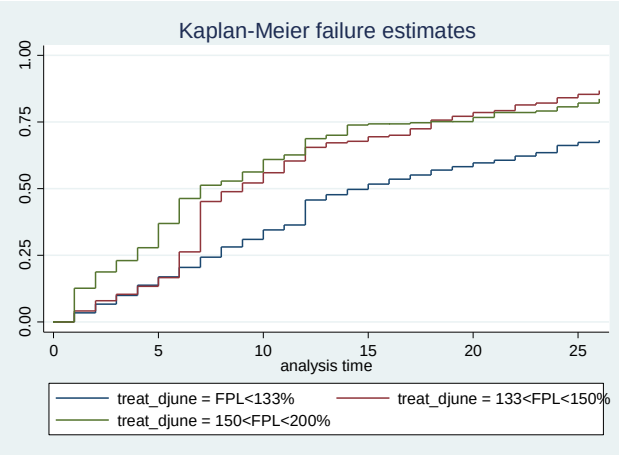
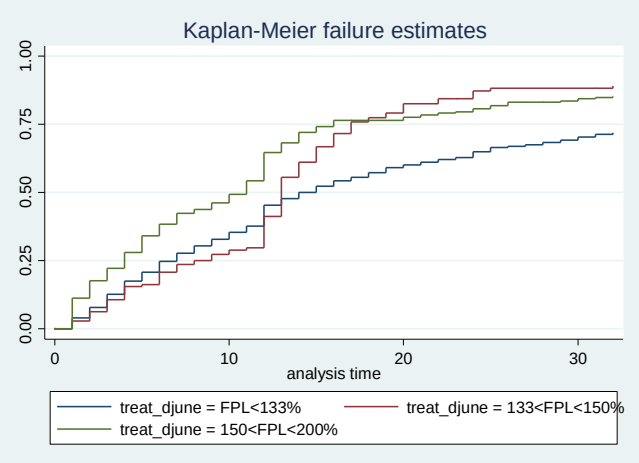


Figure 4.8 Kaplan-Meier Curves by Income and Cohort

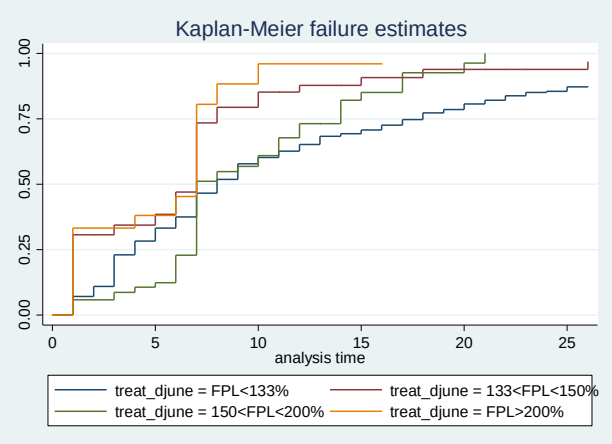
a. 6 Month Cohort: Parents/Caretakers



b. 12 Month Cohort: Parents/Caretakers



c. 6 Month Cohort: TMA



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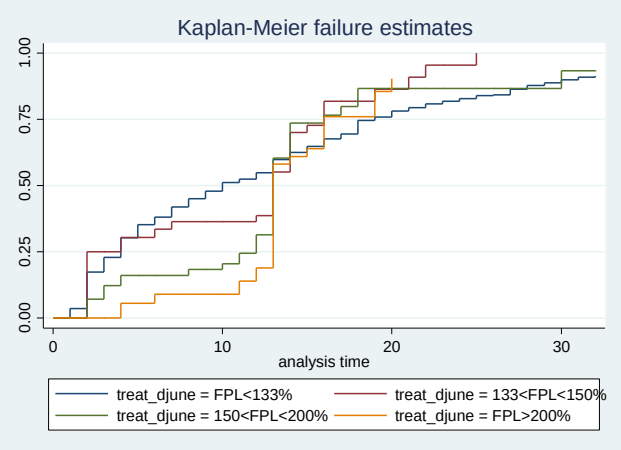
d. 12 Month Cohort: TMA



Hypothesis 5.

How are enrollment, retention, and access to care affected by the application of new, or increased, premium amounts?

Hypothesis 4 uses the CARES enrollment data to study the effect of premiums on enrollment and retention. Here, the analysis under Hypothesis 5 focuses on the effects on health care utilization/access to care. We first examine utilization outcomes by type of service (emergency department, inpatient, and outpatient), and stratify by income level and corresponding monthly premium amount.

Tables 5.1-5.3 show the average service usage by income level, separated into the three groups we analyze: parents/caretakers, transitional medical assistance (TMA), and childless adults. To facilitate comparison, we have drawn all enrolled individual-months from February 2012 to December 2012 with the exception of July 2012, which was a transition month. We average the total number of visits for each visit type by person-month in order to come up with the average visit numbers; the table also displays totals for reference. The administrative data only show utilization by individuals during the periods in which they were enrolled.

Note that this cannot be interpreted as the causal effect of premiums on utilization, since differential selection in those who leave is likely. In other words, if those with the lowest health care needs are exiting the program because they are the least willing to pay the new or increased premiums, we would expect that average health care use would be increasing among those who remain enrolled in the program (since those with lower than average usage are leaving at a higher rate).

Table 5.1 summarizes health care usage for parent/caretaker enrollees. This shows a clear downward trend in the total number of outpatient visits from the pre-policy to the post-policy period. This is true regardless of the income group (including for the below 133% FPL group). The average remains close to 0.8 visits per months for all groups. The averages for 133-140% and 140-150% FPL groups are almost identical pre- and post- premiums; slight declines are evident for the other income groups. The same is true for ER visits, which average between approximately 0.03 and 0.05 visits per month. Average hospital visits per person-month are very similar in the pre-and post-policy periods, at approximately .005 visits per month.

- Parents/Caretaker Adults show no change in the average healthcare use of enrollees who remained enrolled in the program before and after the premium policy change. This is consistent with the enrollees who exited having similar healthcare needs, on average, to the enrollees who remained in the program, or alternatively, premiums having no effect on health care use.

For TMA enrollees, health care usage by income is summarized in Table 5.2. For outpatient visits, average usage for all enrollees above 133% FPL was .71 visits in the pre-period, and .76 visits in the post period, while for those <133% FPL, total outpatient visits decreased. Average ER visits increased (from .047 to .053), as did hospital visits (.0037 to .0046) among adults in this program. For those <133% FPL, no or very small increases occurred.

- For TMA enrollees, average health care use is higher for enrollees in the post-policy period. This would suggest that healthier enrollees are disproportionately likely to leave the program, or alternatively, premiums have a negative effect on health care use.

Table 5.3 shows average health care usage by income level for childless adults. We see a large difference in the health care use of childless adults <133% FPL (.94 to.86 visits per person per month) from pre-to post-premium policy, which we can compare to the higher income groups who had to pay the

premiums, where there was a small decrease (.99 to .88 visits per person per month). For ER visits and for hospital visits there was essentially no change in both groups. As for parents/caretakers, no consistent evidence emerges of the effect of premiums or differential selection for childless adults.

Table 5.1 Average Health Care Usage, Parents/Caretakers

	# of Individual-Months		Outpatient Visits			
FPL	**Pre Policy**	**Post Policy**	**Pre Policy**		**Post Policy**	
			#	**Avrg**	**#**	**Avrg**
< 133	159976	145966	129649	0.810	111935	0.767
140	33992	24290	26927	0.792	19279	0.794
150	45027	31257	36057	0.801	25010	0.800
160	29970	23166	24295	0.811	17901	0.773
170	24841	19157	21339	0.859	15527	0.811
180	18658	14479	16020	0.859	11781	0.814
190	15565	12063	13363	0.859	9659	0.801
200	9370	7415	7667	0.818	5977	0.806

	ER Visits				Hospital Visits			
FPL	**Pre Policy**		**Post Policy**		**Pre Policy**		**Post Policy**	
	Avrg	**#**	**Avrg**	**#**	**#**	**Avrg**	**#**	**Avrg**
< 133	8591	0.054	7638	0.052	929	0.006	787	0.005
140	1507	0.044	1102	0.045	140	0.004	91	0.004
150	2021	0.045	1344	0.043	259	0.006	139	0.004
160	1222	0.041	894	0.039	147	0.005	108	0.005
170	935	0.038	740	0.039	141	0.006	97	0.005
180	712	0.038	504	0.035	98	0.005	56	0.004
190	538	0.035	363	0.030	79	0.005	58	0.005
200	297	0.032	234	0.032	37	0.004	34	0.005

Notes: Table shows total visits and average monthly visits by income. Pre-policy defined as February-June 2012; post-policy defined as August-December 2012

Table 5.2 Average Health Care Usage, Transitional Medical Assistance						
	# of Individual-Months		Outpatient Visits			
	Pre Policy	Post Policy	Pre Policy		Post Policy	
FPL			#	Avrg	#	Avrg
< 133	81332	71242	63111	0.776	53921	0.757
140	10241	6941	7508	0.733	4977	0.717
150	12357	7858	9881	0.800	6562	0.835
160	10753	6603	7617	0.708	5027	0.761
170	8042	4637	6063	0.754	3642	0.785
180	6933	3857	4847	0.699	2846	0.738
190	4650	2317	3293	0.708	1908	0.823
200	3890	1841	2667	0.686	1225	0.665
210	3276	1555	1979	0.604	1129	0.726
220	2319	998	1585	0.683	581	0.582
230	1915	731	1211	0.632	503	0.688
240	1473	568	1089	0.739	438	0.771
250	1512	576	887	0.587	376	0.653
260	1231	474	918	0.746	284	0.599
270	832	256	487	0.585	241	0.941
280	955	338	628	0.658	221	0.654
290	716	281	428	0.598	209	0.744
300	505	227	392	0.776	198	0.872
> 300	3887	1475	2481	0.638	1059	0.718

Table 5.2, continued:
Average Health Care Usage, Transitional Medical Assistance

	ER Visits				Hospital Visits			
	Pre Policy		Post Policy		Pre Policy		Post Policy	
FPL	Avrg	#	Avrg	#	#	Avrg	#	Avrg
< 133	5122	0.063	4548	0.064	339	0.004	306	0.004
140	570	0.056	404	0.058	30	0.003	31	0.004
150	679	0.055	458	0.058	49	0.004	33	0.004
160	563	0.052	361	0.055	29	0.003	32	0.005
170	362	0.045	260	0.056	23	0.003	19	0.004
180	357	0.051	215	0.056	27	0.004	25	0.006
190	203	0.044	113	0.049	24	0.005	10	0.004
200	177	0.046	99	0.054	14	0.004	7	0.004
210	159	0.049	86	0.055	11	0.003	11	0.007
220	86	0.037	39	0.039	7	0.003	5	0.005
230	64	0.033	33	0.045	12	0.006	6	0.008
240	54	0.037	25	0.044	7	0.005	1	0.002
250	57	0.038	24	0.042	6	0.004	1	0.002
260	33	0.027	13	0.027	6	0.005	3	0.006
270	32	0.038	16	0.063	2	0.002	1	0.004
280	42	0.044	21	0.062	2	0.002	1	0.003
290	21	0.029	8	0.028	6	0.008	0	0.000
300	12	0.024	6	0.026	0	0.000	0	0.000
> 300	100	0.026	54	0.037	21	0.005	6	0.004

Notes: Table shows total visits and average monthly visits by income. Pre-policy defined as February-June 2012; post-policy defined as August-December 2012.

Table 5.3 Average Health Care Usage, Childless Adults						
	# of Individual-Months		Outpatient Visits			
FPL	Pre Policy	Post Policy	Pre Policy		Post Policy	
			#	Avrg	#	Avrg
< 133	15713	14220	14775	0.940	12189	0.857
140	2923	2533	2369	0.810	2129	0.841
150	3964	3347	3710	0.936	3035	0.907
160	4069	3345	3601	0.885	2904	0.868
170	3168	2616	2921	0.922	2419	0.925
180	3084	2472	2650	0.859	2150	0.870
190	2612	2082	2398	0.918	1746	0.839
200	1489	1201	1572	1.056	1264	1.052
210	344	230	245	0.712	164	0.713
220	212	147	211	0.995	116	0.789
230	188	121	138	0.734	105	0.868
240	174	111	175	1.006	133	1.198
250	202	122	190	0.941	170	1.393
260	86	64	37	0.430	32	0.500
270	140	103	95	0.679	69	0.670
280	100	70	42	0.420	28	0.400
290	90	61	77	0.856	57	0.934
300	45	34	18	0.400	19	0.559
> 300	173	105	160	0.925	57	0.543
					0.893596	0.884513

Table 5.3, continued: Average Health Care Usage, Childless Adults								
	ER Visits				Hospital Visits			
	Pre Policy		Post Policy		Pre Policy		Post Policy	
FPL	Avrg	#	Avrg	#	#	Avrg	#	Avrg
< 133	706	0.045	648	0.046	140	0.009	127	0.009
140	105	0.036	94	0.037	12	0.004	24	0.009
150	217	0.055	162	0.048	48	0.012	30	0.009
160	139	0.034	153	0.046	38	0.009	24	0.007
170	125	0.039	98	0.037	20	0.006	35	0.013
180	97	0.031	59	0.024	19	0.006	14	0.006
190	97	0.037	70	0.034	23	0.009	15	0.007
200	49	0.033	40	0.033	20	0.013	7	0.006
210	17	0.049	9	0.039	7	0.020	0	0.000
220	10	0.047	8	0.054	1	0.005	2	0.014
230	5	0.027	5	0.041	1	0.005	2	0.017
240	11	0.063	9	0.081	2	0.011	1	0.009
250	9	0.045	6	0.049	2	0.010	4	0.033
260	0	0.000	0	0.000	0	0.000	0	0.000
270	5	0.036	2	0.019	0	0.000	0	0.000
280	0	0.000	0	0.000	1	0.010	0	0.000
290	3	0.033	3	0.049	0	0.000	0	0.000
300	0	0.000	2	0.059	0	0.000	1	0.029
> 300	3	0.017	5	0.048	0	0.000	0	0.000
		0.041366	0.041589			0.008662	0.008677	

In order to better understand the effect that premiums had on access to care, we use the structure of the premium requirement to create comparison groups. We compare utilization of members with incomes just above and just below the premium thresholds, yielding estimates of the effect of the premium policy changes on service utilization. This assessment of utilization prior to the policy change (pre-period) indicates whether those who exit the program following the imposition of the new premium structure had higher or lower service utilization than those who stay and whether it varies with the amount of the premium. This also allows us to regression-adjust the average visits by individual characteristics and test whether the hypothesis that average visit behavior is unchanged carries through. The caveat that this should not be interpreted as the causal effect of premiums remains, as discussed earlier.

We run 3 models in which the dependent variable Y_{it} is the utilization of services (e.g. inpatient, outpatient and ER). These are specified in the following equations:

1) $Y_{it}=\alpha_{FPL}+\delta_t+\gamma_{FPL}D_t+\varepsilon_{it}$
2) $Y_{it}=\alpha_{FPL}+\delta_t+\gamma_{FPL}D_t+\beta X_i+\varepsilon_{it}$
3) $Y_{it}=\alpha_i+\delta_t+\gamma_{FPL}D_t+\varepsilon_{it}$

The first model includes the FPL group (e.g. <133%, 133%-150%, etc.) fixed effects α_{FPL}, the month-year fixed effect δ_t, a dummy for the implementation period of the policy D_t with the effect of the policy for each FPL group γ_{FPL}, and the error term ε_{it}. The second model adds to the first model X_i, a vector of individual time-invariant characteristics (e.g. gender, ethnicity, etc.) with β as effect. Finally, in the third model there are: α_i the individual fixed effect, δ_t the month-year fixed effect, D_t a dummy for the implementation period of the policy with γ_{FPL} the effect of the policy for each FPL group, and ε_{it} the error term.

Tables 5.4-5.6 illustrate these estimated differences for each program group. The sample includes all individuals enrolled in the programs for at least one month between February and December 2012, excluding July 2012, as above. Enrollment status and income as percent of FPL are measured as of June 2012. We separate by service type (outpatient, emergency department, inpatient hospitalization). We include three specifications for each type of service. The first specification (columns 1, 4, and 7) include an indicator for the observation being before or after the policy change, month, FPL bin, and the interaction between FPL bins and post June 2012. The coefficients on this interaction term show whether average per person health care utilization was different before and after the premium requirement was implemented.

The second specification (columns 2, 5, and 8) includes the same variables as the first specifications adding demographic controls (age, gender, etc.). The third specification (columns 3, 6, and 9) includes everything in the first specification and individual fixed effects, so that all coefficients are estimated on the differences in within-person changes. The standard errors are clustered at individual level in all the specifications.

That is, the individual fixed-effects compare observations on the same person over time (a within-person analysis. This is specified in equation #3, above.

Table 5.4 summarizes the results for parents/caretakers. Columns 1-3 show the associated increase or decrease in outpatient visits per month for each variable included in the regressions, where the variables included are as described above. Columns 1-2 both suggest that within the newly premium required income levels, the post-July 2012 period was associated with an increase in outpatient visits of approximately .04 visits per month, roughly a 5% increase relative to the pre-period baseline of .8 visits

per month. The difference appears to be coming from a pure selection effect, however, as Column 3, the measured within-person difference, shows no increase for these groups. There is some evidence of an increase in the within-person measure among the 190-200% FPL group, who were facing much higher premiums in the post-July period, of approximately the same magnitude. There is no evidence of a difference for any other income group in any of the specifications. Looking at Columns 4-6, which summarize the results for changes in inpatient hospitalizations, and for Columns 7-9, which summarize the results for emergency department visits, coefficients are almost all close to zero and statistically insignificant, meaning there are no differences by income group pre and post policy for these outcomes. The one exception is a small increase (.005) in the monthly number of emergency visits among the 160-170% FPL group in the within-person specification. This is a 13% increase relative to the pre-period baseline of .04 visits per month. Given the non-results for all other income groups, this result should be interpreted as only weak evidence.

Table 5.5 summarizes the results for the TMA population. Income groups in Table 5.5 go up to 300% FPL to reflect the differences in eligibility criteria for this group. For outpatient visits, Columns 1-2 show some evidence of an increase in outpatient visits for this population post-July 2012. All statistically significant coefficients are positive (.07 for 150-160% FPL, .13 for 180-190% FPL, and .14 for 200-210% FPL) and consistent with 10-20% increases in monthly outpatient visits. Column 3, the within-person specification, tells a different story; none of the coefficients for those groups are statistically different from zero and instead all non-zero coefficients are negative (-.08 for 160-170% FPL, -.17 for 190-200% FPL, -.16 for 210-220% FPL), suggesting that when controlling for unobserved differences in individuals, there is some evidence of a decline in outpatient visits. For hospitalizations, all specifications suggest an increase in the 150-160% FPL group of .002 or a 67% increase from the baseline of .003 visits per month. Columns 4-5 also suggest a .009 relative decrease in the 280-290% FPL group. It is important to note that the hospitalization results for this group are based on very small numbers of underlying hospitalizations as seen in Table 5.2. The only evidence of differences in emergency department visits is for the 160-170% FPL group, for which we see an increase of .01 in columns 7-8, a 30% increase from baseline. This increase does not hold for the within-person specification (column 9).

- While there is no evidence of across-the-board increases or declines in health care utilization for the TMA population, there is some evidence of differences for certain income groups.

Results for childless adults are available in Table 5.6. There is some evidence of increases in outpatient visits for the 133-140% FPL, 160-170% FPL, 170-180% FPL, 240-250% FPL, and 250-260% FPL groups (columns 1-2), but these differences go away when controlling for within person differences in column 3, suggesting these are driven by selection. Columns 4-6 show the estimated differences in hospitalizations. There is evidence of a relative increase in hospitalizations for the 133-140% FPL group across specifications, and for the 160-170% group in columns 4-5. There is evidence of a decrease in hospitalizations for the 190-200% FPL group in columns 4-5 and for the 200-210% FPL group across all specifications. Again, these are based on very low underlying visit numbers and so small absolute changes can result in large percentage changes. For emergency department visits, only the 150-160% FPL shows a difference in columns 7-8 (an increase), and it disappears when controlling for within-person differences.

- This evidence suggests that differences in visits for childless adults appear to be driven by healthier childless adults being differentially likely to exit when required to pay premiums but, even so, differences are limited.

Table 5.4 Estimated Differences in Health Care Usage, Parents/Caretakers									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
VARIABLES	**visits**	**visits**	**visits**	**hosp**	**hosp**	**hosp**	**er**	**er**	**er**
(Post)* (133%<June FPL<140%)	0.0456**	0.0449**	0.0108	4.16e-05	5.42e-05	-3.90e-05	0.00240	0.00343	0.00154
	(0.0200)	(0.0199)	(0.0199)	(0.000637)	(0.000636)	(0.000711)	(0.00239)	(0.00239)	(0.00250)
(Post)* (140%<June FPL<150%)	0.0429**	0.0397**	0.00240	-0.000891	-0.000904	-0.000617	-0.000513	0.000357	0.000163
	(0.0186)	(0.0185)	(0.0189)	(0.000596)	(0.000596)	(0.000678)	(0.00202)	(0.00201)	(0.00223)
(Post)* (150%<June FPL<160%)	0.00555	0.00353	-0.0109	0.000170	0.000139	0.000122	-0.000806	-4.22e-05	0.00129
	(0.0186)	(0.0186)	(0.0188)	(0.000672)	(0.000671)	(0.000739)	(0.00223)	(0.00223)	(0.00231)
(Post)* (160%<June FPL<170%)	-0.00534	-0.00507	0.00793	-0.000199	-0.000196	-7.11e-05	0.00237	0.00285	0.00535**
	(0.0207)	(0.0206)	(0.0203)	(0.000788)	(0.000788)	(0.000886)	(0.00250)	(0.00250)	(0.00251)
(Post)* (170%<June FPL<180%)	-0.00200	0.000497	0.0307	-0.000970	-0.000941	-0.000357	-0.00197	-0.00177	0.00115
	(0.0246)	(0.0246)	(0.0237)	(0.000845)	(0.000845)	(0.000937)	(0.00326)	(0.00325)	(0.00345)
(Post)* (180%<June FPL<190%)	-0.0153	-0.0124	0.0155	0.000147	0.000198	0.00146	-0.00310	-0.00302	0.000718
	(0.0272)	(0.0271)	(0.0237)	(0.000950)	(0.000949)	(0.00104)	(0.00263)	(0.00263)	(0.00279)
(Post)* (190%<June FPL<200%)	0.0286	0.0307	0.0638*	0.00104	0.00107	0.00180	0.00125	0.00148	0.00184
	(0.0341)	(0.0340)	(0.0333)	(0.00107)	(0.00107)	(0.00119)	(0.00318)	(0.00318)	(0.00339)
133%<June FPL<140%	-0.0184	-0.0222		-0.00169***	-0.00163***		-0.00936***	-0.00881***	
	(0.0205)	(0.0203)		(0.000418)	(0.000418)		(0.00182)	(0.00181)	
140%<June FPL<150%	-0.00954	-0.0205		-5.34e-05	-8.89e-05		-0.00883***	-0.00714***	
	(0.0179)	(0.0176)		(0.000472)	(0.000472)		(0.00164)	(0.00163)	
150%<June FPL<160%	0.000517	-0.0236		-0.000900*	-0.00113**		-0.0129***	-0.0101***	
	(0.0196)	(0.0194)		(0.000507)	(0.000506)		(0.00187)	(0.00186)	
160%<June FPL<170%	0.0490**	0.0246		-0.000129	-0.000333		-0.0161***	-0.0125***	
	(0.0226)	(0.0225)		(0.000633)	(0.000631)		(0.00197)	(0.00198)	
170%<June FPL<180%	0.0486*	0.0180		-0.000554	-0.000830		-0.0156***	-0.0117***	
	(0.0257)	(0.0255)		(0.000605)	(0.000608)		(0.00213)	(0.00213)	
180%<June FPL<190%	0.0488*	0.00519		-0.000728	-0.00122*		-0.0192***	-0.0139***	
	(0.0275)	(0.0273)		(0.000681)	(0.000683)		(0.00212)	(0.00214)	
190%<June	0.00987	-0.0252		-0.00184**	-0.00233***		-0.0220***	-0.0168***	

FPL<200%									
	(0.0326)	(0.0324)		(0.000727)	(0.000733)		(0.00253)	(0.00253)	
Female		0.295***			0.00109***			0.0104***	
		(0.0115)			(0.000249)			(0.000998)	
Balck		-0.243***			0.000809*			0.0247***	
		(0.0167)			(0.000490)			(0.00207)	
Hispanic		-0.125***			-0.000699			0.00688***	
		(0.0209)			(0.000429)			(0.00199)	
Other Ethnicity		-0.203***			-0.000128			-0.00234	
		(0.0207)			(0.000449)			(0.00200)	
Age		0.00988***			0.000190***			-0.000453***	
		(0.000542)			(1.39e-05)			(5.13e-05)	
Dead		-0.239			0.0952**			0.133**	
		(0.248)			(0.0387)			(0.0645)	
English First Langue		0.196***			0.00232***			0.0166***	
		(0.0201)			(0.000545)			(0.00225)	
Missing Education		-0.0950***			-0.00193***			-0.0208***	
		(0.0181)			(0.000398)			(0.00170)	
High School		0.0229			-0.00100***			-0.00767***	
		(0.0177)			(0.000389)			(0.00170)	
More than HS		0.0924***			-0.00174***			-0.0127***	
		(0.0217)			(0.000462)			(0.00197)	
N. Kids		-0.0534***			-0.000589***			-0.00470***	
		(0.00429)			(9.60e-05)			(0.000380)	
N. Adults		-0.0403***			-0.000142			-0.00308***	
		(0.00901)			(0.000208)			(0.000869)	
Rural		0.0302***			0.000258			-0.00242**	
		(0.0113)			(0.000236)			(0.000981)	
Constant	0.791***	0.274***	0.810***	0.00562***	-0.00179*	0.00551***	0.0531***	0.0714***	0.0436***
	(0.00784)	(0.0399)	(0.00561)	(0.000168)	(0.000916)	(0.000306)	(0.000749)	(0.00371)	(0.000928)
Obser-vations	615,192	615,192	615,192	615,192	615,192	615,192	615,192	615,192	615,192
R-squared	0.001	0.015	0.574	0.000	0.001	0.171	0.001	0.005	0.252
Period FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual FE	No	No	Yes	No	No	Yes	No	No	Yes
Robust standard errors in parentheses									
*** p<0.01, ** p<0.05, * p<0.1									

Table 5.5 Estimated Differences in Health Care Usage, TMA

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
VARIABLES	**visits**	**visits**	**visits**	**hosp**	**hosp**	**hosp**	**er**	**er**	**er**
Post * 133%<June FPL<140%	0.00355	0.000553	-0.0546	0.00141	0.00142	0.00170	0.00172	0.00267	0.000665
	(0.0330)	(0.0330)	(0.0358)	(0.00107)	(0.00107)	(0.00119)	(0.00448)	(0.00447)	(0.00488)
Post * 140%<June FPL<150%	0.0547	0.0436	-0.0517	0.000109	7.44e-05	0.000268	0.00251	0.00343	0.00369
	(0.0347)	(0.0346)	(0.0340)	(0.000962)	(0.000961)	(0.00115)	(0.00477)	(0.00477)	(0.00516)
Post * 150%<June FPL<160%	0.0720***	0.0640**	-0.00570	0.00202*	0.00199*	0.00211*	0.00147	0.00329	0.00151
	(0.0324)	(0.0323)	(0.0335)	(0.00109)	(0.00109)	(0.00119)	(0.00462)	(0.00460)	(0.00492)
Post * 160%<June FPL<170%	0.0507	0.0436	-0.0762*	0.00111	0.00110	0.000566	0.0102**	0.0117**	0.00556
	(0.0427)	(0.0425)	(0.0395)	(0.00120)	(0.00120)	(0.00138)	(0.00492)	(0.00490)	(0.00522)
Post * 170%<June FPL<180%	0.0578	0.0537	0.00738	0.00246	0.00245	0.00197	0.00331	0.00438	-0.00115
	(0.0416)	(0.0415)	(0.0401)	(0.00178)	(0.00178)	(0.00224)	(0.00535)	(0.00534)	(0.00613)
Post * 180%<June FPL<190%	0.135*	0.126*	-0.0672	-0.000971	-0.000993	-0.00180	0.00426	0.00609	0.00299
	(0.0760)	(0.0754)	(0.0630)	(0.00191)	(0.00190)	(0.00226)	(0.00687)	(0.00685)	(0.00754)
Post * 190%<June FPL<200%	-0.00177	-0.0157	-0.169**	7.40e-05	2.61e-05	-0.000570	0.00739	0.00761	-0.00429
	(0.0500)	(0.0498)	(0.0665)	(0.00163)	(0.00163)	(0.00196)	(0.00731)	(0.00726)	(0.00913)
Post * 200%<June FPL<210%	0.140**	0.146**	0.0473	0.00359	0.00363	0.000440	0.00598	0.00727	-0.00559
	(0.0627)	(0.0625)	(0.0657)	(0.00297)	(0.00297)	(0.00321)	(0.00840)	(0.00836)	(0.00938)
Post * 210%<June FPL<220%	-0.0831	-0.0856	-0.155**	0.00186	0.00184	0.00169	0.00109	0.00305	-0.000912
	(0.0621)	(0.0619)	(0.0659)	(0.00290)	(0.00290)	(0.00327)	(0.00959)	(0.00957)	(0.0117)
Post * 220%<June FPL<230%	0.0746	0.0858	-0.0588	0.00181	0.00181	0.000157	0.0108	0.0134	0.00615
	(0.0656)	(0.0651)	(0.0615)	(0.00425)	(0.00426)	(0.00501)	(0.0118)	(0.0118)	(0.0136)
Post * 230%<June FPL<240%	0.0512	0.0557	-0.0165	-0.00312	-0.00309	-0.00219	0.00644	0.00773	0.00434
	(0.0945)	(0.0943)	(0.0880)	(0.00270)	(0.00270)	(0.00302)	(0.0127)	(0.0127)	(0.0147)
Post * 240%<June FPL<250%	0.0838	0.0723	-0.0694	-0.00236	-0.00242	-0.00292	0.00304	0.00497	0.00445
	(0.0809)	(0.0791)	(0.0953)	(0.00240)	(0.00241)	(0.00359)	(0.0102)	(0.0103)	(0.0112)
Post * 250%<June FPL<260%	-0.128	-0.105	-0.244	0.00133	0.00138	5.08e-05	-0.000314	0.00441	0.000687

	(0.0994)	(0.0990)	(0.183)	(0.00330)	(0.00330)	(0.00438)	(0.0102)	(0.0103)	(0.0131)
Post * 260%<June FPL<270%	0.373	0.366	0.216	0.00137	0.00138	-0.000168	0.0232	0.0249	0.00612
	(0.251)	(0.250)	(0.223)	(0.00425)	(0.00423)	(0.00553)	(0.0214)	(0.0213)	(0.0175)
Post * 270%<June FPL<280%	0.0130	0.0252	-0.0547	0.000734	0.000806	-0.00220	0.0173	0.0214	-0.00726
	(0.109)	(0.108)	(0.125)	(0.00334)	(0.00334)	(0.00546)	(0.0205)	(0.0203)	(0.0150)
Post * 280%<June FPL<290%	0.164	0.133	0.198	-0.00850**	-0.00860**	-0.00351	-0.00167	0.00413	0.00302
	(0.178)	(0.174)	(0.163)	(0.00391)	(0.00392)	(0.00356)	(0.0207)	(0.0205)	(0.0153)
Post * 290%<June FPL<300%	0.112	0.109	0.0272	-0.000130	-0.000244	-0.000160	0.00178	0.00540	-0.000995
	(0.173)	(0.174)	(0.175)	(0.000349)	(0.000369)	(0.000383)	(0.0141)	(0.0141)	(0.0182)
Post * 300%>June FPL	0.0985	0.107	-0.0651	-0.00146	-0.00142	-0.00305	0.00997	0.0125*	0.000603
	(0.0804)	(0.0799)	(0.0888)	(0.00187)	(0.00187)	(0.00278)	(0.00747)	(0.00742)	(0.00826)
133%<June FPL<140%	-0.0428	-0.0504		-0.00124**	-0.00127**		-0.00731**	-0.00562*	
	(0.0325)	(0.0322)		(0.000601)	(0.000601)		(0.00322)	(0.00318)	
140%<June FPL<150%	0.0237	0.0133		-0.000203	-0.000220		-0.00804**	-0.00644*	
	(0.0361)	(0.0358)		(0.000643)	(0.000645)		(0.00360)	(0.00357)	
150%<June FPL<160%	-0.0676**	-0.0805***		-0.00147***	-0.00150***		-0.0106***	-0.00760**	
	(0.0296)	(0.0293)		(0.000571)	(0.000571)		(0.00305)	(0.00302)	
160%<June FPL<170%	-0.0221	-0.0361		-0.00131**	-0.00134**		-0.0180***	-0.0154***	
	(0.0454)	(0.0450)		(0.000641)	(0.000646)		(0.00355)	(0.00354)	
170%<June FPL<180%	-0.0769**	-0.0916***		-0.000273	-0.000303		-0.0115***	-0.00658*	
	(0.0345)	(0.0341)		(0.000882)	(0.000882)		(0.00402)	(0.00396)	
180%<June FPL<190%	-0.0678	-0.0826*		0.000993	0.000974		-0.0193***	-0.0142***	
	(0.0436)	(0.0430)		(0.00123)	(0.00123)		(0.00422)	(0.00421)	
190%<June FPL<200%	-0.0903**	-0.117***		-0.000569	-0.000608		-0.0175***	-0.0134***	
	(0.0435)	(0.0429)		(0.00105)	(0.00105)		(0.00453)	(0.00452)	
200%<June FPL<210%	-0.172***	-0.198***		-0.000809	-0.000854		-0.0145***	-0.00940**	
	(0.0378)	(0.0381)		(0.00112)	(0.00112)		(0.00470)	(0.00469)	
210%<June FPL<220%	-0.0924*	-0.121**		-0.00115	-0.00126		-0.0259***	-0.0196***	

	(0.0517)	(0.0518)		(0.00116)	(0.00116)		(0.00542)	(0.00532)	
220%<June FPL<230%	-0.144**	-0.181***		0.00210	0.00197		-0.0295***	-0.0238***	
	(0.0582)	(0.0581)		(0.00180)	(0.00180)		(0.00504)	(0.00501)	
230%<June FPL<240%	-0.0366	-0.0975		0.000584	0.000483		-0.0263***	-0.0191***	
	(0.0670)	(0.0666)		(0.00203)	(0.00203)		(0.00676)	(0.00682)	
240%<June FPL<250%	-0.189***	-0.223***		-0.000200	-0.000340		-0.0253***	-0.0179***	
	(0.0570)	(0.0556)		(0.00162)	(0.00162)		(0.00569)	(0.00564)	
250%<June FPL<260%	-0.0303	-0.0644		0.000708	0.000709		-0.0362***	-0.0267***	
	(0.0988)	(0.0979)		(0.00281)	(0.00281)		(0.00602)	(0.00607)	
260%<June FPL<270%	-0.191**	-0.258***		-0.00176	-0.00192		-0.0245***	-0.0175**	
	(0.0813)	(0.0796)		(0.00171)	(0.00171)		(0.00823)	(0.00816)	
270%<June FPL<280%	-0.118	-0.143*		-0.00207	-0.00208		-0.0190	-0.00832	
	(0.0853)	(0.0847)		(0.00149)	(0.00151)		(0.0118)	(0.0117)	
280%<June FPL<290%	-0.178	-0.226**		0.00421	0.00400		-0.0336**	-0.0241*	
	(0.110)	(0.109)		(0.00390)	(0.00391)		(0.0133)	(0.0131)	
290%<June FPL<300%	0.000176	-0.0498		-0.00417***	-0.00437***		-0.0392***	-0.0298***	
	(0.121)	(0.121)		(0.000245)	(0.000297)		(0.00766)	(0.00754)	
300%>June FPL	-0.138***	-0.191***		0.00123	0.00104		-0.0372***	-0.0242***	
	(0.0406)	(0.0407)		(0.00130)	(0.00130)		(0.00324)	(0.00331)	
Female		0.288***			0.00185***			0.0183***	
		(0.0189)			(0.000315)			(0.00144)	
Balck		-0.284***			6.38e-05			0.0260***	
		(0.0200)			(0.000454)			(0.00261)	
Hispanic		-0.134***			-6.81e-05			0.00938***	
		(0.0304)			(0.000728)			(0.00317)	
Other Ethnicity		-0.250***			0.000258			-0.00558*	
		(0.0305)			(0.000570)			(0.00302)	
Age		0.00650***			3.00e-05			-0.00127***	
		(0.000855)			(1.83e-05)			(8.20e-05)	
Dead		0.675*			0.162			0.229	
		(0.401)			(0.124)			(0.183)	
English First Langue		0.167***			0.00101			0.0188***	

		(0.0290)			(0.000738)			(0.00331)	
Missing Education		-0.0232			-0.000129			-0.0156***	
		(0.0271)			(0.000495)			(0.00248)	
High School		0.0350			0.000129			-0.00532**	
		(0.0249)			(0.000421)			(0.00238)	
More than HS		0.122***			4.58e-05			-0.00886***	
		(0.0311)			(0.000556)			(0.00290)	
N. Kids		-0.0501***			-0.000189			-0.00385***	
		(0.00662)			(0.000133)			(0.000628)	
N. Adults		0.00393			0.000675**			-0.00264**	
		(0.0135)			(0.000294)			(0.00127)	
Rural		0.0360**			-7.71e-05			-0.00263*	
		(0.0173)			(0.000305)			(0.00152)	
Constant	0.768***	0.316***	0.789***	0.00422***	0.000173	0.00406***	0.0633***	0.0919***	0.0519***
	(0.0115)	(0.0616)	(0.00756)	(0.000200)	(0.00114)	(0.000364)	(0.00106)	(0.00567)	(0.00142)
Observations	269,594	269,594	269,594	269,594	269,594	269,594	269,594	269,594	269,594
R-squared	0.001	0.013	0.588	0.000	0.001	0.150	0.001	0.008	0.225
Period FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual FE	No	No	Yes	No	No	Yes	No	No	Yes
Robust standard errors in parentheses									
*** p<0.01, ** p<0.05, * p<0.1									

Table 5.6 Estimated Differences in Health Care Usage, Childless Adults

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
VARIABLES	**Visits**	**Visits**	**Visits**	**hosp**	**hosp**	**hosp**	**er**	**er**	**er**
Post * 133%<June FPL<140%	0.114**	0.108**	0.0664	0.00534**	0.00528**	0.00424*	0.000525	0.000399	0.000518
	(0.0512)	(0.0511)	(0.0553)	(0.00247)	(0.00246)	(0.00253)	(0.00628)	(0.00628)	(0.00667)
Post * 140%<June FPL<150%	0.0538	0.0536	0.0135	-0.00316	-0.00295	-0.00344	-0.00697	-0.00706	-0.00688
	(0.0492)	(0.0492)	(0.0522)	(0.00266)	(0.00267)	(0.00278)	(0.00672)	(0.00672)	(0.00695)
Post * 150%<June FPL<160%	0.0661	0.0604	0.0371	-0.00218	-0.00221	-0.00336	0.0109*	0.0109*	0.00943
	(0.0506)	(0.0505)	(0.0542)	(0.00299)	(0.00299)	(0.00336)	(0.00608)	(0.00608)	(0.00640)
Post * 160%<June FPL<170%	0.0855*	0.0798	0.0529	0.00705**	0.00693**	0.00529	-0.00262	-0.00190	-0.00218
	(0.0511)	(0.0510)	(0.0531)	(0.00316)	(0.00317)	(0.00340)	(0.00627)	(0.00627)	(0.00649)
Post * 170%<June FPL<180%	0.0932*	0.0912	0.0388	-0.000512	-0.000606	-0.00139	-0.00822	-0.00769	-0.00793
	(0.0555)	(0.0555)	(0.0598)	(0.00256)	(0.00257)	(0.00273)	(0.00599)	(0.00597)	(0.00636)
Post * 180%<June FPL<190%	0.00361	-0.00469	-0.0292	-0.00162	-0.00176	-0.00198	-0.00416	-0.00405	-0.00699
	(0.0627)	(0.0625)	(0.0660)	(0.00313)	(0.00312)	(0.00344)	(0.00701)	(0.00700)	(0.00769)
Post * 190%<June FPL<200%	0.0796	0.0804	0.0275	-0.00761*	-0.00762*	-0.00474	-0.000233	0.000254	-0.000702
	(0.0855)	(0.0855)	(0.0890)	(0.00452)	(0.00452)	(0.00406)	(0.00899)	(0.00898)	(0.00939)
Post * 200%<June FPL<210%	0.0811	0.0650	-0.0352	-0.0203**	-0.0203**	-0.0181*	-0.0109	-0.0120	-0.000842
	(0.0906)	(0.0908)	(0.106)	(0.00942)	(0.00942)	(0.00976)	(0.0219)	(0.0217)	(0.0169)
Post * 210%<June FPL<220%	-0.127	-0.113	-0.0209	0.00893	0.00938	0.00383	0.00674	0.00591	0.0238
	(0.196)	(0.195)	(0.195)	(0.00702)	(0.00707)	(0.00705)	(0.0191)	(0.0193)	(0.0177)
Post * 220%<June FPL<230%	0.216	0.221	0.285	0.0112	0.0115	0.00664	0.0140	0.0153	0.0142
	(0.276)	(0.272)	(0.238)	(0.00856)	(0.00861)	(0.00828)	(0.0192)	(0.0196)	(0.0214)
Post * 230%<June FPL<240%	0.274	0.283	0.135	-0.00250	-0.00138	-0.0110	0.0172	0.0198	-0.00169
	(0.213)	(0.211)	(0.169)	(0.0123)	(0.0125)	(0.0167)	(0.0345)	(0.0349)	(0.0431)
Post * 240%<June FPL<250%	0.535**	0.522**	0.389	0.0229	0.0210	0.00958	0.00399	0.00699	-0.0101

	(0.260)	(0.257)	(0.273)	(0.0144)	(0.0149)	(0.0168)	(0.0249)	(0.0247)	(0.0281)
Post * 250%<June FPL<260%	0.154*	0.120	0.0307	2.49e-06	-0.000374	-0.00125	-0.000495	0.00111	-0.00222
	(0.0904)	(0.0856)	(0.0918)	(0.00131)	(0.00139)	(0.00127)	(0.00313)	(0.00342)	(0.00322)
Post * 260%<June FPL<270%	0.0738	0.0612	0.0772	-2.77e-05	-0.000239	-0.00127	-0.0170	-0.0159	-0.00147
	(0.243)	(0.242)	(0.238)	(0.00131)	(0.00139)	(0.00127)	(0.0226)	(0.0219)	(0.0184)
Post * 270%<June FPL<280%	0.0606	0.0694	0.0237	-0.00997	-0.00977	-0.0146	-0.000519	-0.000680	-0.00221
	(0.105)	(0.107)	(0.132)	(0.00984)	(0.00991)	(0.0138)	(0.00312)	(0.00323)	(0.00322)
Post * 280%<June FPL<290%	0.161	0.186	-0.0365	-1.36e-05	0.000699	-0.00125	0.0152	0.0158	0.0173
	(0.185)	(0.186)	(0.251)	(0.00131)	(0.00149)	(0.00127)	(0.0400)	(0.0403)	(0.0425)
Post * 290%<June FPL<300%	0.238	0.209	0.242	0.0294	0.0299	0.0334	0.0581	0.0566	0.0561
	(0.231)	(0.230)	(0.264)	(0.0288)	(0.0289)	(0.0353)	(0.0358)	(0.0357)	(0.0377)
Post * 300%>June FPL	-0.300	-0.287	-0.372	3.20e-05	2.24e-06	-0.00119	0.0297	0.0314	0.0199
	(0.190)	(0.189)	(0.261)	(0.00131)	(0.00136)	(0.00127)	(0.0239)	(0.0240)	(0.0290)
133%<June FPL<140%	-0.130**	-0.124**		-0.00480***	-0.00499***		-0.00901*	-0.00704	
	(0.0594)	(0.0593)		(0.00151)	(0.00151)		(0.00513)	(0.00515)	
140%<June FPL<150%	-0.00448	-0.00938		0.00320	0.00276		0.00982*	0.0113*	
	(0.0526)	(0.0526)		(0.00210)	(0.00211)		(0.00594)	(0.00592)	
150%<June FPL<160%	-0.0553	-0.0385		0.000430	0.000372		-0.0108**	-0.00957**	
	(0.0495)	(0.0494)		(0.00243)	(0.00243)		(0.00434)	(0.00434)	
160%<June FPL<170%	-0.0182	-0.0220		-0.00260	-0.00303		-0.00547	-0.00340	
	(0.0529)	(0.0533)		(0.00196)	(0.00194)		(0.00555)	(0.00554)	
170%<June FPL<180%	-0.0810	-0.0827		-0.00275	-0.00305*		-0.0135***	-0.0122***	
	(0.0588)	(0.0584)		(0.00181)	(0.00181)		(0.00456)	(0.00454)	
180%<June FPL<190%	-0.0223	-0.0298		-0.000104	-0.000669		-0.00779	-0.00580	
	(0.0579)	(0.0577)		(0.00231)	(0.00233)		(0.00574)	(0.00572)	
190%<June FPL<200%	0.115	0.107		0.00452	0.00389		-0.0120**	-0.00978	
	(0.0916)	(0.0911)		(0.00396)	(0.00397)		(0.00613)	(0.00606)	
200%<June FPL<210%	-0.228**	-0.229**		0.0114	0.0104		0.00450	0.00551	
	(0.116)	(0.114)		(0.00938)	(0.00940)		(0.0196)	(0.0193)	

210%<June FPL<220%	0.0550	0.0687		-0.00420	-0.00507		0.00226	0.00326	
	(0.144)	(0.146)		(0.00478)	(0.00480)		(0.0163)	(0.0159)	
220%<June FPL<230%	-0.207	-0.178		-0.00359	-0.00301		-0.0183	-0.0178	
	(0.179)	(0.176)		(0.00534)	(0.00527)		(0.0136)	(0.0138)	
230%<June FPL<240%	0.0656	0.0806		0.00259	0.00145		0.0183	0.0205	
	(0.193)	(0.187)		(0.00800)	(0.00827)		(0.0268)	(0.0263)	
240%<June FPL<250%	0.000256	0.0310		0.000991	0.000511		-0.000388	0.00238	
	(0.216)	(0.210)		(0.00700)	(0.00695)		(0.0182)	(0.0183)	
250%<June FPL<260%	-0.510***	-0.454***		-0.00892***	-0.00743***		-0.0450***	-0.0442***	
	(0.155)	(0.155)		(0.000956)	(0.00113)		(0.00234)	(0.00382)	
260%<June FPL<270%	-0.262	-0.241		-0.00891***	-0.00863***		-0.00921	-0.00560	
	(0.206)	(0.208)		(0.000957)	(0.00108)		(0.0178)	(0.0163)	
270%<June FPL<280%	-0.520***	-0.487***		0.00109	0.000541		-0.0449***	-0.0367***	
	(0.0967)	(0.0885)		(0.00980)	(0.00967)		(0.00234)	(0.00288)	
280%<June FPL<290%	-0.0848	-0.0447		-0.00891***	-0.00880***		-0.0116	-0.00201	
	(0.309)	(0.326)		(0.000957)	(0.00114)		(0.0177)	(0.0176)	
290%<June FPL<300%	-0.540***	-0.456***		-0.00891***	-0.00907***		-0.0449***	-0.0393***	
	(0.156)	(0.153)		(0.000957)	(0.00146)		(0.00234)	(0.00461)	
300%>June FPL	-0.0156	0.0367		-0.00891***	-0.00934***		-0.0276**	-0.0201	
	(0.249)	(0.246)		(0.000957)	(0.00103)		(0.0128)	(0.0131)	
Female		0.238***			0.000961			0.00664***	
		(0.0259)			(0.000895)			(0.00250)	
Balck		0.0461			-0.000715			0.0328***	
		(0.0457)			(0.00154)			(0.00629)	
Hispanic		0.0538			0.00312			0.0272**	
		(0.0725)			(0.00440)			(0.0111)	
Other Ethnicity		0.0307			-0.00234			0.00622	
		(0.0876)			(0.00179)			(0.00908)	
Age		0.00218**			0.000233***			-0.000556***	
		(0.00109)			(3.15e-05)			(0.000105)	
Dead		-0.427			0.0480			-0.0404***	
		(0.317)			(0.0429)			(0.00502)	

English First Langue		0.172**			0.00379			0.0273***	
		(0.0876)			(0.00427)			(0.00956)	
Missing Education		-0.113**			-0.00102			-0.0173***	
		(0.0449)			(0.00180)			(0.00489)	
High School		-0.0479			-5.65e-05			-0.0104*	
		(0.0513)			(0.00199)			(0.00559)	
More than HS		-0.0107			-0.000364			-0.0117*	
		(0.0729)			(0.00243)			(0.00651)	
N. Kids		-0.287***			-0.00262			-0.00853	
		(0.0858)			(0.00252)			(0.0102)	
N. Adults		-0.00190			-0.000469			-0.00153	
		(0.0258)			(0.000841)			(0.00214)	
Rural		0.0649**			3.44e-05			-0.000355	
		(0.0278)			(0.000934)			(0.00260)	
Constant	0.902***	0.521***	0.915***	0.00892***	-0.00561	0.00806***	0.0452***	0.0531***	0.0415***
	(0.0204)	(0.115)	(0.0155)	(0.000714)	(0.00471)	(0.00105)	(0.00200)	(0.0121)	(0.00257)
Observations	71,760	71,760	71,760	71,760	71,760	71,760	71,760	71,760	71,760
R-squared	0.002	0.009	0.465	0.001	0.002	0.169	0.001	0.005	0.214
Period FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual FE	No	No	Yes	No	No	Yes	No	No	Yes
Robust standard errors in parentheses									
*** p<0.01, ** p<0.05, * p<0.1									

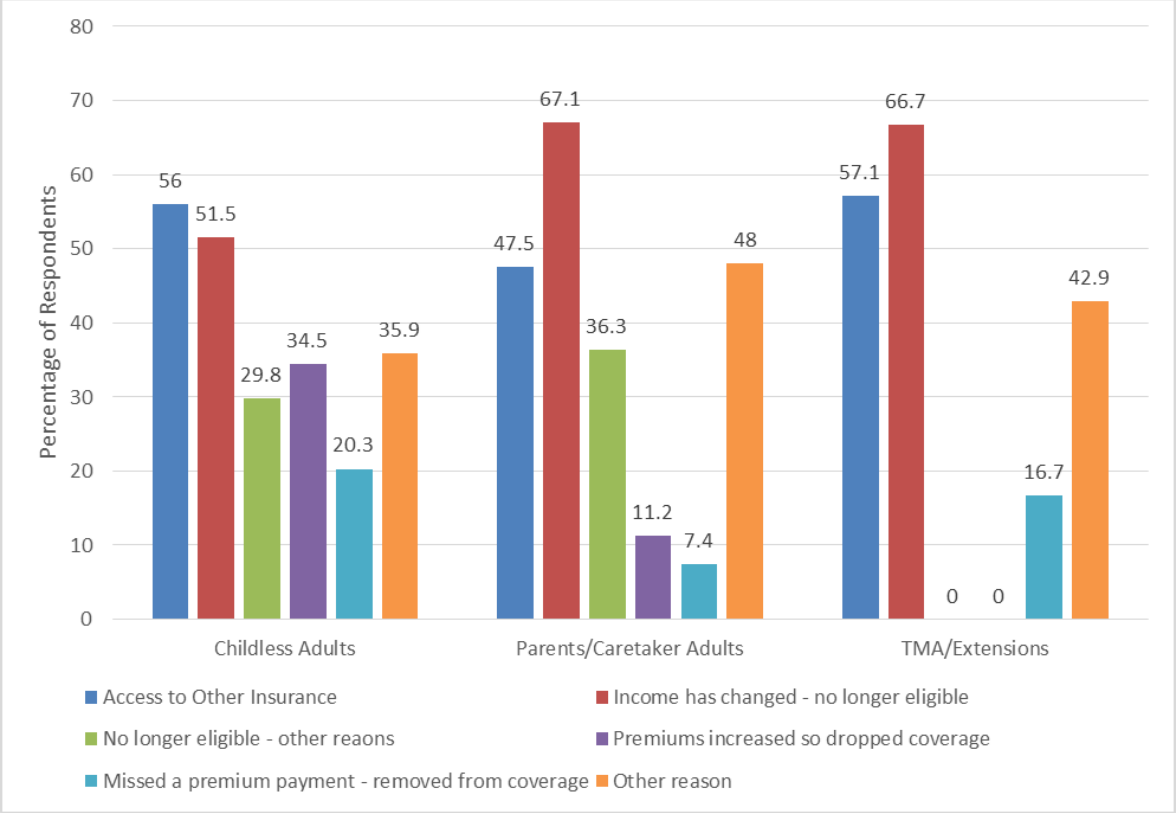
Survey

DHS methods statement to CMS noted that it would explore conducting a survey in order to assess the effect of premiums on enrollment and to track if individuals who lose eligibility access health care through another means.

The survey that we conducted asked respondents about their current source of health insurance coverage and whether they were still covered by the BC+ Program. For those that answered that they were no longer members of BadgerCare, it asked for the reason(s) why the respondent was no longer in the program. Figure S18 shows the reported reasons for no longer having BC+ coverage.

Two-thirds of both Parents/Caretakers and TMA/Extension adults cited loss of eligibility due to a change of income as their reason for leaving BadgerCare, while half of Childless Adults named this reason. All three groups cited other insurance as a top reason. This may reflect that change in the way the BC+ program measured affordability of employer-sponsored insurance.

Figure S18 Reasons No Longer on BadgerCare



Childless Adults much more frequently reported that they dropped their BC+ coverage because of premiums increased (34%) than did Parents/Caretaker Adults 11.2%.

The utilization of services of those who enter and RRP relative to those who remain continuously enrolled in coverage is discussed under Hypotheses 1, above. The following figures provide a view of how respondents in the different elibility categories report their experience utilizing services.

Figure S19a shows respondents' reported experience with health care over the past year, since the policy change, and S19b shows respondents' reported reasons for not getting needed care. Childless adults report less frequently needing care compared to Parents/Caretakers and TMA adults, and also less attachment to health care, while TMA adults more frequently report needing care and less frequently report getting the care they need. All three groups are substantially less likely to report having a usual source of care and getting the care they need, compared to the Wisconsin overall population reported by Wisconsin's 2010 Family Health Survey. Figure S19b shows all three groups heavily citing, as the reason that they did not get needed care, that the care "costs too much" or they "didn't have insurance," while 40% of childless adult respondents reported that the "doctor wouldn't take my insurance," compared to 18% of parents/caretaker adults.

Figure S20 shows how respondents in the differing eligibility categories view their changes in health over the last 12 months, during the period of the policy change. Childless Adults and TMA adults more frequently report that their health has become worse over the past 12 months.

Figure S19a Reported Experience with Health Care, past 12 months

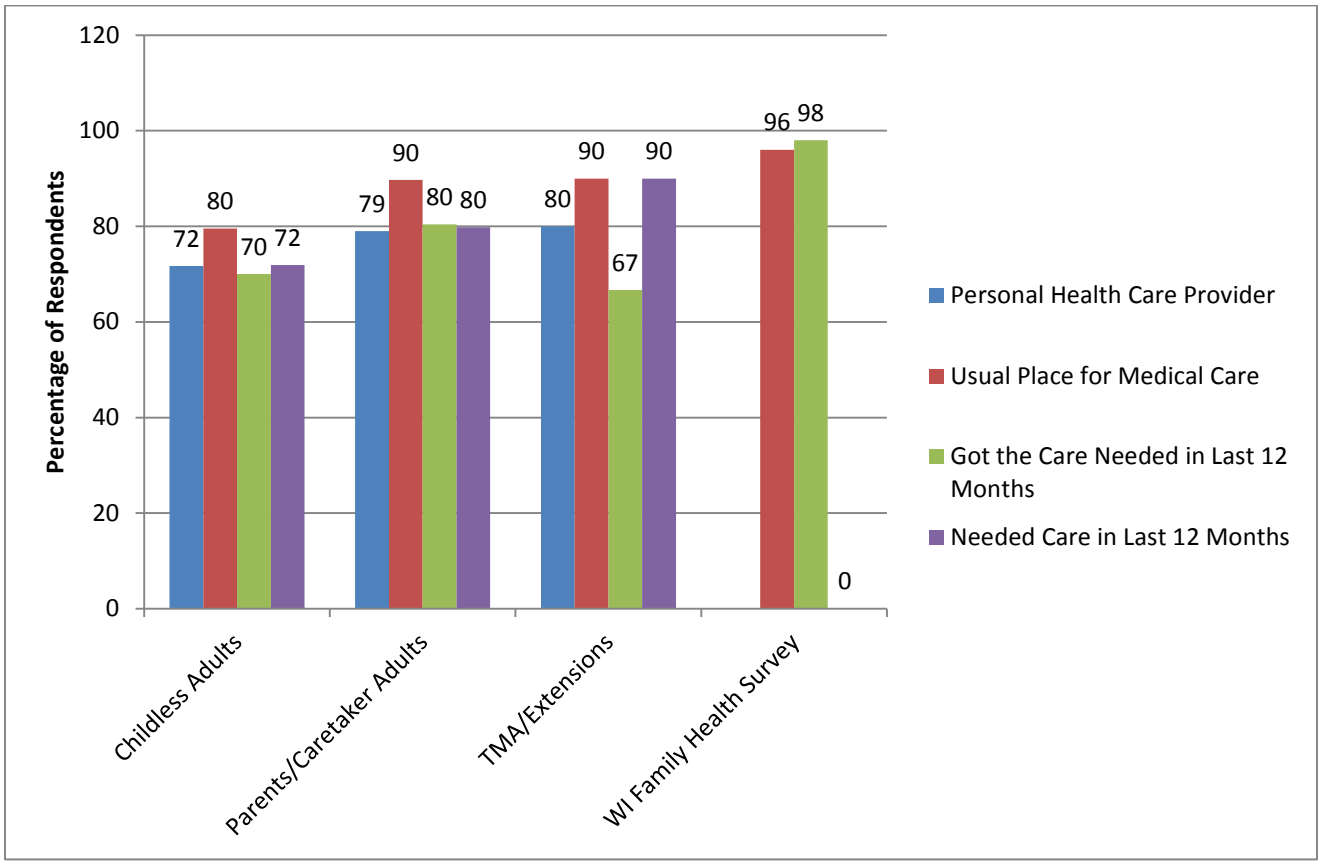


Figure S19b Reported Reasons for Not Getting Needed Care

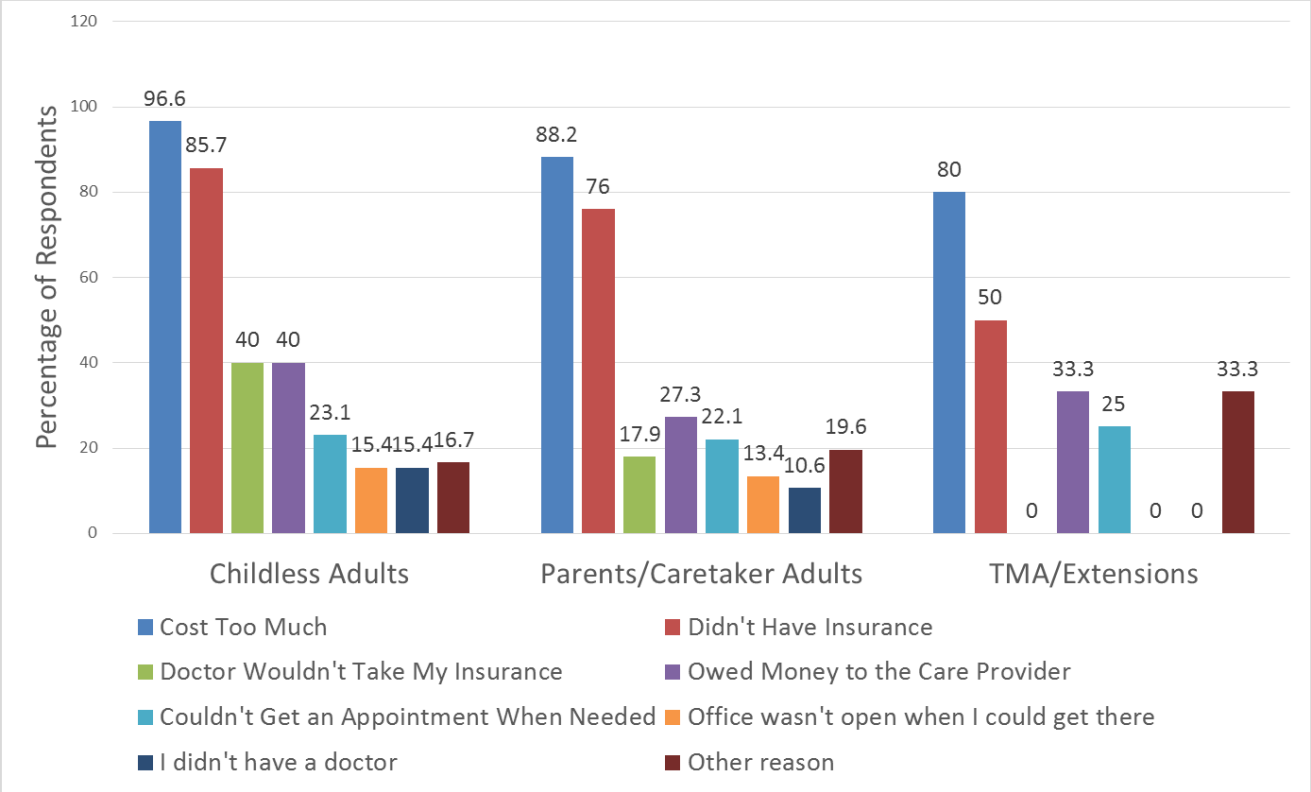
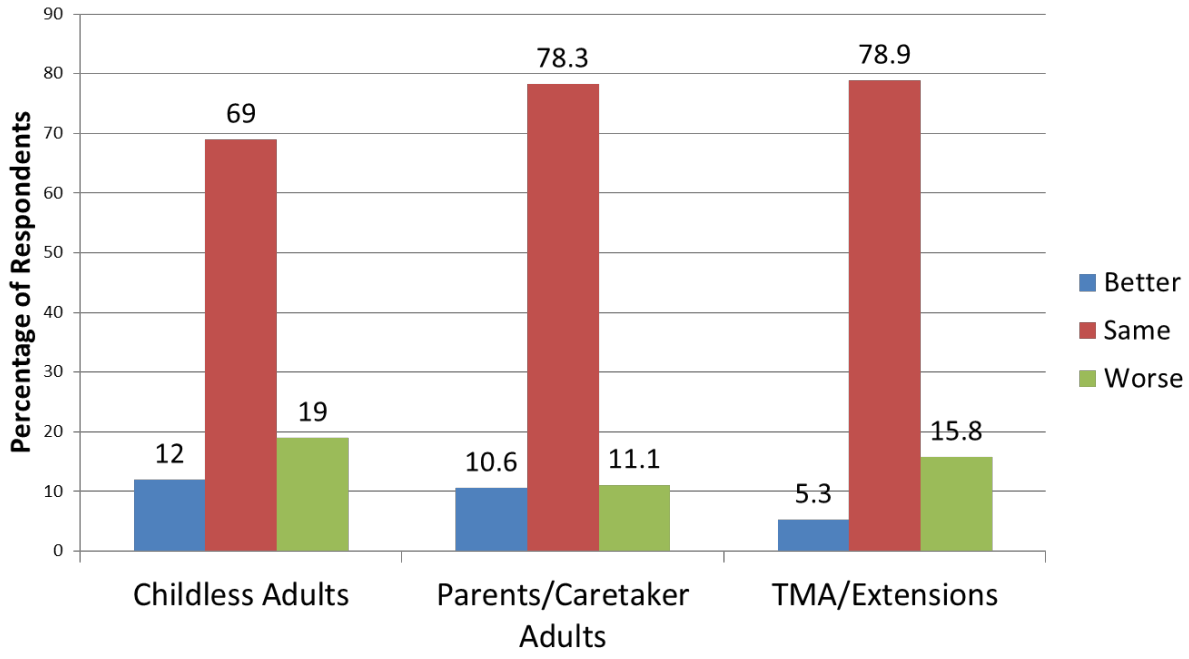


Figure S20 Reported Change in Health in Last 12 Months



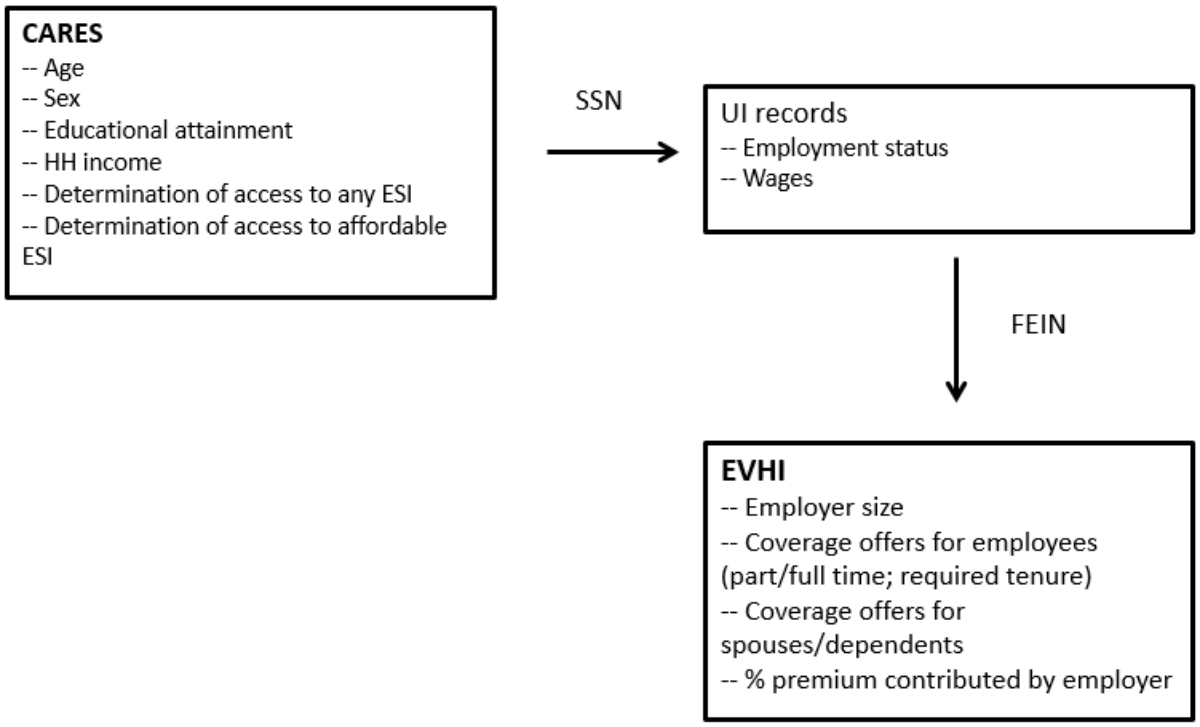
Hypotheses 6. Are there discernible characteristics with respect to individuals and/or the policies that are available to them, who have been determined to have affordable coverage, e.g., part-time/full-time, large/small employer, etc.?

Hypotheses 7. How many individuals have met the affordability test? What is the margin by which they have met the test?

DHS proposed to CMS that it will complete an analysis of members who have access to affordable employer sponsored health insurance and will identify the types of employment and types of coverage available. Potential data to be evaluated include whether these individuals work full-time or part-time, size of employer, the percent of household income required for employee + spouse premium or family coverage premium.

We answered this question using a matched administrative data file comprised of measures culled from the CARES system, Unemployment Insurance (UI) records, and the Employer Verification of Health Insurance (EVHI) system. We used the matched data to estimate differences in individual- and family-level socioeconomic and employment characteristics across members who have been determined to have affordable employer-sponsored coverage (ESI) versus members who are employed but determined to lack access to affordable ESI. We also examined differences in firm-level characteristics regarding insurance generosity across the two groups. Figure 6.1 illustrates how we constructed the analytic files.

Figure 6.1 Administrative Data Matching for H6 & H7 Analysis



Sample Construction Details

We created a data file that is unique at the person level using CARES enrollment files dating from July 2012 – December 2013. All adults in the CORE, parents/caretakers, and extension eligibility categories enrolled during this period were included in the initial sample filter. For these adults, we assessed whether they were ever employed during their BC+ enrollment. For those adults with an employment spell, we created an "eligibility period" corresponding to the first period during which they were both enrolled in BC+ *and* employed according to UI records.

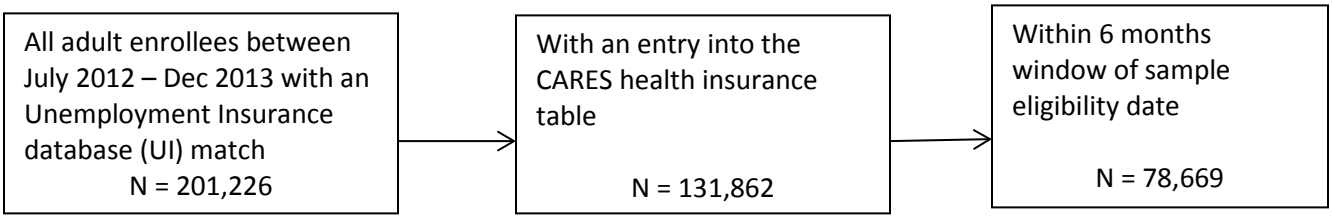
So, for example, if Jane Doe enrolled in BC+ in January 2013 but had no employment history until April 2013, her "eligibility period" for the purposes of our analysis was the second quarter of 2013, as the UI data are quarterly. Inherent in our sample construction is the assumption that members lacking an entry in UI do not have access to ESI, which we believe is reasonable. While some members may work for firms not captured in the UI data, only employers not subject to unemployment insurance laws are exempt from reporting to UI and these employers (such as independent contractors) are highly unlikely to provide ESI.

For the entire sample of eligible adults (i.e. enrolled adults who were ever employed), 70% (140,974 out of 201,226) worked for an employer that had contributed data to EVHI, suggesting that approximately 30% of eligible adults work for employers who have not submitted data to EVHI. We explored the extent of item missing-ness for individual measures in EVHI among members working for an employer with an EVHI match. The results are in Table 6.1.

Completion was highest for the measure of employer size (95%) and lowest for the measures capturing insurance offers and generosity for employee's children (61%); the low completion of the child-specific questions may result from redundancy, as separate questions are asked about "family coverage" (completion of approximately 70%). Our estimates of individual item missing-ness and universal non-response (i.e. no information submitted) combined suggest that over 50% of employed members lacked the requisite information in EVHI to determine access to affordable ESI (30% universal non-response + 27% item missing-ness for employee-specific coverage = 57%). This is likely a lower bound since it does not take into account further potential item missing-ness on minimum tenure and/or minimum hours requirements.

Next, we further limited our sample to members that at some point during their enrollment spell had at least one complete record of determination of access to any ESI in CARES. This group was then further limited to members that had a determination within a six month window of their eligibility date. Figure 6.3 displays these sample filters and the associated loss in sample size.

Figure H6.2 Sample Filters for Analysis



Note: Sample eligibility date = first period in which sample member is enrolled in BC+ *and* has a UI match.

In keeping with the example above, Jane Doe's eligibility date for analysis purposes was April 2013, so she would be included if there were a completed record of ESI determination in CARES for her anytime between the period January – July 2013. As displayed in Figure 6.2 above, only 40% (78,669 out of 201,226) of members who were employed during their enrollment spell had a determination within this window. Highlighted in the tables below and confirmed by investigators' conversation with a caseworker, CARES determination is largely driven by EVHI surveillance. Self-attestation constitutes an alternative method for determination, but EVHI surveillance is the primary method. The low rates of completed determinations would be expected given the magnitude of missing data in EVHI.

Results

Tables 6.2 and 6.3 below display the differences in sociodemographic and insurance generosity characteristics across members who have been determined to have access to *any* ESI versus those determined to lack such access. Later, we describe the results pertaining to the subsample of members determined to have access to *affordable* ESI.

Sex, mean wages, and household income were the demographic characteristics that differed the most across the two groups, with women comprising a larger share of the lacking access to ESI group (75% versus 65% of group with access) and higher wage earners and higher-income households populating the group with access (mean wage $5,669 vs. $4,176 of group lacking access; mean household income 103% FPL for group with access vs. 90% FPL for group lacking access). While differences in education and household size across the two groups were statistically significant, they were small in magnitude and not qualitatively meaningful.

In contrast, there were considerable differences in eligibility category across the two groups. CORE plan members comprised 8% of the group lacking access and less than 1% of those with access, which is unsurprising given the ESI eligibility restrictions specific to CORE. Parents and caretakers and, especially, extension members had greater representation in the group with access. Notably, the percentage of members with an EVHI match was fully 10 percentage points higher among the group determined to have access relative to the group lacking access (85% vs. 75%), which provides substantiating evidence that a determination that a member indeed had access typically required an EVHI verification. In keeping with this finding, item missing-ness regarding the employee-specific insurance generosity measure is three times higher for members lacking access compared to those with access (9% versus 28%, respectively, displayed in Table 6.5).

In contrast, there were very stark differences in the insurance generosity characteristics across those determined to have access to affordable ESI versus those determined to lack such access. The missing rate for the employee-specific insurance coverage and generosity measures is quite low (< 10% for both groups) relative to the overall missing rates for other EVHI measures for this subpopulation and the broad set of EVHI measures for the larger sample. As would be expected, the group determined to have access to affordable ESI was much more likely to work for an employer paying 80% or more of employee premiums than the group lacking such access (61% vs. 13%). (Table 6.5)

Table 6.1 Insurance Characteristics from EVHI

Sample: Individuals working for employers with an EVHI match (n = 140,974)

Estimates are percentages

Employer size (# employees)	
Missing	4.7
Less than 50	19.8
Between 50 and 99	21.1
Between 100-249	9.9
Greater than 250	44.6
Percent of employee premium paid by employer	
Missing	26.6
Does not offer employee insurance	0.0 [a]
Zero	0.3
Up to 80%	50.6
80% or more	22.5
Percent of spousal premium paid by employer	
Missing	32.2
Does not offer spousal insurance	4.0
Zero	0.3
Up to 80%	50.2
80% or more	13.3

Percent of family premium paid by employer	
Missing	27.6
Does not offer family insurance	0.3
Zero	0.3
Up to 80%	54.0
80% or more	17.9
Percent of child premium paid by employer	
Missing	60.6
Does not offer family insurance	5.8
Zero	0.2
Up to 80%	6.5
80% or more	7.0
Length of employment required prior to eligibility	
Missing	44.1
Immediately	6.4
Within first 90 days	45.7
90 days or more	3.8
Hours per week required for eligibility	
Missing	44.1
Up to 19.5 hours	4.3
Between 19.5 and 34 hours	39.1
35 hours or more	12.5

Notes: All differences between the two groups are statistically significant; [a] Reflects rounding, there are some individuals falling into this cell.

Table 6.2 Characteristics of Adult Enrollees by Determination of Access to ESI		
	No access to ESI (N = 69,969)	**Has access to ESI** (N = 8,700)
Female	73.0	65.0
Missing education*	27.2	26.8
Education (excludes missings)		
Less than high school	23.3	21.1
High school	60.6	62.0
More than high school	16.1	16.9
Eligibility group		
Core	8.0	0.9
Extension	10.4	14.0
Parents/caretakers	82.6	85.1
Age (mean)	34.2	34.0
Mean HH income (% FPL)	89.5	102.5
Mean wages in 1st eligibility qtr	4,175.9	5,668.7
Mean HH size	3.3	3.7
Employer had EVHI match	74.5	85.9
Notes: * indicates difference between two groups not statistically significant at the $p < 0.05$ level; all estimates are percentages unless otherwise indicated		

As expected, members determined to have access to ESI were more likely to work for employers paying 80% or more of employees' premiums. Taken as a whole, these members' firms were also more generous across the remaining measures of insurance availability and coverage, however we caution against making conclusive inferences based on the data in this table given the high levels of missing data and the differential missing-ness across the two groups.

We subsequently computed a similar series of estimates stratified by members determined to have access to ***affordable*** ESI versus those determined to lack affordable ESI, measured using the associated CARES field. Note that this subsample is quite small relative to our initial sample: only 10,235 members had a non-missing determination of access to affordable ESI during the six month window of their eligibility date. Of these, 4,514 were determined to have access to affordable ESI. Among this very small remaining subsample of members, those determined to have access to affordable ESI and those determined to lack such access had very comparable sociodemographic profiles. (Table 6.4)

Summary Findings for Hypotheses 6 and 7

- 70% of members appearing in the Unemployment Insurance data worked for an employer with an EVHI match, suggesting that approximately 30% of eligible adults work for employers who have not submitted data to EVHI.
- Approximately one-quarter of members with an EVHI match had missing data regarding availability and cost of employee ESI coverage.

Determination of whether a BC+ applicant had access to affordable employer-sponsored coverage typically required an EVHI verification. Item missing-ness regarding the employee-specific insurance generosity measure is three times higher for members lacking access compared to those with access (9% versus 28%, respectively). Given the high levels of missing data, and the differential missing-ness across groups, the findings related to Hypotheses 6 and 7 require caution.

Table 6.3 Insurance Characteristics by Determination of Access to ESI
Sample: Individuals working for employers with an EVHI match

	No access to ESI	Access to ESI
	N = 52,113	N = 7,469
Employer size (# employees)		
Missing	4.0	2.3
Less than 50	21.6	12.8
Between 50 and 99	19.3	16.6
Between 100-249	10.3	17.0
Greater than 250	44.9	51.3
Percent of employee premium paid by employer		
Missing	28.0	8.5
Does not offer employee insurance	0.0 [a]	0.0 [a]
Zero	0.3	0.5
Up to 80%	50.7	56.8
80% or more	21.0	34.2
Percent of spousal premium paid by employer		
Missing	32.9	13.2
Does not offer spousal insurance	4.0	6.8
Zero	0.2	0.4
Up to 80%	50.2	58.2
80% or more	2.6	21.5

	No access to ESI	Access to ESI
	N= 52,113	N= 7,469
Percent of family premium paid by employer		
Missing	28.9	8.9
Does not offer family insurance	0.3	0.2
Zero	0.3	0.5
Up to 80%	53.6	63.4
80% or more	17.0	27.0
Percent of child premium paid by employer		
Missing	57.5	35.3
Does not offer family insurance	5.9	10.8
Zero	0.1	0.2
Up to 80%	29.2	39.0
80% or more	7.3	14.7
Length of employment required prior to eligibility		
Missing	45.5	38.2
Immediately	6.5	6.5
Within first 90 days	44.3	52.6
90 days or more	3.6	2.7
Hours per week required for eligibility		
Missing	45.5	38.2
Up to 19.5 hours	4.0	3.2
Between 19.5 and 34 hours	38.1	46.9
35 hours or more	12.4	11.7

Notes: All differences between the two groups are statistically significant;
[a] Reflects rounding, there are some individuals falling into this cell; all estimates are percentages

Table 6.4: Characteristics of Adult Enrollees by Determination of Access to Affordable ESI

Sample: Individuals with non-missing information on access to affordable ESI question in CARES

	No affordable ESI (N = 5,721)	Affordable ESI (N = 4,514)
Female*	66.0	66.1
Missing education*	27.0	25.8
Education (excludes missings)		
Less than high school	21.7	19.9
High school	62.1	62.2
More than high school	16.2	17.9
Eligibility group		
Core	1.3	0.8
Extension	13.3	10.3
Parents/caretakers	85.4	81.6
Age (mean)*	33.9	33.8
Mean HH income (% FPL)	106.3	96.3
Mean wages in 1st eligibility qtr*	5,646.5	5,561.1
Mean HH size	3.6	3.8
Employer had EVHI match*	85.4	86.6

Note: * indicates difference between two groups not statistically significant at the $p < 0.05$ level; all estimates are percentages unless

Table 6.5: Insurance Characteristics by Determination of Access to Affordable ESI

Sample: Individuals with non-missing information on access to affordable ESI question in CARES and working for employers with an EVHI match

	No affordable ESI (N = 4,885)	Affordable ESI (N = 3,909)
Employer size (# employees)		
Missing	1.9	2.9
< 50	15.6	8.1
50-99	19.6	13.3
100-249	19.5	13.9
>250	43.4	61.9
Percent of employee premium paid by employer		
Missing	9.9	6.7
Does not offer Employee insurance	0.0 [a]	0.0 [a]
Zero	0.7	0.2
Up to 80%	76.3	31.8
80% or more	13.1	61.4
Percent of spousal premium paid by employer		
Missing	14.1	11.8
Does not offer spousal insurance	6.1	8.1
Zero	0.5	0.2
Up to 80%	71.7	41.0
80% or more	7.7	38.9
Percent of family premium paid by employer		
Missing	10.5	7.1
Does not offer family insurance	0.3	0.2
Zero	0.7	0.2
Up to 80%	79.1	43.0
80% or more	9.5	49.6
Percent of child premium paid by employer		
Missing	36.6	32.2
Does not offer family insurance	9.4	13.4
Zero	0.3	0.1
Up to 80%	49.7	25.7
80% or more	4.0	28.6
Length of employment required prior to eligibility		
Missing	40.2	35.8
Immediately	5.5	8.2
Within first 90 days	51.2	54.3
90 days or more	3.2	1.7
Hours per week required for eligibility		
Missing	40.2	35.8
Up to 19.5 hours	2.4	4.0
Between 19.5 and 34 hours	44.8	48.9
35 hours or more	12.6	11.3

Notes: All differences between the two groups are statistically significant;
a Reflects rounding, there are some individuals falling into this cell; all estimates are percentages

Hypothesis 8.

Has the application of new premiums to this population served as a cost-savings measure to the State?

DHS reported to CMS that it would evaluate the amount of cost savings achieved through the implementation of premiums on BadgerCare Plus parents and caretakers. Potential evaluation includes comparison of monthly revenue from premiums for the period May 2011 through June 2012 and July 2012 through August 2013. Savings from premiums may be compared to the average cost of coverage per BC+ parent and caretaker.

Any declines in enrollment will result in an immediate revenue savings to the state, given that member premium contributions do not cover the full capitation coverage in Medicaid managed care or the utilization occurred by members. Such enrollment declines, particularly among the Transitional Medicaid population, have been measured and reported in Hypotheses 1-3.

Our analysis conducted under Hypothesis 2 contributed to the assessment of whether the expansion to a 12-month RRP serves as a cost-savings measure to the state. We assessed potential utilization (and thus costs) effects of those subject to the RRP once they re-enroll in coverage following the lock-out period. We report that the utilization following re-enrollment did not itself show pent-up demand or delay in care for needed services that resulted in excess expenses to the state. For this reason, an assessment of cost-impact does not require an accounting for a differential impact on utilization.

It is important to note that this analysis does not include assessment of possible changes in children's enrollment associated with changes in their parents' and caretakers' enrollment status, as we did not have access to those data for this study. Nor does it include an assessment of the administrative costs associated with implementation of the new policy and premium collection.

We calculate the cost impacts for the one-year period August 2012-July 2013. This analysis began with August 2012 rather than July 2012 in order to avoid the anomalies associated with the first (transitional) month of the policy change. The analysis is based on the following data:

- **Premium**: Table 3.1 pre and post policy average premiums
- **Re-Entry:** Table 3.2 6 months re-entry rates
- **Exit Rate:** Table 4.3 cox model to calculate the exit rates
- **Enrollment and Exit:** data underlying figures 4.1 - 4.7
- **Utilization Cost**: Specification of Table 5.1-5.3 with actual utilization cost

Extra Revenue: Premium amount paid by the enrollees between August 2012 and July 2013. For those members already subject to premiums prior to the policy change, we calculate the extra revenue due to the differential increase in the premium.

Savings: Savings are generated by utilization costs averted from state Medicaid program of those who exited from the program but would have stayed enrolled under the prior premium regime. The calculations involve the following steps:

a) Calculate the exit rate of the baseline category pre-policy. (Data underlying Figures 4.1-4.7)

b) Calculate the post policy exit rate using the cox model coefficients. (Table 4.3)

c) Take the difference of the number of exits pre and post policy to calculate the number of exits generated by the policy.

d) Calculate the number of periods individuals are out of the program up to July 2013. (Table 3.2)

> This calculation accounts for the re-entry rate at 6 months. For example assume that in October 2012 there were 100 exits and the re-entry rate at 6 months is 30%, the number of individual/periods saved by the program is equal to 880=100*6 months + 100* (1-0.3)*4 months.

e) Finally, multiply the number of individual/periods saved by the program by the utilization cost they would have paid. (Table 3.1 and specifications of Tables 5.1-5.3). The premiums include only the differential between the prior premiums paid by Parents/Caretakers in the 150%-200% FPL and the new premium amount.

We used the 12 month period from August of 2012 through July of 2013 as the enrollment period examined. The enrollment months lost was modified to account for monthly variation in exits and the likelihood of re-enrollment by those not barred from re-entry due to an active RRP. The monthly utilization and costs are based on observations from a five month period from August 2012 through December 2012 for outpatient visits, ER visits and hospitalization, calculated for each BC+ group (Parents/Caretakers, Childless Adults, TMA Adults) by premium FPL group. This period was selected in order to remain consistent with the analysis under Hypotheses 3-5, which required a narrow period of observation to avoid confounding due to secular trends.

We were able to access the actual costs from the fee for service files. However, a significant proportion of those enrolled in BC+ is enrolled in HMOs and have much of their expenses paid for under a capitated payment system.

We used an estimate of how much these encounters would cost under a fee for service system using fee-conversion tables. However in approximately 10% of cases creating a fee for service payment estimate was not possible. As well, the HMO encounter data do not reflect carved out services or items that are separately billed fee-for-service, so the estimated savings will under-state averted costs associated with, for example, pharmacy, laboratory costs, and rehabilitation services.

Results

Disenrollment following the policy change is estimated to save the BC+ program $27,920,146. (Table 8.1)

The estimate the additional revenue received due to the change in premiums includes, as noted, those enrolled from August of 2012 through July of 2013. The number of enrolled persons by BC+ group and premium/FPL categories were multiplied by the mean premium paid by that group during the time period above, less the premium payment that was due at that income level in the period prior to the policy change. This estimate process suggests an additional $41,232,704 in revenues to the state Medicaid program due to increases in premiums. (Table 8.2)

The cost savings from averted utilization, summed with the additional revenue collected, results in a total estimated savings of $69,152,851. (Table 8.3)

Table 8.1 Total Savings from Exits' Averted Utilization Costs Attributed to July 2012 Policy Changes, by Eligibility Group and FPL

Savings from Exits' Averted Utilization Costs				
	133%<FPL<150%	**150%<FPL<200%**	**FPL>200%**	**Total**
Parent	$ 5,515,353.48	$ 3,307,084	-	**$ 8,822,437**
Childless	$ 2,711,259.71	$ 7,380,716	$ 1,492,539	**$ 11,584,515**
Extension	$ 1,683,682.51	$ 3,585,548	$ 2,243,964	**$ 7,513,195**
Total	**$ 9,910,295.70**	**$ 14,273,348**	**$ 3,736,503**	**$ 27,920,146**

Table 8.2 Additional Revenue Earned by Increase in Premiums Attributed to July 2012 Policy Changes, by Eligibility Group and FPL

Differential Increased Premium Collected				
	133%<FPL<150%	**150%<FPL<200%**	**FPL>200%**	**Total**
Parent	$ 14,330,105	$ 15,466,411	-	**$ 29,796,516**
Childless	$ 1,107,918	$ 3,735,847	$ 539,923	**$ 5,383,688**
Extension	$ 1,299,022	$ 2,934,121	$ 1,819,358	**$ 6,052,500**
Total	***$ 16,737,045***	***$ 22,136,379***	***$ 2,359,281***	**$ 41,232,704**

Table 8.3 Total Savings/Revenue Earned Attributed to July 2012 Policy Changes, by Eligibility Group and FPL

Total Savings= Averted Utilization Costs + Extra Revenue				
	133%<FPL<150%	**150%<FPL<200%**	**FPL>200%**	**Total**
Parent	$ 19,845,458	$ 18,773,495	-	**$ 38,618,953**
Childless	$ 3,819,178	$ 11,116,563	$ 2,032,462	**$ 16,968,203**
Extension	$ 2,982,704	$ 6,519,669	$ 4,063,321	**$ 13,565,695**
Total	**$ 26,647,340**	**$ 36,409,727**	**$ 6,095,783**	**$ 69,152,851**

Table 8.4 Distribution of Estimated Savings by Source and Enrollment Group

	Total Savings	% of total Savings
Total Aggregate Savings	**$ 69,152,851**	
Savings from Exits' Averted Utilization Costs	$ 27,920,146	40,4%
Differential Increased Premium Collected	$ 41,232,704	59.6%
By Enrollment Group		
Total Parent Savings	$ 38,618,953	55.8%
Total Childless Adult Savings	$ 16,968,203	24.5%
Total TMA Savings	$ 13,565,695	19.6%

The various program effects have differential impacts on program savings. Table 8.4 shows that the increase in premiums accounts for 60% of total program savings, while 40% results from the averted utilization costs from those who exit BC+ coverage. Parents/Caretaker Adults account for 56% of total program savings, as they account for the predominance of enrolled members and of those affected by the policy changes.

The savings estimates are also estimated here on a per member per month basis. Table 8.5 shows the dollar estimates from the corresponding cell in Table 8.3 and divides them by the number of enrolled member months in that BC+ group and premium FPL group. The total PMPM will appear lower than some of the subcategories because the parents/caretakers represent the highest enrollment yet the lowest cost (in terms of utilization) of the groups in costs or PMPM per month.

- The policy change is estimated to save the BC+ program $139 per-member-per-month
- Increased premium revenue accounts for 60% of the savings, while the exiters' averted utilization accounts for 40% of the savings.
- Individual savings from exits by Parents/Caretaker Adults are relatively minor ($21/per member per month), but this group produces the largest share (56%) of aggregate savings ($38.6 million of $69.2 million, Table 8.3 above) because they account for the most enrolled members and the most number of leavers in absolute numbers.

Limitations and Caveats

These estimates require several cautions in their interpretation:

1. These estimated savings accrue to the BC+ program specifically, and not to the health care system overall.
2. Missing claims and encounter data will result in understatement of cost savings from averted utilization.
3. Savings to the BC+ program may be offset by additional administrative costs, which this evaluation does not assess.

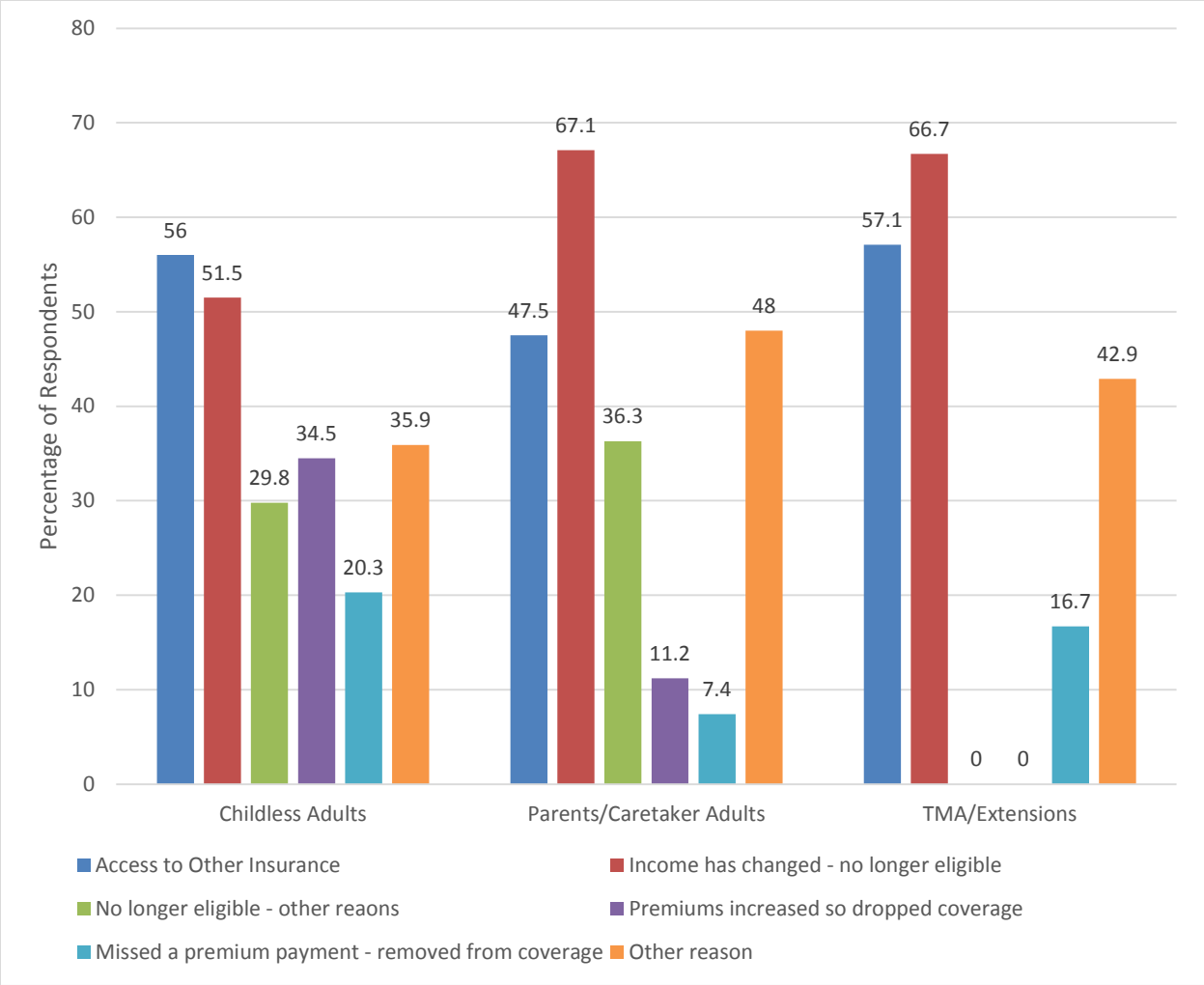
4. The measure used here of re-enrolment allows for re-entry only at six months after the exit. Those who exited without an RRP could potentially re-enroll at any time that their circumstances allow; in this case, the savings estimates would be overstated.
5. Any utilization and costs averted from the BC+ program may be incurred by other safety net programs if those who leave BC+ become uninsured. The foregone utilization costs averted from the BC+ program due to program exits or RRP may be incurred in the form of uncompensated care. Such utilization costs would ultimately be absorbed across payers.

Table 8.5 Per-Member-Per-Month Savings by Eligibility Group and FPL

	133%<FPL<150%	150%<FPL<200%	FPL>200%	Total
	Savings from Exits' Averted Utilization Costs			
Parent	$ 33.25	$ 13.29	-	**$ 21.27**
Childless	$ 211.42	$ 288.20	$ 663.94	**$ 284.76**
TMA	$ 111.98	$ 178.26	$ 296.23	**$ 175.85**
Total	**$ 51.16**	**$ 48.45**	**$ 380.38**	**$ 56.05**
	Differential Increased Premium Collected			
Parent	$ 86.39	$ 62.14	-	**$ 71.84**
Childless	$ 86.39	$ 145.87	$ 240.18	**$ 132.34**
TMA	$ 86.39	$ 145.87	$ 240.18	**$ 141.66**
Total	***$ 86.39***	***$ 75.14***	***$ 240.18***	**$ 82.77**
	Total Savings= Averted Utilization Costs + Extra Revenue			
Parent	$ 119.65	$ 75.43	-	**$ 93.11**
Childless	$ 297.81	$ 434.07	$ 904.12	**$ 417.09**
TMA	$ 198.37	$ 324.14	$ 536.41	**$ 317.51**
Total	**$ 137.55**	**$ 123.58**	**$ 620.56**	**$ 138.81**

The subsequent insurance status of those who leave BC+ coverage is a matter outside the scope of this evaluation. However, the survey respondents who report no longer having BC+ coverage offer some information about the degree to which they gained other coverage upon leaving. About 48% of Parents/Caretaker Adults, 56% of Childless Adults, and 57% of TMA Adults report having access to other insurance as a reason for no longer being on BadgerCare. (Figure S21)

Figure S21. Reported Reason for No Longer Having BadgerCare Plus Coverage


80
70
60
50
40
30
20
10
0
Percentage of Respondents
56
51.5
29.8
34.5
20.3
35.9
47.5
67.1
36.3
11.2
7.4
48
57.1
66.7
0
0
16.7
42.9
Childless Adults
Parents/Caretaker Adults
TMA/Extensions
Access to Other Insurance
Income has changed - no longer eligible
No longer eligible - other reaons
Premiums increased so dropped coverage
Missed a premium payment - removed from coverage
Other reason

E. ATTACHMENTS

Survey Instrument

UNIVERSITY OF WISCONSIN
Population Health Institute
Translating Research for Policy and Practice

School of Medicine and Public Health
UNIVERSITY OF WISCONSIN–MADISON

Current or Former BadgerCare Member Survey

Thank you for taking the time to answer the questions on the following pages. This is a survey of people like you who have had experience with the Medicaid and BadgerCare programs. Your answers will help state decision-makers understand how the insurance changes affect your health and health care.

Your participation in this survey is completely voluntary. You can skip questions that you do not want to answer. You may choose to answer this survey or not. Choosing not to answer this survey will not affect any health benefits you may be receiving or might receive in the future. All information will be kept private and confidential. The questionnaire has a tracking number so that we do not keep sending reminders to people who have responded. Any information from this survey will be used to describe large groups, and reports will not allow any way to connect or identify you with your responses.

For each question, please fill in the circle next to the answer you choose, or write your answer in the box provided. When you are finished, please place the completed questionnaire into the postage-paid envelope provided, and put it in the mail.

If you have questions about the survey, you can contact:

Bob Cradock at the University of Wisconsin Survey Center
608-265-9885
cradock@ssc.wisc.edu

or

Donna Friedsam at the UW Population Health Institute
608-263-4881
dafriedsam@wisc.edu

Thank you again for your help!

Your Health Coverage

1. Do you <u>currently</u> have health insurance through any of the following?

	Yes	No
a. Wisconsin Medicaid Program	○	○
b. Badgercare Plus	○	○
c. Badgercare Core Plan	○	○
d. Medicare	○	○
e. Employer or family member's employer	○	○
f. A private plan I pay for myself	○	○
g. A health plan from the federal Affordable Care Act (ACA/Obamacare) program	○	○
h. Other coverage. Please specify:	○	○

The next question asks about BadgerCare.

If you currently have BadgerCare coverage, please skip ahead to question 3.

2. If you no longer have BadgerCare coverage, please tell us why:

	Yes	No
a. I am not eligible anymore because I have access to other health insurance	○	○
b. I am not eligible anymore because my income has changed	○	○
c. I am not eligible anymore for other reasons	○	○
d. The premiums increased and so I dropped my BadgerCare coverage	○	○
e. I missed a premium payment, so the BadgerCare program removed me from coverage	○	○
f. Other reason. Please specify:	○	○

3. For how many of the last <u>12 months</u> did you have some kind of health insurance?

- ○ No insurance during the last 12 months
- ○ 1-2 months of health insurance coverage
- ○ 3-5 months of health insurance coverage
- ○ 6-8 months of health insurance coverage
- ○ 9-11 months of health insurance coverage
- ○ Insured for all of the last 12 months

Your Health Care

4. Is there a place you <u>usually</u> go to receive medical care?

- ◯ Yes → **Go to question 5**
- ◯ No → **Go to question 6**

5. Where do you usually go to receive medical care? *Mark only one.*

- ◯ A private doctor's office or clinic
- ◯ A public health clinic, community health center, or tribal clinic
- ◯ A hospital-based clinic
- ◯ A hospital emergency room
- ◯ An urgent care clinic
- ◯ Some other place, please specify: ____
- ◯ I don't have a usual place
- ◯ I don't know

6. Do you have one person you think of as your personal doctor or health care provider?

- ◯ Yes
- ◯ No

7. Was there a time in the <u>last 12 months</u> when you needed medical care?

- ◯ Yes
- ◯ No → **Go to question 10**

8. If you needed medical care in the <u>last 12 months</u>, did you get <u>all</u> the care you needed?

- ◯ Yes → **Go to question 10**
- ◯ No
- ◯ I did not need care in the last 12 months

9. The most recent time you went without needed medical care, what were the main reasons?

	Yes	No
a. It cost too much	○	○
b. I didn't have insurance	○	○
c. The doctor wouldn't take my insurance	○	○
d. I owed money to the care provider	○	○
e. I couldn't get an appointment quickly enough	○	○
f. The office wasn't open when I could get there	○	○
g. I didn't have a doctor	○	○
h. Other coverage, Please specify:	○	○

10. Was there a time in the last 12 months when you needed prescription medication?

○ Yes
○ No → **Go to question 14**

11. If you needed prescription medications in the last 12 months, did you get all the medications you needed?

○ Yes → **Go to question 13**
○ No
○ I did not need medications in the last 12 months

12. The most recent time you went without prescription medications you needed, what were the main reasons?

	Yes	No
a. They cost too much	○	○
b. I didn't have insurance	○	○
c. I didn't have a doctor	○	○
d. I couldn't get a prescription	○	○
e. I couldn't get to the pharmacy	○	○
f. Some other reason, Please specify:	○	○

13. How many different prescription medications are you currently taking?

_____ prescription medications

14. In the last 12 months, how many times did you go to a doctor's office, clinic, or other health care provider to get care for yourself? ***Don't include hospital and emergency room visits or dental care. Your best estimate is fine.***

☐ times

15. In the last 12 months, how many times did you go to an emergency room to get care for yourself? ***Your best estimate is fine.***

☐ times

OR

○ None ⟶ **Go to question 17**

16. The most recent time you went to the emergency room, what was the reason you went there instead of somewhere else for health care?

	Yes	No
a. I needed emergency care	○	○
b. I didn't have insurance	○	○
c. Doctors' offices/clinics were closed	○	○
d. I couldn't get an appointment to see a regular doctor soon enough	○	○
e. I didn't have a personal doctor	○	○
f. I couldn't afford the copay to see a doctor	○	○
g. I needed a prescription drug	○	○
h. I didn't know where else to go	○	○
i. Some other reason, Please specify: ☐	○	○

17. In the last 12 months, how many different times were you a patient in a hospital at least overnight? ***Do not include hospital stays to deliver a baby.***

☐ times

18. Overall, how would you rate the quality of the medical care you've received in the last 12 months?

○ Excellent
○ Very good
○ Good
○ Fair
○ Poor

○ I did not receive medical care in the last 12 months

Your Health Care Costs

19. Do you <u>currently</u> owe money to a health care provider, credit card company, or anyone else for medical expenses?

- ◯ Yes
- ◯ No → **Go to question 21**

20. About how much do you owe?

$ _____ amount owed

21. In the <u>last 12 months</u>, have you had to borrow money, skip paying other bills, or pay other bills late in order to pay health care bills?

- ◯ Yes
- ◯ No

22. In the <u>last 12 months</u>, has a doctor, clinic, or medical service refused to treat you because you owed money to them for past treatment?

- ◯ Yes
- ◯ No
- ◯ I don't know

Your Health

23. In general, would you say your health is:

- ◯ Excellent
- ◯ Very good
- ◯ Good
- ◯ Fair
- ◯ Poor

24. How has your health changed in the <u>last 12 months</u>?

- ◯ My health has gotten better
- ◯ My health is about the same
- ◯ My health has gotten worse

25. Does a physical, mental, or emotional problem now limit your ability to work at a job or business?

- ◯ Yes
- ◯ No

26. Have you ever been told by a doctor or other health professional that you have any of the following?

	Yes	No
a. Diabetes or Sugar Diabetes	○	○
b. Asthma	○	○
c. High Blood Pressure	○	○
d. Emphysema or Chronic Bronchitis (COPD)	○	○
e. Heart Disease, Angina, or Heart Attack	○	○
f. Congestive Heart Failure	○	○
g. Depression or Anxiety	○	○
h. High Cholesterol	○	○
i. Kidney Problems	○	○

27. In the last 12 months, have you taken medication for any of the following?

	Yes	No
a. Diabetes or Sugar Diabetes	○	○
b. Asthma	○	○
c. High Blood Pressure	○	○
d. Emphysema or Chronic Bronchitis (COPD)	○	○
e. Heart Disease, Angina, or Heart Attack	○	○
f. Congestive Heart Failure	○	○
g. Depression or Anxiety	○	○
h. High Cholesterol	○	○
i. Kidney Problems	○	○

28. Have you ever had your blood cholesterol checked?

○ Yes, within the last year
○ Yes, but it's been more than a year
○ Never

29. Have you ever had a blood test for high blood sugar or diabetes?

○ Yes, within the last year
○ Yes, but it's been more than a year
○ Never

The next two questions ask about health screenings recommended for women.
If you are male, please skip ahead to question 32.

30. Have you ever had a mammogram?

- ◯ Yes, within the last year
- ◯ Yes, but it's been more than a year
- ◯ Never

31. Have you ever had a pap test or pap smear?

- ◯ Yes, within the last year
- ◯ Yes, but it's been more than a year
- ◯ Never

32. Have you smoked at least 100 cigarettes in your <u>entire life</u>?

- ◯ Yes
- ◯ No → **Go to question 35**

33. Do you <u>now</u> smoke cigarettes every day, some days, or not at all?

- ◯ Every day
- ◯ Some days
- ◯ Not at all → **Go to question 35**

34. On average, how many cigarettes do you now smoke <u>a day</u>?

☐ cigarettes per day

35. In the <u>last 12 months</u>, have you been advised by a doctor or health professional to quit smoking?

- ◯ Yes
- ◯ No
- ◯ I haven't seen a doctor in the last 12 months

About You

36. Are you male or female?

- ◯ Male
- ◯ Female

37. What is the YEAR of your birth?

[ ]

38. Are you currently employed or self employed?

- ◯ Yes, employed by someone else
- ◯ Yes, self-employed
- ◯ Not currently employed
- ◯ Retired

39. About how many hours per week, on average, do you work at your current job(s)?

- ◯ I don't currently work
- ◯ Less than 20 hours per week
- ◯ 20-29 hours per week
- ◯ 30 or more hours per week

40. What was your household's gross income (before taxes and deductions are taken out) for 2013? ***Please include any cash assistance or unemployment benefits you may have received, and please include the income of all members of your household. Your best estimate is fine.***

- ◯ Less than $4,999
- ◯ $5,000 to $9,999
- ◯ $10,000 to $14,999
- ◯ $15,000 to $19,999
- ◯ $20,000 to $29,999
- ◯ $30,000 to $39,999
- ◯ $40,000 to $49,999
- ◯ $50,000 to $59,999
- ◯ $60,000 to $69,999
- ◯ $70,000 to $79,999
- ◯ $80,000 to $89,999
- ◯ $90,000 to $99,999
- ◯ $100,000 or more

41. Would you describe yourself as Spanish, Hispanic, or Latino?

- ◯ Yes
- ◯ No

42. How would you describe your race? ***Please check all that apply.***

- ☐ White
- ☐ Black or African-American
- ☐ American Indian or Alaska Native
- ☐ Asian
- ☐ Native Hawaiian or Pacific Islander
- ☐ Other, please specify: _____

43. What is the highest level of education you have completed? ***Mark only one.***

- ◯ Less than high school
- ◯ High school diploma or GED
- ◯ Vocational training or 2-year degree
- ◯ A 4-year college degree or more

44. What is your current living arrangement? ***Please check all that apply.***

- ☐ Live alone
- ☐ Live with partner or spouse
- ☐ Live with parents
- ☐ Live with other relatives (including children)
- ☐ Live with friends or roommates
- ☐ Other, please specify: _____

45. How many family members, <u>including yourself</u>, counting adults and children, are living in your home? (*For example, if you live alone, you should write "1".*)

☐ family member(s) in household

46. Of the family members living in your house, how many are under age 19?

☐ family member(s) in household under age 19

47. Do you have any children under age 19 that you financially support?

◯ Yes
◯ No

Thank you for your participation! When you have finished your survey, please place it in the included postage-paid envelope, and drop it in the mail. Thank you for your time!

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