Impact of Incentives on Goal Achievement by Children:

Does it matter whether the incentive is awarded to the child or split between the child and a parent?

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The report evaluates a project funded by the Centers for Medicare & Medicaid Services (CMS), through the Medicaid Incentives for the Prevention of Chronic Diseases (MIPCD) program. The project was administered by the Nevada Division of Health Care Financing & Policy.

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1. INTRODUCTION

This report evaluates the grant-funded project, "Nevada Medicaid Incentives for the Prevention of Chronic Diseases" (MIPCD). This project was funded under the Patient Protection and Affordable Care Act Section 4108 Medicaid Incentives for Prevention of Chronic Diseases (MIPCD) solicitation (Funding Opportunity Number: CMS-1B1-11-001). The grant was administered by the Nevada Medicaid agency, which is housed in the State of Nevada Department of Health and Human Services (DHHS). The Nevada Medicaid agency, which is known as the Division of Health Care Financing and Policy (DHCFP), is responsible for administering two major federal health coverage programs, Medicaid and Nevada Check Up (the state's Children's Health Insurance Program). IRB oversight was provided by the University of Nevada Reno Research Integrity Office.

The analysis was conducted by researchers at the University of Nevada, Reno, working as subcontractors to the Nevada Division of Health Care Finance and Policy (DHCFP), which administers the Nevada Medicaid program. This evaluation report includes:

- an evaluation of program effectiveness, and
- a report on processes that have been developed and lessons learned from the program

The Nevada MIPCD project focused on diabetes prevention and management. This project was initially designed to test three hypotheses in collaboration with five community partners.

> **Hypothesis 1.** *Incentivizing improvements in health measurements (such as the measured A1c level), instead of focusing on concrete actions (such as going to get an A1c test) may be counterproductive, if individuals have low expectations of success.*
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> Under the initial design, adults enrolled in the MCOs' diabetes management programs, who elected to participate in the study, would be randomly assigned to one of three groups. Members of the control group would not receive any payments. Members of Treatment Group 1 would receive incentive points for each test or service. Members of Treatment Group 2 could potentially receive the same number of incentive points; however, these points were awarded for both (i) obtaining tests and services, and (ii) achieving health goals.
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> **Hypothesis 2.** *Allowing individuals to choose whether to allocate incentive points to health metrics may improve performance among the group that chooses this option, without adversely impacting the performance of the group that does not choose this option. This option is analogous to the system offered by the website stickK.com. It is also analogous to the strategy of freezing one's credit cards in water to inhibit impulse-use.*
>
> Under the initial design, adult participants in programs implemented by the Lied Clinic and YMCA of Southern Nevada who elected to participate in the study, would be randomly assigned to a control group and a treatment group. Members of Treatment Group 1 would have the same reward structure as members of the first treatment group described above. Members of Treatment Group 2 would have been permitted to choose

whether to assign all of the rewards points to task-completion or to assign some points to goal achievement. (The Lied Clinic offered a diabetes management program, and the YMCA offers a nationally-recognized diabetes prevention program, based on research funded by the National Institutes of Health and the Centers for Disease Control. This program is offered to adults at risk of developing type 2 diabetes.

Hypothesis 3. *For programs designed to help young people strengthen health metrics, incentivizing the parent and the child may induce better results than incentivizing the child alone.*

Hypothesis 3 is tested using data from the Healthy Hearts program offered by the Children's Heart Center (CHC) in Las Vegas. CHC is Nevada's largest pediatric cardiology practice. The Healthy Hearts program is a comprehensive program for overweight young people at risk of heart disease

Young people enrolled in the CHC Healthy Hearts program, who elected to participate in the study, were randomly assigned to two treatment groups:

- Young people in Treatment Group 1 were eligible to earn incentive points.
- Incentive points earned by young people in Treatment Group 2 were split between the child and the child's parent(s).

Young people who completed the program during several years prior to the study constituted the control group.

Nevada Medicaid provided recruitment materials in English and Spanish to the program partners. A third-party vendor, ChipRewards, created the randomized assignments to the treatment groups, tracked points earned by participants, received point redemption requests, and mailed the point-redemption prizes to program participants. MIPCD participants could view the items online, or program partners could provide hard-copies of the rewards catalogue. Program partners also helped the MIPCD participants check the status of their accounts and redeem their points. Program participants could redeem points for rewards as the points were earned, or they could accumulate points to redeem them later for rewards of higher value.

This report presents the results of multivariate analysis of data to test Hypothesis 3, based on data for participants in the CHC program. This report does not present analysis of data to test Hypothesis 1 or 2 because there were not enough participants to conduct meaningful evaluation. Since the level of participation in the programs was lower than originally anticipated, we provide a brief evaluation of the processes used to recruit and maintain program participants based on qualitative data collected during post-program interviews. We interviewed nine representatives of the program partners. The interviews were conducted by telephone and each interview lasted approximately one hour. The interviews were semi-structured using the interview protocol provided in Appendix A for guidance. We spoke with people who were responsible for the administration of the program, and a few who helped provide health care as part of the program. The information gained from the interviews provides insight into issues that should be addressed when attempting to establish healthcare-related incentive programs.

These quantitative and qualitative research results contribute to the body of knowledge on the impacts of incentives on individual decisions to engage in healthy behaviors.

The research team included three professors in the University of Nevada Reno, College of Business:

- Dr. Dana Edberg, Associate Professor, Information Systems,
- Dr. Sankar Mukhopadhyay, Associate Professor, Economics, and
- Dr. Jeanne Wendel, Professor, Economics.

This report includes five additional sections. Section 2 focuses on evaluation of recruitment and participation. Section 3 provides background information on the hypothesis to be tested. Section 4 details the study design, data and results. Section 5 discusses the study limitations. Section 6 summarizes the study conclusions.

2. EVALUATION OF RECRUITMENT AND PARTICIPATION

Results from the qualitative interviews found that the MIPCD program partners for Hypothesis 1 were originally excited to participate in the study. The MCO's used the following process to solicit participants. They:

1) Sent letters to potential participants;
2) Sent recruitment flyers and announcements to potential participants;
3) Made phone calls to potential participants.

Initial recruitment was very time-consuming for the MIPCD program partners and most often performed by non-nursing staff. While they did not keep track of the actual time spent, they estimate that initial recruitment took 80 hours of staff time. Many of the mailings were returned with incorrect addresses. They did not keep track of the number of mailings that were returned, but believe that it was substantial. They had significant difficulties contacting people via the telephone due to: incorrect phone numbers, no call backs from voice messages, and cell phones that had run out of minutes (many of the potential participants had cell phones that ran out of minutes during the first two weeks of the month – the MIPCD program partners learned that they had to call people during those first two weeks and not wait until after the middle of the month). The MIPCD program partners estimate that fewer than 10% of the potential participants contacted were interested in the study. When potential participants were interested, they quickly became less interested when told that the study required a year's commitment.

The MIPCD program partners performed ongoing recruitment efforts as part of the monthly calls completed by nursing staff, but the lack of interest on the part of potential participants made it difficult for the representatives of the program partners to maintain excitement about the study. They expanded the size of the potential participant population by modifying the qualifying characteristics, but were still unable to get people to participate in the program.

The MIPCD program partners did not have standard computer-supported systems to facilitate the recruitment process making it difficult to keep track of the efforts used for recruitment. One MIPCD program partner created a Microsoft Access database to keep track of enrollment data. Reports generated from this database helped provide information for nursing staff when they made monthly support calls. This system did help with the ongoing recruitment effort, but about halfway through the program, the person who created the database was transferred to another job, and the database was no longer maintained.

The organizations serving as MIPCD program partners experienced change during the program. During the study time period, one of the MCOs (Amerigroup) was purchased by Wellpoint. Another MCO had significant turnover of personnel during the recent recession. People who participated in the original development of the study were transferred, reduced from staff due to financial difficulties, or quit.

MIPCD program partners also experienced substantial financial difficulties during the recent recession. Nevada was affected significantly by the recent recession. As shown in Figure 1, the unemployment rate in Nevada exceeded the US unemployment rate throughout the project period. One of the MIPCD program partners, the Lied Clinic operated by the University Medical

Center, terminated all operations during the program. We were unable to interview a representative of the Lied Clinic.

In addition, the YMCA experienced unexpected challenges in recruiting program participants. The YMCA has experience offering an evidence-based program to help reduce the risk of diabetes. The YMCA was eager to participate as an MIPCD program partner, and to begin offering the program in locations that would be convenient for Medicaid enrollees. It was assumed that Medicaid enrollees would participate in the YMCA diabetes prevention program, and the YMCA would provide MIPCD recruitment information to those individuals. However, this assumption did not prove to be valid. The YMCA was not able to identify combinations of locations, session times, and marketing strategies that appealed to Medicaid enrollees. The low numbers of Medicaid enrollees participating in the YMCA program limited the number of potential MIPCD participants engaged in the YMCA program.

While each of these situations (recession, employee turnover, sale of one of the MCOs, closure of one program partner, recruiting challenges faced by another partner) reflects idiosyncratic events, each is also representative of challenges faced by state Medicaid organizations, as they work to strengthen coordination with healthcare and community service organizations. The healthcare provider and payer industries are undergoing significant structural changes, and community organizations are expanding into new activities in an effort to build synergies between healthcare services and traditional types of social services.

In summary, the results of our interviews showed that the following factors affected recruitment and participation in the study:

- **Difficult to contact potential participants.** The MIPCD program partners did not have a consistent and reliable way to contact potential participants.
- **No standardized system for recruitment.** The MIPCD program partners did not have a computer-supported system to help them keep track of the recruitment process. In addition, there was no systematic process used for ongoing recruitment.
- **No ongoing marketing process targeting recruiting personnel.** Personnel changes in the MIPCD program partners meant that people who had not originally participated in the development of the study became responsible for the ongoing recruitment and maintenance of the study. While the original personnel may have been in agreement with the structure of the study, new people may not be in agreement. In a long term study, it may be necessary to perform marketing efforts for all project participants – those taking part in the study, and those who support the people taking part in the study.
- **No funding for ongoing administrative support.** The MIPCD program partners attempted to incorporate ongoing participant recruitment and maintenance as part of their standard outreach efforts. This required nursing personnel to integrate ongoing recruitment into their busy telephone schedules. It might have been more effective to separate the tasks in order to focus on recruitment and maintenance of program participants.
- **No technological support for reward redemption.** The incentives in this program required technological support to redeem the rewards. MIPCD program partners had to call program participants to tell them to redeem the rewards causing additional time-

consuming activities for personnel. For those program participants without access to technology, the program partners had to redeem awards putting another task on participating personnel.

Enrollment challenges are not unique to the programs offered in Nevada, and they are not unique to programs offered to Medicaid enrollees. For discussions of relevant challenges, see Blumenthal, et al. (2013), Cawley and Price (2009) and Cawley (2014). These results highlight the importance of future research to develop more detailed understanding of the factors that shape Medicaid-enrollee decisions to participate in wellness and disease management programs.

3. BACKGROUND INFORMATION ON THE HYPOTHESIS TO BE TESTED

Healthcare provider, payer, purchaser and policy organizations are focusing increasing attention on the roles of individual behaviors in producing health and maximizing the benefit of existing healthcare resources. The behaviors include obtaining preventive care and maintaining a healthy lifestyle. Research results published in the behavioral economics literature indicate that incentives may play an important role in efforts to help individuals strengthen their efforts to engage in these activities, but the details of the incentive structure can shape the impacts of specific incentive programs. A recent National Quality Forum report highlights the importance of this issue for Medicaid enrollees, and for the healthcare providers that serve this population. (Cassell, 2014)

Two recent publications (Blumenthal et al.,2013 and Hoerger et al., 2015) note the paucity of evidence on incentive design for Medicaid enrollees. The MIPCD pilot programs were funded to develop and test hypotheses about the impacts of incentives and incentive design on the degree to which Medicaid enrollees engage in healthy behaviors.

This report focuses on the question of whether it is useful to incentivize significant members of the network of individuals who support the targeted individual. Some evidence suggests that individual efforts to develop new habits are bolstered by support from significant members of social support networks. For example, Donatelle et al. (2000) report that incentives combined with social support generated a significant increase in tobacco cessation among pregnant WIC recipients.

However, for a given monetary incentive value, incentivizing a significant-other implies a reduction in the magnitude of the incentive offered to the key individual. This is an important issue because the magnitude of the incentive offered to the key individual may be an important determinant of the outcome of the trade-off between the positive impact of the extrinsic incentive and the potential adverse impact of the incentive on the individual's pre-existing intrinsic motivation.

This implies that the impact of splitting the reward between the targeted individual and a significant-other is indeterminate, as illustrated in Figures 2a and 2b. Suppose an individual faces the marginal cost and marginal benefit schedules for engaging in behavior X, ($MC(X)_1$ and $MB(X)_1$). He will engage in behavior X at the level X_1. If the individual is incentivized to increase the level of behavior X, the marginal benefit of engaging in X is increased to $MB(X)_2$, and the individuals increases the quantity of behavior X to X_2.

If the same monetary incentive is split between the key individual and a significant-other, the individual faces the combination ($MC(X)_{split}$, $MB(X)_{split}$). The incentivized significant-other provides pragmatic assistance and moral support that reduce the marginal cost of engaging in X, by making the activity less distasteful. However, $MB(X)_{split} < MB(X)_2$, because the incentive was split between the key individual and the significant-other.

As illustrated in Figure 2b, the sign of the impact of splitting the incentive between the key individual and a significant other (compared with providing the full reward to the key individual) depends on the relative magnitudes of the shifts in MC and the MB. Figure 2b-i illustrates the case in which the adverse impact of reducing the incentive offered to the key individual exactly offsets the beneficial impact of strengthening social support by incentivizing a significant member of the social support network. Figure 2b-ii illustrates the case in which the adverse impact of reducing the incentive offered to the key individual dominates. Figure 2b-iii illustrates the opposite case in which the beneficial impact of incentivizing the significant member of the support network dominates.

Empirical analysis is therefore required to estimate the impact of splitting the incentive to increase healthy behaviors between the child participating in the CHC Healthy Hearts program and the child's parent. A substantial proportion of Medicaid recipients are young people, for whom the influence of "support" people is likely to be an important issue. In this situation, it may be particularly important for Medicaid incentive systems to structure rewards that recognize the importance of unobservable interactions with support individuals such as parents.

This report presents the results of a randomized controlled trial (RCT), to test two null hypotheses:

- Ho: Monetary incentives do not significantly increase persistence in attending sessions at a pediatric cardiac wellness program, and they do not significantly increase the rate at which the attendees meet program goals.
- Ho: Splitting the incentive between the participant (the child) and the participant's parents does not significantly increase persistence and goal achievement.

We test this hypothesis using data from the Healthy Hearts program offered by the Children's Heart Center (CHC) in Las Vegas. While duration of Medicaid eligibility for many adult recipients is less than one year, the Medicaid duration issue is less salient for young people enrolled in Medicaid.

4. STUDY DESIGN, DATA AND RESULTS

The study reported here was designed to test the hypothesis that splitting the rewards between the child and a parent will induce more behavior change (by the child), than focusing the entire incentive on the child. We test two sub-hypotheses:

> **Hypothesis A:** The child will stay with the program significantly longer if the parent/caregiver is incentivized to help the child accomplish the program goal.
>
> **Hypothesis B:** The child will show significant improvement in BMI if the parent/caregiver is incentivized to help the child accomplish this goal.

The hypothesis is tested by offering incentives to young people participating in the Healthy Hearts program offered by a pediatric cardiology practice (Children's Heart Center). The Children's Heart Center (CHC) program offers a good venue for testing this hypothesis, for four reasons:

- Healthy Behaviors are an important health issue for the young people enrolled in this program. The participants are young people who meet two eligibility criteria:
    - The child's age is between 7 and 18.
    - The child has one of the following diagnoses: elevated BMI, dyslipidemia, hypertension, hyperinsulinemia, or other co-morbidity.

  While individualized goals are defined for each child, reducing or maintaining BMI is an important goal for most young people who participate in the Healthy Hearts program. While these young people are not representative of the population of all young people covered by Medicaid, they do represent a subset of the population for whom healthy behaviors are particularly important.
- The Healthy Hearts program offered by the CHC is an established program. The study reported here analyzes the impact of offering incentives to participants in this ongoing program.
- Parents are involved in the program. During the 12-week active phase of program, the child participates in physical activity and both the child and the parent participate in nutrition counseling sessions. The parent also participates in discussions with the program psychologist.
- Baseline data is recorded at enrollment. Progress toward achieving goals is measured at 6 and 12 weeks. During the subsequent year, program participants attend four follow-up sessions at 3-month intervals.

Study Design

MIPCD participants who enrolled in the CHC program for overweight young people were eligible to earn points by attending sessions and by achieving goals during both the 12-week active phase of the program and the one-year follow-up phase of the program. The maximum number of possible points that could be earned by one individual was 350. The redemption value of each point was approximately $.01. See Table 1 for more detail on the structure of possible points.

The study is designed as a two-arm group randomized trial. The randomized assignment was created by ChipRewards, upon enrollment in the MIPCD study. For young people assigned to the first treatment group (focused-incentive group), all points were awarded to the child. For young people assigned to the second treatment group (split-incentive group), half of the earned points were awarded to the child, while the other half were awarded to the child's parent. Individuals who were enrolled in the program prior to the MIPCD study comprised the control group. Thus, the assignment to the two treatment groups was random. The assignment to the control vs. treatment groups was not random, however. Individuals did not have opportunities to self-select into the control and treatment groups. The program components and administration were constant throughout the control- and intervention-time periods, and data recorded in the CHC computer system is consistent across the two time periods. Copies of the English- and Spanish- language versions of the recruitment letters, information sheets and consent forms are provided in Appendix C.

Data

The number of study participants in the control and treatment groups was 1673. Complete data is available for 1551.

Sample exclusion criteria

We constructed three samples to support these analyses. We constructed the first sample of program enrollees to support intent to treat analysis. We constructed the second sample of individuals who attended the 6-week and the 12-week sessions of the active phase of the program, to support analysis of the effect of the treatment on the treated. We constructed the third sample of individuals who met the criteria for inclusion in both of the first two samples, to support comparison of the two sets of results.

The initial study dataset included 1551 young people who enrolled in the treatment or control groups, with complete data on initial demographic and health characteristics. We applied two exclusion criteria to define the first study sample. We began by excluding 29 individuals who experienced inpatient healthcare stays during the year following program enrollment. We hypothesize that these inpatient stays could signal health issues that potentially interfered with program participation. We also excluded 417 young people who were not continuously eligible for Medicaid coverage during the year following program enrollment. Full-year Medicaid coverage following program enrollment is necessary to ensure clear assignment of individuals to either a treatment or control group. The CHC permitted the young people to continue to participate in the program, even if Medicaid eligibility was terminated. However, federal CMS policy mandated that eligibility for earning incentive points was contingent on concurrent Medicaid eligibility. Some individuals did attend sessions after losing Medicaid eligibility (see

Table 2 for details). Thus, loss of Medicaid coverage essentially converted an individual enrolled in an incentivized treatment group into a de-facto member of the un-incentivized control group. (See Table 2 for additional detail.) We avoid ambiguity regarding group assignment, by restricting our analysis to individuals with full-year Medicaid eligibility. We applied this criteria to young people enrolled in the control group and in the treatment groups, to avoid creating sample bias due to unobserved characteristics of individuals with short-term vs. longer-term Medicaid eligibility. The resulting sample of enrollees included 1105 young people, with 548 in the control group, 286 in the focused incentive treatment group and 271 in the split incentive treatment group.

We also define a second sample of 624 individuals who completed the active phase of the program by attending both the 6-week and 12-week sessions. Individuals included in this sample of "completers" met two inclusion criteria: (i) the individual did not experience an inpatient healthcare episode during the year following program enrollment, and (ii) the youth was continuously eligible for Medicaid coverage throughout the 12-week active phase of the program.

The sample of 624 completers includes some individuals who did not meet the criteria for inclusion in the sample of enrollees, because they did not have one year of post-enrollment Medicaid coverage. To facilitate comparison between results estimated for completers and those estimated for enrollees, we define a third sample of 507 completers with one year of post-enrollment Medicaid coverage.

Variables, definitions and descriptive statistics

The study dataset includes a set of variables that measure session-specific attendance, goal achievement, health status, and biometric information. For these session-specific variables, we denote the time dimension as follows: the initial session that occurs at program enrollment is denoted as occurring at time zero; completion of the 12-week active phase of the program occurs at Q1; the three quarterly follow-up sessions that occur within one year of program enrollment occur at times Q2, Q3, and Q4. The dataset also includes a set of control variables that describe the demographic characteristics and pre-enrollment health status of each enrollee. We begin this section by defining the control variables, and then we define the outcomes measures.

We provide descriptive statistics for three demographic variables (see Table 3). The average age of study participants is approximately 11 years. The proportions of males range from 48% to 56% across subsamples, and the proportions of group members who are Latino range from 75% to 91%. There are no significant differences in the average values of the demographic variables across the two treatment groups (the focused-incentive and split incentive groups). Treatment-group(s) vs control group differences in the *AGE* and *MALE* variables are not statistically significant; however the proportions of youth who are Latino is significantly higher in both treatment groups than in the control group. These differences are observed in the sample of 624 completers and in the sample of 1105 enrollees.

We employ two measures of health status at enrollment. The first measure is BMI at enrollment (BMI_0). Average BMI_0 is lower in the treatment groups, than in the control group, and the differences are significant. (See Figures 3a – 3c.). The second measure of initial health status is a health risk score (*RISK*). The health risk scores are computed by applying the Chronic Illness

and Disability Payment System (CDPS) weights to demographic and diagnosis information specified in Medicaid claims data[1]. CDPS risk score weights were developed to predict healthcare expenditures. This information could help Medicaid administrators assess the financial impact of the incentives. To the extent that the CDPS risk scores also proxy health status[2], the risk score at program enrollment is a useful control variable, and the post-enrollment change in the risk score provides an estimate of the impact of the incentives on individual health. The most common CDPS diagnosis categories recorded for the youth in our data are metabolic (503 enrollees), pulmonary (250 enrollees), psychiatric (146 enrollees), cardiovascular (80 enrollees), and skeletal (76 enrollees). (See Table 4 for more detail.)

Risk scores are computed for each program enrollee at enrollment ($RISK_0$, and again one year later ($RISK_{Q4}$). The CDPS risk score methodology specifies that risk scores should only be computed for individuals with twelve months of continuous coverage prior to the risk score date. All individuals in the enrollee samples meet this requirement, with one year of Medicaid coverage prior to computation of $RISK_{Q1}$. However, this requirement is not satisfied for all individuals in the enrollee samples for computation of $RISK_0$. Nearly two-thirds of the 1105 enrollees in our data (62%) were covered by Medicaid for the full 12 months prior to enrollment in the MIPCD program, and most (85%) were eligible for at least six months. At our request, a pre-enrollment risk score was computed for each of the 1105 enrollees, regardless of the number of months of Medicaid coverage that occurred during the year prior to program enrollment. This strategy poses a risk of understating the health risk due to the shorter time for observing diagnoses in the claims data. However, the criteria for program enrollment include the requirement that the young person is referred to the program after a physician finds at least one relevant diagnosis; hence each individual enrolled in the CHC program had at least one preceding healthcare visit at which diagnoses relevant to the program were recorded. However, regression of the pre-enrollment risk score on number of months of Medicaid coverage during the year prior to program enrollment, controlling for enrollee age, gender, ethnicity and BMI at program enrollment indicates that $RISK_0$ is significantly and positively associated with the number of months of pre-enrollment Medicaid coverage. This suggests that $RISK_0$ may understate health risk for the one-third of individuals in the samples of 507 completers and 1105 enrollees, who did not have a full year of Medicaid coverage prior to program enrollment. This underestimation of $RISK_0$ implies that estimates of post-enrollment risk reduction will be biased downward.

The average values for $RISK_0$ are 3.03 and 2.83 for the samples of 624 completers and 1105 enrollees (see Table 3). The average values for $RISK_0$ are significantly lower in the treatment groups, than in the control group, with the values for $RISK_0$ ranging from 1.67 to 1.95 points (see Figures 4a – 4c for more detail). Differences of these magnitudes could potentially reflect the

[1] This computation was provided by Milliman. Milliman provided the risk score computation. A letter from Milliman (see Appendix B) discusses the methodology.)

[2] The CDPS system computes each individual's risk score, based on age, gender and diagnoses reported in claims data. Males (females) age 15-24 with no diagnoses have scores equal to 1.88(2.45). For males (females) age 5-14, the scores are 2.00 (1.99). A diagnosis categorized as "metabolic, medium" would add 1.73 points to the individual's risk score, while a diagnosis categorized "metabolic, high" would add 4.53 points to this score.

presence of one less recorded diagnosis or the difference between a "low" or "medium" category within a given diagnosis.

In summary, there are no significant differences in the average demographic and baseline health measures for members of the two treatment groups. This is not surprising, given that individuals were randomly assigned to these two groups. The typical assumption made in experimental studies (Lalonde, 1986) is that since there is no difference in observables there are no differences in unobservable characteristics between these two groups. Therefore a simple difference in means or OLS regression is sufficient to identify the causal effect of splitting (as opposed to focusing) incentive on outcomes.

However, there are significant differences between the control group and the treatment groups. The proportions of individuals who are Latino are significantly higher in the treatment groups, than in the control group, while the average $RISK_0$ and BMI_0 are lower in the treatment groups than in the control group. We account for these differences by including demographic and baseline health variables in the Probit regressions. However, if the treatment groups are different from control groups in unobservable ways then OLS or Probit may not provide us with the causal treatment effect. If the unobserved differences are time-constant, then a difference-in-difference (DD) estimator with individual fixed effects (DD-FE) may provide the causal effects. In the analysis below we present DD-FE results, but we should note that while results about the difference between focus vs. split incentive can be interpreted as causal the results about the effect of incentives (vs. no incentives) may be biased. However, we should note that since BMI_0 and $RISK_0$ are lower in treatment groups, a further reduction in those outcomes is more difficult in the treatment groups compared to the control groups. Therefore, if we have a bias in our estimate of the impact of incentives, it is likely to be a downward bias.

We focus on four outcomes measures (probabilities of attendance and goal achievement, and changes in *BMI* and *RISK*). We also checked group mean DD results at Q1 for 11 biometric measurements systolic blood pressure, HbA1c, total cholesterol, LDL cholesterol, HDL cholesterol, triglycerides, cholesterol HDL ratio, fasting insulin, diastolic blood pressure, resting heart rate, and waist circumference). Out of 66 DD results for these additional biometric measures, only 6 are significantly different from zero. We do not report these results because they do not present a clear pattern. Biometrics at Q4 might be more meaningful; however those sample sizes are very small.

The variable *ATTEND* is equal to 1 at a specific session if the enrollee attended that session. Among the 1105 young people in the focused sample of participants, the one-year attrition in attendance is striking: 507 (46%) attended both the 6-week and the 12-week sessions during the active phase of the program, and only 67 (6%) of the 1105 enrolled young people attended the year-end (Q3) follow-up visit (see Figure 5). Compared with members of the control group, members of the two groups receiving incentives were less likely to attend the active-phase sessions and more likely to attend quarterly follow-up sessions (Q1, Q2, and Q3), Most of the differences in attendance rates between the treatment group and control group are statistically significant. However, the difference between the rates for the two treatment groups is not significant. This attrition rate is high; however, Cawley and Price (2009) also report substantial (but lower) attrition for an employee wellness program.

To earn points for goal achievement (*GOAL*) it is necessary to exert effort to actually achieve the goal and then attend a session for in-person goal measurement. Our data includes separate measures of attendance and goal achievement, because an incentivized individual may attend a session without recording goal achievement. The variable *GOAL* is defined to be equal to one if measurements taken at a specific session indicate that the child achieved at least one goal by that session, and zero otherwise. The proportion of enrollees earning points for achieving at least one measured goal at 12 weeks and at one year is reported in Table 3 using the variables $GOAL_{Q1}$ and $GOAL_{Q4}$. Goal completion among attendees was high - approximately 81% of the focused-group youth, and 69% of the split-group youth who attended the 12-week session - achieved at least one goal. Among enrolled youth who attended the year-end session, 50% and 66% of the focused-group and split-group youth, respectively, achieved at least one goal[3].

In the full sample of enrollees, goal attainment is lower among youth enrolled in both treatment groups at 12 weeks, than among youth in the control group. This difference is significant for youth in the split incentive group. The relationship is reversed in the sample of 624 completers. Compared with youth in the completer control group, youth in both completer treatment groups are more likely to achieve goals, and the difference is significant for focused incentive group. These group means suggest that the focused incentive outperforms the split incentive with regard to goal achievement, at 12 weeks, but the members of the split incentive group catch-up by year-end.

Compared with youth in the control group, year-end goal achievement is significantly higher at year-end among youth in the two treatment groups. This difference is observed in the sample of 1105 enrollees, and in the sample of 624 completers.

While attendance and goal attainment are measured as session-specific variables, the two health metrics present cumulative information about enrollee progress toward health improvements. The change in *BMI* at 12 weeks (BMI_0 -BMI_{Q1}) and at year-end (BMI_0 -BMI_{Q4}) reflect changes from program enrollment at time zero. Two additional variables measure health characteristics: *BMI* and the individual health risk score (*RISK*). *BMI* measurements are available for the follow-up sessions; however we do not utilize these measurements due to the low proportion of program enrollees who attended these sessions. Finally, the variable $RISK_0$ -$RISK_{Q4}$ measures the change in *RISK* during the year following program enrollment.

Results

Our analysis focuses on group-mean and Fixed Effects (FE) estimates of the impacts of the presence and structure of incentives on changes in the health metrics, *BMI* and *RISK*. In this analysis, we define the treatment as the addition of incentives to the CHC program sessions offered to all of the study participants. We use the two samples of 624 and 507 completers (with

[3] Approximately 40% of the youth with focused incentives and 35% of youth with split incentives attended the 12-week session at the completion of the active phase of the program, and 32% of the focused-incentive group (24% of the split incentive group) achieved at least one goal. This implies that 81% (and 69%) of the attendees in the focused-incentive and split-incentive groups achieved at least one goal.

12 weeks and 1 year of post-enrollment Medicaid coverage) to estimate effects of the treatment on the treated, and we use the sample of 1105 enrollees with 1 year of post-enrollment Medicaid coverage to estimate the impacts on this larger group. To assess whether we observe a congruent association between the incentives and the effort variables (*ATTEND* and *GOAL*), we also report Probit cross-section regression results. We conclude the results section by discussing several robustness checks.

Impact of the presence and structure of incentives on completers

Average *BMI* decreased significantly during the 12-week active phase of the program, for the completers in the treatment and control groups. (See Panel A in Table 5 for the group mean difference-in-difference (DD) computations for the sample of 624 completers). In this sample of 624 completers, the focused-incentive group significantly outperformed the control group by 0.45 units, and this group significantly outperformed the split-incentive group 0.30 units. Panel B presents analogous results for 507 completers with full-year post-enrollment Medicaid coverage. In this smaller sample of completers, both treatment groups significantly outperformed the control group, and the difference between the average reductions for the two treatment groups is marginally insignificant with t=1.64. These results indicate that the presence of incentives significantly impacts *BMI* reduction, and the focused incentive may offer a significant advantage over the split incentive.

Panels C and D of Table 5 present difference-in-difference (DD) results for ($RISK_0 - RISK_{Q4}$). Compared with the average risk for control-group completers, average year-end *RISK* for incentivized completers decreased significantly, by approximately 0.28 points. The difference in the reductions in average risk across the focused- and split-incentive groups is small and insignificant. These results hold for both the full set of 1105 enrollees, and the set of 507 enrollees that also completed the active phase of the program. (See Panels C and D of Table 5).

Taken together, the DD results for average BMI_{Q1} and average $RISK_{Q4}$ indicate that young people enrolled in the CHC program responded to the incentives by significantly increasing their behavioral responses to the activities and information presented in the sessions. The results also suggest that the focused incentive offers a short-term advantage with regard to reducing *BMI*, but the two incentive structures generate comparable results for $RISK_{Q4}$. The difference between the group mean DD results for ($BMI_{Q4} - BMI_0$) and ($RISK_{Q4} - RISK_0$) could reflect either differences in the degree of focus offered by the *BMI* and *RISK* metrics, or differences in the duration of the intervals used to measure the changes. We turn to regression analysis to explore the impacts of the incentives in more detail.

Fixed Effects regressions: BMI and RISK.

We begin by using fixed effects (FE) regression to re-estimate the DD results, controlling for demographic characteristics and initial health status of the study participants. We use natural logs of *BMI* and *RISK* as outcome measures; hence the estimated coefficients provide estimates of the percentage changes in these health measures. We report estimates of FE regressions for ($lnBMI_0 - lnBMI_{Q1}$) and for ($lnRISK_0 - lnRISK_{Q4}$) for the samples of 624 and 507 completers in columns 1-3 of Table 6. We report results for a regression that included the control group and both treatment groups in Panel A of Table 6. We report the estimated coefficients of BMI_{Q1} and

$RISK_{Q4}$ for the subsamples that exclude the control group in Panel B of that table. The estimates reported in Panel A provide information about changes in the dependent variables that occurred in the control group and in the treatment groups, while the estimates reported in Panel B provide a more direct test of the hypothesis that the focused and split incentives generate comparable impacts. The estimates reported in Panels A and B exhibit the same pattern; hence we focus on the results reported in Panel A.

For the full set of 624 completers, ln *BMI* decreases significantly at Q1for members of the control group, by 0.47 percentage points, and it decreases significantly for completers eligible to receive focused incentive points, by an additional 1.58 percentage points. Thus, addition of the focused incentive to the established CHC program triples the 12-week impact of the active phase of the program. In contrast, adding a split incentive to the established program does not significantly magnify this short-term impact. The difference between the estimated impacts of the focused and split incentives is statistically significant with p = 0.027. Estimation of the same regression equation using the smaller sample of 507 completers with full-year post-enrollment Medicaid coverage yields comparable results.

In contrast, this pattern does not hold for the one-year impacts of the incentives on $RISK_{Q4}$. *RISK* decreased significantly for members of the control group. Both incentives generated significant additional reductions in $RISK_{Q4}$, ranging from 17.1 to 20.6 percentage points. However, differences between the impacts of the two types of incentives are not significant, with a p-value equal to 0.488 for the sample of 507 completers. While the focused incentive exhibited a significant advantage with regard to generating reductions in a short run health outcome (BMI_{Q1}), the two incentives generate comparable one-year reductions *RISK*. This result echoes the results reported for the group-mean DD analyses. However, it is still not clear whether the difference between the two sets of results indicates that the optimal incentive structure is sensitive to the time period for measuring impacts, or the variable used to measure health status. To explore this issue further, we utilize an outcome measure that is available for both short and long run – goal attainment.

PROBIT Regressions

We use Probit regressions to estimate the associations between incentives and the behavior that is directly incentivized, which is goal achievement. We estimate the impacts of incentives on goal achievement (*GOAL*) at Q1 and at Q4. By definition, all completers attend the Q1 session; hence we only estimate the impacts of incentives on attendance at Q4.

In both samples of completers, individuals eligible to earn focused-incentive points were significantly more likely to record goal achievement than members of the control group, by 16.9 points for the full set of completers. However, goal achievement among individuals eligible to earn split-incentive points was not significantly different from the achievement rate reported for members of the control group. The difference between the performances of the two treatment groups is equal to 14.2 points, and this difference is significant at the 0.01% level for the full set of 624 completers. The difference is slightly smaller in the subset of 507 completers with full-year post-enrollment Medicaid coverage; however it is still significant at the 10% level with p = 0.059. These results are consistent with the FE results indicating that the focused incentive

generates a significantly greater impact than the split incentive in the short run, and it (see Table 7).

The Probit results also indicate that the advantage offered by the focused incentive at Q1 disappears by Q4, for completers with one year of post-enrollment Medicaid coverage. Both incentives are associated with increased levels of attendance and goal achievement, and the small differences between the coefficients estimated for focused-group and the split-group incentives are not significant (p=0.974 for the probability of attendance regression, and p=0.340 for the probability of goal achievement regression).

Together with the FE results, these results suggest that the focused incentive is significantly more effective at inducing completers to implement lifestyle changes during the active phase of the program, than the split incentive. However, completers eligible to earn split incentive points "catch up" during the follow-up period.

Enrollees

The analysis of enrollees presents a slightly different picture. At Q1, enrollees eligible to earn incentive points are significantly *less likely* to attend the session than enrollees in the CONTROL group. In addition, members of the split-incentive group are significantly less likely to attain at least one goal than members of the control group. These findings are unexpected; however we note that the adverse association between the incentive and the probability of goal achievement is significantly smaller for the focused-incentive group, than for the split-incentive group (see Table 8).

In contrast, the Probit regressions for Q4 indicate that both incentives are associated with increased probabilities of attendance and goal achievement, and the small differences between the two incentives are not significant (with p=0.330 for attendance and p=0.332 for goal achievement). While the focused incentive offers a short-term advantage with regard to goal attainment for enrollees, the split-incentive group catches up by year-end.

Robustness Checks

We define additional subsamples of completers to support three sets of robustness checks. First, we show that the results for the change in *BMI* at six weeks echo the results presented for *BMI* at 12 weeks (or Q1). (See Table 9.)

Second, we check robustness with respect to individual characteristics of the young people. We note that *BMI* reduction was specified as a goal for the majority of participants; however most young people pursued multiple goals. To focus on young people for whom *BMI* reduction is likely to be a particularly salient goal, we construct a subsample that includes young people with *BMI* at least 25. This reduces the sample size for completers from 624 to 498. As shown in Tables 9 and 10, the pattern of results for youth with initial *BMI* at least 25 echoes the pattern observed in the full sample of 624 completers with 12 weeks of post-enrollment Medicaid coverage. Members of the control and treatment groups achieved significant reductions in *BMI*, and members of both treatment groups achieved greater reductions than members of the control group.

Third, we re-estimated the equations for the subset of 524 Latino completers with 12 weeks of post-enrollment Medicaid coverage. As shown in Tables 9 and 10, the results for the Latino-only sample echo the pattern of results presented for the full set of 624 completers.

Finally, we construct samples of enrollees with 3-months and 6-months of Medicaid coverage during the year prior to program enrollment, to test whether our results are sensitive to this variable. All of the enrollees were covered by Medicaid at program enrollment; however the duration of pre-enrollment Medicaid coverage varies. The duration of pre-enrollment Medicaid eligibility is potentially relevant, because pre-enrollment Medicaid claims data is used to compute a health risk score for each study participant. To support robustness checks, we define three subsamples of individuals with at least one, three, and six-months of Medicaid coverage prior to program enrollment (sample sizes for enrollees are 1105, 1076 and 967, respectively). Table 11 presents estimates using these samples. The results echo the results presented for the full sample of enrollees.

Prize redemption behaviors

The difference in results across the two treatment groups highlights the potential importance of prize redemption behaviors. Table 12 provides summary data on the numbers of orders placed. Individuals in the two treatment groups placed 479 orders. Most participants placed only one or two orders. Of the 737 treatment group participants who were eligible to earn points, 209 placed at least one order. Of these, 137 placed at least two orders. The maximum number of orders placed by any individual was 8. Most items ordered as prizes were shipped promptly after the order was placed. Three-fourths of the orders were shipped on the same day or the next day, and 92% were shipped within one week. However, the delay between order placement and shipping exceeded 3 weeks for 6% of the orders, and 1% of the orders incurred 7-week delays.

Toys accounted for the the largest share (26%) of the items ordered, followed by sporting goods (14%), books (9%), Beauty (8%), electronics (7%), and video game hardware (7%), movies (6%), computers (5%), and video games (5%). Together, these items account for 87% of the items ordered (see Table 13a).

As shown in Table 13a, the mix of items ordered by indivduals receiving points in split-incentive group is significantly different from the mix ordered by individuals in focused incentive group. Among the categories, one (Toys) is clearly a young people's item, while others (Home and Garden, Baby, Bed and Bath, Tools, Automotive and Kitchen) and more likely to be purchased by adults. In Table 13b, we group the adult items into a single category and repeat the chi-square computation, to assess whether the significant difference reported in Table 13ba is an artifact of the categories defined by the ChipRewards catalogue. In Table 13c, we repeat the test for the two categories identified as child (Toys) or adult (as defined above). The distribution of orders across these two categories is significantly different for individuals incentivized in the two treatment groups. This result suggests that parents of young people in the split-incentive group did not simply give their points to the young people. Hence the incentive structures in the two treatment groups were different.

Points earned but not redeemed

We computed points earned but not redeemed, by subtracting points redeemed by each parent and child pair from the points earned by each child. Among the first subsample of individuals

who completed the active phase of the program, individuals in the focused-incentive group were significantly less likely to have unredeemed points than individuals in the split-incentive group (see Table 14). This result is consistent with the results presented above, indicating that the incentives induced greater behavior change in members of the focused-incentive group. We not see this effect, however, in the second subsample of young people who completed the Q1 follow-up session, in addition to completing the active phase of the program. This suggests that individuals with greater persistence in attending sessions may have experienced fewer unredeemed points. Future research utilizing qualitative research to explore point redemption behavior may be fruitful, to develop a deeper understand the types of the format of incentives that would be valued by participants.

Summary of Results

We estimated the impacts of offering two types of monetary incentives to at-risk youth enrolled in a cardiac wellness program. We reached two conclusions:

- On average, participants in the control group and treatment groups achieved statistically-significant reductions in *BMI* by week 12.
- Difference-in-difference results indicate a positive and significant impact of monetary incentives on health metrics. The Probit estimate indicates a significant association between the incentives and the incentivized behaviors (attendance and goal achievement).
- Based on the randomized-assignment to the two treatment groups, the results indicate that the strategy of awarding all earned incentive points to the individual enrolled in the cardiac wellness program offers a clear short-term advantage over the strategy of splitting the points between the youth and a parent. However, both sets of results also indicate that this advantage dissipates over time. By year-end, the two incentive structures generate comparable reductions in the health risk score.

These results indicate that the structure of incentives is important, and the impact is nuanced. They also suggest two lines of inquiry for future research. First, qualitative research may be needed to understand the difference between the short-term and longer-term relative effectiveness of the two incentive structures. Second, additional experiments are needed to test whether the findings reported here are sensitive to changes in the program structure or the demographic and health status characteristics of the program enrollees.

5. KEY STUDY LIMITATIONS

A key limitation of the study is the inability to test the first two hypotheses. The Nevada MIPCD project was unable to recruit and maintain enough program participants to evaluate the efficacy of the program related to those two hypotheses. We interviewed the program partners to understand the issues involved in the recruitment process, but we were not able to reach out to the actual program participants to understand why there were not interested in participating in the program. We would need access to those who actually participated in the program, and those who did not, to evaluate why the participation rate was so low.

The most important limitation of the analysis of hypothesis 3 is an issue faced by many experimental studies: biometric data is not available for individuals who do not complete the program. Offering incentive points, in an effort to increase study participation, has mixed impacts. If study participation is – itself – valuable, then rewarding incentive points for attendance (with or without goal achievement) could make a useful contribution to the health of the study participants. If goal achievement is substantially more important than participation, however, then it is not clear whether it is worthwhile to work to increase participation in order to generate a more complete dataset. If incentives are designed for that purpose, the impact of the incentives for goal achievement is diluted.

The third limitation of this study focuses on the delineation of the control group for analysis of hypothesis 3. Assignment to the two treatment groups was random. However, the treatment group vs. control group component of the study is quasi-experimental. While the program itself was constant during the two time-periods, it appears that criteria for referral to the program may not have been constant. Young people enrolled in the treatment groups have lower risk scores than young people enrolled in the control group. The lower average risk scores in the treatment groups suggest that it would be more difficult for young people in these groups to accomplish risk-score reduction. If so, then this difference in baseline health risk would introduce a downward bias in the estimated impacts of the incentives. This potential source of bias does not affect tests for significant differences between the two treatment (incentivized) groups.

6. CONCLUSIONS

The results point to five conclusions:

1. The incentive points did successfully induce behavior change, and the allocation of points between the child and parent affected the distribution of effort over time. Allocating the full points to the child induced greater short-term effort, while splitting the points between the child and the parent induced greater persistence throughout the study period. Future research is needed to test whether this result is robust with respect to variables such as project type, the mix of attendance and goal-achievement points, and the distribution of possible points over time.

2. Compared with individuals in the control group, individuals in the treatment groups were less likely to attend the active-phase sessions, but they were more likely to attend the sessions held during the follow-up period. The control group participants, who could not earn incentive points experienced a dramatic drop in attendance between the end of the active phase (week 12) and the first quarterly follow-up appointment (week 24). The drop in attendance by the treatment group participants, who could earn points in both phases, is less dramatic. This suggests that the presence of incentives in both the active and the follow-up phases blurred the distinction between the two program phases, from the viewpoint of young people in the treatment groups.

3. Among individuals who completed the active phase of the program, individuals in the focused-incentive group were significantly more likely to record goal achievement at the 12-week session, than individuals in the split-incentive group. This difference is statistically significant, with a p-value equal to 0.059. However, the differences between the two treatment groups are not statistically significant at year-end. This implies that the adverse effect of diluting the points awarded to the child (by splitting points between the child and the parent) outweighed the beneficial effect of rewarding the significant other for supporting the child's efforts, at week 12. However the adverse and beneficial impacts offset each other by year-end.

4. Among the young people who completed the active phase of program, risk score reduction is not significantly different for individuals in the focused-incentive vs. split-incentive groups.

5. The mix of items ordered by indivduals receiving points in the split-incentive group is significantly different from the mix ordered by individuals in focused-incentive group. This result suggests that parents of young people in the split-incentive group did not simply give their points to the young people. Hence the incentive structures in the two treatment groups were different. In addition, individuals in the focused-incentive group were significantly less likely to have unredeemed points, than individuals enrolled in the split-incentive group. We also find suggestive evidence indicating that individuals with greater persistence in attending sessions may have experienced fewer unredeemed points.

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8. FIGURES

Figure 1. U.S. and Nevada Unemployment Rates - Bureau of Labor Statistics Annual Averages

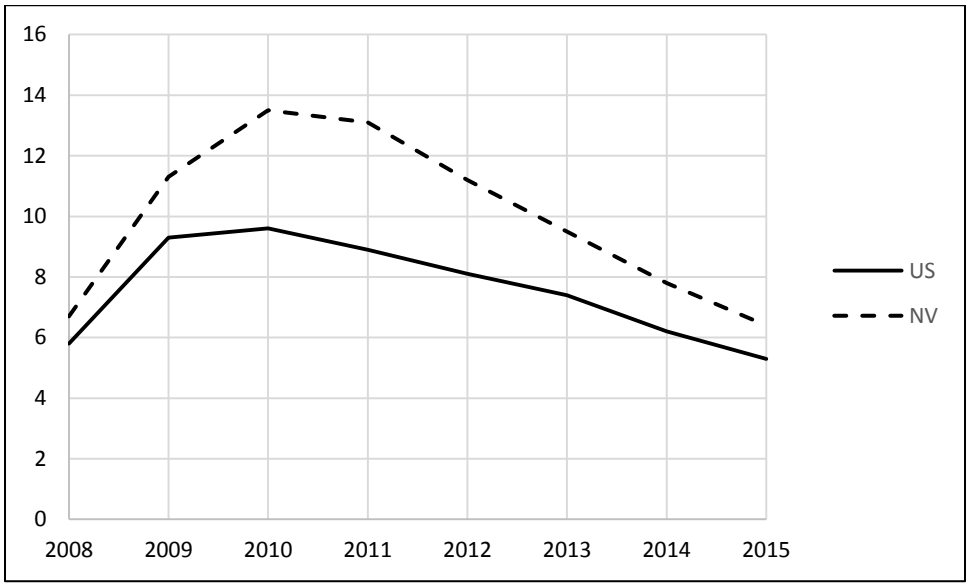


Figure 2a. Impact of incentive on behavior: full incentive awarded to the key individual (compared to the no-incentive case)

Quantity of the incentivized behavior increases.

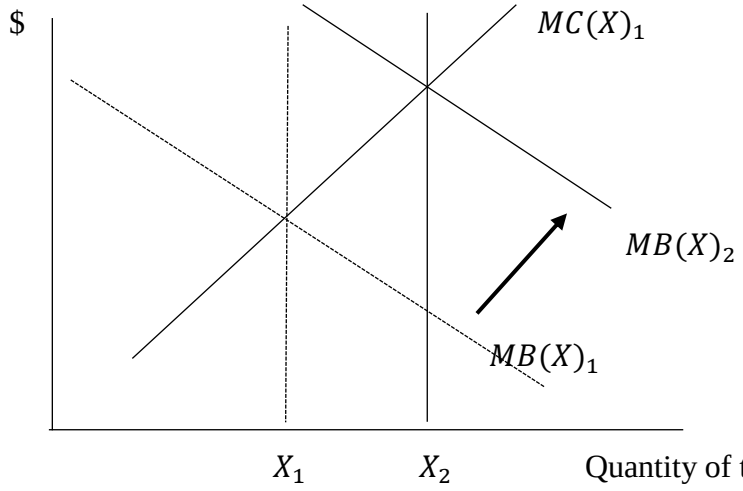
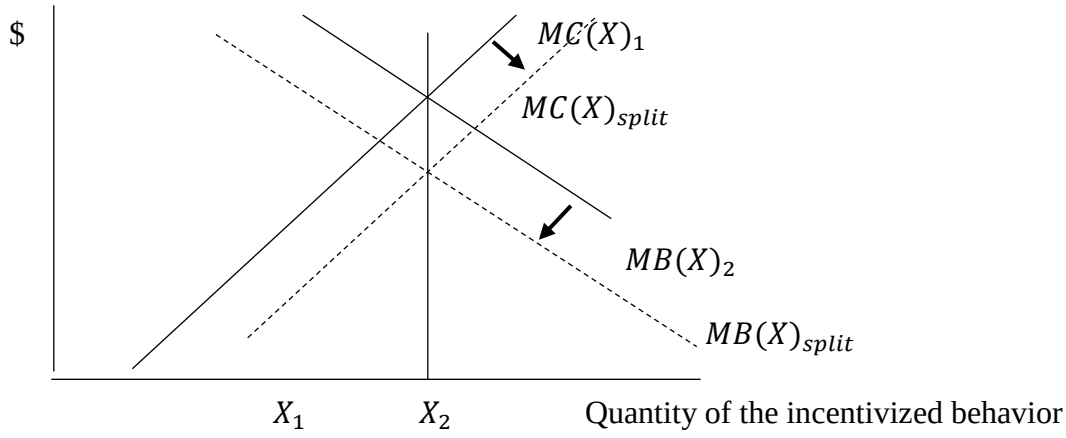
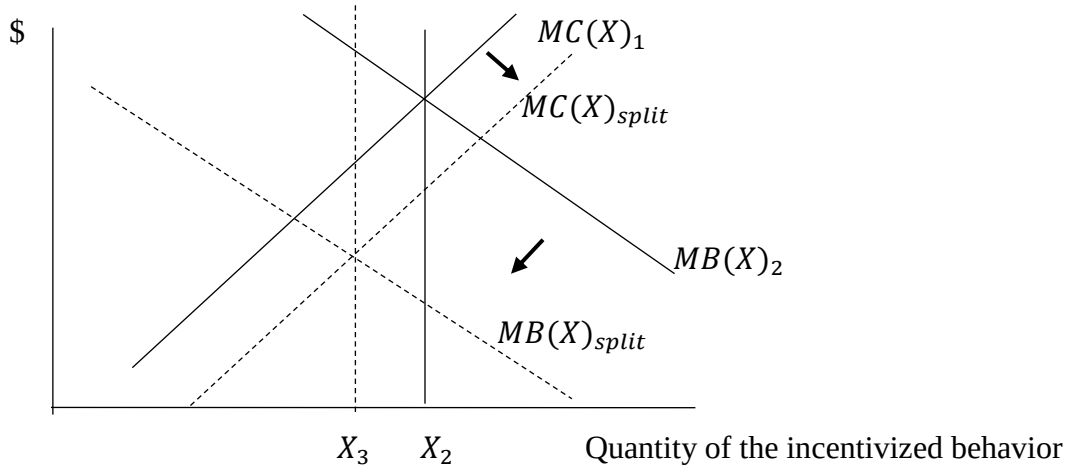


Figure 2b: impact of splitting the incentive on behavior (compared to awarding the full incentive to the key individual)

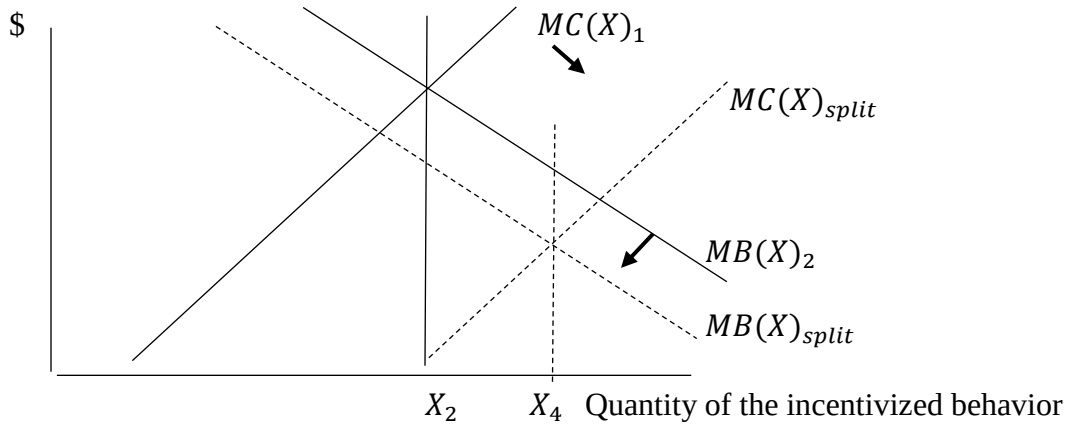
Case i) Shift in MC = shift in MB: quantity of the incentivized behavior does not change



Case ii) Shift in MC < shift in MB: quantity of the incentivized behavior decreases



Case iii) Shift in MC > shift in MB: quantity of the incentivized behavior increases



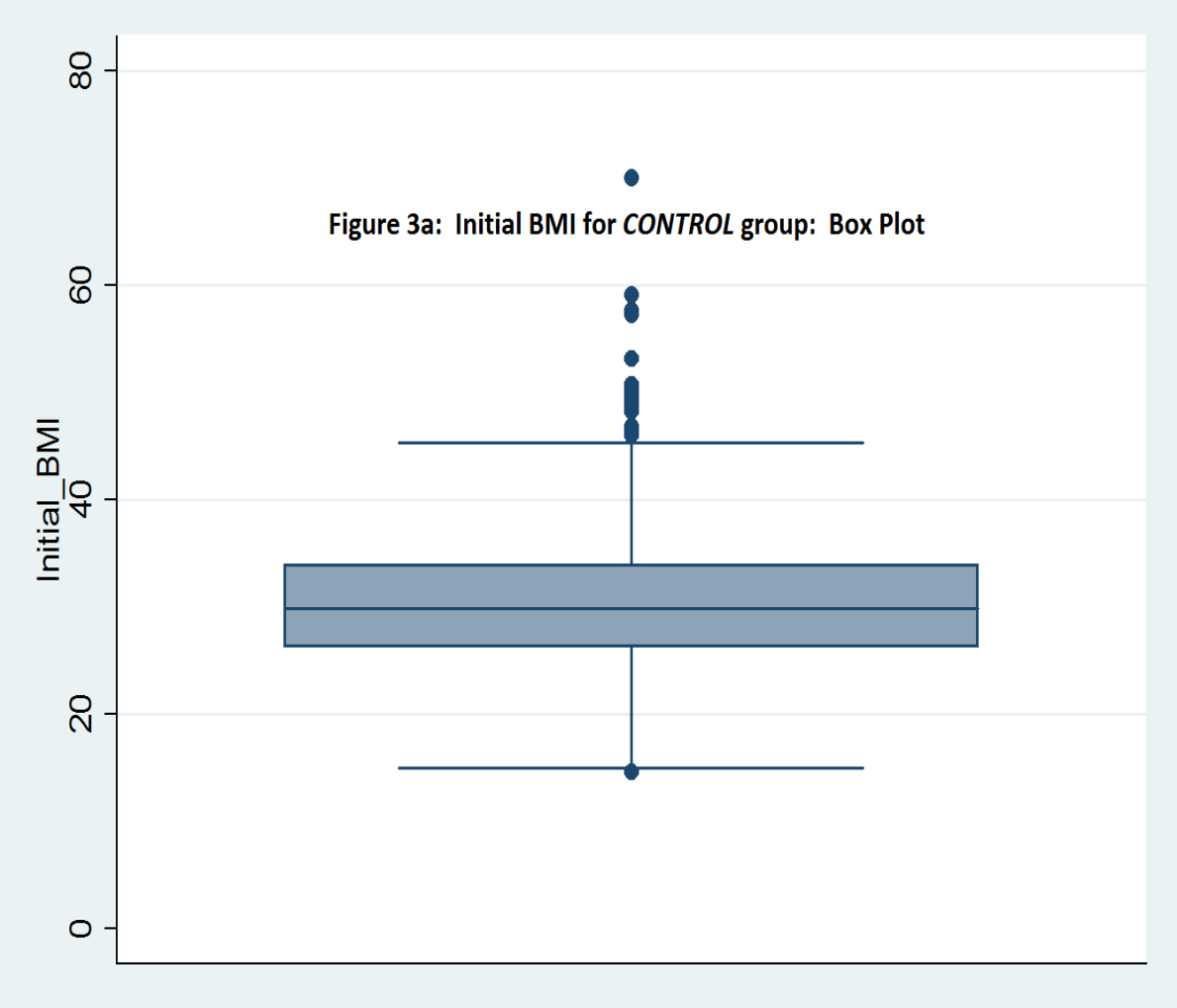


Figure 3a: Initial BMI for *CONTROL* group: Box Plot
Initial_BMI
0
20
40
60
80

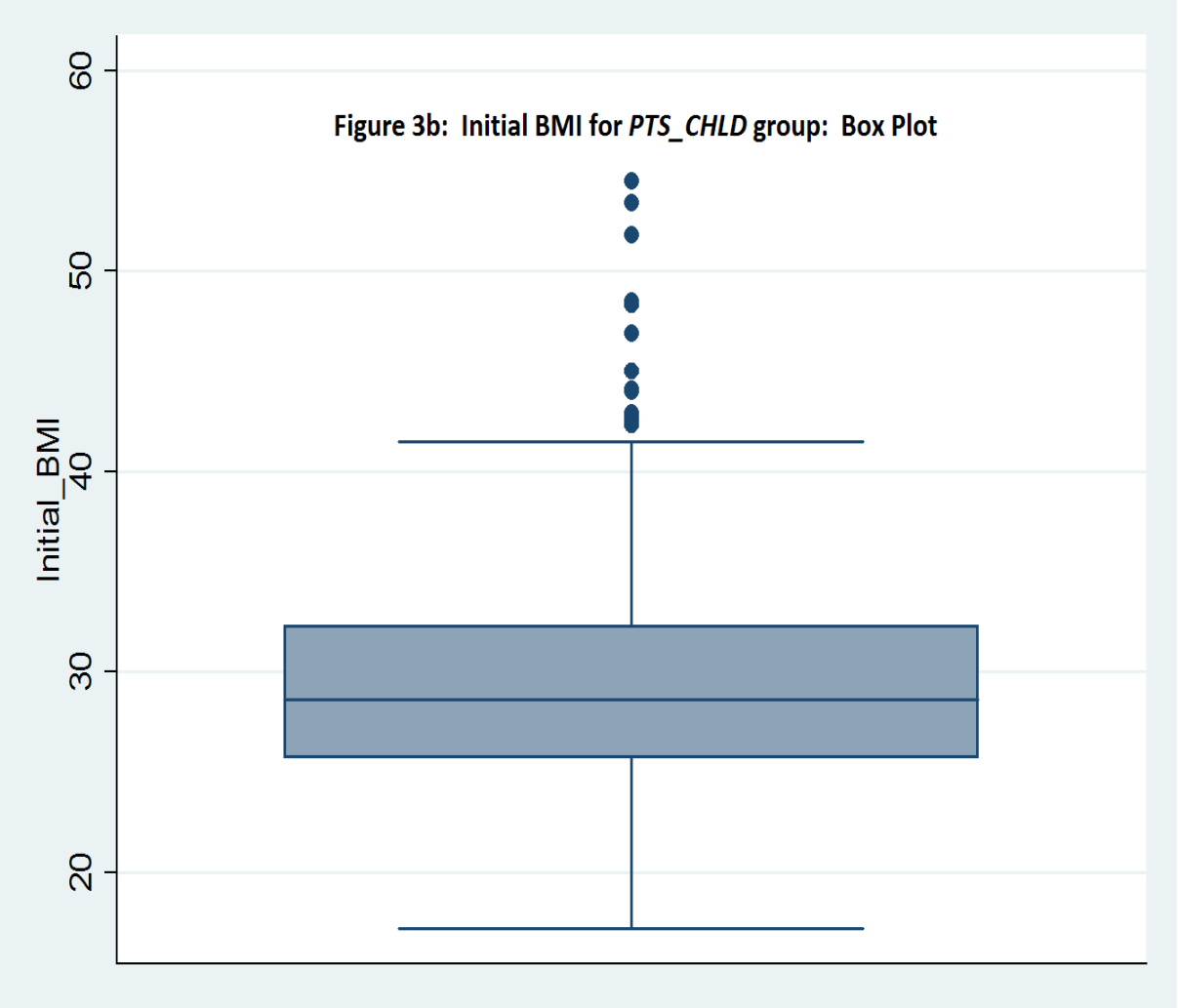


Figure 3b: Initial BMI for *PTS_CHLD* group: Box Plot
Initial_BMI
60
50
40
30
20

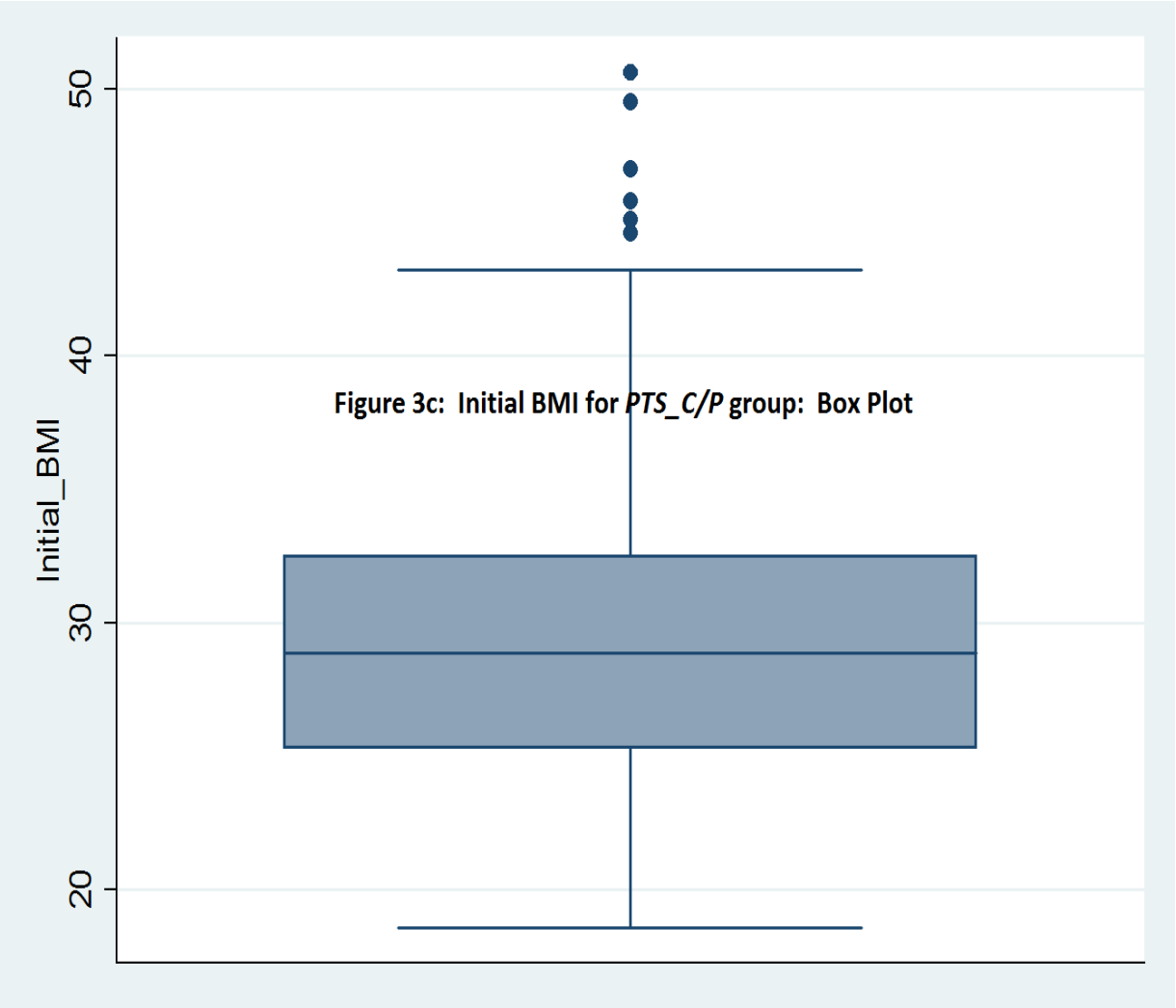


Figure 3c: Initial BMI for *PTS_C/P* group: Box Plot

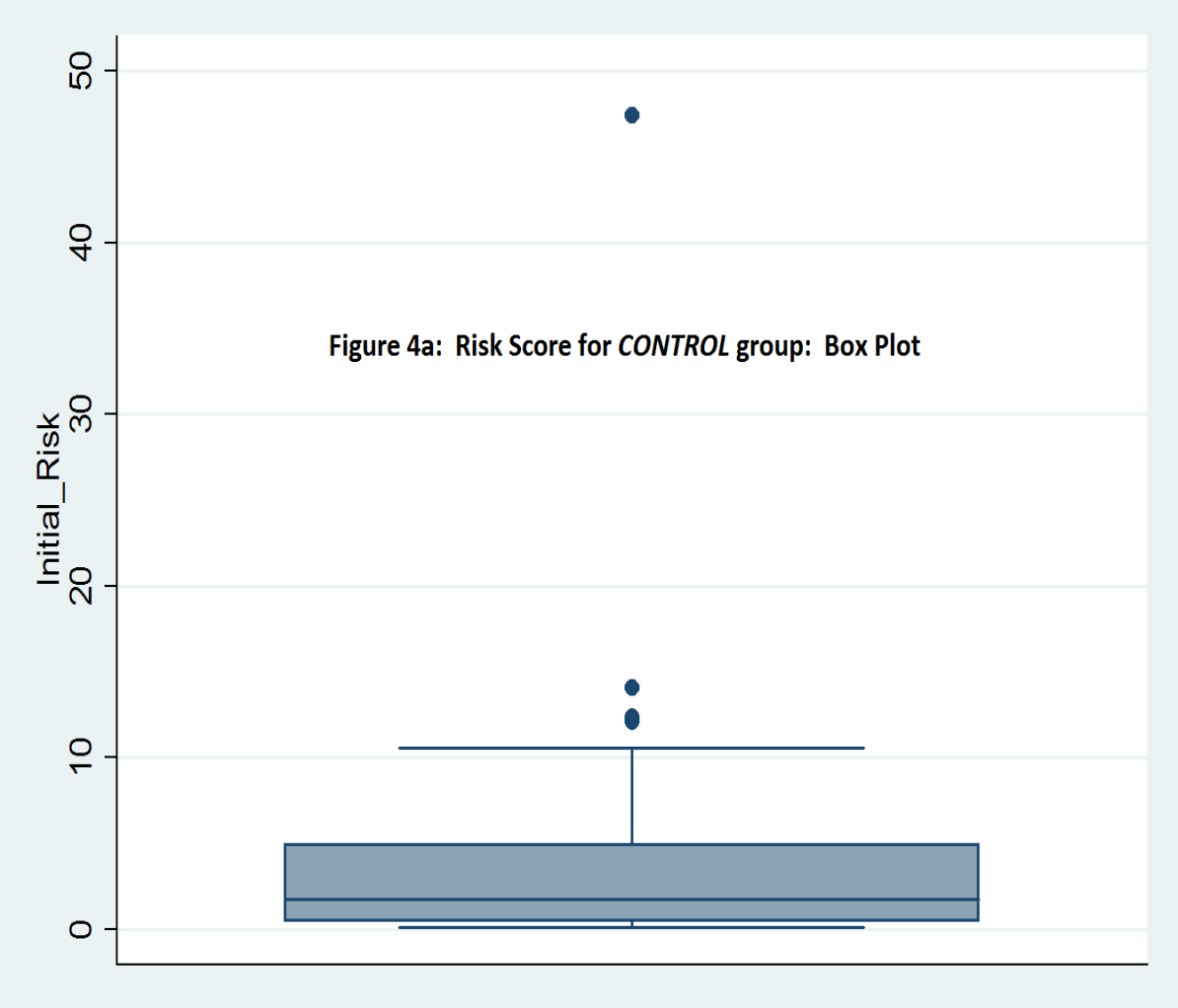


Figure 4a: Risk Score for *CONTROL* group: Box Plot

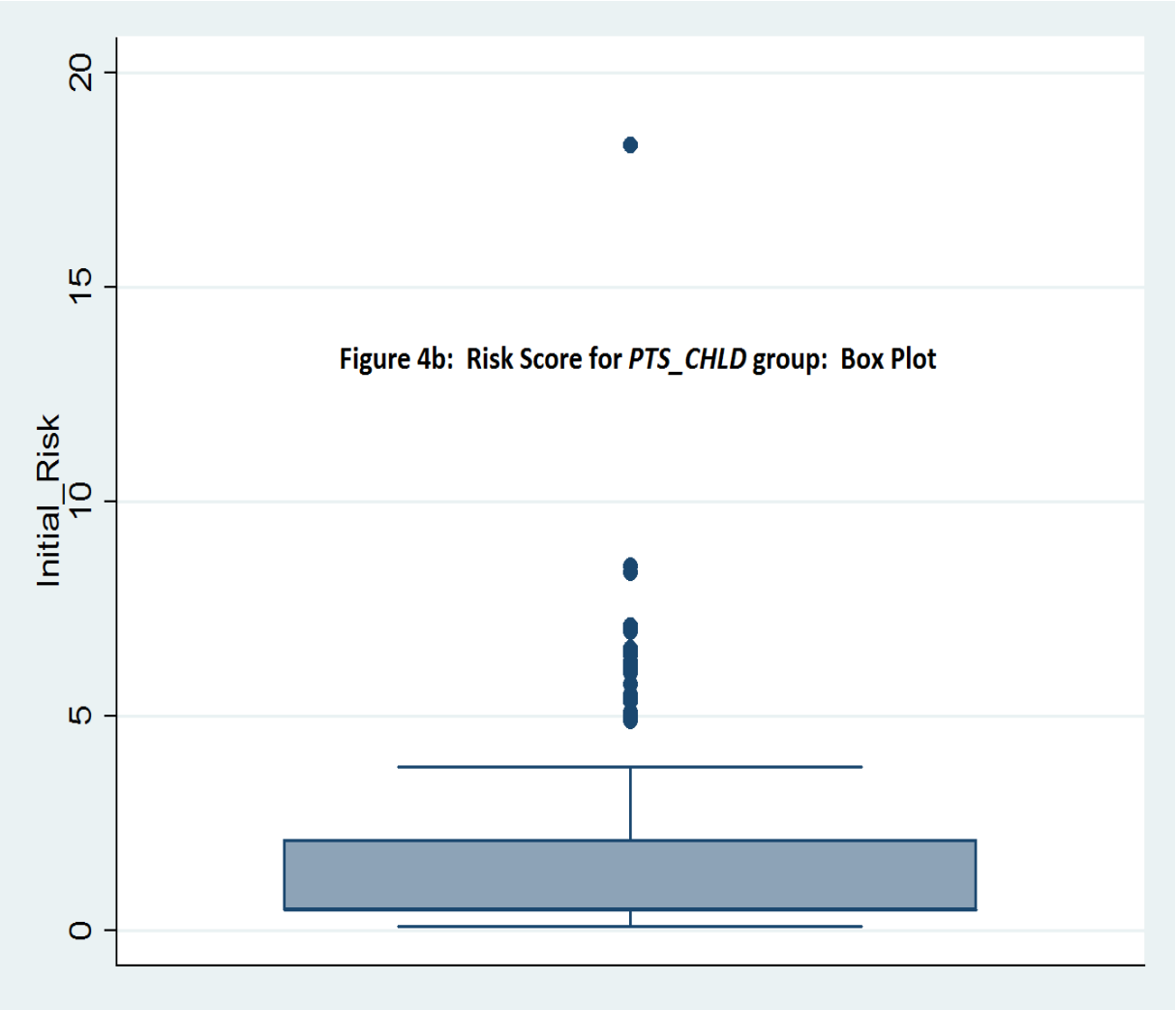


Figure 4b: Risk Score for *PTS_CHLD* group: Box Plot

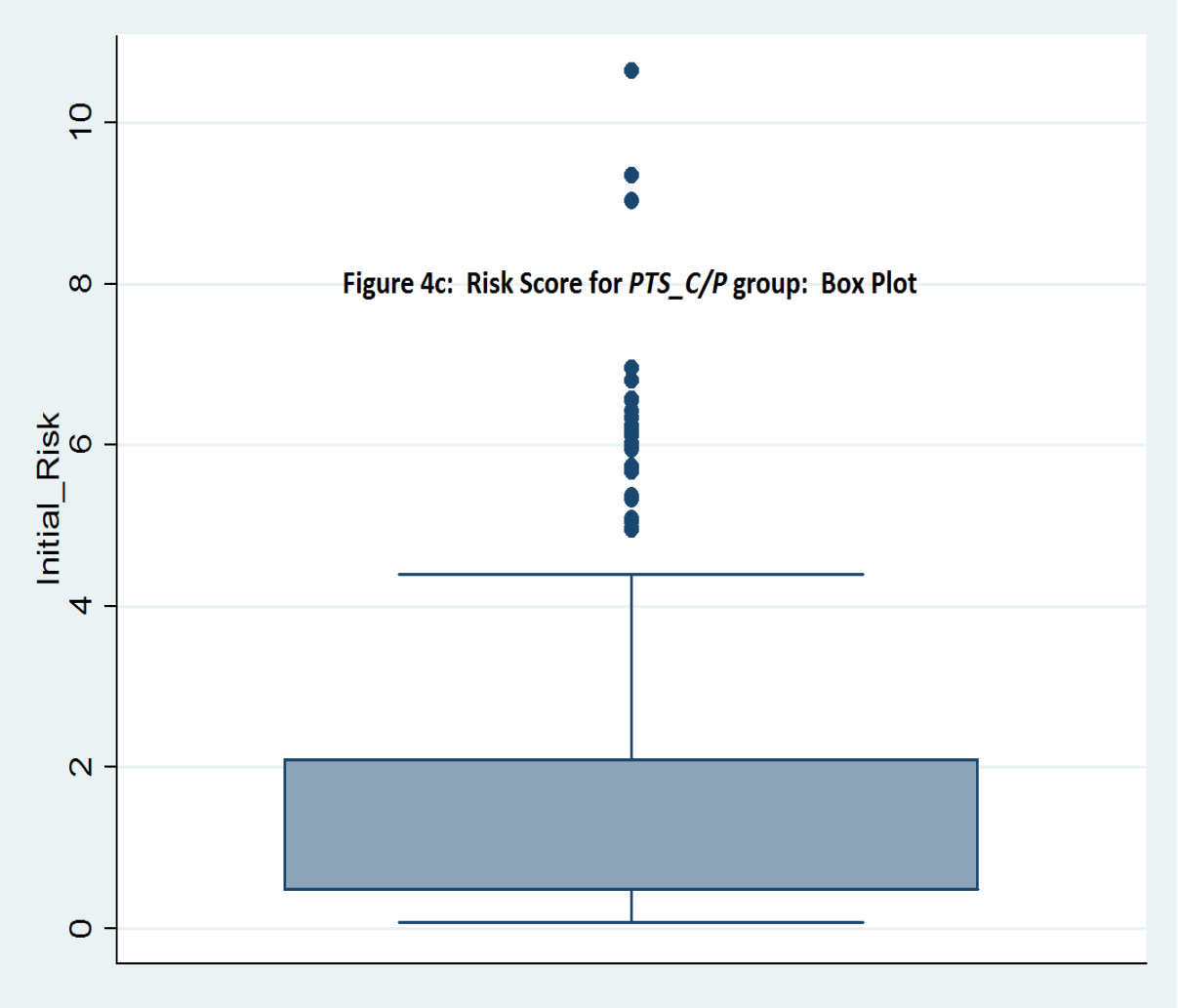
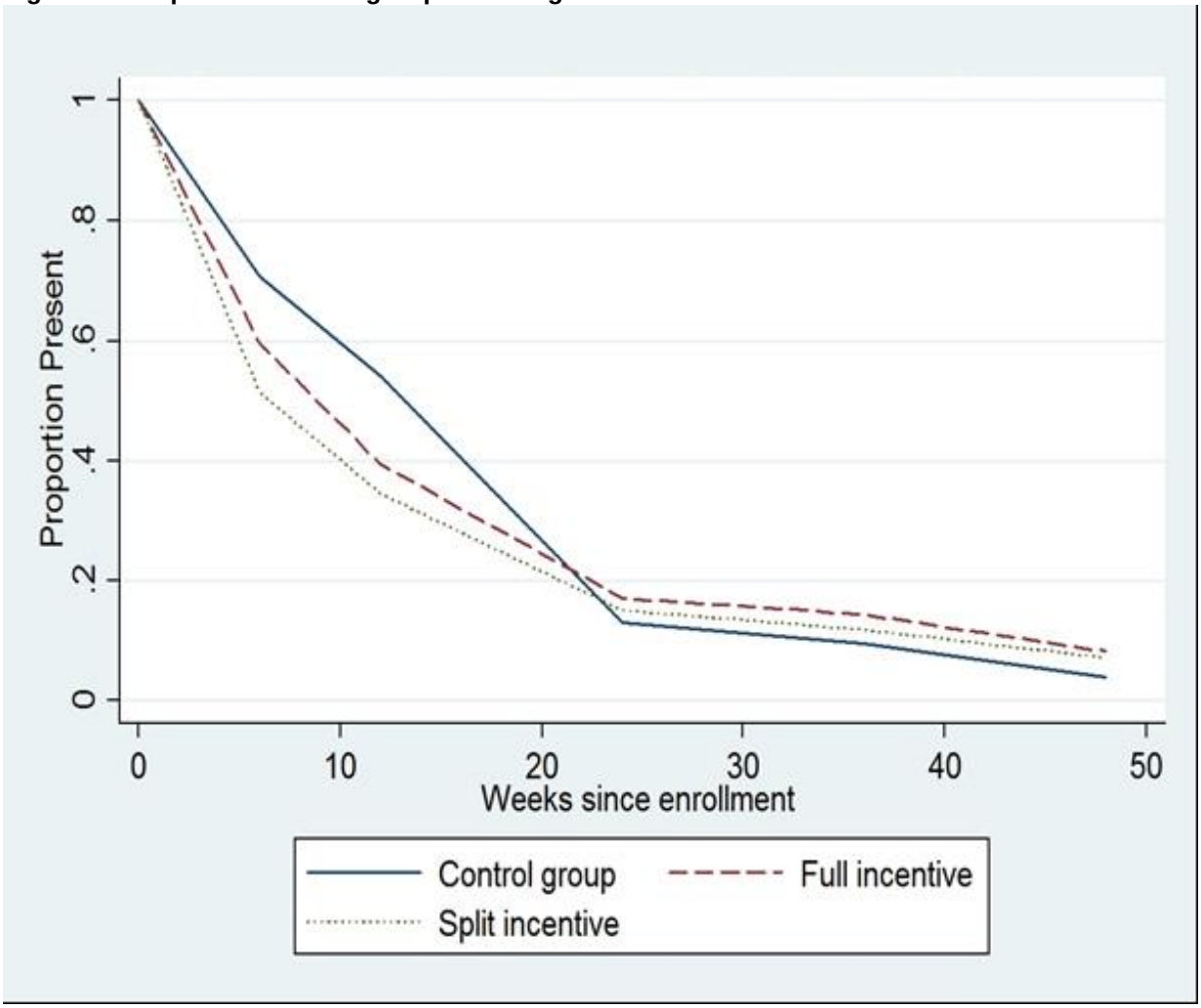


Figure 4c: Risk Score for *PTS_C/P* group: Box Plot

Figure 5: Proportion of each group attending sessions.



9. TABLES

Table 1: Potential Incentive Points: Child and Child/Parent Treatment Groups Children's Heart Center: Healthy Hearts Program (CHC)				
Points	**Task**	**Timing**	**Monetary value**	**Total value**
Focused-incentive group: full points awarded to the child				
2500	Goal Achievement	at 6 weeks	$25.00	
7500	Program Completion	at 12 weeks	75.00	
5000	Goal Achievement	at 12 weeks	50.00	
5000	Re-evaluation	at 3 months	50.00	
5000	Re-evaluation	at 6 months	50.00	
5000	Re-evaluation	at 9 months	50.00	
5000	Re-evaluation	at 12 months	50.00	
			Total possible value that can accrue to the child	**$350.00**
Split-incentive group: half of the earned points accrue to the child; half accrue to the parent				
Points and value that can accrue to the child				
1250	Goal Achievement	at 6 weeks	$12.50	
3750	Program Completion	at 12 weeks	37.50	
2500	Goal Achievement	at 12 weeks	25.00	
2500	Re-evaluation	at 3 months	25.00	
2500	Re-evaluation	at 6 months	25.00	
2500	Re-evaluation	at 9 months	25.00	
2500	Re-evaluation	at 12 months	25.00	
			Total possible value that can accrue to the child	**$175.00**
Points and value that can accrue to the parent				
1250	Goal Achievement	at 6 weeks	$12.50	
3750	Program Completion	at 12 weeks	37.50	
2500	Goal Achievement	at 12 weeks	25.00	
2500	Re-evaluation	at 3 months	25.00	
2500	Re-evaluation	at 6 months	25.00	
2500	Re-evaluation	at 9 months	25.00	
2500	Re-evaluation	at 12 months	25.00	
			Total possible value that can accrue to the parent	**$175.00**
			Total possible value that can accrue to the child and the parent	**$350.00**

Table 2. Individuals who attended, but were not eligible for Medicaid

Session	Proportion of study participants who attended the session but who were not currently eligible for Medicaid
6-week	0.18
12-week	0.17
3-month	0.20
6-month	0.20
9-month	0.21
12-month	0.21

Table 3: Descriptive Statistics for *FOCUSED*, *SPLIT*, and *CONTROL* groups						
	Restricted sample: 624 **completers with 12 weeks post-enrollment Medicaid coverage**			***Full sample 1105*** **participants with 12 months post-enrollment Medicaid coverage**		
	CONTROL	***FOCUSED***	***SPLIT***	**CONTROL**	***FOCUSED***	***SPLIT***
Variable	**n=367**	**n=138**	**n=119**	**n=548**	**n=286**	**n=271**
Demographic and Health Characteristics at Enrollment						
AGE	11.19	11.16	10.91	11.50	11.32	11.36
	(0.12)	(0.21)	(0.22)	(0.11)	(0.15)	(0.16)
MALE	0.50	0.56	0.48	0.50	0.54	0.52
	(0.03)	(0.04)	(0.04)	(0.02)	(0.03)	(0.03)
LATINO	0.79	0.91***	0.91***	0.75	0.88***	0.85***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
$RISK_0$	3.03	1.95***	1.94***	2.83	1.70***	1.67***
	(0.18)	(0.18)	(0.18)	(0.13)	(0.13)	(0.12)
BMI_0	30.05	29.05*	29.02*	30.64	26.75**	29.68**
	(0.31)	(0.41)	(0.53)	(0.26)	(0.33)	(0.33)
Goal Attainment and Attendance						
$GOAL_{Q1}$	0.637	0.812***	0.672	0.350	0.322	0.240***
	(0.025)	(0.033)	(0.043)	(0.020)	(0.028)	(0.026)
$GOAL_{Q4}$	0.025	0.087**	0.118***	0.015	0.042**	0.048**
	(0.008)	(0.024)	(0.030)	(0.005)	(0.012)	(0.005)
$ATTEND_{Q1}$	1	1	1	0.549	0.398***	0.347***
	-	-	-	(0.021)	(0.029)	(0.028)
$ATTEND_{Q4}$	0.063	0.152***	0.168***	0.042	0.084**	0.073*
	(0.013)	(0.031)	(0.034)	(0.008)	(0.016)	(0.016)

Numbers in parentheses represent standard errors.
* indicates significant difference between a treatment group and the control group
*** p<0.01, ** p<0.05, * p<0.1

Table 4: Most-frequent diagnoses for completers				
CDPS diagnosis	**Sample size**	**mean**	**Standard deviation**	**Number of young people with this diagnosis**
Hematological, low	624	0.008013	0.089227	5
Psychiatric, medium	624	0.008013	0.089227	5
Diabetes, type 2 low	624	0.011218	0.105404	7
Psychiatric, low	624	0.011218	0.105404	7
Genital, low	624	0.012821	0.11259	8
Gastrointestinal. low	624	0.012821	0.11259	8
Skeletal and Connective, Low	624	0.012821	0.11259	8
Skeletal and Connective, Medium	624	0.012821	0.11259	8
cmeth	624	0.012821	0.11259	8
Cardiovascular, Low	624	0.014423	0.119323	9
Central nervous system, low	624	0.014423	0.119323	9
Skeletal, Very low	624	0.024039	0.153292	15
Renal, Low	624	0.025641	0.158189	16
Gastrointestinal. medium	624	0.027244	0.162923	17
Skeletal and Connective, Very Low	624	0.032051	0.176278	20
Cardiovascular, Extra low	624	0.035256	0.184575	22
Psychiatric, medium low	624	0.067308	0.250755	42
Pulmonary, low	624	0.152244	0.359545	95
Metabolic, high	624	0.350962	0.477654	219
Source: data from Medicaid claims, provided by Milliman				

Table 5: Difference in Difference: BMI and RISK. Group Means.

Mean or difference in means (standard error)

Panel A: mean BMI for completers with 12 weeks post-enrollment Medicaid coverage: Q1 vs enrollment (n=624)

Group	BMI_0	BMI_{Q1}	$(BMI_{Q1} - BMI_0)$	TREATMENT – CONTROL	DD: FOCUSED –SPLIT
CONTROL (n=367)	30.05 (0.31)	29.92 (0.31)	-0.13 (0.06)**		
FOCUSED (n=138)	29.05 (0.41)	28.47 (0.41)	-0.58 (0.09)***	-0.45 (0.12)***	
SPLIT (n=119)	29.02 (0.53)	28.74 (0.54)	-0.28 (0.10)***	-0.15 (0.12)	0.30 (0.14)**

Panel B: mean BMI for completers with 12 months post-enrollment Medicaid coverage: Q1 vs enrollment (n=507)

Group	BMI_0	BMI_{Q1}	$(BMI_{Q1} - BMI_0)$	TREATMENT – CONTROL	DD: FOCUSED –SPLIT
CONTROL (n=299)			-0.14 (0.07)*		
FOCUSED (n=114)			-0.63 (0.10)***	-0.49 (0.13)***	
SPLIT (n=94)			-0.38 (0.11)***	-0.24 (0.13)*	0.25 (0.15)

Panel C: mean RISK for completers with 12 months post-enrollment Medicaid coverage: Q4 vs enrollment (n=507)

Group	$RISK_0$	$RISK_{Q4}$	$(RISK_{Q4} - RISK_0)$	TREATMENT – CONTROL	DD: FOCUSED –SPLIT
CONTROL (n=299)	3.07 (0.21)	3.28 (0.33)	0.21 (0.14)		
FOCUSED (n=114)	1.93 (0.21)	1.68 (0.22)	-0.08 (0.05)	-0.29 (0.15)**	
SPLIT (n=94)	1.93 (0.21)	1.87 (0.24)	-0.06 (0.06)	-0.27 (0.15)*	-0.02 (0.08)

Panel D: mean RISK for enrollees with 12 months post-enrollment Medicaid coverage: Q4 vs enrollment (n=1105)

Group	$RISK_0$	$RISK_{Q4}$	$(RISK_{Q4} - RISK_0)$	TREATMENT – CONTROL	DD: FOCUSED –SPLIT
CONTROL (n=548)	2.83 (0.13)	2.97 (0.19)	0.14 (0.08)		
FOCUSED (n=286)	1.70 (0.13)	1.63 (0.15)	-0.08 (0.04)*	-0.22 (0.09)**	
SPLIT (n=271)	1.67 (0.12)	1.62 (0.14)	-0.05 (0.04)	-0.19 (0.09)**	0.02 (0.06)

Table 6: Impacts of the presence and structure of incentives on BMI_{Q1} and $RISK_{Q4}$					
	Fixed Effects Regression Results				
	Completers				**Enrollees;**
	BMI_{Q1}		**$RISK_{Q4}$**		**$RISK_{Q4}$**
	post-enrollment Medicaid coverage				
VARIABLES	**12 weeks (n=624)**	**1 year (n=507)**	**12 weeks (n=624)**	**1 year (n=507)**	**1 year (n=1105)**
Panel A: Data set includes both treatment groups and the control group. The reported coefficients for the treatment groups estimate the impacts of each incentive-type, relative to the no-incentive control group.					
$CONTROL_{Q1}$	-0.0047**	-0.0044*			
	(-1.997)	(-1.787)			
$FOCUSED_{Q1}$	-0.0158***	-0.0176***			
	(-3.990)	(-4.038)			
$SPLIT_{Q1}$	-0.0054	-0.0089*			
	(-1.308)	(-1.936)			
$CONTROL_{Q4}$			missing	-0.177***	-0.190***
			→ locate	(-8.373)	(-11.79)
$FOCUSED_{Q4}$			-0.163***	-0.206***	-0.203***
			-4.49	(-5.174)	(-7.703)
$SPLIT_{Q4}$			-0.141***	-0.171***	-0.189***
			-3.72	(-4.007)	(-6.798)
Constant	3.372***	3.378***	missing	0.355***	0.230***
	(2,842)	(2,635)	→ locate	(31.09)	(29.26)
p-values for tests					
F-test: difference FOCUSED vs SPLIT.	-0.010**	0.0087	-0.022	-0.035	-0.014
	P=0.027	(p=0.101)	(p=0.632)	(p=0.488)	(p=0.650)
Observations	1,248		1,014	1,014	2,210
R-squared	0.987		0.988	0.979	0.978
Robust t-statistics in parentheses					
*** p<0.01, ** p<0.05, * p<0.1					
Panel B: Data set includes both treatment groups. The reported coefficient estimate the impact of the focused incentive, relative to the split incentive.					
FOCUSED	-0.010**	-0.00875*			
	P=0.028	P=0.10			
FOCUSED			-0.022	-0.0348	-0.0139
			P=0.633	P=0.49	P=0.65

Table 7: Is the presence and structure of incentives associated with attendance and goal achievement among completers?				
	Probit regression coefficients (t-statistics) for completers			
	end active phase at Q1		**Year-end at Q4**	
	P(*GOAL*)		**P(*ATTEND*)**	**P(*GOAL*)**
	post-enrollment Medicaid coverage			
variable	**12 weeks n=624**	**1 year n=507**	**1 year n=507**	**1 year n=507**
FOCUSED	0.169***	0.153***	0.153***	0.0890**
	(4.099)	(3.290)	(3.306)	(2.474)
SPLIT	0.0276	0.038	0.132**	0.136***
	(0.571)	(0.712)	(2.526)	(2.847)
MALE	-0.0686*	-0.0683		0.00927
	(-1.822)	(-1.643)		(0.556)
AGE	-0.0469	-0.0744		0.0134
	(-0.765)	(-1.098)		(0.569)
AGE^2	0.00247	0.00390		-0.000244
	(0.963)	(1.373)		(-0.267)
LATINO	0.0114	-0.00325		0.00389
	(0.217)	(-0.0574)		(0.182)
RISK	-0.00900	-0.0178*		0.0109
	(-0.984)	(-1.767)		(1.457)
RISK^2	0.000328	0.000489**		-0.000449
	(1.479)	(2.053)		(-0.506)
p-values for tests				
DIFF:	0.142***	0.115*	0.002	-0.047
FOCUSED vs SPLIT	(p=0.009)	(p=.059)	P=0.974	(p=0.340)
Observations	624	507	507	507
Robust t-statistics in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

Table 8: Is the presence and structure of incentives associated with attendance and goal achievement among enrollees?				
	Probit regression coefficients (t-statistics) for enrollees			
1 year post-enrollment Medicaid coverage 1 year (n=1105)				
	Q1		**Q4**	
variable	**P(*ATTEND*)**	**P(*GOAL*)**	**P(*ATTEND*)**	**P(*GOAL*)**
FOCUSED	-0.151***	-0.0331	0.0569***	0.0372**
	(t=-4.174)	(t=-0.978)	(t=2.614)	(t=2.256)
SPLIT	-0.199***	-0.113***	0.0472**	0.0455**
	(t=-5.576)	(t=-3.492)	(t=2.169)	(t=2.462)
MALE	0.00912	-0.0240	0.00843	0.00166
	(0.296)	(-0.847)	(0.666)	(0.201)
AGE	-0.0545	-0.0485	-0.00874	-0.00195
	(-1.055)	(-1.028)	(-0.506)	(-0.167)
AGE^2	0.00142	0.00176	0.000289	0.000185
	(0.662)	(0.900)	(0.417)	(0.409)
LATINO	0.106***	0.0702**	-0.00990	0.00993
	(2.750)	(2.046)	(-0.553)	(1.150)
RISK	0.0170**	0.00194	0.0219**	0.00715**
	(2.149)	(0.269)	(2.523)	(2.031)
RISK^2	-3.73e-05	0.000228	-0.00191	-0.000390
	(-0.154)	(1.127)	(-1.511)	(-1.014)
p-values for tests				
DIFF: ***FOCUSED vs SPLIT***	0.048	0.0799**	0.0097	0.0083
	(p=0.120)	(p=0.017)	(p=.330)	(p=.332)
Observations	1,105	1,105	1,105	1,105
Robust t-statistics in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

Table 9: Fixed Effect Regressions: ln(BMI)				
	Completers with 12 weeks post-enrollment Medicaid coverage			
	N= 624		initial BMI >= 25 n=498	Latino N=524
VARIABLES	**$\ln(BMI_{Q1})$**	**$\ln(BMI_{6wk})$**	**$\ln(BMI_{Q1})$**	**$\ln(BMI_{Q1})$**
$CONTROL_{6wk}$		-0.00365**		
		(-2.216)		
$FOCUSED_{6wk}$		-0.0118***		
		(-3.881)		
$SPLIT_{6wk}$		-0.00609*		
		(-1.942)		
$CONTROL_{Q1}$	-0.00466**		-0.00466*	-0.00503*
	(-1.997)		(-1.929)	(-1.945)
$FOCUSED_{Q1}$	-0.0158***		-0.0168***	-0.0159***
	(-3.990)		(-3.811)	(-3.686)
$SPLIT_{Q1}$	-0.00543		-0.00894**	-0.00724
	(-1.308)		(-1.972)	(-1.635)
CONSTANT	3.372***	3.372***	3.433***	3.353***
	(2,842)	(3,873)	(2,694)	(2,617)
p-values for tests				
joint significance: ***FOCUSED and CONTROL***	0.0004	0.0004	0.0005	0.0011
DIFF: ***FOCUSED vs SPLIT***	0.028	0.122	0.142	0.008
Observations	1,248	1,248	996	
Robust t-statistics in parentheses. Estimates generated by Stata areg command. *** p<0.01, ** p<0.05, * p<0.1				

Table 10: Probit regressions: Conditional Goal attainment				
	Numbers in cells present marginal effects			
	624 completers		**498 completers; initial BMI >= 25**	**524 Latino only**
VARIABLES	**P(*GOAL$_{Q1}$*)**	**P(*GOAL$_{6wk}$*)**	**P(*GOAL$_{Q1}$*)**	**P(*GOAL$_{Q1}$*)**
FOCUSED$_{6wk}$		0.121***		
		(2.605)		
SPLIT$_{6wk}$		0.0864*		
		(1.746)		
FOCUSED$_{12wk}$	0.169***		0.178***	0.163***
	(4.099)		(3.914)	(3.699)
SPLIT$_{12wk}$	0.0276		0.0432	0.0600
	(0.571)		(0.791)	(1.216)
MALE	-0.0686*	-0.00408	-0.0642	-0.0711*
	(-1.822)	(-0.103)	(-1.522)	(-1.737)
AGE	-0.0469	-0.0890	-0.0426	-0.0224
	(-0.765)	(-1.360)	(-0.595)	(-0.330)
AGE^2	0.00247	0.00470*	0.00228	0.00154
	(0.963)	(1.723)	(0.777)	(0.533)
LATINO	0.0114	0.0927	0.00334	
	(0.217)	(1.624)	(0.0609)	
RISK	-0.00900	-0.00936	-0.0119	-0.00406
	(-0.984)	(-0.938)	(-1.182)	(-0.393)
RISK^2	0.000328	0.000495	0.000394*	0.000260
	(1.479)	(1.100)	(1.668)	(1.105)
p-values for tests				
joint significance: ***FOCUSED and CONTROL***	0.000	0.013	0.001	0.0036
DIFF: ***FOCUSED vs SPLIT***	0.01	0.53	0.028	0.0688
Number of observations	624	624	498	524
Robust z-statistics in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

Table 11: Fixed Effect regressions: ln(risk)						
	12 months post-enrollment Medicaid coverage					
	Completers			Enrollees		
	Number of months enrolled in Medicaid prior to enrollment			Number of months enrolled in Medicaid prior to enrollment		
VARIABLES	**1 month**	**>= 3 months**	**>=6 months**	**1 month**	**>= 3 months**	**>=6 months**
CONTROL$_{Q4}$	-0.177***	-0.175***	-0.161***	-0.190***	-0.190***	-0.172***
	(-8.373)	(-8.191)	(-7.283)	(-11.79)	(-11.69)	(-10.19)
FOCUSED$_{Q4}$	-0.206***	-0.199***	-0.185***	-0.203***	-0.196***	-0.192***
	(-5.174)	(-4.875)	(-4.239)	(-7.703)	(-7.348)	(-6.765)
SPLIT$_{Q4}$	-0.171***	-0.166***	-0.155***	-0.189***	-0.183***	-0.186***
	(-4.007)	(-3.833)	(-3.338)	(-6.798)	(-6.477)	(-6.181)
CONSTANT	0.355***	0.361***	0.410***	0.230***	0.239***	0.285***
	(31.09)	(31.13)	(33.59)	(29.26)	(29.97)	(33.74)
p-values for tests						
joint significance: FOCUSED and CONTROL	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
DIFF: FOCUSED vs SPLIT	0.4884	0.5220	0.5841	0.6496	0.6796	0.8514
Observations	1,014	990	896	2,210	2,152	1,934
Robust t-statistics in parentheses.						
Estimated using the areg command in Stata.						
*** p<0.01, ** p<0.05, * p<0.1						

Table 12: Numbers of orders placed by participants and order shipment times					
		Number of weeks between order placement and delivery			
order number*	**number of orders placed**	**<=1**	**2-3**	**>=4**	**max # days to delivery**
1	209	0.93	0.04	0.02	36
2	137	0.94	0.03	0.03	36
3	66	0.93	0.03	0.06	51
4	40	0.86	0.03	0.13	51
5-8	27	0.89	0.04	0.08	50
*Denotes order in sequence of orders placed by an individual.					
Numbers may not add to 1.00 due to rounding.					

Table 13a: Categories of items ordered and test for Chi-Square Goodness of Fit					
	Group is FOCUS	**Group is SPLIT**	**Total points**	**Expected points for SPLIT if purchase pattern is same as for FOCUS =E**	**$(SPLIT-E)^2/E$**
Automotive	0	1	1	0.00	
Baby	1	1	2	0.87	0.02
Bags& Luggage	12	5	17	10.42	2.82
Beauty	15	26	41	13.03	12.91
Bed	1	0	1	0.87	0.87
Books	22	20	42	19.11	0.04
Computers	15	11	26	13.03	0.32
Electronics	20	13	33	17.37	1.10
Home & Garden	5	4	9	4.34	0.03
Kitchen	5	18	23	4.34	42.94
Movies	17	12	29	14.77	0.52
Sporting Goods	39	30	69	33.88	0.44
Tools	1	0	1	0.87	0.87
Toys	67	59	126	58.20	0.01
Video Games Hardware	19	13	32	16.51	0.74
Video Games	12	12	24	10.42	0.24
(category is missing)	8	0	8	6.95	6.95
SUM	259	225	484	225	63.87
				Computed Chi-sq	63.87
				Critical value	23.69

Table 13b: Categories of items ordered and test for Chi-Square Goodness of Fit					
	FOCUS	**SPLIT**	**Total points**	**Expected points for SPLIT if purchase pattern is same as for FOCUS = E**	**$((SPLIT-E)^2/E)$**
Bags& Luggage + beauty	27	31	58	24.20	1.91
Books	22	20	42	19.72	0.00
Computers	15	11	26	13.45	0.45
Electronics	20	13	33	17.93	1.35
Home & Garden + Baby + Automotive + Tools+ Bed and Bath + Kitchen	13	24	37	11.65	13.08
Movies	17	12	29	15.24	0.69
Sporting Goods	39	30	69	34.96	0.70
Toys	67	59	126	60.06	0.02
Video Games Hardware	31	25	56	27.79	0.28
	251	225	476	225	
			Computed Chi-sq		18.48
			Critical value		15.51

Table 13c: Categories of items ordered and test for Chi-Square Goodness of Fit					
	FOCUS	**SPLIT=0**	**Total points**	**Expected points for SPLIT if purchase pattern is same as for FOCUS=E**	**$((Obs-E)^2/E)$**
Home & Garden + baby + automotive + tools+ bed + kitchen	13	24	37	13.49	8.19
Toys	67	59	126	69.51	1.59
	80	83	163		9.78
			Computed Chi-sq		9.78
			Critical value		3.84

Table 14: Points earned but not redeemed		
	Dependent variable is points earned but not redeemed The regression sample is members of the two treatment groups. The omitted group is young people enrolled in *SPLIT*	
VARIABLES	**Present for 6-week and 12-week sessions+**	**Present for 6-week and 12-week sessions++**
FOCUSED	-2,076**	-1,427
	(-2.586)	(-0.916)
MALE	1,613**	982.1
	(2.017)	(0.645)
AGE	895.3	-3,354
	(0.641)	(-1.174)
AGE^2	-34.44	122.0
	(-0.595)	(1.046)
LATINO	-67.06	1,007
	(-0.0492)	(0.395)
RISK	-311.8	1,646
	(-0.356)	(0.770)
RISK^2	56.24	-179.4
	(0.407)	(-0.512)
CONSTANT	2,770	28,467*
	(0.337)	(1.740)
Observations	261	85
R-squared	0.041	0.093
+All young people included were continuously eligible for Medicaid for at least three months following program enrollment. ++All young people included were continuously eligible for Medicaid for at least six months following program enrollment.		
Robust t-statistics in parentheses		
*** p<0.01, ** p<0.05, * p<0.1		

10. APPENDICES

Appendix A: Interview Protocol

Interview questions focused on the administration implementation of the incentive program system from the perspective of DCHFP and the program partners. The interviews focused on exploring and understanding the recruitment process from the perspective of the program partners.

Definitions

Participants: people receiving care and earning rewards in the incentive program.

Program partners: Organizations participating in the program.

PPAdmin: people working for the program partners who are in charge of identifying, recruiting, enrolling, and keeping track of participant registration.

DCHFP: Division of health care financing and policy

Sample Questions

How were potential participants identified? Who was responsible for identification? What types of systems were used to identify potential participants?

How were potential participants recruited? Who was responsible for recruitment? What types of systems were used to recruit potential participants?

How were participants enrolled in the program? Who was responsible for enrollment? What types of systems were used to enroll participants? Were participants allowed to enroll themselves?

How were changes made to the enrollment status of participants? (What procedures happened when a person dropped out of the program?)

What processes were used to keep track of participants once they were part of a program?

What was the division of task responsibilities between DCHFP and the Program Partners to identify, recruit, enroll and keep track of participants?

How much time did it take to identify and recruit participants?

What could be done to speed-up the identification and recruitment process?

What could be done to more effectively inform potential participants about the opportunity?

How much time did it take to enroll a participant?

What could be done to speed-up the initial enrollment process?

How much time did it take to keep track of a given participant?

Appendix B: Letter from Milliman, discussing risk score computation methodology

Milliman

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Email: rob.bachler@milliman.com

May 10, 2016

Gloria Macdonald
State of Nevada, DHCFP
1100 East William Street, Ste. 207
Carson City, NV 89701

Re: Risk Scores for MIPCD Grant Analysis

Dear Gloria:

Milliman, Inc. (Milliman) was retained by the State of Nevada, Department of Health Care Finance and Policy (DHCFP) to calculate risk scores as part of their MIPCD grant analysis. This letter documents the methodology and results of our risk score calculations. We understand that this information will be provided to the University of Nevada – Reno Medical Center (UNR) for their review of the grant program.

This letter is a follow-up to the deliverable dated December 22, 2015, providing risk scores for an additional 11 members.

Exhibits and Attachments

The following exhibits are being provided with this letter:

- Exhibit 1 – Risk Scores Calculated Using the 12 Months Prior to Eligibility
- Exhibit 2 – Risk Scores Calculated Using the 12 Months Immediately Following Enrollment
- Exhibit 3 – Risk Scores Calculated using the 13th through 24th month after enrollment

Due to the size of these exhibits, we are not providing printed versions of these exhibits. Instead, they are in an Excel workbook that is accompanying this letter.

Methodology

Risk scores were calculated with the Chronic Illness and Disability Payment System and the Medicaid Rx (CDPS + Rx) risk adjustment model, Version 6.0. We used the CDPS + Rx set of national weights to calculate both prospective and concurrent risk scores. These sets of weights use diagnosis data to calculate risk scores and vary by the four aid categories described below.

To calculate risk scores, each member is first classified into one of the following aid categories:

- AA = Adult TANF Medicaid recipients
- AC = Child TANF Medicaid recipients
- DA = Adult SSI Medicaid recipients
- DC = Child SSI Medicaid recipients

When using the results of our analysis, please remember that the risk scores of members in one aid category will not be comparable to the risk scores of members in another aid category, as the model normalizes each category's risk scores separately.

Members were categorized as SSI versus TANF based on their eligibility aid code provided in the state of Nevada's eligibility file. Adults were defined as 18 years or older, based on their enrollment date. Though a member's actual age varies by time period, this will make the morbidity factors contributing to an individual's risk scores in different time periods more comparable.

We added two additional pieces of information to each member record in each exhibit:

- The "Inpatient Admit" flag indicates whether that member had any inpatient claim during the period being evaluated.
- The "program" column contains either "FFS" or an MCO name, depending on where a member was enrolled on their enrollment date.
    - The one exception to this can be seen on row 12 of the "Post Eligibility" exhibit (Exhibit 3). During this time period, the participant had four months of eligibility in HPN, and 4 months of eligibility in FFS. This participant's Program is denoted as "HPN/FFS".

In creating risk scores, we modified the standard approach to calculating risk scores. These modifications included:

1. Typically risk scores are only calculated for members with at least a certain number of eligible months in a time period (such as 7 months) to ensure that the risk scores will be credible. However, based on instructions from DHCFP and UNR, we calculated risk scores for all members who were enrolled in Medicaid for at least one month. In the final risk score summaries, we have included a column that indicates how many months a member was enrolled in each time period so that the state may use this data with the appropriate caution. Members without eligibility during the time period are still included in the summaries, but their risk scores are labeled as "NA".
2. We did not normalize risk scores. Instead we have used the national average scores as provided in the standard CDPS data files. Therefore, the average of this subset of the population is much different from 1.0.

Data

We used eligibility data provided by Nevada that included enrollment dates from January 2006 to February 2015. Additionally we used all diagnosis data provided by the Managed Care Organizations through July 31, 2015 for Health Plan of Nevada (HPN) and August 30, 2015 for Amerigroup. Finally, we used the state of Nevada's Fee for Service (FFS) incurred claims from January 1, 2006 to October 31, 2013. Because of these varying dates, we chose to limit our data to incurred data through April 30, 2015 to ensure that the amount of claims runout was consistent, regardless of which system was responsible for the member's health care services.

We applied two exclusions to the diagnosis data:

1. We excluded the diagnosis information if the code was associated with a radiology or pathology claim. This is often done to eliminate situations where the procedure was testing for a condition rather than confirming that the member has the condition identified by the diagnosis code. The underlying assumption is that if the member actually has that condition it will be present elsewhere in the claim data.
2. We limited the data to three twelve month time periods and calculated risk scores separately for these three time periods. The first period is the 12 months prior to the member's enrollment date, the second is the 12 months immediately following enrollment, and the third is the subsequent 12 month period (starting 12 months after the enrollment date). If any of these time periods go beyond April 30, 2015 they are truncated for claims completion reasons.

The results of our calculations are presented in Exhibits 1-3 in the attached workbooks.

Limitations

The information contained in this letter, including the enclosures, has been prepared for the State of Nevada Department of Health Care Finance and Policy (DHCFP) and their consultants and advisors. It is our understanding that the information contained in this letter may be utilized in a public document. To the extent that the information contained in this letter is provided to third parties, the letter should be distributed in its entirety. Any user of the data must possess a certain level of expertise in actuarial science and healthcare modeling so as not to misinterpret the data presented.

Milliman makes no representations or warranties regarding the contents of this letter to third parties. Likewise, third parties are instructed that they are to place no reliance upon this letter prepared for Nevada by Milliman that would result in the creation of any duty or liability under any theory of law by Milliman or its employees to third parties.

This analysis has relied extensively on data provided by the participating health plans and the State of Nevada. While we have performed numerous checks of reasonableness and have made adjustments where necessary, we have not performed an independent audit of the data. Errors in data reporting may flow through the analysis, and as such would impact the results.

Actuarial Statement of Qualification

Guidelines issued by the American Academy of Actuaries require actuaries to include their professional qualifications in all actuarial communications. We are members of the American Academy of Actuaries, and meet the qualification standards for performing the analysis in this letter.

Please contact me if you have any questions regarding this analysis.

Sincerely,

Robert Bachler, FSA, FCAS, MAAA
Principal and Consulting Actuary

Catherine Lewis, FSA, MAAA
Actuary

cc: Tom Sargent (DHCFP)
John Kucera (DHCFP)
Catherine Lewis (Milliman)
Beth Arment (Milliman)

Appendix C: Study Materials

Incentives

TREATMENT GROUP A

Test	Timing	Points	Value
Goal Achievement	at 6 weeks	2500	$25.00
Goal Achievement	at 12 weeks	5000	$50.00
Program Completion	at 12 weeks	7500	$75.00
Goal Achievement	at 3 months	5000	$50.00
Goal Achievement	at 6 months	5000	$50.00
Goal Achievement	at 9 months	5000	$50.00
Goal Achievement	at 12 months	5000	$50.00
	TOTALS	35000	$350.00

INCENTIVOS

GRUPO DE TRATAMIENTO A

Examen	Tiempo	Puntos	Valor
Logro de la meta	A las 6 semanas	2500	$25.00
Logro de la meta	A las 12 semanas	5000	$50.00
Terminación del programa	A las 12 semanas	7500	$75.00
Logro de la meta	a los 3 meses	5000	$50.00
Logro de la meta	a los 6 meses	5000	$50.00
Logro de la meta	a los 9 meses	5000	$50.00
Logro de la meta	a los 12 meses	5000	$50.00
	TOTAL	35000	$350.00

Treatment Group A Script

Treatment Group A Child Script

Congratulations! You have been selected for our study and put into Treatment Group A. That means that you will be able to get rewards for taking care of your health. In Treatment Group A, you will earn points just for yourself. You will earn points by reaching your goals to exercise more and eat right. Here is a list of the activities that will earn points.

Each point is worth a penny, and can be used to buy things that you want through ChipRewards. That might not sound like a lot, but you can earn up to $350.00 in points.

Do you have any questions?

Treatment Group A Parent Script

Congratulations! Your child has been selected for our study and put into Treatment Group A. That means that your child will be able to get rewards for taking care of his/her health. In Treatment Group A, your child will earn points just for himself/herself. Your child will earn points by reaching his/her goals to exercise more and eat right. Here is a list of the activities that will earn points.

Each point is worth a penny, and can be used to buy things that you want through ChipRewards. That might not sound like a lot, but your child can earn up to $350.00 in points.

Do you have any questions?

Guion del Grupo de Tratamiento A

Guion para Niños del Grupo de Tratamiento A

¡Felicidades! Usted ha sido elegida/o para nuestro estudio y ha sido puesta/o en el Grupo de Tratamiento A. Eso significa que usted podrá recibir recompensas por tomar cuidado de su propia salud. En el grupo de tratamiento A, usted ganara puntos para usted mismo únicamente. Usted ganara puntos por alcanzar sus metas de hacer más ejercicios y por alimentarse bien. Aquí hay una lista de las actividades con las que ganara puntos.

Cada punto vale un penny, y puede ser usado para comprar cosas que tú quieras a través de RecompensasChip. Eso quizás no parezca mucho, pero puedes ganar hasta $350.00 en puntos.

¿Tienes preguntas?

Guion para Padres del Grupo de Tratamiento A.

!Felicidades! Su hijo ha sido seleccionado para nuestro estudio y ha sido puesto en el Grupo de Tratamiento A. Eso significa que tu hijo podrá ganar recompensa por tomar cuidado de su propia salud. En el grupo de tratamiento A, tu hijo ganara puntos para el/ella unicamente. Tu hijo ganara puntos por alcanzar la meta de el/ella de hacer mas ejercicios y comer saludable. Aquí esta una lista de las actividades que ganaran puntos.

Cada punto vale un penny, y puede ser usado para comprar cosas que tú quieras a través de RecompensasChip. Eso quizás no parezca mucho, pero usted puede ganar hasta $350.00 en puntos.

¿Tienes preguntas?

Incentives

TREATMENT GROUP B

CHILD'S INCENTIVES

Test	Timing	Points	Value
Goal Achievement	at 6 weeks	1250	$12.50
Goal Achievement	at 12 weeks	2500	$25.00
Program Completion	at 12 weeks	3750	$37.50
Goal Achievement	at 3 months	2500	$25.00
Goal Achievement	at 6 months	2500	$25.00
Goal Achievement	at 9 months	2500	$25.00
Goal Achievement	at 12 months	2500	$25.00
	TOTALS	17500	$175.00

PARENT'S INCENTIVES

Test	Timing	Points	Value
Child's Goal Achievement	at 6 weeks	1250	$12.50
Child's Goal Achievement	at 12 weeks	2500	$25.00
Child's Program Completion	at 12 weeks	3750	$37.50
Child's Goal Achievement	at 3 months	2500	$25.00
Child's Goal Achievement	at 6 months	2500	$25.00
Child's Goal Achievement	at 9 months	2500	$25.00
Child's Goal Achievement	at 12 months	2500	$25.00
	TOTALS	17500	$175.00

Incentivos

GRUPO DE TRATAMIENTO B

INCENTIVOS PARA NINOS

Examen	Tiempo	Puntos	Valor
Logro de la meta	a las 6 semanas	1250	$12.50
Logro de la meta	a las 12 semanas	2500	$25.00
Terminación del programa	a las 12 semanas	3750	$37.50
Logro de la meta	a los 3 meses	2500	$25.00
Logro de la meta	a los 6 meses	2500	$25.00
Logro de la meta	a los 9 meses	2500	$25.00
Logro de la meta	a los 12 meses	2500	$25.00
	TOTAL	17500	$175.00

INCENTIVOS PARA LOS PADRES

Examen	Tiempo	Puntos	Valor
Logro de la meta de los niños	a las 6 semanas	1250	$12.50
Logro de la meta de los niños	a las 12 semanas	2500	$25.00
Terminación del Programa de niños	a las 12 semanas	3750	$37.50
Logro de la meta de los niños	a los 3 meses	2500	$25.00
Logro de la meta de los niños	a los 6 meses	2500	$25.00
Logro de la meta de los niños	a los 9 meses	2500	$25.00
Logro de la meta de los niños	a los 12 meses	2500	$25.00
	TOTAL	17500	$175.00

Treatment Group B Script

Treatment Group B Child Script

Congratulations! You have been selected for our study and put into Treatment Group B. That means that both you and your mom or dad will be able to get rewards when you take care of your health. In Treatment Group B, you will earn points for yourself AND your mom or dad. You will earn points by reaching your goals to exercise more and eat right. Here is a list of the activities that will earn points.

Each point is worth a penny, and can be used to buy things that you want through ChipRewards. That might not sound like a lot, but you can earn up to $175.00 in points and you can earn up to $175.00 in points for your mom or dad.

Do you have any questions?

Treatment Group B Parent Script

Congratulations! Your child has been selected for our study and put into Treatment Group B. That means that both you and your child will be able to get rewards when your child takes care of his/her health. In Treatment Group B, your child will earn points for you AND himself/herself. Your child will earn points by reaching his/her goals to exercise more and eat right. Here is a list of the activities that will earn points.

Each point is worth a penny, and can be used to buy things that you want through ChipRewards. That might not sound like a lot, but your child can earn up to $175.00 in points for you, and your child can earn up to $175.00 in points for himself/herself.

Do you have any questions?

Guion del Grupo de Tratamiento B

Guion para Niños del Grupo de Tratamiento B

¡Felicidades! Tu has sido elegida/o para nuestro estudio y has sido puesta/o en el Grupo de Tratamiento B. Eso significa que tú, tu mama o tu papa podrán recibir recompensas cuando tú tomes control de tu salud. En el grupo de tratamiento B, tu ganaras puntos para ti misma/o y para tu mama o tu papa. Tu ganaras puntos por alcanzar tus metas de hacer más ejercicios y por alimentarte bien. Aquí hay una lista de las actividades con las que ganaras puntos.

Cada punto vale un penny, y puede ser usado para comprar cosas que quieras a través de RecompensasChip. Eso quizás no parezca mucho, pero puedes ganar hasta $175.00 en puntos y hasta $175.00 en puntos para tu mama o tu papa.

¿Tienes preguntas?

Guion para Padres del Grupo de Tratamiento B.

!Felicidades! Su hijo ha sido seleccionado para nuestro estudio y ha sido puesto en el Grupo de Tratamiento B. Eso significa que tu y tu hijo podrán ganar recompensas cuando tu hijo toma cuidado de su propia salud. En el grupo de tratamiento B, tu hijo ganara puntos para ti y para el/ella. Tu hijo ganara puntos por alcanzar la meta de el/ella de hacer mas ejercicios y comer saludable. Aquí esta una lista de las actividades con que ganaran puntos.

Cada punto vale un penny, y puede ser usado para comprar cosas que tú quieras a través de RecompensasChip. Eso quizás no parezca mucho, pero tu hijo puede ganar hasta $175.00 en puntos para ti, y tu hijo puede ganar hasta $175.00 en puntos para el/ella.

¿Tienes preguntas?

Dear
Nevada Medicaid and Nevada Check Up have a grant to see how rewards can help people make healthy lifestyle choices. Your child can take part in a study called, "NEVADA HEALTHY CHOICES".
Your child does NOT have to join this study. Joining this study is your and your child's choice. Your child's Medicaid eligibility or medical care will not change.
Children who join the study will be put into two groups. Both groups will get training about how to lead a healthy way of life and earn rewards for making healthy choices. But, only one group will earn rewards for the whole family. The group a child is placed in will be decided by chance. Again, both groups will get coaching and training about a healthier way of life.
If you would like to learn more, please read the attached brochure called NEVADA HEALTHY CHOICES.
For your child to join the study, fill out the form, and return it to your doctor.
If you do not want your child to join, you may throw out this letter.
Thank you.

NEVADA HEALTHY CHOICES
INFORMATION FORM

(Please fill out this form and return to your provider.)

_____ I would like my child to be in this study.
Name: _____

Child's Name:_____

Home phone: _____ Cell phone:
_____

Email: _____
The best DAY to reach me is:
☐ Monday ☐Tuesday ☐ Wednesday ☐ Thursday ☐ Friday
The best TIME to reach me is:
☐ 9:00 AM ☐ 10:00 AM ☐ 11:00 AM ☐ 12:00 PM ☐ 1:00 PM ☐ 2:00 PM ☐ 3:00 PM

Querido:
Nevada Medicaid y Nevada Check Up han recibido una subvención para ver como las recompensas pueden ayudar a la gente ha hacer decisiones sobre estilos de vida saludables. Su hijo puede tomar parte en un estudio llamado ELECCIONES SALUDABLES DE NEVADA "NEVADA HEALTHY CHOICES".
Su hijo NO tiene que participar en este estudio. El participar es la elección suya o de su hijo . La elegibilidad de su hijo para Medicaid y su cuidado médico no cambiaran si no participa.
La gente que participa en este estudio será puesta en 2 grupos. Ambos grupos serán entrenados acerca de cómo llevar una vida saludable. Pero solo un grupo tendrá una recompensa junto con el entrenamiento. El grupo en el que la gente será localizada se escogerá al azar. Nuevamente, ambos grupos serán instruidos y entrenados sobre una forma de vida saludable.
Si usted quiere aprender más, por favor lea el libreto adjunto llamado ELECCION SALUDABLE DE NEVADA "NEVADA HEALTHY CHOICES." Para que su hijo participe en el estudio llene la forma y regrésela a su doctor.
Si usted no quiere que su hijo participe, usted puede tirar esta carta a la basura.
Gracias,

FORMA INFORMATIVA DE ELECCION SALUDABLE DE NEVADA.

(Por favor llene esta forma y regrésela a su proveedor)

_____ Yo quisiera que mi hijo participe de este estudio.

Nombre del niño:_____

Teléfono de casa: _____ Teléfono celular: _____

Correo Electrónico _____
El mejor día para llamarme es:
☐ Lunes ☐Martes ☐ Miércoles ☐ Jueves ☐ Viernes
La mejor hora para llamarme es:
☐ 9:00 ☐ 10:00 ☐ 11:00 ☐ 12:00 ☐ 13:00 ☐ 14:00 ☐ 15:00

Is your child at risk of getting Heart Disease?

The Division of Health Care Financing and Policy
invites your child to join a study:

Nevada Healthy Choices

Medicaid Incentives for the Prevention of Chronic Diseases

The purpose of this study is to find out **if rewards will help kids make healthy lifestyle choices.**

The project is funded by the U.S. Centers for Medicare & Medicaid Services.

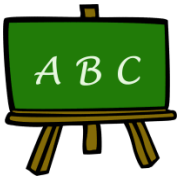
Your child can join if he or she is between the ages of 7 and 18, has Medicaid, and has any of the following . . .

- ✓ Is overweight
- ✓ Has diabetes
- ✓ Has hypertension
- ✓ Has high insulin or lipid levels
- ✓ Has a BMI greater than the 85%tile
- ✓ Has a total cholesterol greater than 170

Your child will get . . .

Nutritional Counseling

Exercise Plan



Healthy Lifestyle Education

To join, talk to your doctor or nurse today.

¿Esta su niño en riesgo de tener enfermedades del Corazón?

La División de Cuidados de Salud Financiamiento y Póliza invita a su hijo a unirse a un estudio:

Elecciones Saludables de Nevada

Incentivos de Medicaid para la prevención de enfermedades crónicas.

El propósito de este estudio es el de llegar a saber si premiando a los niños les ayudaría a escoger un estilo de vida saludable.

El proyecto está fundado por el Centro de Medicare y Medicaid de los Estados Unidos.

Su hijo puede participar si ella o él tienen entre 7 y 18 años de edad, tienen Medicaid, y tienen uno de los siguiente …

- ✓ Tiene sobre peso
- ✓ Tiene Diabetes
- ✓ Tiene Hipertension
- ✓ Tiene niveles altos de insulina o lípidos
- ✓ Tiene un BMI mayor que 85% “tile”
- ✓ Tiene el colesterol mayor que 170

Su Niño recibirá . . .

Consejería nutricional Plan de ejercicios

Educación sobre Estilos de Salud Saludables

Para participar, hable hoy con su doctor o a su enfermera.

NEVADA HEALTHY CHOICES
Consent Form

Summary

Nevada Medicaid and Nevada Check Up got a grant to see how rewards can help people make healthy lifestyle choices. Part of the grant is a study called Nevada Healthy Choices. Nevada Healthy Choices will offer rewards or incentives to some of the people who join the study for taking good care of their health.

The U.S. Centers for Medicare and Medicaid is paying for this study. Your family may be picked to earn up to $350.00 in rewards if your child takes care of his/her health. During this study, your child will receive the usual treatment for children with heart disease from Children's Heart Center.

Your child is being asked to join this study because he/she is at risk of developing heart disease.

This study will research healthy behavior. Your nutritionist will explain the study to you. This study will include only families who choose to take part. Please take your time to make your decision about your child joining the study. You can also choose to not join the study. You may talk about your decision with your friends, family, and health care team. If you have any questions, you can ask the nutritionist for more information.

Duration

Your child will be in the Children's Heart Center's Healthy Hearts Program for three months. After the Healthy Hearts Program is finished, your child will have follow up visits for one year.

The Nevada Healthy Choices study will take place at the same time as the Healthy Hearts Program.

Procedure

Kids who join the Nevada Healthy Choices Study will also join the Children's Heart Center's Healthy Hearts Program. This program asks your child to set goals about exercising more, eating healthy, and losing weight.

Your child will be put into one of two groups. Both groups will get training about how to lead a healthy way of life and will be able to earn rewards for improved health. If your child is placed into Group A, he/she will earn rewards for himself/herself. If your child is placed into Group B, he/she will earn rewards for both you and himself/herself. The group your child is placed in will be decided by chance.

Study Risks

There are very few risks to joining this study. Starting an exercise plan may cause normal aches and pains.

Can My Child Stop Being in the Study?

Yes. Your child can stop taking part in this study at any time for any reason. Joining this study is your choice and your child's choice. Tell the nutritionist if your child is thinking about stopping or has decided to stop. If your child stops being in this research study, it will not affect how your child is treated at Children's Heart Center. If your child stops the being in this study, it will not affect your child's Medicaid eligibility. It is important to tell the study doctor if your child is thinking about stopping so any risks from the study treatment can be evaluated by your doctor. Another reason to tell your doctor that your child is thinking about stopping is to discuss what follow up care and testing could be most helpful for your child.

Confidentiality

We will make every effort to keep your child's personal information confidential. Confidential means that we only share your child's information with people involved in the study including doctors, nurses, and researchers. But, we cannot guarantee total confidentiality.

Children's Heart Center has rules to protect information about your child. Federal and state laws also protect your child's privacy. Protected Health Information (PHI) is any health information that identifies your child. Generally, only people

on the research team will know that your child is in the research study and will see your child's information.

Unless you give permission or the board that reviews research studies approves it, no one else will be able to see or use your child's information. The people working on the study will collect information about your child. This includes things learned from the procedures described in this consent form. They may collect other information including your child's name, address, date of birth, and other details. The research team will need to see your child's information.

Sometimes other people at Children's Heart Center may see or give out your child's information. These include people who review the research studies, their staff, lawyers or other Children's Heart Center staff.

People outside of Children's Heart Center may need to see your child's information for this study. Examples include government groups, safety monitors, and other hospitals in the study and companies that sponsor the study. Certain government agencies, Centers for Medicare and Medicaid Federal Research Program, Nevada Medicaid, Chips Reward Inc., and RTI International may need to see your information for this study.

Your child's information might be used to contact you for a follow up group, or to ask you about how the study was conducted. The results of this study will tell researchers more about how rewards influence people's healthy behavior, and also how changes in people's behavior affect the cost of health care. These results may be published. The records of this study might also be reviewed to make sure all rules and guidelines were followed.

Please initial below:

_____ It is my choice and my child's choice to join the Nevada Healthy Choices Study.

_____ My child will also join the Children's Heart Center's Healthy Hearts Program.

_____ My child will be placed into a treatment group based on chance.

_____ My child's Medicaid eligibility will not be affected by this study.

_____ I understand that my child's confidentiality will be protected, but that some people involved in this study may have access to my child's health information.

_____ I will receive a signed and dated copy of this consent form.

_____

Name of Participant

Name of Participant's Parent/Guardian	
Signature of Participant's Parent/Guardian	Date
Signature of Person Obtaining Consent	Date
Signature of Investigator	Date

NEVADA HEALTHY CHOICES
Forma de Consentimiento

Sumario

Nevada Medicaid y Nevada Check Up recibieron una subvención para ver como las recompensas pueden ayudar a la gente a escoger estilos de vida saludables. Parte de la subvención es un estudio llamado Elecciones Saludables de Nevada. Elecciones Saludables de Nevada ofrecerá recompensas o incentivos a algunas de las personas que participen en el estudio por tomar buen cuidado de su salud.

El Centro para Medicare y Medicaid de U.S. está pagando por este estudio. Su familia podría ser escogida para ganar $350.00 en recompensas si su hijo toma cuidado de la salud de él/ella. Durante este estudio, su hijo recibirá el tratamiento usual del Centro Para Niños con enfermedades del corazón

Se le está pidiendo a su hijo que se una a este estudio porque él/ella está en riesgo de desarrollar una enfermedad del Corazón.

Este estudio investigara comportamientos saludables. Su nutricionista le explicara el estudio a usted. Este estudio incluirá solamente a familias que voluntariamente escogen tomar parte en el. Por favor tome su tiempo para hacer la decisión sobre si su hijo participara del estudio. Usted también puede escoger el no participar en el estudio. Usted puede preguntar a sus amigos, familiares y a las personas encargadas de su cuidado de salud. Si usted tiene preguntas, usted puede pedirle más información al nutricionista.

Duración

Su hijo estará en el programa del Centro de Corazón para Niños Programa Corazones Saludables por tres meses. Después de que termine el programa Corazones Saludables, su hijo tendrá visitas de seguimiento por un año.

El estudio Elecciones Saludables se llevara a cabo al mismo tiempo que el Programa Corazones Saludables.

Procedimiento

Los niños que participen en el estudio Elecciones Saludables de Nevada también participaran del Centro del Corazón para Niños Programa Corazones Saludable. Este programa pide a los niños que se pongan metas sobre hacer más ejercicios, comer saludable y perder peso.

Su hijo será puesto en uno de los dos grupos. Ambos grupos tendrán entrenamiento sobre cómo llevar una forma de vida saludable y serán capaces de ganar recompensas por mejorar la salud. Si su hijo es puesto en el grupo A, él/ella ganaran recompensas para ellos mismos. Si su hijo es puesto en el grupo B, él/ella ganaran recompensas para usted y para él/ella. El grupo en que su hijo será puesto será escogido al azar.

Riesgos del Estudio

Hay muy pocos riesgos al unirse a este estudio. Comenzando un plan de ejercicios quizás cause malestares y dolores normales.

¿Puede mi hijo dejar de participar en el estudio?

Si. Su niño puede dejar de tomar parte de este estudio en cualquier momento y por cualquier razón. Participar en este estudio es su decisión y la decisión de su hijo. Dígale a la nutricionista si su hijo está pensando o ha decidido dejar de participar en el estudio. Si su hijo deja de participar en este estudio de investigación, no afectara como su hijo es tratado en el Centro del Corazón para Niños. Si su hijo deja de participar en este estudio, no afectara su elegibilidad para Medicaid. Es importante decirle al doctor del estudio si su hijo está pensando dejar el estudio para que cualquier riesgo del tratamiento pueda ser evaluado por el doctor. Otra razón para decirle al doctor que su hijo está pensando dejar el estudio es para discutir que seguimiento cuidado y pruebas pueden ser de más ayuda para su hijo.

Confidencialidad

Haremos cualquier esfuerzo para mantener la información de su hijo confidencial. Confidencial significa que nosotros solo compartiremos la información de su hijo con gente que está envuelta en el estudio incluyendo doctores, enfermeras e investigadores. Pero, nosotros no podemos garantizar confidencialidad total.

El Centro del Corazón para Niños tiene reglas para proteger la información de su hijo. Las leyes Federales y Estatales también protegen la privacidad de su niño. Información de Salud Protegida (PHI) es cualquier información de salud que identifica a su hijo. Generalmente solo las personas del equipo de investigación sabrán que su niño está en el grupo de estudio de investigación y vera la información de su niño.

Nadie podrá ver la información de su hijo a menos que usted de permiso o que el comité que revisa el estudio de investigación lo apruebe. La gente que está trabajando en ese estudio recogerá información acerca de su hijo. Esto incluye cosas que él ha aprendido sobre el procedimiento y que están descritas en esta forma de consentimiento. Quizás ellos coleccionen otra información incluyendo el nombre de su niño, dirección, fecha de nacimiento, y otros detalles. El grupo de investigación necesitara ver la información de su niño.

Algunas veces otras personas del Centro del Corazón para Niños verán o darán a otras personas la información de su hijo. Esto incluye gente que analiza los estudios de investigación y su personal, abogados u otro personal del Centro del Corazón para Niños.

Gente que no pertenece al Centro del Corazón para Niños quizás necesiten ver la información de su hijo referente a este estudio. Por ejemplo e incluyendo grupos del gobierno, monitores de seguridad, hospitales y compañías que patrocinan el estudio. Ciertas agencias del gobierno, Centros de Programas Federales de investigación de Medicare and Medicaid, Nevada Medicaid, Recompensas Chips Inc., y RTI Internacional quizás necesiten ver tu información referente a este estudio.

La información de tu hijo quizás sea usada para ponerse en contacto con usted sobre grupos de seguimientos, o para preguntarle cómo se llevo a cabo el estudio. El resultado de este estudio les dirá a los investigadores mas sobre como las recompensas influencian el comportamiento saludable de las personas, y también como los cambios en el comportamiento afecta el costo del cuidado de salud. Los resultados de este estudio quizás sean publicados. Los resultados de este estudio quizás también sean revisados para asegurarse que todas las reglas y guías fueron seguidas.

Por favor ponga su inicial abajo:

_____ Es mi elección y la elección de mi hijo el participar en el Estudio Elecciones Saludables de Nevada.

_____ Mi hijo también participara en el Centro de Corazón para Niños Programa Corazones Saludables.

_____Mi hijo será puesto en un grupo de tratamiento escogido al azar.
_____La Elegibilidad de Medicaid de mi hijo no será afectada por este estudio.
_____Yo entiendo que la confidencialidad de mi hijo será protegida, pero que alguna gente envuelta en este estudio quizás tenga acceso a la información de salud de mi hijo.
_____Yo recibiré una copia firmada y fechada de esta forma de consentimiento

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Nombre del participante

Nombre del Padre/Guardián del participante.

Firma del Padre/Guardián del participante. Fecha

Firma de la persona que obtuvo el consentimiento Fecha

Firma del investigador Fecha