



Iowa Department of Human Services

Kim Reynolds
Governor

Adam Gregg
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Director

December 10, 2018

W. Charles Smithson
Secretary of Senate
State Capitol
LOCAL

Carmine Boal
Chief Clerk of the House
State Capitol
LOCAL

Dear Ms. Boal and Mr. Smithson:

Enclosed please find copies of reports to the General Assembly relative to Health Homes Programs Workgroup Report.

This report was prepared pursuant to the directive contained in 2018 Senate File 2418.

Please feel free to contact me if you need additional information.

Sincerely,

Mikki Stier
Deputy Director

MS/me

Enclosure

cc: Kim Reynolds, Governor

Iowa Department of Human Services



Health Home System Review

December 2018

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Executive Summary

Beginning in 2010, states were allowed the option to submit amendments to their Medicaid State Plans under Section 2703 of The Affordable Care Act. These amendment options, known as State Plan Amendments (SPAs), established Health Homes. The resulting programs are a benefit option for eligible Medicaid beneficiaries with chronic physical, mental or behavioral health conditions who may benefit from a coordinated systems of care approach to treatment.

Via this category of SPAs, Iowa chose to offer two options. The first option, now known as Chronic Condition Health Homes, was launched in 2012. The second option, the Integrated Health Home, was launched in 2013. Both Health Home options in Iowa are guided by SPA regulations outlining member eligibility, provider requirements, and descriptions of services. In addition, multiple chapters within section 441 of the Iowa Administrative Code (IAC) outline the operational and administrative conditions and requirements of the Health Home programs.

In 2018, SF2418 directed the Department of Human Services to assess the Health Home system and the guiding SPAs. The effort was to be completed by analyzing the State Plan Amendments, the current health homes system and facilitation of a stakeholder's workgroup. The outcome of these efforts is reflected in this report which outlines the findings of the review activities, recommendations for further work based on those findings, as well as a plan for communication with stakeholders. It is noted that the direction in SF2418 concludes that the workgroup and workgroup's activities shall not affect the Department's authority to apply or enforce the Medicaid SPA relative to Health Homes.

The Health Home system review was completed using a Donabedian model, analyzing structure, processes, and outcomes in three phases^{1,2}. The structural components analysis was completed through provider file reviews. A review of member files was utilized to review processes. Outcomes were analyzed through statistical value analysis based on total costs of Medicaid services for members supported by the Health Homes system in comparison to like members who do not receive the support of a Health Home.

Review of the State Plan Amendments was completed both as preparation for the file review process as well as in conjunction with the Stakeholder's Workgroup.

The Stakeholder's Workgroup was convened for two meetings in October of 2018 to review the work completed by the Department in the system review process and to offer their feedback to guide recommendations and further work. A draft version of this report was then shared with the Stakeholder's Workgroup members in November 2018 to seek their additional feedback. Many Stakeholders felt that it was important to note that they did not vote on recommendations. Stakeholders did freely provide valuable feedback that was incorporated throughout the process of developing recommendations for next steps.

Structural Review Results

The review of provider files reviewed illustrated consistent compliance in documentation of ongoing quality improvement, provider advocacy and meeting basic provider requirements. However, structures that support the fidelity of the Health Home system, such as the Health Home Agreement document, presence of a Table of Organization and evidence of all appropriate certifications and training were noted with less consistency. It was noted by reviewers that during the process of gathering and reviewing information, there were Health Home providers who reported that they were unfamiliar with all of the requirements of the Health Home programs. Stakeholders noted in their feedback that some providers struggled to identify which documents they needed to submit for file review.

Process Review Results

The review of member files illustrated consistent alignment to the ethos of Health Home coordinated care. The documentation reviewed reflected members were accessing whole-person oriented care through a personal provider with whom they had established an on-going relationship. However, member files also illustrated again that items important to the fidelity of the Health Home model, such as evidence of member opt-in, continuity of care documents, and evidence of enhanced access were less consistent. Two of the six core services identified in the SPAs made up 86% of the Health Home core services delivery documentation in the member files reviewed. It was also noted that core services were not delivered to each member, each month. Although providers were paid a monthly payment, reviewers noted there were several months where no Health Home core services were provided to the member in the files reviewed.

Outcomes Review Results

Initial results of the analysis of the value delivered by the current Health Homes system were mixed. Analysis of total payments by Iowa Medicaid for members enrolled in the Integrated Health Home model showed that individuals receiving these supports had higher costs than peers who did not receive Integrated Health Home supports. Further analysis is needed to better understand the drivers of these higher costs and to determine the return on investment for Integrated Health Homes in terms of improved health outcomes for members.

The Chronic Condition Health Homes analysis of total payments by Iowa Medicaid for members enrolled in the Chronic Condition Health Home model showed a statistically insignificant difference in cost when compared to a comparison group of members not receiving Chronic Condition Health Home supports. Additional analysis will help improve understanding of the value generated by the Chronic Condition Health Home model in comparison to other models and programs with similar goals such as Accountable Care Organizations (ACO) or the Care Management models provided through MCO's.

State Plan Amendment Review

Review of the State Plan amendments noted that the two current SPA's have areas of overlap. Overlapping areas noted include the identification of six core Health Home services to be delivered and a portion of the member populations served. There were also differences noted in the SPAs by stakeholders including different service locations and provider types for CCHH and IHH.

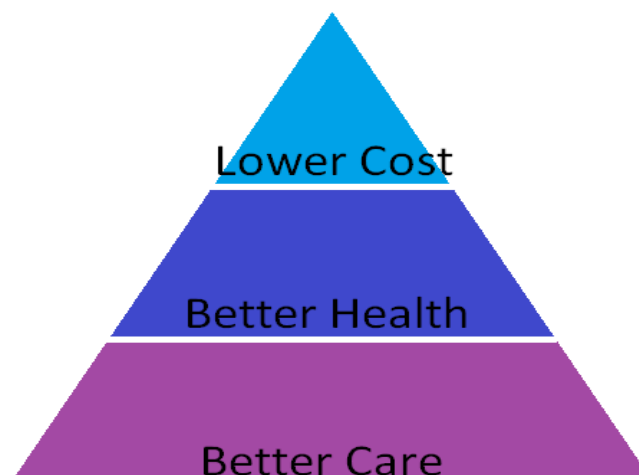
Key Recommendations

It is the goal of the Department of Human Services to ensure the results of this review, including feedback from stakeholders, are utilized to inform a vision for a clear, consistent delivery model linked to improved member outcomes and fulfillment of data reporting requirements aligned with the SPAs. Further data analysis is recommended to better understand the value and outcomes generated by the Health Home programs. In addition, the Department will continue to work to improve communication between the MCO's, Health Home providers and Medicaid. Key components of this communication plan include further development of guidance materials for Health Home providers, increased technical assistance and provider oversight and establishment regular meetings between providers, MCO's and Medicaid to maintain open lines of communication. Additional work is also recommended to align the two SPAs to reduce administrative burden and improve the ability of the State to gather the data needed to illustrate SPA compliance.

Home Health System Review

Background

In 2010, Section 2703 of The Affordable Care Act gave States latitude to create a State Plan benefit to establish Health Homes to coordinate care for Medicaid beneficiaries with chronic physical, mental or behavioral health conditions. Health Home concepts are grounded in the Patient Centered Medical Home (PCMH) model. These concepts include ensuring patients receive patient-centered, coordinated care via a team-based health care delivery model with the goal of obtaining the 'Triple aim': improving individual patient experiences, improving the overall health of the population, and reducing the cost of health care. The Health Home model is a targeted model intended to translate the PCMH concepts to a high-risk, high-cost population of individuals with the expectation that the overarching concepts of practice transformation and achieving the 'Triple aim' remain intact.



Iowa established Chronic Condition Health Homes in 2012, followed by the phased introduction of Integrated Health Homes in 2013. The Health Homes are outlined by similar, but distinct SPAs that define member eligibility factors, provider requirements, and descriptions of the services offered. In addition, Health Homes are guided by multiple chapters of IAC 441, including chapters 77, 78, 79, 83, and 90.

Eligible members are offered the opportunity to opt-in with a Health Home. Once enrolled, the provider receives a per member per month (PMPM) payment. The PMPM reimburses the provider for the delivery of six core services designed to support the member's unique healthcare needs. In addition, Health Home providers participate in a continuous process of practice transformation. These activities – both the individual support of the member and the overall practice transformation efforts – are key to achieving the 'Triple aim'.

Within the Chronic Condition Health Home and Integrated Health Home programs, it is expected that provider documentation will reflect both the member's eligibility and service needs as well as how the Health Home service provision is addressing those needs. In addition, documentation must illustrate that the Health Home provider meets all requirements outlined in the SPAs and IAC.

This report provides an overview of the findings of the Health Homes system review conducted in 2018, based on the guidance given in SF2418. This review of the Health Home programs was conducted in three phases to examine Health Home structures, processes, and outcomes. The first phase of the review was a member file review seeking to match member records to the core services defined in the SPAs and the requirements outlined in IAC. The second phase was a provider file review which matched provider documentation to the provider requirements outlined in the SPAs and applicable IAC and Rules. The third phase was a value analysis utilizing 3 years of Iowa Medicaid data including nearly one million unique members and more than 75 million adjudicated claims. The goal of the value analysis was to compare changes in total Medicaid expenditures for members enrolled in Health Homes in comparison to similar non-Health Home enrolled members to determine the impact of Health Home enrollment on total Medicaid expenditures. The anticipated successful outcome of Health Home enrollment is to achieve an overall reduction in total cost of care as a result of better care coordination and improved member health.

For additional background on Iowa's Health Homes, the applicable SPAs and IAC and Rules can be reviewed in full by visiting the links provided below.

The SPA for Chronic Condition Health Homes can be accessed at:

<https://dhs.iowa.gov/sites/default/files/Attachment%203.1-H%20-%20Chronic%20Conditions%20as%20of%20081516.pdf>

The SPA for Integrated Health Homes can be accessed at:

<https://dhs.iowa.gov/sites/default/files/Attachment%203.1-H%20-%20SPMI%20as%20of%20081516.pdf>

Applicable Administrative Code and Rules can be accessed at:

<https://www.legis.iowa.gov/law/administrativeRules/chapters?agency=441&pubDate=09-26-2018> with specific attention given to Chapters 77, 78, 79, 83 and 90.

Overview of Iowa's Health Home Models

The first Health Homes in Iowa, now known as Chronic Condition Health Homes, launched in July 2012. Chronic Condition Health Homes offer providers monthly payments PMPM to reimburse providers for their service to the Health Home member as well as to encourage overall practice transformation efforts to align to the PCMH model. Providers are reimbursed to provide six core services to patients with multiple chronic conditions to achieve the 'Triple aim' of improving patient experience and overall health while simultaneously achieving systemic, long term cost reduction.

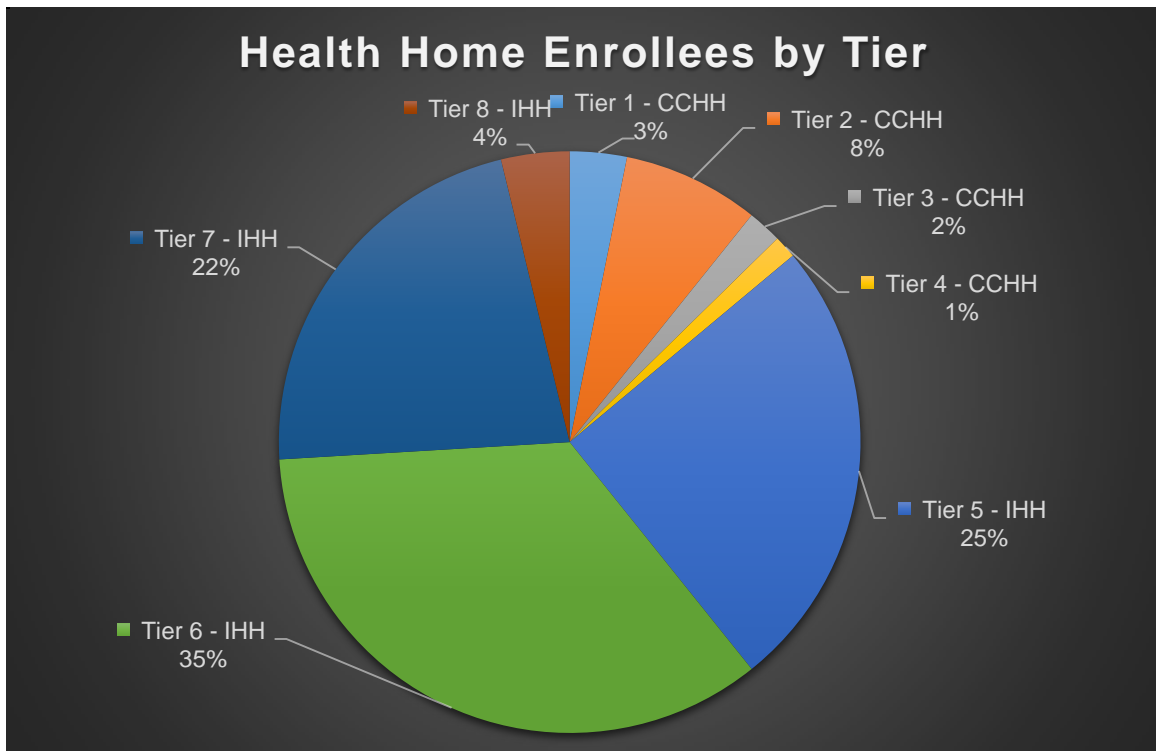
The second Health Home option, the Integrated Health Home, was phased in beginning in 2013. Integrated Health Homes share the same PCMH foundational concepts and 'Triple aim' goals as Chronic Condition Health Homes but are targeted toward individuals with Serious and Persistent Mental Illness (SPMI) or Serious Emotional Disturbance (SED) diagnoses. Integrated Health Homes are uniquely structured to meet the needs of a population of individuals who require a more coordinated system of care and are often underserved in traditional models of care.

To opt-in for enrollment with a Health Home, Medicaid members who may benefit from the services provided by the Health Home must first be fully eligible for Medicaid. Chronic Condition Health Homes are structured to support members who are diagnosed with or at-risk of developing two or more chronic health conditions such as a mental health condition, substance abuse disorder, asthma, diabetes, heart disease or overweight. Integrated Health Homes are structured to support children and adults with SPMI or SED. The Integrated Health Home model is further specialized to offer Non-Intensive and Intensive Care Management to members. Intensive Care Management is reserved for members who receive specialized supports via Children's Mental Health (CMH) Waiver or Habilitation Services funding.

Members enrolled in Health Homes are assigned to PMPM payment tiers based on their unique needs. These payment tiers are structured to reimburse providers in alignment with the anticipated service intensity.

In Chronic Condition Health Homes, these tiers are assigned based on the Patient Tier Assignment Tool (PTAT), which is completed by the provider. Members with 1-3 chronic conditions are assigned to Tier 1; members with 4-6 chronic conditions are assigned to Tier 2; members with 7-9 chronic conditions are assigned to Tier 3; members with 10 or more chronic conditions are assigned to Tier 4.

Per Member Per Month Reimbursement	
Tier 1 - CCHH	1 – 3 conditions
Tier 2 - CCHH	4 – 6 conditions
Tier 3 - CCHH	7 – 9 conditions
Tier 4 - CCHH	10+ conditions
Tier 5 - IHH	Adult NICM
Tier 6 - IHH	Child NICM
Tier 7 - IHH	Adult ICM
Tier 8 - IHH	Child ICM



Integrated Health Homes also assign members to PMPM payment tiers. Children may be assigned as either Tier 6 or Tier 8. Adults may be assigned as either Tier 5 or Tier 7. Both children and adults are then assigned as either Non-Intensive Care Management (NICM, tiers 5 and 6) or Intensive Care Management (ICM, tiers 7 and 8). The assignment of ICM is reserved for members who receive additional home and community-based support funded by either the Children’s Mental Health Waiver or Habilitation Services funding.

To qualify for PMPM payment to the Health Home, the eligible member must be currently enrolled with a Health Home provider. The provider must be in good standing. Further, the member must receive, and the provider must document management and monitoring of treatment gaps or a covered service as defined in the applicable State Plan Amendment.

Provider requirements are also outlined in the SPAs and IAC. For Chronic Condition Health Homes, these requirements include provider maintenance of appropriate certification and accreditation, including pursuit of recognition as a PCMH. Providers must sign and abide by the Health Home agreement which outlines roles and responsibilities, initial and ongoing qualifications of Health Home providers, payment and coordination of entities. The provider must maintain documentation that provider standards are met, including both a Table of Organization and documentation of applicable individual practitioner licensure and certification. Chronic Condition Health Home providers must also implement and support a formal diabetes disease management program.

Similarly, Integrated Health Home providers must meet requirements including maintenance of appropriate certification or accreditation, signing and abiding by the Health Home agreement, maintenance of documentation that initial and ongoing Integrated Health Home standards are met and maintaining a Table of Organization and appropriate training certifications for all staff. In addition, Integrated Health Home providers must: meet a minimum 24/7 access standard, illustrate their participation in community advocacy efforts, articulate ongoing Quality Improvement Planning efforts, and utilize or possess a plan to transition to Electronic Health Records.

The Health Home programs are designed for opt-in by members and it is expected that provider documentation reflect the member was informed of their choices and chose to opt in to the Health Home to receive services. It is also fundamental to the Health Home model that each member has ongoing connection to a personal provider who serves to coordinate the member's care and that the file illustrate this continuous care coordination and, via the delivery of the core Health Home services, illustrates how the Health Home team is meeting the spectrum of the member's needs.

Enhancing Care Coordination – Six Core Services

The State Plan Amendments for Chronic Condition Health Homes and Integrated Health Homes outline six core services to be delivered by the Health Home team members. The six identified core services are Comprehensive Care Management, Care Coordination, Health Promotion, Comprehensive Transitional Care, Individual and Family Support, and Referral to Community and Social Supportive Services. The delivery of the identified core services is the foundation of the value delivered to members by their chosen Health Home.

Comprehensive Care Management is defined as whole-person, integrated care management that is comprehensive, assessment driven, utilizes claim-based monitoring, addresses care gaps, serves as a communication hub and an active team member to monitor and intervene in member progress toward treatment goals utilizing holistic clinical expertise. Comprehensive Care Management is provided by a nurse or by a physician.



Care Coordination is defined as outreach to members that promotes engagement in care coordination, conducts assessments, schedules appointments, makes referrals, supports treatment compliance, follows up, communicates with providers on goals and interventions, conducts joint treatment planning meetings, and supports coordination with a PCP and specialists. Care Coordination may be provided by a nurse or social worker. In addition, some Care Coordination activities may be conducted by Peer Support Specialists or Family Support Specialists.

Health Promotion includes activities such as smoking

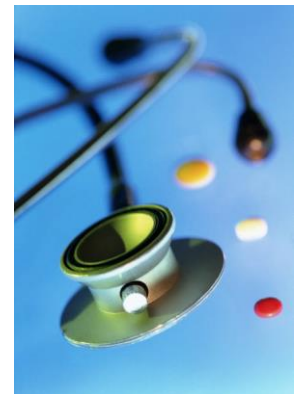
prevention and cessation, substance abuse prevention, nutritional counseling, obesity reduction and increased physical activity, provision of health education, promotion of self-direction, coordination of multiple systems, and wrap-around planning. Health Promotion activities may be provided by nurses, social workers, Peer Support Specialists, or Family Support Specialists.

Comprehensive Transitional Care from inpatient to other settings, including appropriate follow-up describes the process of engaging members and/or caretakers as an alternative to hospitalization or ER use, along with participation in hospital discharge processes and follow-up appointments post discharge, crisis planning, monitoring and intervention, medication reconciliation and identifying and linking to home and community-based services or long-term care options as appropriate. Transitional Care may be provided by nurses, social workers, peer support specialists, or family support specialists.



Individual and Family Support is available to support the member and their family to access self-help resources and peer or family support, including advocacy, social network development, medication and treatment management and adherence, and identification and linkage to community resources and supportive services. Nurses, social workers, peer

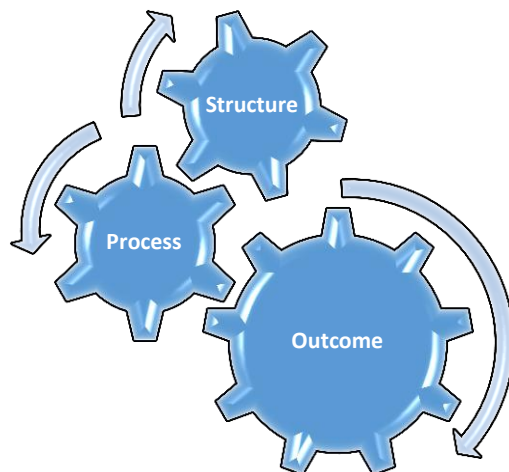
support specialists and family support specialists provide this support with a goal of reducing barriers to the member's success.



Referral to community and social support services connects members to primary care, specialists, wellness programs, support groups, school groups, substance abuse treatment, housing, transportation, social programming, faith-based organizations, employment, education, and volunteer opportunities. Referrals are made by nurses, social workers, Peer Support Specialists and Family Support Specialists.

Methods

This review of Iowa's Health Homes system was conducted based on a Donabedian model of quality assessment^{1,2}. Donabedian models assess quality by studying the interaction between three categories: structure, process and outcomes. This review sought to understand the Health Home system structure by reviewing provider documentation such as organizational charts and staff training certificates. Processes were examined by reviewing member file documentation of how services were delivered to Health Home members. Outcomes were measured through value analytics which sought to find evidence that the Iowa Health Home system is improving health and reducing costs by providing better care coordination to members. As a first step, the SPAs and Iowa's Administrative Code and Rules were reviewed to identify all requirements contained therein.



File reviews were completed between April and August of 2018. Files were reviewed first to determine compliance with State Plan Amendment criteria and Administrative Rules related to Health Home service delivery to individual members. The second phase of review was to review provider files to determine overall compliance with the provider requirements outlined in the SPAs and Administrative Rule.

File reviews were conducted by a team of reviewers with experience conducting reviews and technical assistance for Iowa Medicaid programs. The work of the reviewers was guided by the requirements outlined in the SPAs and IAC and Rules (see Appendix for tools used by file reviewers). Reviewers noted the presence or absence of items meeting the criteria in the course of their review.

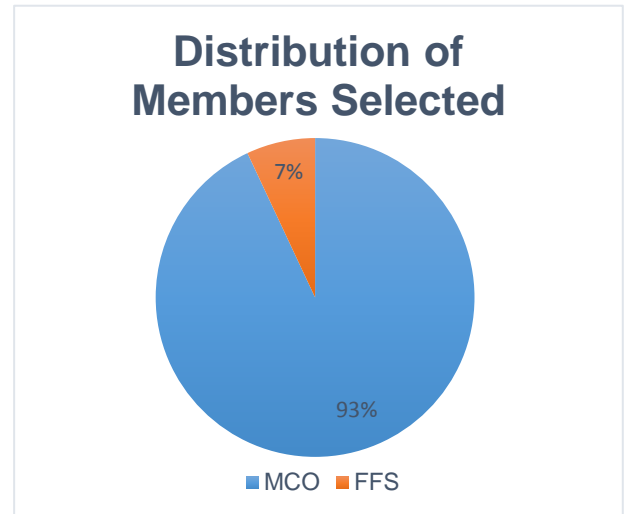
Reviewers had direct contact with Health Home providers to request additional information for review (see Appendix for communication sent to providers to request files for review). Technical assistance was offered and available throughout the process.

Stratified random sampling is a method of sampling a whole population group that involves the division of the population into smaller groups, known as strata. In stratified random sampling, or stratification, the strata are formed based on members' shared attributes.

Communication throughout the review process was ongoing and providers who had not submitted information were sent a final notice letter in August 2018 alerting them to information that had not been submitted. However, it is important to note in any file review process, the results are dependent upon the completeness of the information submitted.

The selection for members included in the file

review process utilized a stratified random sample of Health Home members (n=175). In initial sample, three members were identified who had not received Health Home services. Those three records were removed for a final sample of 172 member files reviewed. The sample was stratified to represent the population of individuals accessing Health Home services across the Health Home tiers. The reviewed sample is not considered to be statistically significant and the review work is not considered to be an audit of Health Home files. Instead, file review findings are presented here as guidance for further efforts. In the file review process, Health Homes were asked to submit documented notes and payment history from April 1, 2017 through March 31, 2018 for the identified sample members.



The member file review included the examination of the tier, the type of contact, and the average length of time spent during the contact. In addition, eligibility and billing records were reviewed to determine if the documented service provision supported the receipt of PMPM payment.

The provider files examined for this review utilized the same stratified random sample selected for the member file review. This sample represented a total of forty-three (43) Chronic Condition and Integrated Health Home provider entities throughout the State.

As with the member file reviews, provider files were examined based on the requirements outlined in the SPAs and IAC. The provider file review included confirming signed Health Home agreements, documentation of standards met, documentation of appropriate licensure, certifications and training and documentation of practice standards such as member opt-in, enhanced access, and provision of whole person care.

Value Analytics - General Methods

Analyses based on total costs were carried out to evaluate the efficacy of Integrated Health Home and Chronic Condition Health Home programs on total expenditures incurred over time. Three years of Medicaid administrative claims and member eligibility and demographic data were used in these analyses. The sources of the data used in these analyses included the following claims and eligibility/demographics datasets:

- Institutional claims (Header and Detail datasets)
- Professional claims (Header and Detail datasets)
- Magellan (Institutional and Other datasets)
- Pharmacy
- Member Eligibility and Demographics

The Medicaid claims and eligibility and demographics data analyzed spanned 3 calendar years from January 1, 2015 through December 31, 2017. From a programmatic and historical perspective, this 3-year measurement time window included periods in which Magellan, Fee for Service (FFS), and MCO were components of the organization, delivery, and financing system for the Integrated Health Home and Chronic Condition Health Home programs.

Magellan												Magellan End >>> >>> FFS Span >>> MCO / FFS																							
2015												2016												2017											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

Separate analyses were conducted for each of six distinct treatment subpopulations that align with the established Health Home tiers system. These correspond to the organization, financing, and delivery of healthcare services for members in each of these subpopulations within the Integrated Health Home and Chronic Condition Health Home programs. The six major treatment subpopulations defined for the purposes of these analyses are as follows:

- Integrated Health Home, Intensive Care Management (IHH-ICM) – Tiers 7 and 8
- Integrated Health Home, Non-Intensive Care Management (IHH – NICM) – Tiers 5 and 6
- Chronic Condition Health Home (CCHH) Tier 1
- Chronic Condition Health Home (CCHH) Tier 2
- Chronic Condition Health Home (CCHH) Tier 3
- Chronic Condition Health Home (CCHH) Tier 4

The general analytical approach for each of the six major analyses utilized a non-randomized control-group, multiple pre-test/post-test, quasi-experimental design appropriate to the observational (non-randomized) context of these analyses^{3,4}. This design used two groups (cohorts): a Treatment group (cohort) receiving an Integrated Health Home or Chronic Condition Health Home service and a Control group (cohort) that did not receive a Health Home service. The design also used two time periods: a “Baseline” (Pre-) period spanning 15-months (January 1, 2015 through March 31, 2016), which corresponds to the pre-MCO time period within the Medicaid program; and a 21-month “Post” period (April 1, 2016 through December 31, 2017), which corresponds to the MCO/FFS time period in which MCOs were the predominant delivery system for Medicaid beneficiaries.

The analyses utilized a longitudinal approach in which each Medicaid members’ total costs were measured in each month within the 3-year measurement time frame. For each Medicaid member, a sum of the total allowed costs expended within a calendar month was computed. Allowed costs include medical, professional, dental, and pharmaceutical. This total cost of care based on Medicaid claims paid per member per month was the unit of analysis used in all of the comparisons performed. Each member

could have up to 36 monthly data points representing their total cost of care in that month for use within the analyses.

Statistical methods utilized a longitudinal “adjusted change score” analytical approach^{5,6}. For this approach, each member’s total costs were measured in each month resulting in a total cost per member per month for all Medicaid services. Using this total cost per member per month, each member’s “average” cost (or baseline) was calculated from the 15-month pre period. Again using total costs, each member’s change in monthly cost was calculated for each month in the 21-month post period. This was done by subtracting the member’s average monthly cost in the pre-period (baseline) from the member’s monthly cost in each month of the post period. This means that if the resulting number in any given month is negative, the monthly cost was less than the member’s average cost during the baseline period. If the resulting number is positive, the monthly cost was greater than it was in the baseline period. By using this method of calculating a change score, this analysis presents key information regarding the generation of cost savings or cost increases throughout the post period.

Repeated measures multivariate generalized linear regression model analyses were used to assess the differences in the change in total costs between treatment and control cohorts. These analyses determine if any differences between the total change in costs of the treatment and control groups are statistically significant. In addition, these models were used to examine the trend in the change in total costs for each cohort over the course of the post period. The dependent variable used in these models was the Medicaid member’s change in total Medicaid monthly cost. Correlated measurements of the dependent variable total Medicaid monthly costs for each member over time were accounted for in the statistical approach by using generalized estimating equations (GEE). The independent variables of interest were the interaction between the treatment with month (time), used to estimate the difference in the trend of change in total monthly costs between treatment and control cohorts over time, and the main effect of treatment used to estimate the overall difference in change in total Medicaid costs between the two cohorts on average across the 21-month post period.

Each model was adjusted using a common set of factors to control for their mediating effect on total Medicaid costs. Common fixed effects used to adjust the models included member’s age at baseline, gender, and average baseline total Medicaid monthly cost. Various time-varying effects were used in the models to control for mediating effects on costs over time. Common time-varying effects used in all models included month (time), an indicator of member’s enrollment in long-term services and supports (LTSS), county of residence, and a set of indicator variables for select acute/severe conditions. The acute/severe condition indicator variables included maternal/OB, external cause of injury, renal dialysis, hospice, neonatal/intensive/coronary care units (NICU/ICU/CCU), organ acquisition, and a severity indicator variable. The severity indicator variable included septicemia, shock, peritonitis/intestinal abscess, pulmonary embolism (PE)/deep vein thrombosis (DVT), gastrointestinal hemorrhage, epilepsy/convulsions, coma/stupor/brain damage, respiratory failure and cardiac arrest/ventricular fibrillation. The severity indicator variable was developed to mirror a severity indicator variable

used within risk adjustment models for the individual and small group markets under the Affordable Care Act (ACA) ⁷. A select set of chronic condition-related variables were included as time-varying covariates for adjustment purposes in the models assessing the IHH-ICM and IHH programs (Reference Appendix Table: Chronic Conditions - Used in Risk Adjustment or as Cohort Selection Criteria). Most of the chronic condition variables in this set have been identified, defined, and used in health and health services research efforts by multiple prominent U.S. organizations including the Department of Health and Human Services (HHS), Centers for Disease Control and Prevention (CDC), and the Agency of Healthcare Research and Quality (AHRQ) ⁸⁻¹². A select set of chronic conditions were also used help identify a comparable set of Medicaid members that could serve as an appropriate comparison control cohort within each of the four Chronic Condition Health Home analyses (Appendix Table: Chronic Conditions - Used in Risk Adjustment or as Cohort Selection Criteria). The age, gender, average baseline total monthly Medicaid cost, LTSS, county of residence, and main effects of group (cohort) and time variables were retained in all models. Final reduced models excluded all other variables that were not significant at the $p > 0.10$ level.

Several exclusion criteria were applied in all analyses. Medicaid members < 2 years old and members with Medicare dual eligibility in any month were excluded from analyses. In addition, any Medicaid member without full 15-month Medicaid eligibility in the baseline period and at least 15 months eligibility in the post period were excluded from analyses.

Separate sensitivity analyses were conducted for each of the six major analyses in which any member experiencing any acute/severe condition/event (maternal/OB, external cause of injury, renal dialysis, hospice, NICU/ICU/CCU, organ acquisition) or severity indicator condition/event (septicemia, shock, peritonitis/intestinal abscess, PE/DVT, gastrointestinal hemorrhage, epilepsy/convulsions, coma/stupor/brain damage, respiratory failure and cardiac arrest/ventricular fibrillation) in any of 36 months within the measurement time frame were excluded from the analysis to eliminate any potential effect of these high cost conditions and events on the results of the analysis.

In addition, based on Stakeholder Workgroup feedback, additional sensitivity analyses were conducted for the IHH-ICM analyses by removing any costs related to receipt of any Habilitation or Child Mental Health waiver services.

Iowa Medicaid Stakeholder Workgroup Meetings

Input from Stakeholders was fundamental to this review of Iowa's Health Homes systems. Two Stakeholder's Workgroup meetings were held in October 2018 (see Appendix for Agenda and participant information). Members for the Stakeholder's Workgroup were chosen from both Integrated Health Home and Chronic Condition Health Home providers. These providers from across the State represented pediatric and adult Health Home models. Care was taken to ensure that each of Iowa's MHDS regions, representing both rural and urban populations and organizations large and small were included. Representatives from Iowa's MCOs were invited to attend as well

as key representatives and subject matter experts from provider organizations. These public meetings encouraged feedback from Stakeholders to help inform next steps for Iowa's Health Homes systems. The stakeholders participated in reviewing both current SPAs as well as the information compiled for this report. After reviewing the information, stakeholders were invited to share their feedback to help guide next steps. Further feedback was received from Stakeholders after sharing a draft version of this report for their review. Stakeholder feedback was utilized in processing the next steps and recommendations included in this report but, no vote was taken by Stakeholders during this process.

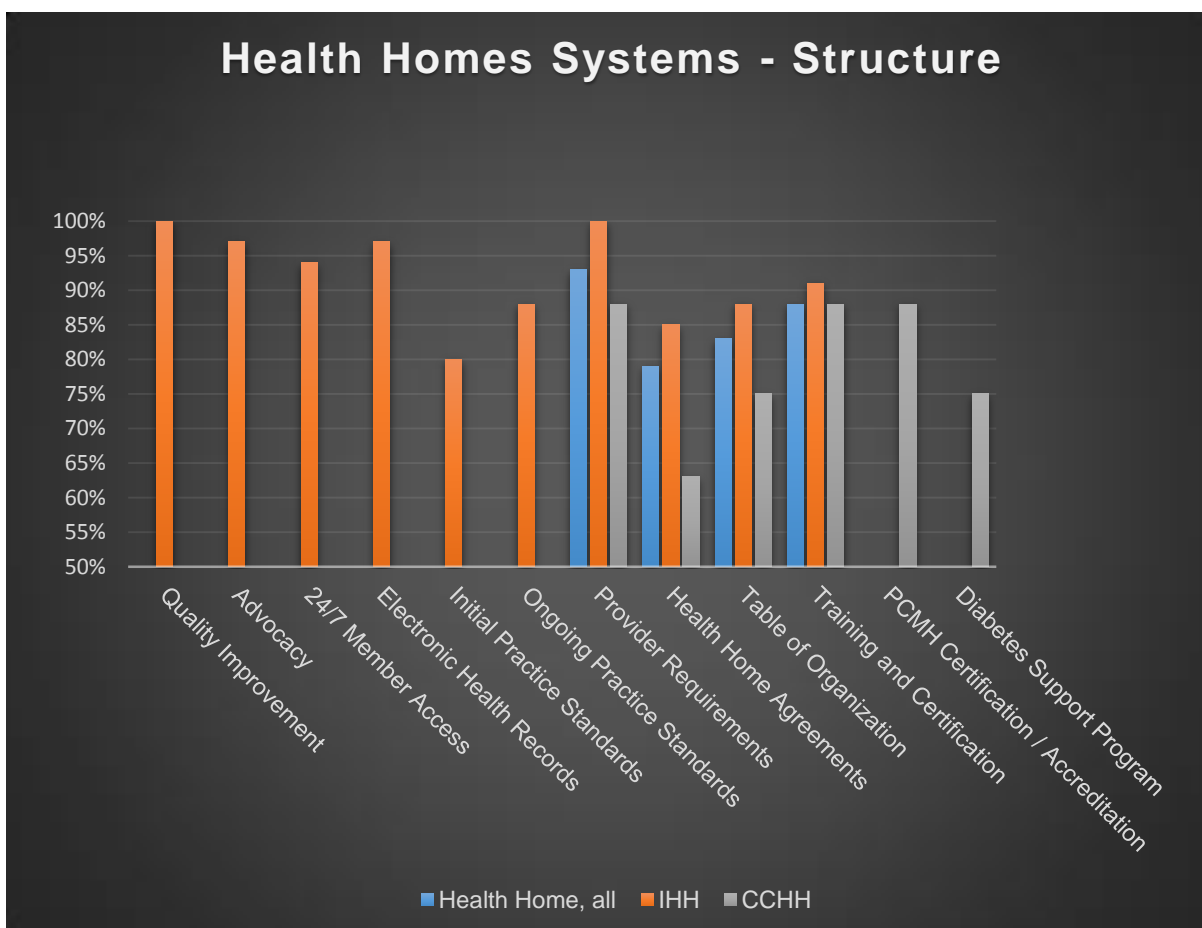
Summary of Findings

Iowa's Health Homes system is constructed to reach the 'Triple aim' goals of achieving better population health at a lower cost by improving care coordination to individual members with high needs. Full realization of these goals is dependent upon provider buy in and pursuit of transformational practice change that impacts the provider structures and the process of service delivery. This review examined files and data to assess the structures, processes and outcomes of Iowa's Current Health Homes systems.

Structure

Guidance for the structure of Iowa's Health Homes program is contained in the SPAs and within multiple sections of IAC. Files from forty-three (43) Health Home agencies across the State were reviewed for compliance with those requirements.

Many of the items reviewed were found to have consistent compliance. 93% of Health Home provider files reviewed contained evidence that basic provider requirements were met. In the Integrated Health Home files reviews, 100% of files contained evidence of ongoing Quality Improvement activities, 97% of files illustrated provider-level advocacy efforts, Electronic Health Records were in use or were planned to be utilized within 97% of Integrated Health Home agencies and 94% of Integrated Health Homes submitted



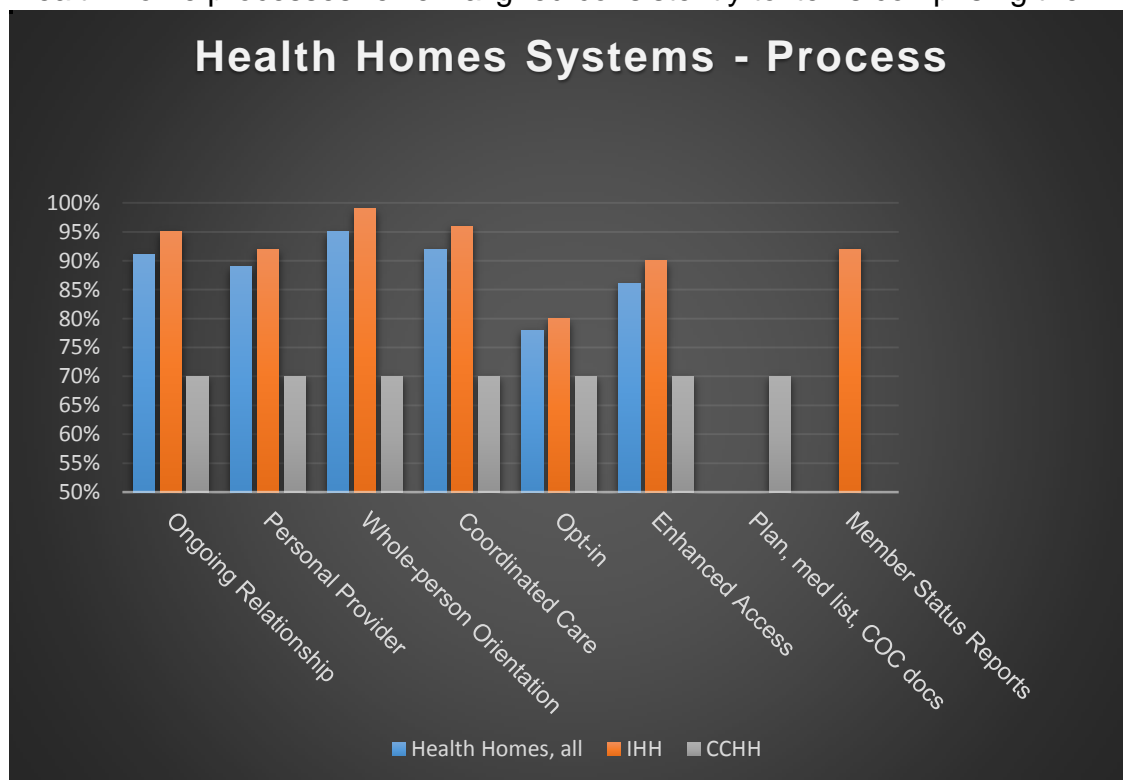
evidence of a plan for 24/7 member access.

Health Home agreements were not present in 21% of provider files reviewed. 17% of providers did not submit evidence of a Table of Organization. 12% of provider files reviewed had incomplete information for training certification for their physicians, nurses, health coaches, care coordinators, family support specialists or peer support specialists. There was inconsistency in documentation submitted by Integrated Health Home programs around evidence that initial provider standards were met (missing in 20% of provider files reviewed) and that ongoing provider standards were met (missing in 12% of provider files reviewed). For Chronic Condition Health Homes, 12% of providers submitted either no documentation or incomplete documentation related to PCMH certification and accreditation of the program. Evidence of implementation of a formal diabetes support program was missing in 25% of Chronic Condition Health Home provider files reviewed. A larger sample of provider files will need to be reviewed to determine if the findings of these file reviews are consistent across Health Home provider files.

Process

Documentation of the processes Health Homes deploy in delivering the six core services to members was examined in 172 individual member files. The review attempted to capture multiple facets of Health Home service delivery from documentation of the member's initial opt-in to receive Health Home services through how the Health Homes deliver on the six core services outlined in the SPAs. This information was used to examine if service delivery matched with PMPM claims paid.

The Health Home processes review aligned consistently to items comprising the

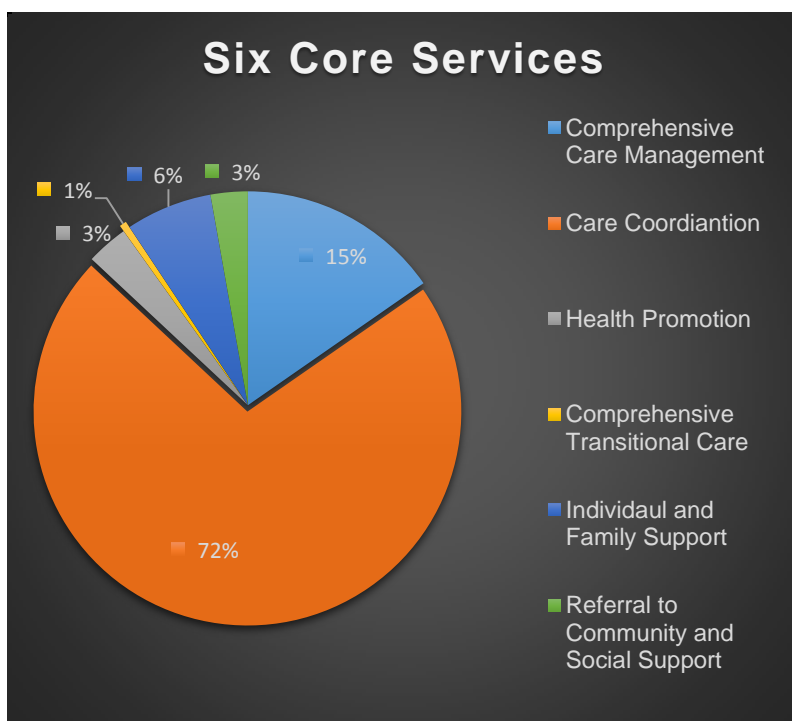


philosophy of Health Home coordinated care delivery. 91% of member files reviewed evidenced an ongoing relationship between the member and their provider. 89% of member files reviewed showed the member was connected to a personal provider within their assigned Health Home. 95% of member files reviewed illustrated a whole-person orientation and 92% of member files reviewed demonstrated coordinated care delivered to the member through their connection to the Health Home.

Evidence of opt-in was not present in 22% of member files reviewed. 14% of member files reviewed did not contain information about provision of Enhanced Access to Health Home members. While 92% of Integrated Health Home member files reviewed contained member status reports, only 70% of Chronic Condition Health Home member files reviewed contained evidence of the member's plan and medication list and the continuity of care documentation.

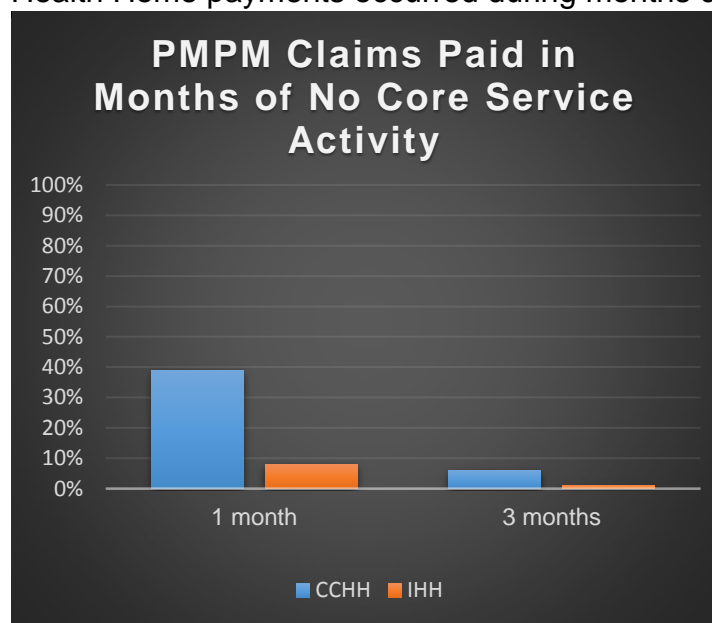
Service delivery to Health Home members was examined by noting the frequency of delivery of each of the six core services in the member files reviewed. It was noted that 71% of documentation reviewed was for Care Coordination services. Care Coordination activities include direct provider-to-member activity conducted by either nurses or social workers. Health Home Stakeholders provided feedback that the core services often intersect in member service provision and that team members may accomplish many of the six core service activities under the umbrella of Care Coordination. The core service activity noted with the second highest frequency was Comprehensive Care Management, documented in about 15% of the contacts reviewed. Comprehensive Care Management is an activity to monitor or intervene in a member's progress toward treatment goals completed by a clinician – either a Nurse Care Manager or a physician. All other activities that align to the six core services comprised the remaining 14% of activity noted in the files reviewed. Individual and Family supports were noted in less than 7% of contacts, Health Promotion activity and Referral to Community and Social Supports were each noted in about 3% of the activities documented and Comprehensive Transitional Care was noted in less than 1% of the documentation of activity that was reviewed.

Health Home providers are reimbursed for the delivery of coordinated care and monitoring of care gaps for enrolled Health Home members via the PMPM payment. The payment is predicated on the member's



eligibility and assignment to the appropriate tier. By accepting the PMPM payment, providers attest to verifying the member's ongoing eligibility and that they, as a provider, continue to deliver the Health Home service to the member while meeting the structural requirements outlined in the SPAs and IAC. In reviewing member files, it was noted that 88% of files reviewed contained information affirming the member's eligibility. In 91% of files reviewed, reviewers noted the presence of documentation, such as the PTAT or diagnostic information, supporting the member's assignment to the appropriate tier.

PMPM paid claim records were matched against the provider's documentation of core service delivery to assess the overall consistency of core service activity in alignment with PMPM payment. In this review, it was noted that nearly 39% of Chronic Condition Health Home payments occurred during months containing no documented core service



delivery. Integrated Health Home payments made in months of no core service delivery comprised approximately 8% of PMPM claims reviewed. These claims were further analyzed and it was noted that, in Chronic Condition Health Homes, 6% of the total claims reviewed in the sample were billed after three months of no core service activity documented in the member's file. For Integrated Health Homes, about 1% of the total claims reviewed in the sample were billed after three months of no delivery of a core service to the member. These findings represent an area needing

further analysis to determine how total spending in the Health Home model is supporting member needs during months when no core service delivery documentation is present. A larger sample of member files and PMPM claims would need to be analyzed to understand if the patterns noted in this file review were evident across the membership of Health Home enrollees.

Outcomes

Outcomes generated by the Health Homes systems were analyzed using multiple statistical analyses to investigate the change in member's total costs of Medicaid services when comparing their baseline average cost during a 15-month pre-period and each month's average total costs in a 21 month post period. This "change score" analysis allows for comparison between the treatment groups of members enrolled in a Health Home and similar members who were not enrolled in a Health Home as well as investigation and comparison of trends between the cohorts throughout the post period. These analyses were divided into 6 groups: Integrated Health Home – Intensive Care Management, Integrated Health Home – Non-Intensive Care Management, Chronic Condition Health Home Tier 1, Chronic Condition Health Home Tier 2, Chronic Condition Health Home Tier 3 and Chronic Condition Health Home Tier 4. Detailed

statistical analysis information is contained in the Appendix of this report. Key outcomes are summarized in the following paragraphs.

Integrated Health Home – Intensive Care Management (Tiers 7 and 8)

Most of the modeled results suggest Integrated Health Home – Intensive Care Management members are statistically more costly on average over the course of the 21-month post period than similar members who are not enrolled in a Health Home. However, when members with select acute or severe conditions and events are excluded from the analysis and when Habilitation Services and Children’s Mental Health waiver costs are excluded from the total monthly Medicaid costs paid results show no statistical significant difference in average total costs paid by Medicaid between the treatment and control cohorts. Most of the trending of results in this analysis suggests that the total cost of care for members in the treatment cohort is declining at a faster rate than non-treated members. However, the noted decline is not present when the sensitivity analysis as described above is conducted.

Integrated Health Home – Non-Intensive Care Management (Tiers 5 and 6)

Results suggest that members engaged with an Integrated Health Home for Non-Intensive Care Management (treated) members are, on average, statistically more costly than control members over the course of the 21-month post period. Trends suggest that treated members’ costs are declining at a faster rate than non-treated members.

Chronic Condition Health Home – Tier 1 (1-3 Chronic Conditions)

There are mixed results for the difference in the trends of average monthly total costs between Chronic Condition Health Home Tier 1 (treated) members and similar non-Health Home (control) members. The analysis for “all members” suggests there was no difference in trends between the two cohorts. However, the analysis for the “acute/severe members excluded” suggests the treated members costs are declining at a faster rate than the control members.

There are mixed results for the difference in the average change in total Medicaid costs between treated members and control members over the course of the 21-month post period. The analysis for “all members” suggests there was no difference in the average change in total Medicaid costs between the two cohorts. However, the analysis for the “acute/severe members excluded” suggests treated members are statistically more costly than control members on average over the course of the 21-month post period.

A limitation of all Chronic Condition Health Home – Tier 1 regression-based results is that the analyses were not adjusted for differences in the prevalence of salient chronic conditions at baseline between treatment and control cohorts. Chronic conditions could

not be included in regression-based analyses of cost as this would have the potential effect of obscuring the effect of treatment for those with chronic conditions on costs. The “CCHH Tier 1 “All Member” Analysis – Baseline Differences” and “CCHH Tier 1 “Acute/Severe Members Excluded” – Analysis – Baseline Differences” tables shown in the Appendix show the extent of differences (in terms of % standardized difference) in chronic conditions between the treatment and control cohorts. A standardized difference with an absolute value of > 10% is used by health services researchers as a threshold to identify significant differences in prevalence rates for risk factors between cohorts.

For example; in the “All Member” analysis the treatment cohort had a higher mean prevalence of essential hypertension, hyperlipidemia, diabetes (with and without complications), coronary atherosclerosis/heart disease, coronary heart failure, asthma, and obesity. Conversely; the control cohort had higher mean prevalence of female cancers, mood/depressive disorder, back problems, and autism than the treatment cohort at baseline.

In the “Acute/Severe Members Excluded” analysis the treatment cohort had a higher mean prevalence of coronary atherosclerosis/heart disease and asthma than the control cohort at baseline. Conversely; the control cohort had higher mean prevalence of female cancers, dementia, mood/depressive disorder, alcohol and substance abuse disorders, hepatitis, back problems, autism, obesity, and hypothyroidism than the treatment cohort at baseline.

Chronic Condition Health Home – Tier 2 (4-6 Chronic Conditions)

Results suggest that there was no difference in the trends of change in total Medicaid costs between Chronic Condition Health Home – Tier 2 (treated) members and non-Health Home (control) members.

There are mixed results for the difference in the average change in total Medicaid costs between treated members and control members over the course of the 21-month post period. The analysis for “all members” suggests the treated members were statistically less costly than control members on average over the course of the 21-month post period. However, the “acute/severe members excluded” analysis suggests there was no difference in average change in total Medicaid costs between the two cohorts.

As with the Chronic Condition Health Home – Tier 1 results, these results were limited due to not applying adjustments based on differences in prevalence of chronic conditions at baseline. The “CCHH Tier 2 “All Member” Analysis – Baseline Differences” and “CCHH Tier 2 “Acute/Severe Members Excluded” – Analysis – Baseline Differences” tables shown in the Appendix show the extent of differences (in terms of % standardized difference) in chronic conditions between the treatment and control cohorts. A standardized difference with an absolute value of > 10% is used by health services researchers as a threshold to identify statistically significant differences in prevalence rates for risk factors between cohorts.

For example; the treatment cohort had a higher mean prevalence of congestive heart failure, COPD, asthma, Parkinson's disease, and autism than the control cohort at baseline. Conversely, the control cohort had higher mean prevalence of essential hypertension, hyperlipidemia, mood/depressive disorder, alcohol and substance abuse disorder, cardiac dysrhythmia, osteoarthritis, back problems, hypothyroidism, and liver/cirrhosis diseases (non-viral) than the treatment cohort at baseline.

In the "Acute/Severe Members Excluded" analysis the treatment cohort had a higher mean prevalence of schizophrenia, congestive heart failure, osteoporosis, asthma, Parkinson's disease, and autism than the control cohort at baseline. Conversely; the control cohort had higher mean prevalence of hypertension (both essential and secondary), hyperlipidemia, diabetes (both with and without complications), skin/bone cancer, mood/depressive disorder, alcohol and substance abuse disorder, heart attack, cardiac dysrhythmia, stroke-related conditions (acute cerebrovascular disease and other cerebrovascular), rheumatoid arthritis, osteoarthritis, renal nephritis/sclerosis, chronic kidney disease, multiple sclerosis, hepatitis, back problems, hypothyroidism, and liver/cirrhosis (non-viral) than the treatment cohort at baseline.

Chronic Condition Health Home – Tier 3 (7-9 Chronic Conditions)

Results suggest that there was no difference in the trends of change in total Medicaid costs between Chronic Condition Health Home – Tier 3 (treated) members and non-Health Home (control) members.

And, results suggest there was no difference in the average change in total Medicaid costs between the two cohorts.

Chronic Condition Health Home – Tier 3 results were limited in the same fashion as Tiers 1 and 2 due to not applying adjustments based on differences in prevalence of chronic conditions at baseline. The "CCHH Tier 3 "All Member" Analysis – Baseline Differences" and "CCHH Tier 3 "Acute/Severe Members Excluded" – Analysis – Baseline Differences" tables shown in the Appendix show the extent of differences (in terms of % standardized difference) in chronic conditions between the treatment and control cohorts. A standardized difference with an absolute value of > 10% is used by health services researchers as a threshold to identify statistically significant differences in prevalence rates for risk factors between cohorts.

For example; the treatment cohort had a higher mean prevalence of renal nephritis/sclerosis and Parkinson's disease than the control cohort at baseline. Conversely, the control cohort had higher mean prevalence of hypertension (both essential and secondary), hyperlipidemia, diabetes (both with and without complications), male cancers, leukemia/myeloma cancers, dementia, mood/depressive disorder, alcohol and substance abuse disorder, coronary atherosclerosis/heart disease, cardiac dysrhythmia, stroke-related conditions (acute cerebrovascular disease, occlusion/stenosis of precerebral arteries, and other cerebrovascular), osteoarthritis,

COPD, back problems, hypothyroidism, liver/cirrhosis (non-viral), and other severe/acute conditions than the treatment cohort at baseline.

In the “Acute/Severe Members Excluded” analysis the treatment cohort had a higher mean prevalence of multiple sclerosis and autism than the control cohort at baseline. Conversely; the control cohort had higher mean prevalence of essential hypertension, hyperlipidemia, diabetes (both with and without complications), male cancers, thyroid cancer, lymphoma cancer, leukemia/myeloma cancers, other/secondary cancers, mood/depressive disorder, schizophrenia, alcohol and substance abuse disorder, heart attack, coronary atherosclerosis/heart disease, conduction disorders, cardiac dysrhythmia, congestive heart failure, stroke-related conditions (occlusion/stenosis of precerebral arteries, other cerebrovascular disease, transient cerebral ischemia), osteoarthritis, osteoporosis, COPD, asthma, renal nephritis/sclerosis, HIV, hepatitis, back problems, obesity, hypothyroidism, and liver/cirrhosis (non-viral) than the treatment cohort at baseline.

Chronic Condition Health Home – Tier 4 (10 plus Chronic Conditions)

Results suggest that there was no difference in the trends of change in total Medicaid costs between Chronic Condition Health Home – Tier 4 (treated) members and non-Health Home (control) members.

And, results suggest there was no difference in the average change in total Medicaid costs between the two cohorts.

As with all of the Chronic Condition Health Home analyses, these results were limited due to not applying adjustments based on differences in prevalence of chronic conditions at baseline. These chronic condition adjustments could not be included in regression-based analyses of cost as this would have the potential effect of obscuring the effect of treatment for those with chronic conditions on costs. The “CCHH Tier 4 “All Member” Analysis – Baseline Differences” and “CCHH Tier 4 “Acute/Severe Members Excluded” – Analysis – Baseline Differences” tables shown in the Appendix show the extent of differences (in terms of % standardized difference) in chronic conditions between the treatment and control cohorts. A standardized difference with an absolute value of > 10% is used by health services researchers as a threshold to identify statistically significant differences in prevalence rates for risk factors between cohorts.

For example; the treatment cohort had a higher mean prevalence of leukemia/myeloma than the control cohort at baseline. Conversely, the control cohort had higher mean prevalence of a large majority of the other chronic conditions than the treatment cohort at baseline.

In the “Acute/Severe Members Excluded” analysis the treatment cohort had a higher mean prevalence of complicated/secondary hypertension, urinary system-related cancer, leukemia/myeloma cancers, schizophrenia, heart attack, asthma, and renal

nephritis/sclerosis than the control cohort at baseline. Conversely; the control cohort had higher mean prevalence of essential hypertension, hyperlipidemia, diabetes (both with and without complications), lower gastrointestinal cancers, skin/bone cancers, breast cancer, female cancers, brain/nervous system cancers, thyroid cancer, other/secondary cancers, mood/depressive disorder, alcohol and substance abuse disorders, coronary atherosclerosis/heart disease, conduction disorders, cardiac dysrhythmia, congestive heart failure, stroke-related conditions (acute cerebrovascular disease, occlusion/stenosis of precerebral arteries, other cerebrovascular disease, transient cerebral ischemia), rheumatoid arthritis, osteoarthritis, osteoporosis, COPD, multiple sclerosis, hepatitis, back problems, obesity, hypothyroidism, and liver/cirrhosis (non-viral) than the treatment cohort at baseline.

Iowa's Health Homes – Future Vision

It is the goal of the Department of Human Services and Iowa Medicaid Enterprise to utilize these findings to inform a future vision built around a clear, consistent delivery model that builds upon the current systemic strengths to address challenges.

Going forward, the model to provide technical assistance and review to Health Home providers on an ongoing basis will be further developed and enhanced. During the Health Homes Stakeholder's workgroup meetings, multiple stakeholders cited technical support and assistance to providers as an area of need. One important goal will be to leverage provider alignment in order to address systemic gaps. This will occur as a cooperative effort between the MCOs and Iowa Medicaid, leaning heavily upon the MCOs' contractual requirements as the identified lead agencies to support the Health Home programs. Key systemic components to be addressed include: increasing provider awareness and understanding of the requirements contained within the SPAs and applicable IAC and Rules, reducing provider inconsistencies in documentation, and, when necessary, sanctioning non-compliant providers. Ensuring ongoing SPA compliance and improved systemic fidelity are fundamental to the future of Health Homes in Iowa.



In addition to addressing technical assistance and compliance, the cooperative efforts of the MCOs with the oversight of Iowa Medicaid will include the development of comprehensive Health Home provider manuals to enable providers to better understand and implement the rules and requirements of the Health Home program. Provider manuals serve an important function to communicate operational and administrative guidance to providers.



In the Department's review and in the Stakeholder's Workgroup discussions of the current SPAs, multiple items were cited as possible areas for improvement. Further work is recommended to align data gathered to the outcomes required by the SPAs. Changes recommended for consideration include a transition toward a billing model that pays Health Home providers based upon the activity of the six core services and billed via separate CPT codes assigned to each core service. This type of shift in the payment model will allow a high level of transparency in the Health Homes systems and will enable data to be gathered via the claims submitted for utilization in meeting State reporting requirements and further study on systemic improvement.

Member eligibility requirements within the SPAs are recommended for further clarification. Consideration of diagnostic criteria is an opportunity for expansion to

additional targeted groups, such as individuals experiencing chronic health conditions due to trauma diagnoses or other targeted high need diagnosis populations that may not meet the definitions of current Health Home enrollees in Iowa.

Work to identify the costs and benefits of combining the two SPAs into a single SPA is recommended as well. The current SPAs contain areas of overlap. Combining the SPAs would effectively break down a silo between physical and behavioral health care and result in a reduction in administrative burden.

Based on the feedback from the Stakeholder's Workgroup, significant further analysis of the Health Homes systems is recommended. Current analysis information reflects the comparison of total costs of all Medicaid services for similar members who are either receiving or have never received the services of a Health Home. To better match members, it is recommended that further analysis utilize propensity scoring and/or matching techniques to better identify "matched" members and ensure that the populations being compared are as similar as possible. In addition, further analysis is needed to identify the cost drivers in the Health Homes population members in comparison to control groups. Utilizing claims data, it is recommended that emergency room, inpatient hospitalization and hospital readmissions are analyzed to identify if there are differences between the members who are receiving Health Home support and members who are not. Possible areas of further analysis include looking into differences between rural and urban areas and investigating differences by provider.

Further opportunities identified by the Stakeholder's Workgroup include a continued focus on social determinants of health including focused, incentivized outcomes measures. Continued integration of Behavioral Health and acute care was also cited as an opportunity for systemic improvements. It is recommended that discussions in these areas continue and that the MCOs give these areas consideration in the development of future Health Home provider incentives and performance measures.

Conclusion

Based on guidance from the legislature, the Department of Human Services, with input from Stakeholders, completed this evaluation of Iowa's Health Homes systems. Findings point to a system that aligns to the ethos of the Health Home model but, needs additional support and oversight to ensure compliance and systemic fidelity.

Analysis of the SPAs

Work to review the current SPAs noted that the two current SPAs have important areas of intersection. Work to investigate opportunities to align the two SPAs is recommended. Opportunities identified for further investigation include combining the SPAs into one, better defining eligible member populations, and consideration of changes to the payment model utilize CPT codes aligned to the six core services. Changes would ease administrative burden and improve the ability of the Department to gather necessary data.

Summary of Structures, Processes and Outcomes

General observations regarding structural compliance in Iowa's Health Homes systems included noted variation in compliance. During the file review process, some providers were noted to be unfamiliar with aspects of the SPA requirements. Stakeholders reported that the ongoing technical assistance and review activities designated by contract to the MCOs as lead entities have been minimal to date. The MCOs are noted to be the lead entity for most Health Home enrollees and the SPAs lay out specific requirements for the MCOs to fulfill that role. The Iowa Medicaid Enterprise is charged with oversight of the performance of the lead entities fulfillment of their role.

In general, the processes in the Health Home system represent a consistent alignment to the philosophy of the Health Home model. However, trends raise concern that the current PMPM payment process is disconnected from the delivery of the Health Home core services. This lack of connection puts Iowa's Health Home system at risk of falling out of compliance with the SPAs. In addition, the delivery of the six core services appears to have a heavy focus on the Care Coordination activities. Little activity was noted in the activities that are more unique to the Health Home model such as Health Promotion, Referral to Community and Social Supports, or Comprehensive Transitional Care. This is a key finding as these activities have the potential to drive the prevention efforts that will ultimately lead to better health and long-term cost savings. This represents an opportunity for increased engagement with providers related to a more robust implementation of the core services. Last, it is noted that providers inconsistently document on requirements such as opt-in. An empowered lead entity actively aligning providers in compliance could reduce this condition and improve the efficiencies intended by the system.

Statistical analysis of outcomes based on total Medicaid cost reduction in the Health Home systems showed that Integrated Health Home members have statistically higher monthly cost when compared to similar members who are not enrolled in an Integrated Health Home. Costs for the Integrated Health Home members do appear to be trending down at a faster rate than members in the control groups. Additional analysis is needed

to understand the drivers of the higher costs for Integrated Health Home members as well as the relationship between the Integrated Health Home services and the cost trends that were noted.

Analysis of the total costs of Medicaid services for members in Chronic Condition Health Home showed some mixed results. In general, results showed that members enrolled in Chronic Condition Health Homes did not show significantly different costs or trends when compared to control groups of similar non-Health Home enrolled members.

Next Steps

Further analyses for the Health Home programs include the following:

- More robust analyses that account for measured differences in baseline risk profiles between treatment and control cohorts.
- Sub-analyses that measure health service utilization patterns within and between cohorts (e.g. – emergency room use, inpatient hospitalizations, hospital readmissions, primary care provider engagement).
- Separate sub-analyses of pediatric and adult populations.
- Analyses that estimate differences between rural and urban characteristics.

In addition to completing additional analyses, Iowa Medicaid will continue to partner with Iowa's Health Home providers and the MCO lead entities to build robust structures and processes for Health Homes. Technical assistance and communication between the MCOs and the Health Home providers must be improved. Lead entities empowered with an oversight role for Health Homes will be expected to monitor for programs that are not performing to standards and act to prevent underperforming programs from putting the Health Home system at further risk.

Iowa Medicaid will continue to work with CMS to ensure that the goals of the Health Home program are being met on a consistent basis. Foremost amongst these is the State's attestation that the Health Home programs provide an enhanced care coordination to members which results in better health outcomes and ultimately lowers total cost of care. Feedback received will be taken into further consideration as Iowa Medicaid continuously plans support of members who experience chronic physical and / or behavioral health conditions.

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Integrated Health Home SPA Checklist

Agency Information

Name						
Address						
State Provider #						
Agency Requirements	Summary				Yes/No Comments/Notes	
	Yes	%	No	%		
HH Agreement						
Initial IHH Standards						
Table Organization						
Adult IHH - Nurse care manager, care coordinator and trained peer support specialist						
Child IHH - Nurse care manager, Care coordinator and family support specialist						
Advocate in the community						
Board and committee minutes, Quality Improvement plan						
Ongoing IHH Standards						
Provider Requirements						
Provider Requirements						
State's minimum access requirements 24 hours per day, 7 days per week						
Electronic Health Records						

Member Information					Mr Name	
					Mr SID	
Member Specific Requirements	Summary				Yes/No	Comments/Notes
	Yes	%	No	%		
Opt-In						
Ongoing relationship with provider						
Personal Provider						
Whole person orientation						
Coordinated Care						
Enhanced Access						
Status Reports regarding member information						
Appropriate Tier assignment						
PMPM payment requirements met:						
Comprehensive Case Management						
Care Coordination, Nurse CC						
Health Promotion, Designated practitioner and Health Coach						
Comprehensive Transitional Care, Nurse CC						
Individual and Family supports, Health Coach						
Referral to community and social supports, Nurse CC						
CMH/ HAB						
At a minimum, the care coordinator shall contact ICM members, who are those on the 1915(i) Habilitation Program and 1915(c) Children's Mental Health Waiver at least monthly either in person or by telephone with an interval of at least fourteen (14) calendar days between contacts. ICM members shall be visited in their residence or location of service face-to-face by their care coordinator as frequently as necessary but at least quarterly with an interval of at least sixty (60) days between visits for quarterly requirements. The location of service cannot be the IHH offices.						
Eligibility						

Chronic Condition Health Home SPA Checklist					
Agency Information					
Name					
Address					
State Provider #					
Agency Requirements	Summary	Yes	No	Yes / No	Comments/Notes
Certification/Accreditation	Total				
Comments/Notes	%				
HH Agreement	Total				
Comments/Notes	%				
Provider Requirements	Total				
Comments/Notes	%				
Physician, Nurse, Health Coach	Total				
Comments/Notes	%				
Implement or support a formal diabetes disease management program	Total				
Comments/Notes	%				
Table of Organization	Total				
Comments/Notes	%				

Member Information				Mbr Name	
Summary				Mbr SID	
Member Specific Requirements		Yes	No	Yes / No	Comments/Notes
Criteria for eligibility	Total				
Comments/Notes	%				
Opt-In	Total				
Comments/Notes	%				
Ongoing relationship with provider	Total				
Comments/Notes	%				
Personal Provider	Total				
Comments/Notes	%				
Plan and medication list	Total				
Comments/Notes	%				
Continuity of Care Doc	Total				
Comments/Notes	%				
Whole person orientation	Total				
Comments/Notes	%				
Coordinated Care	Total				
Comments/Notes	%				
Enhanced Access	Total				
Comments/Notes	%				
Appropriate Tier assignment	Total				
Comments/Notes	%				
PMPM payment requirements met:					
Comprehensive Case Management	Total				
Comments/Notes	%				
Care Coordination, Nurse CC	Total				
Comments/Notes	%				
Health Promotion, Designated practitioner and Health Coach	Total				
Comments/Notes	%				
Comprehensive Transitional Care, Nurse CC	Total				
Comments/Notes	%				
Individual and Family supports, Health Coach	Total				
Comments/Notes	%				
Referral to community and social supports, Nurse CC	Total				
Comments/Notes	%				



Iowa Department of Human Services

Kim Reynolds
Governor

Adam Gregg
Lt. Governor

Jerry R. Foxhoven
Director

March 28, 2018

NAME
PROVIDER
ADDRESS
CITY, ST, 00000

Dear Mr./Ms. NAME:

The Iowa Medicaid Enterprise (IME) Health Home program conducts reviews with certain Health Home providers. The review will include viewing member contact notes to validate that care management monitoring for treatment gaps defined as Health Home Services in the state plan have been documented. PROVIDER is scheduled for a desk review.

The six services are as follows:

1. Comprehensive Care Management
2. Care Coordination
3. Comprehensive Transitional Care
4. Health Promotion
5. Individual and Family Support
6. Referral to Community and Social Services

In preparation for the review, the following must be submitted to HCBS:

1. The specific member records that have been selected are as follows:

MEMBER
MEMBER

- a. All contact notes from 4/1/17 – current date
- b. If a member has been enrolled less than a year, submit all contact for the duration the member has been enrolled.
- c. If a member has disenrolled, but was enrolled with your health home within the last year, submit all contact for the duration the member was enrolled.
- d. All billing from 4/1/17 – current date

Please submit the required information within 7 calendar days of the date this letter to the attention of Shannon Miller via Iowa Medicaid Portal Access (IMPA). Please select HCBS QA Oversight as the document type when uploading. For instructions on uploading the requested documentation please see IL 1734-MCFFS-D. Please submit



Iowa Department of Human Services

Kim Reynolds
Governor

Adam Gregg
Lt. Governor

Jerry R. Foxhoven
Director

records for only one member at a time, and do not email records. A cover sheet will be enclosed that is to be used with each member file submission.

Another option for submitting member records is to make arrangements with your specialist, Shannon Miller, to access Electronic Health Records for the short period of time necessary to complete the review, if this is available at your facility. This favorable approach improves efficiency for both your staff and IME staff.

Upon completion of the Health Home review, an aggregated response with the results will be provided.

If you have any questions in regards to this letter you may contact me by phone at 515-256-4831 or by email at smiller1@dhs.state.ia.us.

Sincerely,

Shannon Miller, HCBS Operations Manager
Iowa Medicaid Enterprise, HCBS Quality Oversight



Iowa Department of Human Services Medicaid Member Documentation Upload Cover Sheet through the Iowa Medicaid Portal Access (IMPA) System

- Please save this form as the first page for all documentation uploaded through the IMPA system.
- Do not submit this page separately.

Primary Contact:

From	Date	
Primary Contact Name	Telephone	Email

Please include the following information with this submission:

Member Last Name	Member First Name
State Identification Number (SID) or Social Security Number (if no SID)	
Date of Birth	

Program (check one box per submission):

- | | | |
|--|---|---|
| <input type="checkbox"/> AIDS/HIV Waiver | <input type="checkbox"/> Exception to Policy (ETP) | <input type="checkbox"/> Medical Claims |
| <input type="checkbox"/> Appeal | <input type="checkbox"/> Habilitation Services | <input type="checkbox"/> Nursing Facility (NF) or NF/MI |
| <input type="checkbox"/> Brain Injury Waiver | <input type="checkbox"/> Health and Disability Waiver | <input type="checkbox"/> Physical Disability Waiver |
| <input type="checkbox"/> Children's Mental Health Waiver | <input type="checkbox"/> Intermediate Care Facility for the Intellectually Disabled (ICFID) | <input type="checkbox"/> Prior Authorization (PA) |
| <input type="checkbox"/> Elderly Waiver | <input type="checkbox"/> Intellectual Disability Waiver | <input type="checkbox"/> Waiver Prior Authorization |
| <input checked="" type="checkbox"/> Other (specify): | | |

Admission review:

☐ Yes

Subsequent Stay Review (SSR) involving change in condition (describe below):

☐ Yes

Additional information:

☐ Yes

This section must be completed:

Describe rationale for submission of information (Level of Care (LOC), change in condition, new service, claim, PA, ETP, etc.):

HCBS QA Oversight

CCHH / IHH Review

Note: Please do not submit information relative to Subsequent Stay Reviews (SSRs) if they do not require review by Iowa Medicaid personnel.

CONFIDENTIALITY NOTICE: This communication, including any attachments, may contain information and is intended only for the individual or entity to which it is addressed. Any review, dissemination, or copying of this communication by anyone other than the intended recipient is strictly prohibited. If you are not the intended recipient, please contact the sender by reply email or delete and destroy all copies of the original message.

470-5403 (7/16)

Instructions for Form 470-5403

Purpose

Form 470-5403 provides a mechanism for providers to securely submit documentation to the Iowa Medicaid Enterprise (IME) for Medicaid members requiring review for services. Do not submit information relative to a subsequent stay review (SSR) if the member does not require review by the IME Medical Services Unit. Use one form for each member in which information is being submitted including if the information is for more than one program.

Source

This form is available online at <http://dhs.iowa.gov/ime/providers/forms>.

Completion

A form must be completed when:

- The Medicaid member is seeking admission to a waiver or program.
- The Medicaid member has a change in condition and a SSR has been completed.
- Additional information for a member is being submitted.

Distribution

The provider uploads the form as the first page of all documentation sent to the IME Medical Services Unit through IMPA. The IME Medical Services Unit will make a review determination upon receipt of the form.

Data

From: The person completing the form.

Date: The date the form is completed (MM/DD/YY).

Primary Contact: Name, telephone number, and email of the person who understands and can discuss the information submitted.

Member Name: The Medicaid member's last and first name as it appears on the eligibility card.

State Identification Number (SID) or Social Security Number: The member's SID as it appears on the eligibility card. If the SID is not available, enter the member's social security number.

Date of Birth: The Medicaid member's birth date (MM/DD/YY).

Program: Check one box per submission.

Admission review, SSR, and Additional information: Check the type of information submitted.

Rationale for submission of information: Describe what the rationale is (e.g., level of care (LOC), change in condition, new service, claim, prior authorization, etc.).

470-5403 (7/16)

Hello,

Thank you for your participation in the Health Home Review. At this time we are requesting additional information based on the State Plan Amendment. The below information is specific to your agency and may be submitted via IMPA with the below requested member information. Please label the documentation submitted with the area of evidence below.

- Certification/Accreditation
- HH Agreement
- Evidence of meeting provider requirements (Table of organization)
- Implementation or support of a formal diabetes disease management program
- Quality Improvement Plan

Please submit the below information via IMPA, a cover letter for each member has been included.

- Member criteria for eligibility
- Evidence of member opt-in
- Evidence of ongoing relationship with provider
- Evidence of a personal provider
- Continuity of Care Document
- Evidence of whole person orientation

Please submit the requested information within 14 days, feel free to reach out if you have questions.

CONFIDENTIALITY NOTICE: The contents of this email message and any attachments are intended solely for the addressee(s) and may contain confidential and/or privileged information and may be legally protected from disclosure. If you are not the intended recipient of this message or their agent, or if this message has been addressed to you in error, please immediately alert the sender by reply email and then delete this message and any attachments. If you are not the intended recipient, you are hereby notified that any use, dissemination, copying, or storage of this message or its attachments is strictly prohibited.

Hello,

Thank you for your participation in the Health Home Review. At this time we are requesting additional information based on the State Plan Amendment. The below information is specific to your agency and may be submitted via IMPA with the below requested member information. Please label the documentation submitted with the area of evidence below.

- Certification/Accreditation
- HH Agreement
- Evidence of meeting the Initial IHH Standards
 - Meet staffing requirements (Table of Organization)
 - Advocate in the community
 - Engaged Organizational Leadership
 - Minimum access requirement 24/7 access
 - Capacity to complete status reports
- Evidence of participation in regular ongoing IHH network meetings
- Evidence of implementation of goals and objectives for practice transformation
- Quality Improvement Plan

Please submit the below information via IMPA, a cover letter for each member has been included.

- Member criteria for eligibility
- Evidence of member opt-in
- Evidence of ongoing relationship with provider
- Evidence of a personal provider
- Evidence of whole person orientation
- Status reports

Please submit the requested information within 14 days, feel free to reach out if you have questions.

CONFIDENTIALITY NOTICE: The contents of this email message and any attachments are intended solely for the addressee(s) and may contain confidential and/or privileged information and may be legally protected from disclosure. If you are not the intended recipient of this message or their agent, or if this message has been addressed to you in error, please immediately alert the sender by reply email and then delete this message and any attachments. If you are not the intended recipient, you are hereby notified that any use, dissemination, copying, or storage of this message or its attachments is strictly prohibited.



Iowa Department of Human Services

August 14, 2018

HEALTH HOME DIRECTOR
AGENCY
ADDRESS
CITY, ST, 00000-0000
Sent via email: DIRECTOR@EMAIL.COM

Mr./Ms. DIRECTOR:

I am reaching out today to inform you that information requested from AGENCY by the Iowa Medicaid Enterprise, HCBS Quality Oversight division for inclusion in the aggregate review of the Health Home program has not been received. This information was requested via email, first on DATE and again on DATE. Follow up phone calls were placed on DATE and DATE.

This is a final notice that requested information needs to be submitted no later than 4pm on August 24, 2018. There will be no further extensions beyond this deadline.

If you have any questions regarding the submission of information, you can reach out to the reviewer you have been working with in this process or, you can follow up directly with me via email Healthhomes@dhs.state.ia.us or phone 515-974-3050.

Thank you,

Marissa Eyanson
Project Manager, Health Homes
Iowa Medicaid Enterprise

Cc:
AGENCY CEO
ADDRESS
CITY, ST 00000-0000]



Iowa Department of Human Services

September 28, 2018

Health Home Program Director
Agency
Address
City, ST 00000
Sent via email: address@email.com

Mr. / Ms. Director:

The Iowa Legislature instructed the Department of Human Services to facilitate a Stakeholder's Workgroup, in collaboration with representatives of the Managed Care Organizations and Health Home providers, to review the Health Home programs. This review will include an analysis of the State Plan Amendments applicable to Health Homes, as well as an analysis of the current Health Home system.

You have been chosen as a potential participant in the Stakeholder's Workgroup. The workgroup will build upon analysis of data to inform a vision of a clear and consistent delivery model linked to program-determined outcomes and data reporting requirements. This may include consideration of revisions to the current State Plan Amendments or changes in the administration or operation of Health Homes. In addition, the workgroup will outline a work plan for communication with all stakeholders regarding the Health Home programs.

Please reserve October 15th and October 29th 2018 from 10 a.m. until noon to attend these workgroup discussions to be held at the Hoover Building, 1305 Walnut St., Des Moines, IA in the First Floor SE Conference Rooms 1 and 2.

Please direct your response to confirm or decline attendance by October 10, 2018 to:
Healthhomes@dhs.state.ia.us

Sincerely,

Michael Randol
Medicaid Director

MR/mae

Cc:
Agency CEO
Agency
Address
City, ST 00000



Iowa Department of Human Services

Meeting Agenda			
Division:	Iowa Medicaid Enterprise		
Meeting Title:	Health Homes Stakeholders Workgroup		
Facilitator:	IME		
Location:	Hoover Building, 1 st Floor SE Conference Rooms 1 and 2		
Date:	10/15/2018	Time:	10am – 12pm
Meeting Objectives			
The primary goal of this workgroup is to review Iowa's Health Homes systems, including the State Plan Amendments, and provide input on future vision.			
Agenda Topic			
Welcome and introductions			
Message from the Director			
Health Homes Foundations			
Stakeholder review of State Plan Amendments			
Iowa's Health Home Model			
Health Homes systems review			
Stakeholder feedback			
Preview 2 nd meeting of workgroup			
Close of meeting			



Iowa Department of Human Services

Stakeholders Workgroup

Kristine Karminski, Abbe Center
Kae Smoldt, Broadlawns
Earl Kilgore, Broadlawns
Linda Duffy, Child Health Specialty Clinics
Joy Thoma, Children and Families of Iowa
Megan Nederhoff, Children's Square
Melissa Ahrens, Community Support Advocates
Kris Richey, Crossroads Behavioral Health Services
Joan McGovern, Family Resources
Sonni Vierling, Orchard Place
Lori Bush, Plains Area Mental Health
Stephanie Millard, Southern Iowa Mental Health Center
Kelly Bakewell, Tanager Place
Sarah Dixon, Iowa Primary Care Association
Jeff Jarding, Broadlawns
Sara Eide, Mercy
Anne Wright, Mercy
Aaron McHone, UnityPointHealth
Ashley Thompson, UnityPointHealth
Sabi Singh, University of Iowa Hospitals and Clinics
David Klinkenborg, Amerigroup
Sara Hackbart, Amerigroup
Michelle Gogerty, UnitedHealthCare Community Plan
Margie Brennecke, UnitedHealthCare Community Plan
Karen Walters-Crammond, Health Homes SME
Mike Randol, IME
Julie Lovelady, IME
Elizabeth Matney, IME
LeAnn Moskowitz, IME
Marissa Eyanson, IME
Rick Shults, MHDS
Theresa Armstrong, MHDS
Peg Mason, Telligen
Paula Motsinger, Telligen
Lance Roberts, Telligen



Iowa Department of Human Services

Meeting Agenda			
Division:	Iowa Medicaid Enterprise		
Meeting Title:	Health Homes Stakeholders Workgroup		
Facilitator:	IME		
Location:	Iowa Medicaid Enterprise, 100 Army Post Rd. Des Moines, IA		
Date:	10/29/2018	Time:	10am – 12pm
Meeting Objectives			
The primary goal of this workgroup is to review Iowa's Health Homes systems, including the State Plan Amendments, and provide input on future vision.			
Agenda Topic			
Welcome			
Message from the Director			
Brief Recap of First Meeting			
Health Homes Review – Value Analysis			
Stakeholder Feedback on Value Analysis			
Discussion – Future Vision and Potential Barriers			
Next Steps			
Close of Meeting			

Detailed Statistical Analysis Report

Integrated Health Home: Intensive Case Management (IHH-ICM)

“All Members” / “All Costs” Results

This analysis included all members regardless of the existence of any acute/severe condition and included all healthcare costs expended for these members. A total of 1,746 IHH-ICM treatment and 24,020 control members met the inclusion/exclusion criteria for this analysis.

The risk-adjusted results suggest that the difference in the trend of change in PER MEMBER PER MONTH costs over time was statistically significant ($p < 0.001$), with the treatment cohort's average change in PER MEMBER PER MONTH costs declining at a rate of approximately \$22 per month compared to the control cohort's decline of approximately \$4 per month. The treatment and control cohorts' model-based trends, in average change in PER MEMBER PER MONTH costs, are shown in Figure 1.

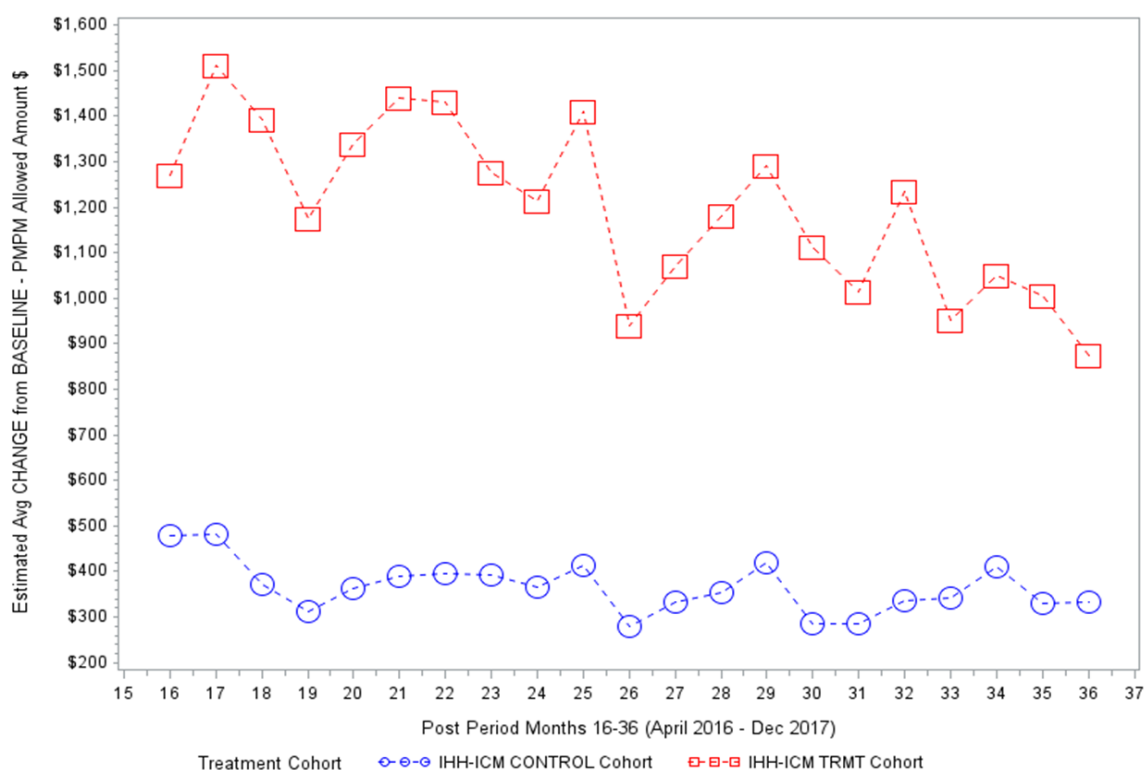


Figure 1. IHH-ICM Change in PER MEMBER PER MONTH model-based run chart

The risk-adjusted results suggest that on average, over the course of the 21-month post period, the treatment cohort's PER MEMBER PER MONTH costs increased by approximately \$1,200 compared to baseline costs with a 95% confidence interval of \$1,029 to \$1,370. In comparison, the control cohort's PER MEMBER PER MONTH costs increased by approximately \$365 compared to baseline costs with a 95% confidence interval of \$239 to \$492.

Cohort	Overall Average Change in PER MEMBER PER MONTH cost	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
Treatment	\$1,199.56	\$86.77	\$1,029.49	\$1,369.63
Control	\$365.41	\$64.42	\$239.15	\$491.67

The results suggest that the treatment cohort's overall average change in PER MEMBER PER MONTH costs in the post period was significantly higher than the control cohort's average change in PER MEMBER PER MONTH costs by approximately \$834 with a 95% confidence interval of \$723 to \$946.

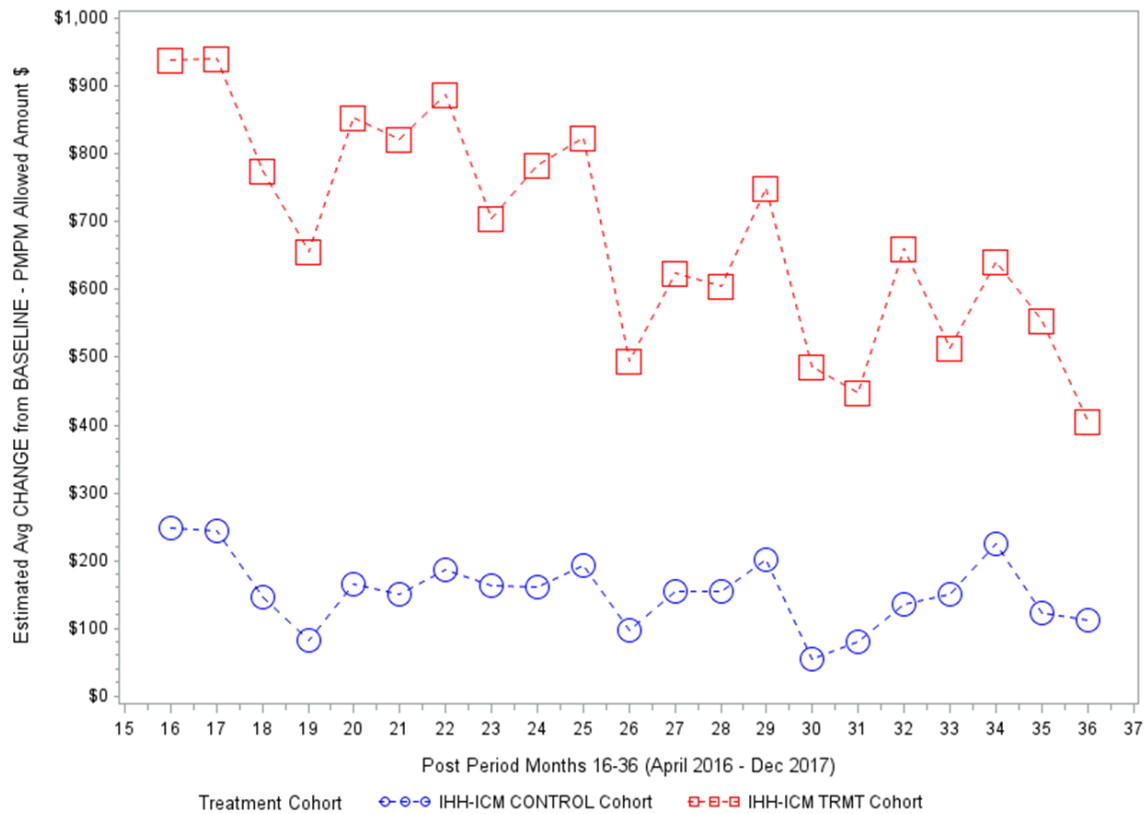
Difference in Overall Average Change in PER MEMBER PER MONTH cost (Treatment – Control)	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
\$834.15	\$56.95	\$722.53	\$945.76

“Acute/Severe Members Excluded” / “All costs” Results

This sensitivity analysis excluded all members with an occurrence of any one of the select acute/severe conditions in any month. The analysis included all healthcare costs expended for these members. A total of 684 IHH-ICM treatment and 5,167 control members met the inclusion/exclusion criteria for this analysis.

The risk-adjusted results suggest that the difference in the trend of change in PER MEMBER PER MONTH costs over time was statistically significant ($p < 0.001$), with the treatment cohort's average change in PER MEMBER PER MONTH costs declining at a rate of approximately \$21 per month compared to the control cohort's decline of approximately \$3 per month. The treatment and control cohorts' model-based trends - in average change in PER MEMBER PER MONTH costs - are shown in Figure 2 on the following page.

Figure 2. IHH-ICM “Acute/Severe Members Excluded” Change in PER MEMBER PER MONTH model-based run chart



The risk-adjusted results suggest that on average, over the course of the 21-month post period, the treatment cohort’s PER MEMBER PER MONTH costs increased by approximately \$684 compared to baseline costs with a 95% confidence interval of \$525 to \$843. In comparison, the control cohort’s PER MEMBER PER MONTH costs increased by approximately \$153 compared to baseline costs with a 95% confidence interval of \$32 to \$274.

Cohort	Overall Average Change in PER MEMBER PER MONTH cost	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
Treatment	\$684.36	\$81.08	\$525.45	\$843.27
Control	\$153.31	\$61.65	\$32.47	\$274.15

The results suggest that the treatment cohort's overall average change in PER MEMBER PER MONTH costs in the post period was significantly higher than the control cohort's average change in PER MEMBER PER MONTH costs by approximately \$531 with a 95% confidence interval of \$394 to \$669.

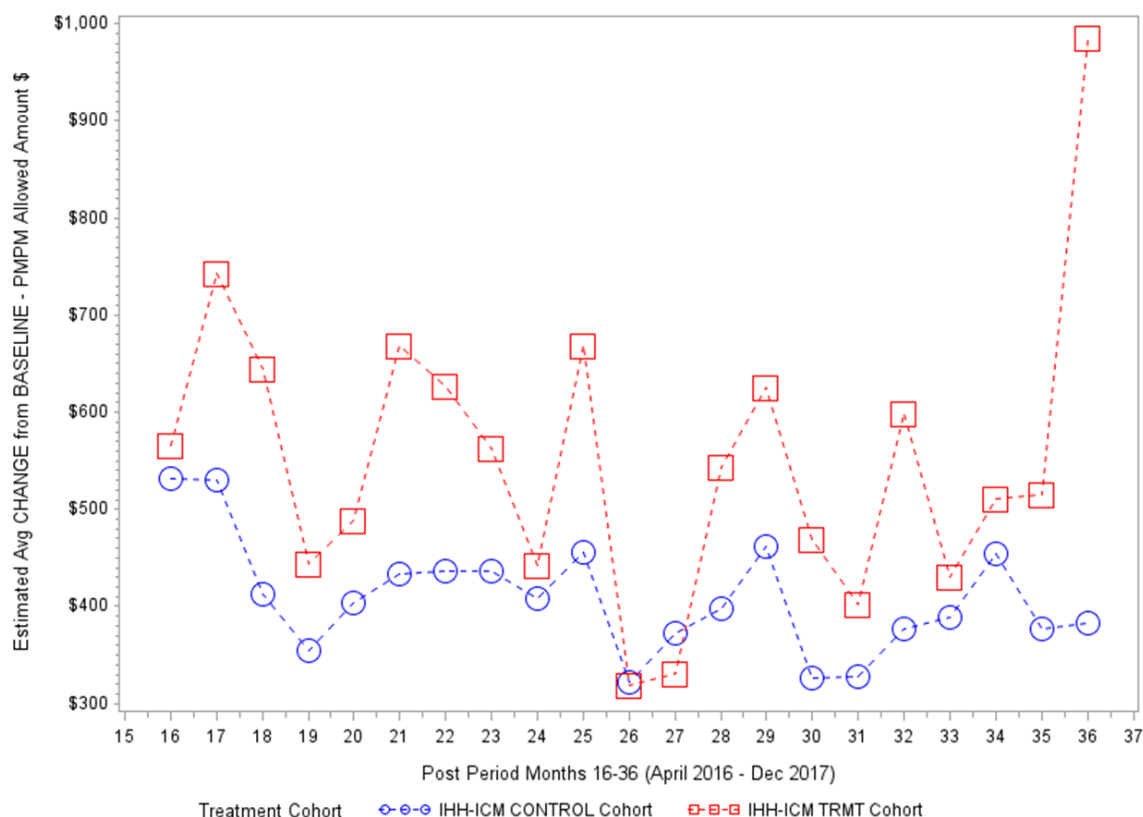
Difference in Overall Average Change in PER MEMBER PER MONTH cost (Treatment – Control)	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
\$531.05	\$70.17	\$393.52	\$668.58

“All Members” / “Habilitation / Child Mental Health Waiver Costs Excluded” Results

This analysis included all members regardless of the existence of any acute/severe condition and excluded any healthcare costs related to habilitation or child mental health waiver service utilization. Three treatment cohort member-month records were removed from the analysis as these member-months were reviewed and deemed to be high-cost leverage/outlier data points affecting Month 36. A total of 1,746 IHH-ICM treatment and 24,020 control members met the inclusion/exclusion criteria for this analysis.

The risk-adjusted results suggest that the difference in the trend of change in PER MEMBER PER MONTH costs over time was statistically significant ($p < 0.001$), with the treatment cohort's average change in PER MEMBER PER MONTH costs declining at a rate of approximately \$0.35 per month compared to the control cohort's decline of approximately \$4 per month. The treatment and control cohorts' model-based trends - in average change in PER MEMBER PER MONTH costs - are shown in Figure 3 on the following page.

Figure 3. IHH-ICM (Habilitation / Child Mental Health Waiver Costs Excluded) Change in PER MEMBER PER MONTH model-based run chart



The risk-adjusted results suggest that on average, over the course of the 21-month post period, the treatment cohort's PER MEMBER PER MONTH costs increased by approximately \$552 compared to baseline costs with a 95% confidence interval of \$432 to \$672. In comparison, the control cohort's PER MEMBER PER MONTH costs increased by approximately \$409 compared to baseline costs with a 95% confidence interval of \$285 to \$533.

Cohort	Overall Average Change in PER MEMBER PER MONTH cost	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
Treatment	\$551.81	\$61.07	\$432.11	\$671.51
Control	\$409.25	\$63.27	\$285.25	\$533.25

The results suggest that the treatment cohort's overall average change in PER MEMBER PER MONTH costs in the post period was significantly higher than the control cohort's average change in PER MEMBER PER MONTH costs by approximately \$143 with a 95% confidence interval of \$55 to \$230.

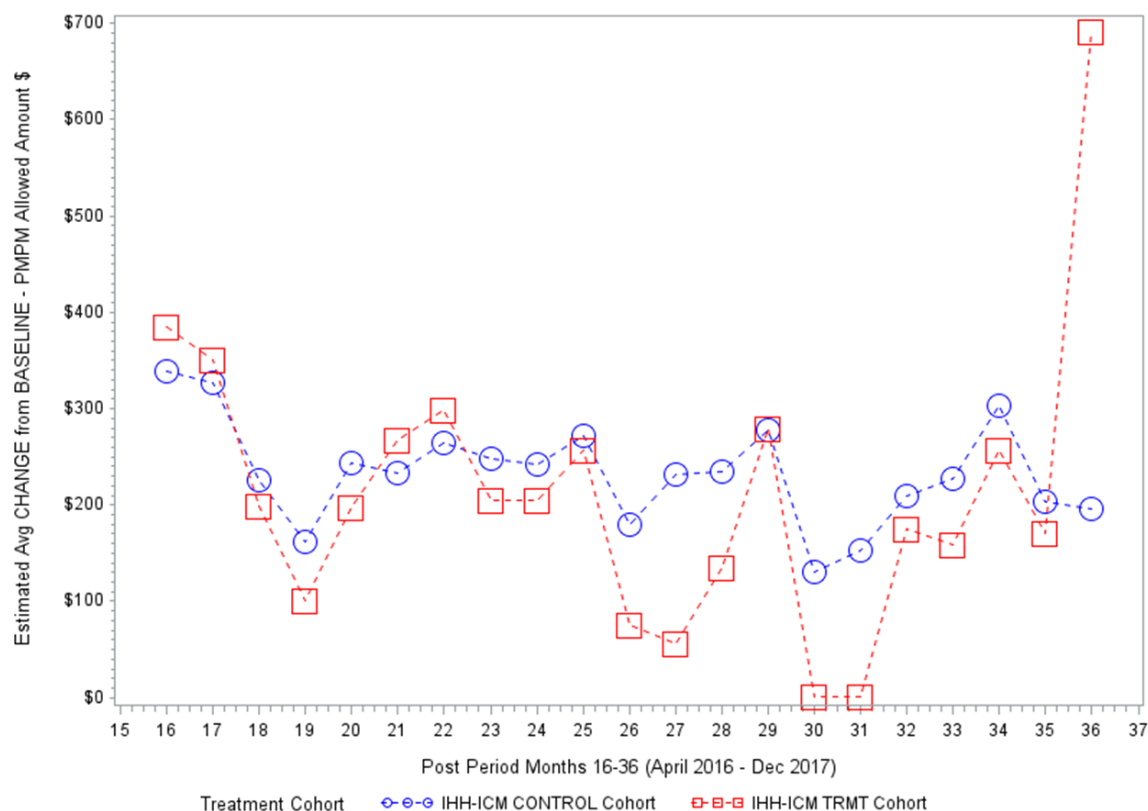
Difference in Overall Average Change in PER MEMBER PER MONTH cost (Treatment – Control)	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
\$142.57	\$44.63	\$55.09	\$230.05

“Acute/Severe Members Excluded” / “Habilitation / Child Mental Health Waiver Costs Excluded” Results

This sensitivity analysis excluded all members with an occurrence of any one of the select acute/severe conditions in any month and excluded any healthcare costs related to habilitation or child mental health waiver service utilization. Four treatment cohort member-month records were removed from the analysis as these member-months were reviewed and deemed to be high-cost leverage/outlier data points affecting Month 36. A total of 684 IHH-ICM treatment and 5,167 control members met the inclusion/exclusion criteria for this analysis.

The risk-adjusted results suggest that the difference in the trend of change in PER MEMBER PER MONTH costs over time was statistically significant ($p < 0.001$), with the treatment cohort's average change in PER MEMBER PER MONTH costs declining at a rate of approximately \$0.59 per month compared to the control cohort's decline of approximately \$3 per month. The treatment and control cohorts' model-based trends - in average change in PER MEMBER PER MONTH costs - are shown in Figure 4 on the following page.

Figure 4. IHH-ICM “Acute/Severe Members Excluded” (Habilitation / Child Mental Health Waiver Costs Excluded) Change in PER MEMBER PER MONTH model-based run chart



The risk-adjusted results suggest that on average, over the course of the 21-month post period, the treatment cohort’s PER MEMBER PER MONTH costs increased by approximately \$213 compared to baseline costs with a 95% confidence interval of \$100 to \$326. In comparison, the control cohort’s PER MEMBER PER MONTH costs increased by approximately \$231 compared to baseline costs with a 95% confidence interval of \$116 to \$351.

Cohort	Overall Average Change in PER MEMBER PER MONTH cost	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
Treatment	\$212.85	\$57.51	\$100.13	\$325.57
Control	\$233.50	\$59.81	\$116.28	\$350.72

The results suggest that the treatment cohort's overall average change in PER MEMBER PER MONTH costs in the post period was not significantly different than the control cohort's average change in PER MEMBER PER MONTH costs – the estimated difference between cohorts was approximately -\$21 with a 95% confidence interval of -\$114 to \$72.

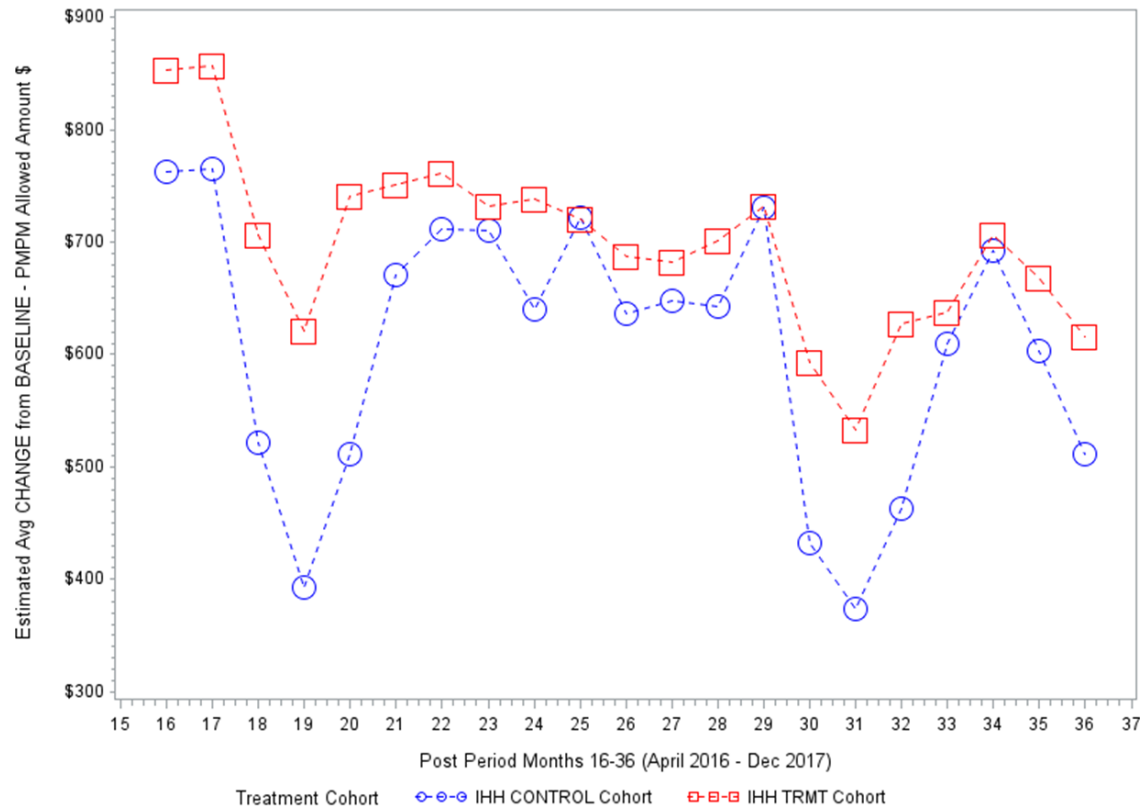
Difference in Overall Average Change in PER MEMBER PER MONTH cost (Treatment – Control)	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
-\$20.65	\$47.44	-\$113.63	\$72.32

Integrated Health Home (IHH): “All Members” Results

This analysis includes all members regardless of the existence of any acute/severe condition. A total of 10,110 IHH treatment and 12,334 control members met the inclusion/exclusion criteria for this analysis.

The risk-adjusted results suggest that the difference in the trend of change in PER MEMBER PER MONTH costs over time was statistically significant ($p < 0.001$), with the treatment cohort's average change in PER MEMBER PER MONTH costs declining at a rate of approximately \$8 per month compared to the control cohort's decline of approximately \$5 per month. The treatment and control cohorts' model-based trends - in average change in PER MEMBER PER MONTH costs - are shown in Figure 5 on the following page.

Figure 5. IHH Change in PER MEMBER PER MONTH model-based run chart



The risk-adjusted results suggest that on average, over the course of the 21-month post period, the treatment cohort's PER MEMBER PER MONTH costs increased by approximately \$698 compared to baseline costs with a 95% confidence interval of \$597 to \$799. In comparison, the control cohort's PER MEMBER PER MONTH costs increased by approximately \$607 compared to baseline costs with a 95% confidence interval of \$514 to \$700.

Cohort	Overall Average Change in PER MEMBER PER MONTH cost	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
Treatment	\$698.32	\$51.48	\$597.42	\$799.22
Control	\$607.14	\$47.38	\$514.27	\$700.01

The results suggest that the treatment cohort's overall average change in PER MEMBER PER MONTH costs in the post period was significantly higher than the control

cohort's average change in PER MEMBER PER MONTH costs by approximately \$91 with a 95% confidence interval of \$60 to \$123.

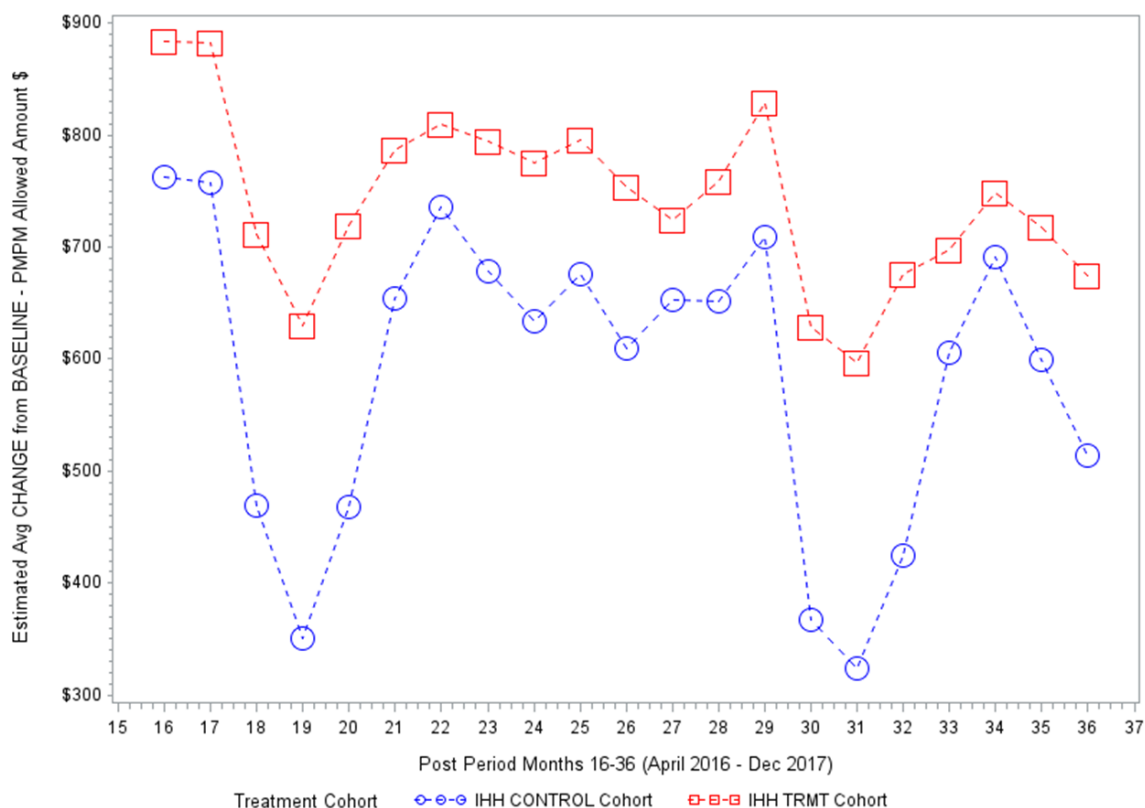
Difference in Overall Average Change in PER MEMBER PER MONTH cost (Treatment – Control)	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
\$91.18	\$16.13	\$59.56	\$122.80

“Acute/Severe Members Excluded” Results

This sensitivity analysis excluded all members with an occurrence of any one of the select acute/severe conditions in any month. A total of 4,363 IHH treatment and 6,123 control members met the inclusion/exclusion criteria for this analysis.

The risk-adjusted results suggest that the difference in the trend of change in PER MEMBER PER MONTH costs over time was statistically significant ($p < 0.001$), with the treatment cohort's average change in PER MEMBER PER MONTH costs declining at a rate of approximately \$6 per month compared to the control cohort's decline of approximately \$5 per month. The treatment and control cohorts' model-based trends - in average change in PER MEMBER PER MONTH costs - are shown in Figure 6 on the following page.

Figure 6. IHH “Acute/Severe Members Excluded” Change in PER MEMBER PER MONTH model-based run chart



The risk-adjusted results suggest that on average, over the course of the 21-month post period, the treatment cohort’s PER MEMBER PER MONTH costs increased by approximately \$743 compared to baseline costs with a 95% confidence interval of \$631 to \$855. In comparison, the control cohort’s PER MEMBER PER MONTH costs increased by approximately \$587 compared to baseline costs with a 95% confidence interval of \$493 to \$681.

Cohort	Overall Average Change in PER MEMBER PER MONTH cost	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
Treatment	\$742.73	\$57.06	\$630.89	\$854.57
Control	\$587.24	\$48.08	\$493.01	\$681.47

The results suggest that the treatment cohort's overall average change in PER MEMBER PER MONTH costs in the post period was significantly higher than the control cohort's average change in PER MEMBER PER MONTH costs by approximately \$155 with a 95% confidence interval of \$117 to \$194.

Difference in Overall Average Change in PER MEMBER PER MONTH cost (Treatment – Control)	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
\$155.48	\$19.44	\$117.37	\$193.59

Chronic Condition Health Homes

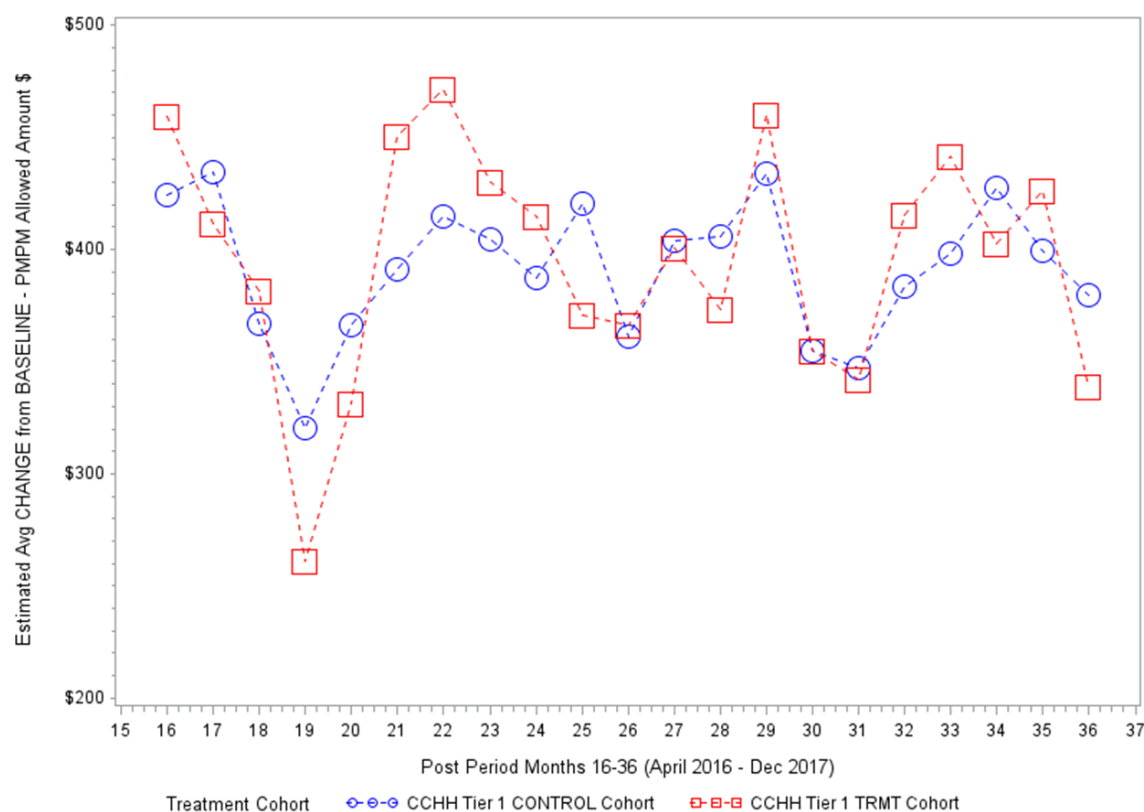
Chronic Condition Health Home – Tier 1 (CCHH – 1-3 Chronic Conditions)

“All Members” Results

This analysis includes all members regardless of the existence of any acute/severe condition. A total of 507 CCHH Tier 1 treatment and 86,223 control members met the inclusion/exclusion criteria for this analysis.

The risk-adjusted results suggest that the difference in the trend of change in PER MEMBER PER MONTH costs over time was not statistically significant ($p > 0.05$). The cohorts' trends in the change in PER MEMBER PER MONTH costs are similar as shown below in Figure 7.

Figure 7. CCHH Tier 1 Change in PER MEMBER PER MONTH model-based run chart



The risk-adjusted results suggest that on average, over the course of the 21-month post period, the treatment cohort's PER MEMBER PER MONTH costs increased by approximately \$395 compared to baseline costs with a 95% confidence interval of \$301 to \$490. In comparison, the control cohort's PER MEMBER PER MONTH costs increased by approximately \$392 compared to baseline costs with a 95% confidence interval of \$330 to \$453.

Cohort	Overall Average Change in PER MEMBER PER MONTH cost	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
Treatment	\$395.45	\$48.06	\$301.24	\$489.66
Control	\$391.61	\$31.21	\$330.44	\$452.78

The results suggest that the treatment cohort's overall average change in PER MEMBER PER MONTH costs in the post period was not significantly different than the control cohort's average change in PER MEMBER PER MONTH costs – the estimated difference between cohorts was \$4 with a 95% confidence interval of -\$65 to \$72.

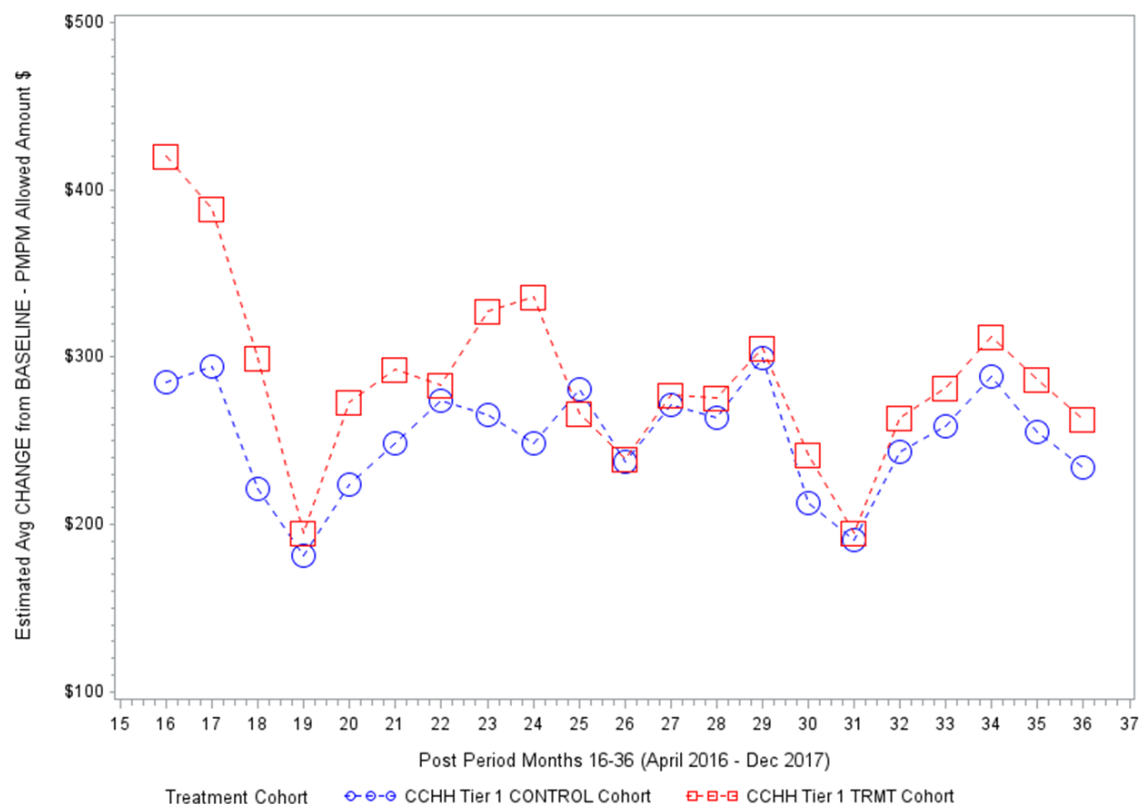
Difference in Overall Average Change in PER MEMBER PER MONTH cost (Treatment – Control)	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
\$3.84	\$34.94	-\$64.65	\$72.32

“Acute/Severe Members Excluded” Results

This sensitivity analysis excluded all members with an occurrence of any one of the select acute/severe conditions in any month. A total of 294 CCHH Tier 1 treatment and 39,003 control members met the inclusion/exclusion criteria for this analysis.

The risk-adjusted results suggest that the difference in the trend of change in PER MEMBER PER MONTH costs over time was statistically significant ($p < 0.05$), with the treatment cohort's average change in PER MEMBER PER MONTH costs declining at a rate of approximately \$3 per month compared to the control cohort's decline of approximately \$0.11 per month. The treatment and control cohorts' model-based trends - in average change in PER MEMBER PER MONTH costs - are shown in Figure 8 on the following page.

Figure 8. CCHH Tier 1 “Acute/Severe Members Excluded” Change in PER MEMBER PER MONTH model-based run chart



The risk-adjusted results suggest that on average, over the course of the 21-month post period, the treatment cohort’s PER MEMBER PER MONTH costs increased by approximately \$287 compared to baseline costs with a 95% confidence interval of \$219 to \$355. In comparison, the control cohort’s PER MEMBER PER MONTH costs increased by approximately \$251 compared to baseline costs with a 95% confidence interval of \$193 to \$310.

Cohort	Overall Average Change in PER MEMBER PER MONTH cost	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
Treatment	\$286.86	\$34.65	\$218.96	\$354.76
Control	\$251.44	\$29.72	\$193.18	\$309.70

The results suggest that the treatment cohort's overall average change in PER MEMBER PER MONTH costs in the post period was significantly higher than the control cohort's average change in PER MEMBER PER MONTH costs by approximately \$35 with a 95% confidence interval of \$5 to \$66.

Difference in Overall Average Change in PER MEMBER PER MONTH cost (Treatment – Control)	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
\$35.42	\$15.59	\$4.86	\$65.97

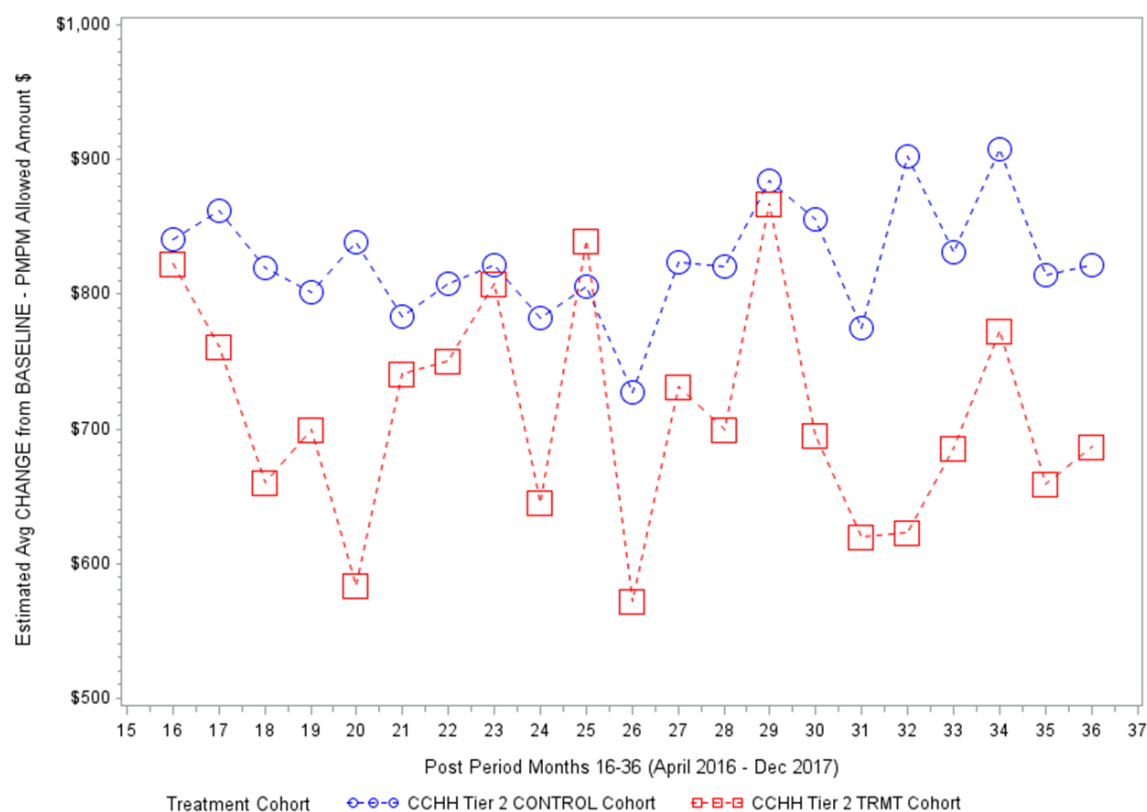
Chronic Condition Health Home – Tier 2 (CCHH – 4-6 Chronic Conditions)

“All Members” Results

This analysis includes all members regardless of the existence of any acute/severe condition. A total of 433 CCHH Tier 2 treatment and 16,654 control members met the inclusion/exclusion criteria for this analysis.

The risk-adjusted results suggest that the difference in the trend of change in PER MEMBER PER MONTH costs over time was not statistically significant ($p > 0.05$). The cohorts' trends in the change in PER MEMBER PER MONTH costs are similar as shown on the following page in Figure 9.

Figure 9. CCHH Tier 2 Change in PER MEMBER PER MONTH model-based run chart



The risk-adjusted results suggest that on average, over the course of the 21-month post period, the treatment cohort's PER MEMBER PER MONTH costs increased by approximately \$711 compared to baseline costs with a 95% confidence interval of \$479 to \$943. In comparison, the control cohort's PER MEMBER PER MONTH costs increased by approximately \$825 compared to baseline costs with a 95% confidence interval of \$601 to \$1,049.

Cohort	Overall Average Change in PER MEMBER PER MONTH cost	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
Treatment	\$711.00	\$118.46	\$478.82	\$943.18
Control	\$825.01	\$114.04	\$601.49	\$1,048.53

The results suggest that treatment cohort's overall average change in PER MEMBER PER MONTH costs in the post period was significantly less than the control cohort's

average change in PER MEMBER PER MONTH costs by approximately -\$114 with a 95% confidence interval of -\$11 to -\$217.

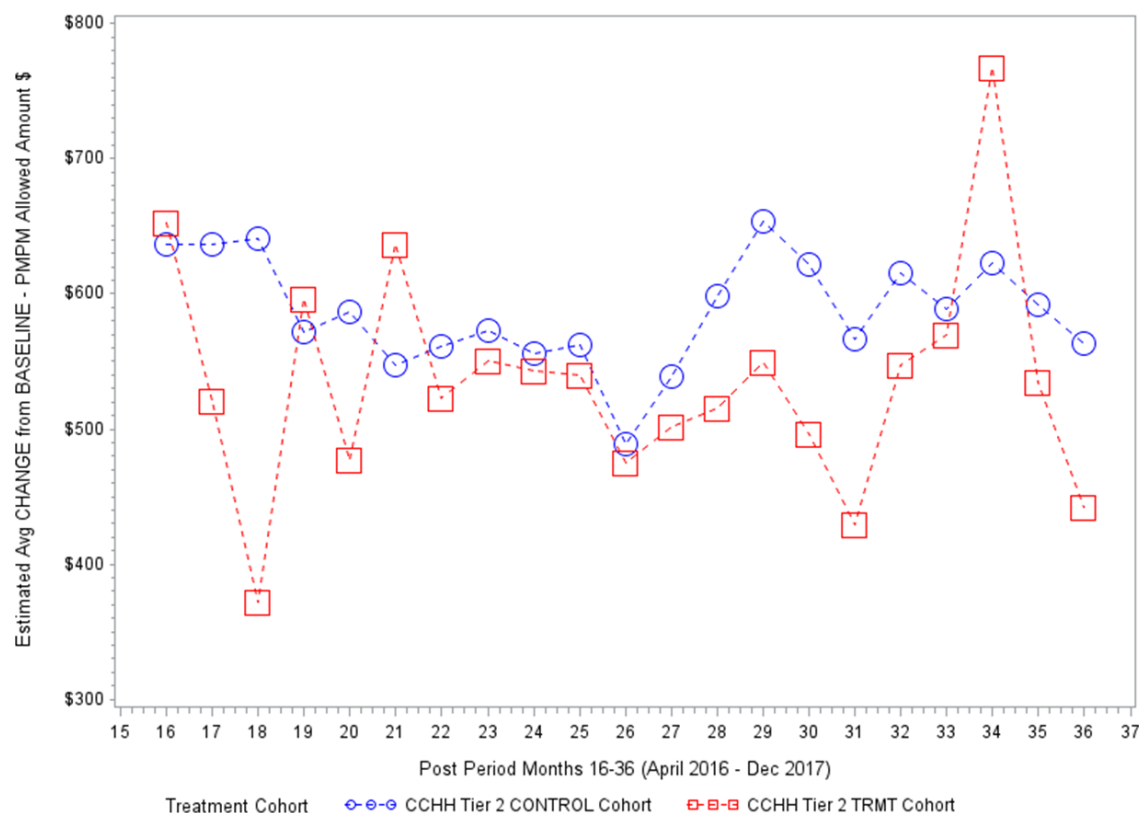
Difference in Overall Average Change in PER MEMBER PER MONTH cost (Treatment – Control)	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
- \$114.01	\$52.37	-\$216.64	-\$11.37

“Acute/Severe Members Excluded” Results

This sensitivity analysis excluded all members with an occurrence of any one of the select acute/severe conditions in any month. A total of 157 CCHH Tier 2 treatment and 5,505 control members met the inclusion/exclusion criteria for this analysis.

The risk-adjusted results suggest that the difference in the trend of change in PER MEMBER PER MONTH costs over time was not statistically significant ($p > 0.05$). The cohorts' trends in the change in PER MEMBER PER MONTH costs are similar as shown in Figure 10 on the following page.

Figure 10. CCHH Tier 2 “Acute/Severe Members Excluded” Change in PER MEMBER PER MONTH model based run chart



The risk-adjusted results suggest that on average, over the course of the 21-month post period, the treatment cohort’s PER MEMBER PER MONTH costs increased by approximately \$547 compared to baseline costs with a 95% confidence interval of \$351 to \$743. In comparison, the control cohort’s PER MEMBER PER MONTH costs increased by approximately \$588 compared to baseline costs with a 95% confidence interval of \$404 to \$772.

Cohort	Overall Average Change in PER MEMBER PER MONTH cost	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
Treatment	\$547.27	\$100.10	\$351.07	\$743.47
Control	\$587.72	\$93.85	\$403.78	\$771.66

The results suggest that the treatment cohort's overall average change in PER MEMBER PER MONTH costs in the post period was not significantly different than the control cohort's average change in PER MEMBER PER MONTH costs – the estimated difference between cohorts was -\$40 with a 95% confidence interval of -\$136 to \$56.

Difference in Overall Average Change in PER MEMBER PER MONTH cost (Treatment – Control)	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
- \$40.45	\$48.98	-\$136.44	\$55.54

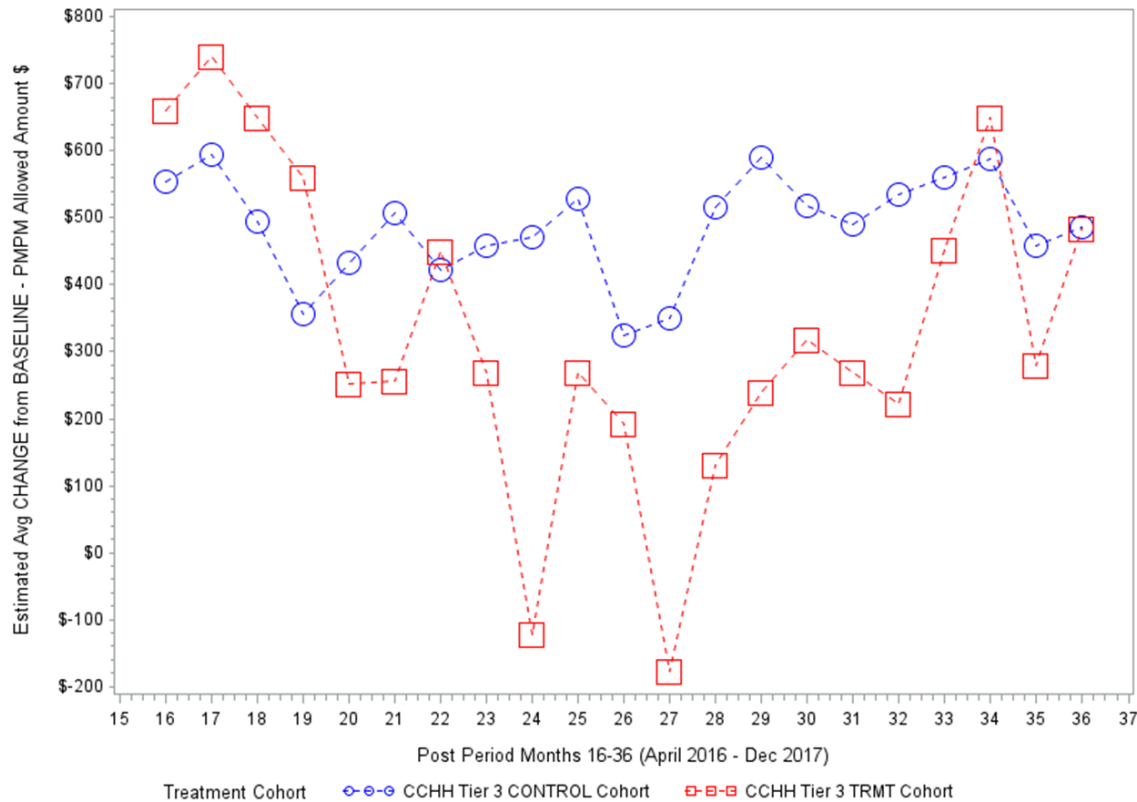
Chronic Condition Health Home – Tier 3 (CCHH – 7-9 Chronic Conditions)

“All Members” Results

This analysis includes all members regardless of the existence of any acute/severe condition. One treatment cohort member was removed from the analysis as this member was reviewed and deemed to be a high-cost leverage/outlier data point affecting Month 25. After removal of one treatment cohort member, a total of 169 CCHH Tier 3 treatment and 3,685 control members met the inclusion/exclusion criteria for this analysis.

The risk-adjusted results suggest that the difference in the trend of change in PER MEMBER PER MONTH costs over time was not statistically significant ($p > 0.05$). The cohorts' trends in the change in PER MEMBER PER MONTH costs are similar as shown in Figure 11 on the following page.

Figure 11. CCHH Tier 3 Change in PER MEMBER PER MONTH model-based run chart



The risk-adjusted results suggest that on average, over the course of the 21-month post period, the treatment cohort's PER MEMBER PER MONTH costs increased by approximately \$333 compared to baseline costs with a 95% confidence interval of -\$54 to \$719. In comparison, the control cohort's PER MEMBER PER MONTH costs increased by approximately \$485 compared to baseline costs with a 95% confidence interval of \$223 to \$747.

Cohort	Overall Average Change in PER MEMBER PER MONTH cost	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
Treatment	\$332.73	\$197.24	-\$53.86	\$719.32
Control	\$485.38	\$133.64	\$223.45	\$747.31

The results suggest that the treatment cohort's overall average change in PER MEMBER PER MONTH cost in the post period was not significantly different than the

control cohort's average change in PER MEMBER PER MONTH cost – the estimated difference between cohorts was -\$153 with a 95% confidence interval of -\$507 to \$201.

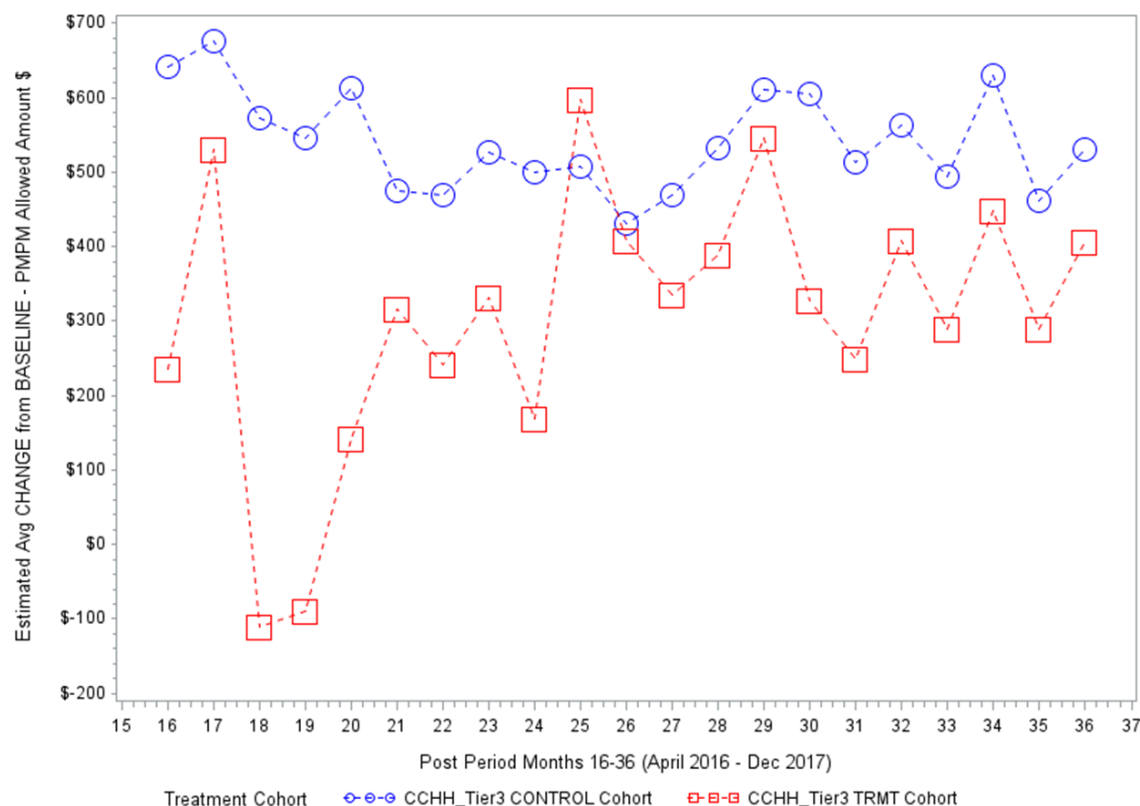
Difference in Overall Average Change in PER MEMBER PER MONTH cost (Treatment – Control)	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
- \$152.64	\$180.67	-\$506.75	\$201.47

“Acute/Severe Members Excluded” Results

This sensitivity analysis excluded all members with an occurrence of any one of the select acute/severe conditions in any month. One treatment cohort member was removed from the analysis as this member was reviewed and deemed to be a high-cost leverage/outlier data point affecting Month 25. After removal of one treatment cohort member, a total of 40 CCHH Tier 3 treatment and 791 control members met the inclusion/exclusion criteria for this analysis.

The risk-adjusted results suggest that the difference in the trend of change in PER MEMBER PER MONTH costs over time was not statistically significant ($p > 0.05$). The cohorts' trends in the change in PER MEMBER PER MONTH costs are similar as shown on the following page in Figure 12.

Figure 12. CCHH Tier 3 “Acute/Severe Members Excluded” Change in PER MEMBER PER MONTH model-based run chart



The risk-adjusted results suggest that on average, over the course of the 21-month post period, the treatment cohort’s PER MEMBER PER MONTH costs increased by approximately \$306 compared to baseline costs with a 95% confidence interval of -\$65 to \$676. In comparison, the control cohort’s PER MEMBER PER MONTH costs increased by approximately \$540 compared to baseline costs with a 95% confidence interval of \$31 to \$1,049.

Cohort	Overall Average Change in PER MEMBER PER MONTH cost	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
Treatment	\$305.64	\$189.07	-\$64.94	\$676.22
Control	\$539.91	\$259.60	\$31.09	\$1,048.73

The results suggest that the treatment cohort's overall average change in PER MEMBER PER MONTH costs in the post period was not significantly different than the control cohort's average change in PER MEMBER PER MONTH costs – the estimated difference between cohorts was -\$234 with a 95% confidence interval of -\$563 to \$95.

Difference in Overall Average Change in PER MEMBER PER MONTH cost (Treatment – Control)	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
- \$234.27	\$167.93	-\$563.40	\$94.87

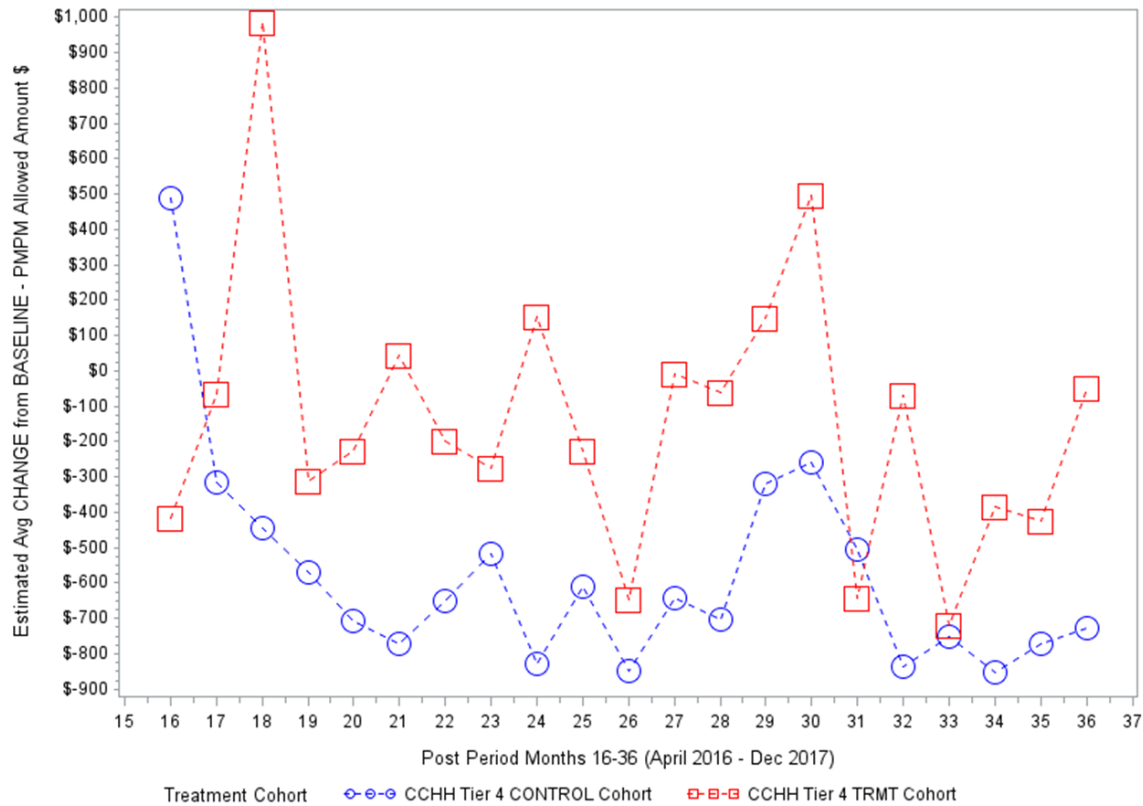
Chronic Condition Health Home – Tier 4 (CCHH – 10 plus Chronic Conditions)

“All Members” Results

This analysis includes all members regardless of the existence of any acute/severe condition. Three treatment cohort members were removed from the analysis as these members were reviewed and deemed to be high-cost leverage/outlier data points affecting Months 26 through 29. After removal of these three treatment cohort members, a total of 91 CCHH Tier 4 treatment and 774 control members met the inclusion/exclusion criteria for this analysis.

The risk-adjusted results suggest that the difference in the trend of change in PER MEMBER PER MONTH costs over time was not statistically significant ($p > 0.05$). The cohorts' trends in the change in PER MEMBER PER MONTH costs are similar as shown in Figure 13 on the following page.

Figure 13. CCHH Tier 4 Change in PER MEMBER PER MONTH model-based run chart



The risk-adjusted results suggest that on average, over the course of the 21-month post period, the treatment cohort's PER MEMBER PER MONTH costs decreased by approximately -\$136 compared to baseline costs with a 95% confidence interval of -\$902 to \$631. In comparison, the control cohort's PER MEMBER PER MONTH costs decreased by approximately -\$575 compared to baseline costs with a 95% confidence interval of -\$1,034 to -\$116.

Cohort	Overall Average Change in PER MEMBER PER MONTH cost	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
Treatment	-\$135.50	\$390.97	-\$901.80	\$630.80
Control	-\$574.83	\$234.33	-\$1,034.12	-\$115.54

The results suggest that the treatment cohort's overall average change in PER MEMBER PER MONTH cost in the post period was not significantly different than the

control cohort's average change in PER MEMBER PER MONTH cost – the estimated difference between cohorts was \$439 with a 95% confidence interval of -\$295 to \$1,176.

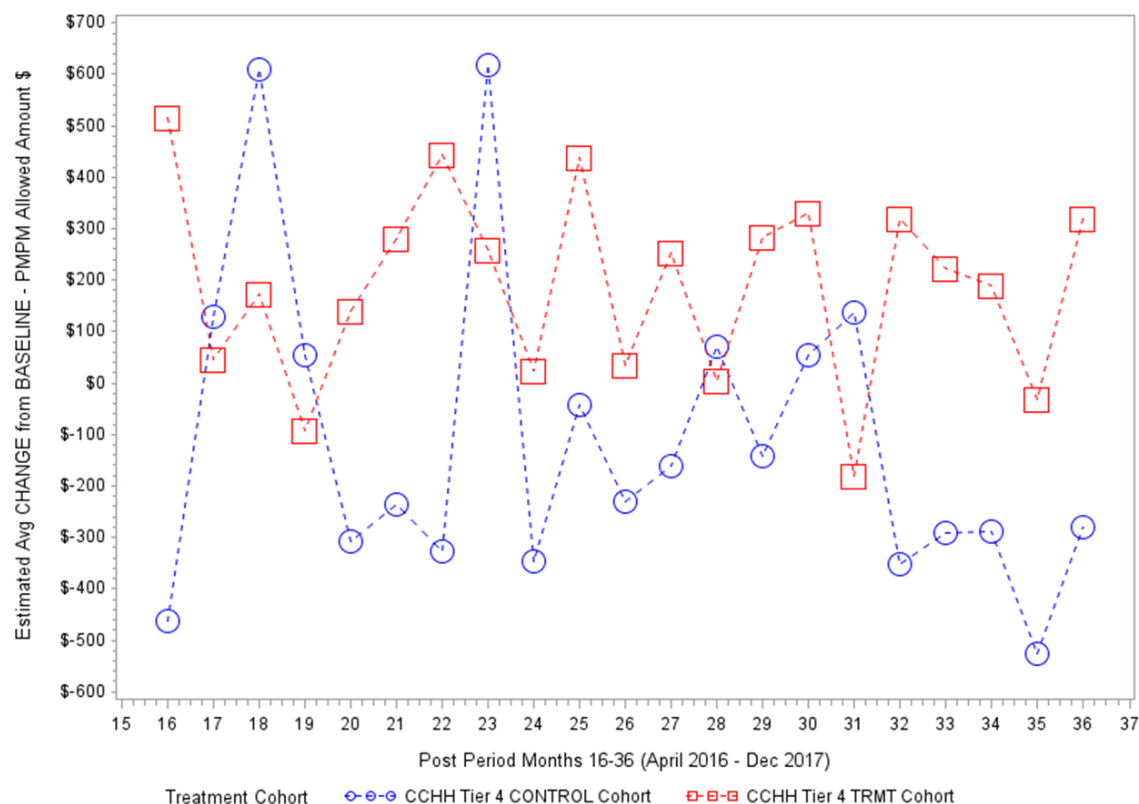
Difference in Overall Average Change in PER MEMBER PER MONTH cost (Treatment – Control)	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
\$439.33	\$376.06	-\$297.74	\$1,176.40

“Acute/Severe Members Excluded” Results

This sensitivity analysis excluded all members with an occurrence of any one of the select acute/severe conditions in any month. Two members – one treatment and one control cohort member - were removed from the analysis as these members were reviewed and deemed to be high-cost leverage/outlier data points affecting Month 18. After removal of these two members, a total of 28 CCHH Tier 4 treatment and 55 control members met the inclusion/exclusion criteria for this analysis.

The risk-adjusted results suggest that the difference in the trend of change in PER MEMBER PER MONTH costs over time was not statistically significant ($p > 0.05$). The cohorts' trends in the change in PER MEMBER PER MONTH costs are similar as shown in Figure 14 on the following page.

Figure 14. CCHH Tier 4 “Acute/Severe Members Excluded” Change in PER MEMBER PER MONTH model-based run chart



The risk-adjusted results suggest that on average, over the course of the 21-month post period, the treatment cohort's PER MEMBER PER MONTH costs increased by approximately \$178 compared to baseline costs with a 95% confidence interval of -\$525 to \$881. In comparison, the control cohort's PER MEMBER PER MONTH costs decreased by approximately -\$120 compared to baseline costs with a 95% confidence interval of -\$776 to \$536.

Cohort	Overall Average Change in PER MEMBER PER MONTH cost	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
Treatment	\$178.14	\$358.60	-\$524.72	\$881.00
Control	-\$119.80	\$334.60	-\$775.62	\$536.02

The results suggest that the treatment cohort's overall average change in PER MEMBER PER MONTH cost in the post period was not significantly different than the control cohort's average change in PER MEMBER PER MONTH cost – the estimated difference between cohorts was \$298 with a 95% confidence interval of -\$427 to \$1,023.

Difference in Overall Average Change in PER MEMBER PER MONTH cost (Treatment – Control)	Standard Error	95% Confidence Interval – Lower Limit	95% Confidence Interval – Upper Limit
\$297.94	\$369.66	-\$426.57	\$1,022.50

Chronic Conditions - Used in Risk Adjustment or as Cohort Selection Criteria

Major Chronic Condition Category – Used to Select/Identify Control Cohort Members for CCHH Analyses	Chronic Conditions Used in Risk Adjustment for IHH-ICM and IHH Analyses
Hypertension	Essential Hypertension Secondary Hypertension
Hyperlipidemia	Hyperlipidemia
Diabetes	Diabetes Without Complications Diabetes With Complications
Heart Arrhythmias	Conduction Disorders Cardiac Dysrhythmias
Arthritis	Rheumatoid Osteoarthritis
Osteoporosis	Osteoporosis
Cancer	Head/Neck Upper Gastrointestinal Lower Gastrointestinal Liver/Pancreas Lung Skin/Bone Breast Female Male Urinary Brain/Nervous Thyroid Lymphoma Leukemia Other/Secondary Malignant Neoplasm
Coronary Artery Disease (CAD)	Heart Attack (AMI) Atherosclerosis/Other Heart Disease
Chronic Obstructive Pulmonary Disease (COPD)	Chronic Obstructive Pulmonary Disease (COPD)
Chronic Kidney Disease (CKD)	Chronic Kidney Disease (CKD) Nephritis/Nephrosis/Sclerosis
Congestive Heart Failure (CHF)	Congestive Heart Failure (CHF)
Asthma	Asthma
Stroke	Acute Cerebrovascular Occlusion/Stenosis of Precerebral Arteries Other/III-defined Cerebrovascular Disease Transient Cerebral Ischemia
Dementia	
Depression	
Schizophrenia	
Substance Abuse Disorder	Alcohol-related Substance Abuse Substance-related Substance Abuse
Parkinson's Disease	Parkinson's Disease
Multiple Sclerosis	Multiple Sclerosis
Hepatitis	Hepatitis
Sickle Cell Anemia	Sickle Cell Anemia
Cystic Fibrosis	Cystic Fibrosis
HIV	HIV
Back Problems	Back Problems
Autism	Autism
Obesity	Obesity
Hypothyroidism	Hypothyroidism
Liver Disease/Cirrhosis/Other Liver Conditions (non-viral)	Liver Disease/Cirrhosis/Other Liver Conditions (non-viral)

IHH-ICM “All Member” (Both with and without Habilitation/Child Mental Health Waiver Costs Excluded) Analyses – Baseline Differences

Variable	CONTROL		TRMT		Standardized Difference (%)
	Mean	Std Dev	Mean	Std Dev	
Age	29.4101379	15.2965573	34.2971007	16.1908852	-31.03
Gender (Fem='0',Male='1')	0.3429642	0.4747095	0.4948454	0.5001167	-31.16
Hypertension - Essential	0.2066195	0.4048885	0.2737686	0.4460194	-15.77
Hypertension - Compl/Second	0.0197752	0.1392298	0.0160367	0.1256524	2.82
Hyperlipidemia	0.135637	0.3424098	0.2514318	0.4339605	-29.63
Diabetes W/o Compl	0.0863447	0.2808782	0.1403207	0.347419	-17.09
Diabetes With Compl	0.0602831	0.2380156	0.093929	0.2918135	-12.64
Cancer - Head/Neck	0.0017902	0.0422734	0.0028637	0.0534521	-2.23
Cancer - Upper Gastrointest	0.000291424	0.017069	0.0011455	0.0338352	-3.19
Cancer - Lower Gastrointest	0.003164	0.0561618	0.002291	0.0478227	1.67
Cancer - Liver/Pancreas	0.000499584	0.0223462	0.000572738	0.0239319	-0.32
Cancer - Lung	0.0014988	0.0386855	0.0034364	0.058537	-3.91
Cancer - Skin/Bone	0.0050375	0.0707976	0.0063001	0.0791455	-1.68
Cancer - Breast	0.0052873	0.0725226	0.0063001	0.0791455	-1.33
Cancer - Female	0.0348043	0.1832877	0.0211913	0.1440629	8.26
Cancer - Male	0.001582	0.0397439	0.000572738	0.0239319	3.08
Cancer - Urinary	0.0022481	0.0473621	0.002291	0.0478227	-0.09
Cancer - Brain/Nervous	0.0013322	0.0364761	0	0	5.17
Cancer - Thyroid	0.0021232	0.0460305	0.000572738	0.0239319	4.23
Cancer - Lymphoma	0.0024563	0.0495011	0.0011455	0.0338352	3.09
Cancer - Leukemia/Myeloma	0.0017902	0.0422734	0.0011455	0.0338352	1.68
Cancer - Other/Secondary	0.0042465	0.0650277	0.0057274	0.075484	-2.10
Cancer - Malignant Neoplasm	0.0015404	0.0392183	0.000572738	0.0239319	2.98
Adjustment Disorder	0.1862198	0.3892921	0.1517755	0.3589059	9.20
Anxiety Disorder	0.61403	0.4868337	0.637457	0.4808721	-4.84
Attent Deficit/Cond/Disrupt Beh	0.2841799	0.4510323	0.3969072	0.4893966	-23.96
Dementia	0.0251873	0.156697	0.056701	0.2313367	-15.95
Development Disorder	0.0916736	0.2885707	0.1420389	0.3491901	-15.73
Disorder in Inf/Childh/Adolesc	0.0694005	0.2541393	0.1867125	0.3897922	-35.66
Impulse Control Disorder	0.021149	0.1438841	0.0532646	0.224625	-17.03
Mood (Depression) Disorder	0.6348043	0.481495	0.639748	0.480211	-1.03
Personality Disorder	0.0181515	0.1335021	0.0234822	0.1514727	-3.73
Schizophrenia	0.0682764	0.2522249	0.4175258	0.4932924	-89.17
Alcohol-related Disorder	0.1057868	0.307571	0.1386025	0.3456303	-10.03
Substance-related Disorder	0.3082848	0.4617945	0.3138603	0.4641933	-1.20
Misc Mental Health Disorder	0.0759367	0.2649024	0.0332188	0.1792588	18.89
Heart Attack (AMI)	0.006786	0.082099	0.0028637	0.0534521	5.66
Coronary Atheroscl/Heart Dis	0.0393838	0.1945105	0.0429553	0.2028145	-1.80
Conduction Disorder	0.019234	0.1373492	0.0211913	0.1440629	-1.39
Cardiac Dysrhythmia	0.1426728	0.3497461	0.1151203	0.3192585	8.23
Congestive Heart Failure	0.0236053	0.1518192	0.024055	0.1532638	-0.29
Acute Cerebrovascular Dis	0.0146128	0.1199995	0.0189003	0.1362121	-3.34
Occl/Sten of Precerebral Arter	0.0063281	0.0792987	0.0074456	0.0859906	-1.35
Cerebrovascular Dis - Other	0.0059117	0.0766618	0.0097365	0.0982205	-4.34
Transient Cerebral Ischemia	0.0040383	0.0634205	0.0040092	0.063209	0.05
Rheumatoid Arthritis	0.0103247	0.1010869	0.0080183	0.0892109	2.42
Osteoarthritis	0.0851374	0.2790918	0.1294387	0.335781	-14.35
Osteoporosis	0.009617	0.0975956	0.0194731	0.1382202	-8.24
COPD	0.0799334	0.2711957	0.1368843	0.3438236	-18.40
Asthma	0.1875104	0.3903288	0.1683849	0.3743149	5.00
Renal Neph/Sclerosis	0.0037885	0.0614354	0.0017182	0.0414276	3.95
Chronic Kidney Disease	0.0207327	0.1424911	0.0223368	0.1478186	-1.11
Parkinson Disease	0.000957535	0.0309299	0.002291	0.0478227	-3.31
Multiple Sclerosis	0.0034971	0.0590339	0.0040092	0.063209	-0.84
HIV	0.0022481	0.0473621	0.0057274	0.075484	-5.52
Hepatitis	0.0235221	0.1515577	0.0429553	0.2028145	-10.86
Sickle Cell Anemia	0.00204	0.0451208	0.0017182	0.0414276	0.74
Cystic Fibrosis	0.0011657	0.0341231	0	0	4.83
Back Problems	0.4482098	0.4973209	0.3831615	0.4862964	13.23
Autism	0.0474188	0.2125374	0.1368843	0.3438236	-31.31
Obesity	0.1980849	0.3985648	0.2382589	0.4261403	-9.74
Hypothyroidism	0.0769359	0.2664952	0.137457	0.3444279	-19.66
Liver/Cirr Dis Non-viral	0.0536636	0.2253574	0.045819	0.2091523	3.61
Severe/Acute Conditions	0.1948793	0.396116	0.2021764	0.4017382	-1.83

IHH-ICM “Acute/Severe Members Excluded” (Both with and without Habilitation/Child Mental Health Waiver Costs Excluded) Analyses – Baseline Differences

Variable	CONTROL		TRMT		Standardized Difference (%)
	Mean	SD	Mean	SD	
Age	27.2377192	16.0689636	29.8422333	16.148697	-16.17
Gender (Fem='0',Male='1')	0.3994581	0.4898344	0.5994152	0.4903755	-40.82
Hypertension - Essential	0.1662473	0.3723385	0.1505848	0.3579054	4.29
Hypertension - Compl/Second	0.0089027	0.093942	0.004386	0.0661296	5.56
Hyperlipidemia	0.1211535	0.3263371	0.1871345	0.3903049	-18.35
Diabetes W/o Compl	0.0648345	0.2462575	0.0891813	0.2852138	-9.14
Diabetes With Compl	0.0387072	0.1929148	0.0628655	0.2428985	-11.02
Cancer - Head/Neck	0.000580608	0.0240911	0.004386	0.0661296	-7.65
Cancer - Upper Gastrointest	0.000387072	0.0196722	0	0	2.78
Cancer - Lower Gastrointest	0.0021289	0.0460953	0	0	6.53
Cancer - Liver/Pancreas	0	0	0	0	#DIV/0!
Cancer - Lung	0	0	0.001462	0.038236	-5.41
Cancer - Skin/Bone	0.0036772	0.060534	0.002924	0.0540342	1.31
Cancer - Breast	0.0032901	0.0572706	0.004386	0.0661296	-1.77
Cancer - Female	0.0191601	0.1371006	0.0131579	0.1140341	4.76
Cancer - Male	0.00096768	0.0310955	0	0	4.40
Cancer - Urinary	0.0013548	0.0367856	0.001462	0.038236	-0.29
Cancer - Brain/Nervous	0.000774144	0.0278154	0	0	3.94
Cancer - Thyroid	0.0021289	0.0460953	0	0	6.53
Cancer - Lymphoma	0.0021289	0.0460953	0	0	6.53
Cancer - Leukemia/Myeloma	0.00096768	0.0310955	0	0	4.40
Cancer - Other/Secondary	0.0019354	0.0439544	0.0073099	0.0852475	-7.93
Cancer - Malignant Neoplasm	0.000387072	0.0196722	0	0	2.78
Adjustment Disorder	0.2063093	0.4046943	0.130117	0.3366783	20.48
Anxiety Disorder	0.5602864	0.4964003	0.5204678	0.4999465	8.00
Attent Deficit/Cond/Disrupt Beh	0.3278498	0.4694752	0.495614	0.5003466	-34.59
Dementia	0.0106445	0.1026314	0.0394737	0.1948616	-18.52
Development Disorder	0.1097349	0.3125892	0.130117	0.3366783	-6.28
Disorder in Inf/Child/Adolesc	0.1008322	0.3011356	0.2836257	0.4510872	-47.69
Impulse Control Disorder	0.0193536	0.1377777	0.0438596	0.2049326	-14.04
Mood (Depression) Disorder	0.552545	0.4972795	0.5336257	0.4992331	3.80
Personality Disorder	0.0143217	0.1188246	0.0160819	0.1258825	-1.44
Schizophrenia	0.0667699	0.2496472	0.3581871	0.4798184	-76.24
Alcohol-related Disorder	0.0739307	0.2616834	0.0643275	0.2455149	3.79
Substance-related Disorder	0.2246952	0.4174218	0.130117	0.3366783	24.95
Misc Mental Health Disorder	0.0630927	0.2431532	0.0438596	0.2049326	8.56
Heart Attack (AMI)	0.0021289	0.0460953	0	0	6.53
Coronary Atheroscl/Heart Dis	0.0236114	0.1518497	0.0175439	0.1313823	4.27
Conduction Disorder	0.0102574	0.1007678	0.004386	0.0661296	6.89
Cardiac Dysrhythmia	0.0934778	0.2911291	0.0321637	0.1765639	25.47
Congestive Heart Failure	0.0059996	0.0772319	0.0073099	0.0852475	-1.61
Acute Cerebrovascular Dis	0.005419	0.0734213	0.0087719	0.0933151	-4.00
Occl/Sten of Precerebral Arter	0.0038707	0.0621006	0.002924	0.0540342	1.63
Cerebrovascular Dis - Other	0.0017418	0.0417028	0.002924	0.0540342	-2.45
Transient Cerebral Ischemia	0.0013548	0.0367856	0	0	5.21
Rheumatoid Arthritis	0.0056125	0.0747136	0.0073099	0.0852475	-2.12
Osteoarthritis	0.053803	0.2256503	0.0599415	0.2375522	-2.65
Osteoporosis	0.0040643	0.063628	0.0102339	0.1007175	-7.33
COPD	0.0479969	0.2137804	0.0555556	0.2292291	-3.41
Asthma	0.1389588	0.345937	0.0818713	0.2743692	18.29
Renal Neph/Sclerosis	0.0034836	0.0589252	0.001462	0.038236	4.07
Chronic Kidney Disease	0.0085156	0.091895	0.0102339	0.1007175	-1.78
Parkinson Disease	0.000580608	0.0240911	0	0	3.41
Multiple Sclerosis	0.0015483	0.0393216	0	0	5.57
HIV	0.0019354	0.0439544	0.001462	0.038236	1.15
Hepatitis	0.0129669	0.1131426	0.0175439	0.1313823	-3.73
Sickle Cell Anemia	0.00096768	0.0310955	0	0	4.40
Cystic Fibrosis	0.00096768	0.0310955	0	0	4.40
Back Problems	0.323592	0.4678917	0.2017544	0.4016035	27.95
Autism	0.0708341	0.2565724	0.2002924	0.400512	-38.51
Obesity	0.1623766	0.3688316	0.1622807	0.3689779	0.03
Hypothyroidism	0.0658022	0.24796	0.0891813	0.2852138	-8.75
Liver/Cirr Dis Non-viral	0.0327076	0.1778873	0.0204678	0.1416978	7.61

IHH “All Member” Analysis – Baseline Differences

Variable	CONTROL		TRMT		Standardized Difference (%)
	Mean	Std Dev	Mean	Std Dev	
Age	21.4107627	15.0597399	20.3351806	14.5525439	7.26
Gender (Fem='0',Male='1')	0.5048646	0.4999966	0.5090999	0.4999419	-0.85
Hypertension - Essential	0.096238	0.2949294	0.0973294	0.2964204	-0.37
Hypertension - Compl/Second	0.0067294	0.0817595	0.0073195	0.0852445	-0.71
Hyperlipidemia	0.0861845	0.2806477	0.0774481	0.2673143	3.19
Diabetes W/o Compl	0.0413491	0.1991044	0.0510386	0.2200873	-4.62
Diabetes With Compl	0.0279715	0.1648977	0.0322453	0.1766596	-2.50
Cancer - Head/Neck	0.0017026	0.0412292	0.000296736	0.0172243	4.45
Cancer - Upper Gastrointest	0	0	0.000098912	0.0099454	-1.41
Cancer - Lower Gastrointest	0.0014594	0.0381755	0.000791296	0.0281202	1.99
Cancer - Liver/Pancreas	0.000162153	0.0127334	0	0	1.80
Cancer - Lung	0.00024323	0.0155946	0.00098912	0.0314363	-3.01
Cancer - Skin/Bone	0.0035674	0.0596233	0.0018793	0.0433126	3.24
Cancer - Breast	0.0022701	0.0475939	0.0030663	0.0552917	-1.54
Cancer - Female	0.0133777	0.1148902	0.0119683	0.1087487	1.26
Cancer - Male	0.000648614	0.0254607	0.000395648	0.0198879	1.11
Cancer - Urinary	0.000648614	0.0254607	0.000890208	0.0298245	-0.87
Cancer - Brain/Nervous	0.00097292	0.0311778	0.000395648	0.0198879	2.21
Cancer - Thyroid	0.0013783	0.0371014	0.0012859	0.0358375	0.25
Cancer - Lymphoma	0.00097292	0.0311778	0.000692384	0.0263054	0.97
Cancer - Leukemia/Myeloma	0.00097292	0.0311778	0.000791296	0.0281202	0.61
Cancer - Other/Secondary	0.0018648	0.0431444	0.0016815	0.0409737	0.44
Cancer - Malignant Neoplasm	0.00024323	0.0155946	0.000791296	0.0281202	-2.41
Adjustment Disorder	0.321388	0.4670283	0.2880317	0.4528683	7.25
Anxiety Disorder	0.4551646	0.4980059	0.4703264	0.4991434	-3.04
Attent Deficit/Cond/Disrupt Beh	0.5101346	0.4999175	0.6012859	0.4896579	-18.42
Dementia	0.0164586	0.127236	0.0149357	0.1213016	1.23
Development Disorder	0.1690449	0.3748068	0.0972305	0.296286	21.26
Disorder in Inf/Childh/Adolesc	0.1880169	0.3907415	0.1406528	0.3476803	12.81
Impulse Control Disorder	0.0267553	0.161374	0.0265084	0.1606495	0.15
Mood (Depression) Disorder	0.461894	0.498566	0.5039565	0.5000091	-8.42
Personality Disorder	0.0188098	0.1358583	0.0200791	0.140278	-0.92
Schizophrenia	0.0509972	0.220001	0.0791296	0.2699542	-11.42
Alcohol-related Disorder	0.0467002	0.2110045	0.0664688	0.2491122	-8.56
Substance-related Disorder	0.1210475	0.3261957	0.1577646	0.3645382	-10.62
Misc Mental Health Disorder	0.0506729	0.2193378	0.0441147	0.2053602	3.09
Heart Attack (AMI)	0.0012972	0.0359951	0.0027695	0.052556	-3.27
Coronary Atheroscl/Heart Dis	0.010621	0.1025139	0.0174085	0.1307943	-5.78
Conduction Disorder	0.0064051	0.0797781	0.009001	0.0944503	-2.97
Cardiac Dysrhythmia	0.0525377	0.2231177	0.058457	0.2346171	-2.59
Congestive Heart Failure	0.0065672	0.0807751	0.0071217	0.0840931	-0.67
Acute Cerebrovascular Dis	0.0045403	0.0672313	0.0046489	0.0680273	-0.16
Occl/Sten of Precerebral Arter	0.0029188	0.0539488	0.0015826	0.0397523	2.82
Cerebrovascular Dis - Other	0.0021891	0.0467382	0.0023739	0.0486671	-0.39
Transient Cerebral Ischemia	0.0011351	0.0336731	0.0020772	0.0455307	-2.35
Rheumatoid Arthritis	0.0061618	0.0782583	0.0051434	0.0715365	1.36
Osteoarthritis	0.0424031	0.2015152	0.0422354	0.2011357	0.08
Osteoporosis	0.0047024	0.0684158	0.0042532	0.0650811	0.67
COPD	0.0349441	0.1836456	0.0443126	0.2057988	-4.80
Asthma	0.1195071	0.3243974	0.1474777	0.3545991	-8.23
Renal Neph/Sclerosis	0.0020269	0.0449775	0.0014837	0.0384919	1.30
Chronic Kidney Disease	0.0085941	0.0923091	0.0083086	0.0907766	0.31
Parkinson Disease	0.000405383	0.0201309	0.00098912	0.0314363	-2.21
Multiple Sclerosis	0.0020269	0.0449775	0.0017804	0.0421595	0.57
HIV	0.000405383	0.0201309	0.0011869	0.0344333	-2.77
Hepatitis	0.0088374	0.0935947	0.0124629	0.110945	-3.53
Sickle Cell Anemia	0.00048646	0.0220514	0.000692384	0.0263054	-0.85
Cystic Fibrosis	0.00072969	0.027004	0.00049456	0.0222343	0.95
Back Problems	0.2587157	0.4379469	0.2592483	0.4382438	-0.12
Autism	0.1426139	0.3496929	0.065183	0.2468607	25.58
Obesity	0.1176423	0.3221971	0.1164194	0.320743	0.38
Hypothyroidism	0.0513216	0.2206617	0.0409496	0.1981832	4.95
Liver/Cirr Dis Non-viral	0.0186476	0.1352826	0.0210682	0.143619	-1.74
Severe/Acute Conditions	0.0926707	0.2899821	0.0898121	0.2859265	0.99

IHH “Acute/Severe Members Excluded” Analysis – Baseline Differences

Variable	CONTROL		TRMT		Standardized Difference (%)
	Mean	SD	Mean	SD	
Age	19.1557574	14.0864754	17.1195036	12.6998806	15.18
Gender (Fem='0',Male='1')	0.5529969	0.497224	0.5585606	0.4966157	-1.12
Hypertension - Essential	0.0627144	0.2424683	0.0534036	0.2248628	3.98
Hypertension - Compl/Second	0.0024498	0.0494386	0.0025212	0.050154	-0.14
Hyperlipidemia	0.0596113	0.2367846	0.049278	0.2164727	4.56
Diabetes W/o Compl	0.0282541	0.1657115	0.029796	0.1700436	-0.92
Diabetes With Compl	0.0166585	0.1279987	0.0187944	0.1358139	-1.62
Cancer - Head/Neck	0.0011432	0.0337951	0	0	4.78
Cancer - Upper Gastrointest	0	0	0	0	0.00
Cancer - Lower Gastrointest	0.0014699	0.0383138	0	0	5.43
Cancer - Liver/Pancreas	0	0	0	0	0.00
Cancer - Lung	0	0	0.0002292	0.0151394	-2.14
Cancer - Skin/Bone	0.0032664	0.0570634	0.0002292	0.0151394	7.28
Cancer - Breast	0.0013065	0.0361255	0.001146	0.0338371	0.46
Cancer - Female	0.0070227	0.0835136	0.0043548	0.0658546	3.55
Cancer - Male	0.000489956	0.0221313	0.0002292	0.0151394	1.38
Cancer - Urinary	0.000489956	0.0221313	0.0002292	0.0151394	1.38
Cancer - Brain/Nervous	0.000979912	0.0312908	0	0	4.43
Cancer - Thyroid	0.0013065	0.0361255	0.0009168	0.0302683	1.17
Cancer - Lymphoma	0.000489956	0.0221313	0.0002292	0.0151394	1.38
Cancer - Leukemia/Myeloma	0.000653275	0.025553	0.0006876	0.0262161	-0.13
Cancer - Other/Secondary	0.000489956	0.0221313	0.0009168	0.0302683	-1.61
Cancer - Malignant Neoplasm	0	0	0.0004584	0.0214078	-3.03
Adjustment Disorder	0.3326801	0.4712115	0.3215677	0.4671316	2.37
Anxiety Disorder	0.389025	0.4875688	0.3841394	0.4864469	1.00
Attent Deficit/Cond/Disrupt Beh	0.5229463	0.499514	0.6523035	0.4762937	-26.51
Dementia	0.0097991	0.0985123	0.0110016	0.1043219	-1.19
Development Disorder	0.1786706	0.3831075	0.1038276	0.3050718	21.61
Disorder in Inf/Childh/Adolesc	0.218847	0.4134984	0.1677745	0.3737087	12.96
Impulse Control Disorder	0.018945	0.1363418	0.0192528	0.137428	-0.22
Mood (Depression) Disorder	0.3753062	0.4842414	0.3855146	0.4867724	-2.10
Personality Disorder	0.0120856	0.109277	0.01146	0.1064484	0.58
Schizophrenia	0.040503	0.1971519	0.055008	0.2280221	-6.81
Alcohol-related Disorder	0.0282541	0.1657115	0.02865	0.1668399	-0.24
Substance-related Disorder	0.0710436	0.2569186	0.0731148	0.2603547	-0.80
Misc Mental Health Disorder	0.0429528	0.2027673	0.04011	0.1962397	1.42
Heart Attack (AMI)	0.000163319	0.0127796	0.0002292	0.0151394	-0.47
Coronary Atheroscl/Heart Dis	0.0045729	0.0674741	0.0050424	0.0708387	-0.68
Conduction Disorder	0.0024498	0.0494386	0.0048132	0.069218	-3.93
Cardiac Dysrhythmia	0.0251511	0.1565966	0.0258996	0.158854	-0.47
Congestive Heart Failure	0.000816593	0.0285668	0.0018336	0.0427862	-2.80
Acute Cerebrovascular Dis	0.0017965	0.0423506	0.0006876	0.0262161	3.15
Occl/Sten of Precerebral Arter	0.0013065	0.0361255	0.0004584	0.0214078	2.86
Cerebrovascular Dis - Other	0.000979912	0.0312908	0.0002292	0.0151394	3.05
Transient Cerebral Ischemia	0.000489956	0.0221313	0	0	3.13
Rheumatoid Arthritis	0.0037563	0.0611787	0.002292	0.0478254	2.67
Osteoarthritis	0.022048	0.1468517	0.0197112	0.139022	1.63
Osteoporosis	0.0022865	0.0477662	0.0013752	0.0370624	2.13
COPD	0.017965	0.1328352	0.018336	0.1341787	-0.28
Asthma	0.0881921	0.2835972	0.1052028	0.3068498	-5.76
Renal Neph/Sclerosis	0.0014699	0.0383138	0.0004584	0.0214078	3.26
Chronic Kidney Disease	0.004083	0.0637727	0.003438	0.0585403	1.05
Parkinson Disease	0.000163319	0.0127796	0.0004584	0.0214078	-1.67
Multiple Sclerosis	0.0011432	0.0337951	0.0009168	0.0302683	0.71
HIV	0.000326637	0.0180716	0.0006876	0.0262161	-1.60
Hepatitis	0.0055528	0.0743162	0.00573	0.0754882	-0.24
Sickle Cell Anemia	0.000489956	0.0221313	0.0002292	0.0151394	1.38
Cystic Fibrosis	0.000653275	0.025553	0.0002292	0.0151394	2.02
Back Problems	0.1847134	0.3880966	0.1494385	0.356561	9.47
Autism	0.1745876	0.379645	0.081366	0.2734278	28.18
Obesity	0.0847624	0.2785505	0.0770112	0.2666398	2.84
Hypothyroidism	0.0339703	0.1811675	0.0238368	0.152558	6.05
Liver/Cirr Dis Non-viral	0.0096358	0.097696	0.0093972	0.0964937	0.25

CCHH Tier 1 “All Member” Analysis – Baseline Differences

Variable	CONTROL		TRMT		Standardized Difference (%)
	Mean	Std Dev	Mean	Std Dev	
Age	26.2679126	15.4022089	20.4628642	17.2244903	35.53
Gender (Fem='0',Male='1')	0.3849321	0.4865821	0.4930966	0.5004461	-21.93
Hypertension - Essential	0.0849541	0.278815	0.1439842	0.3514205	-18.62
Hypertension - Compl/Second	0.0033982	0.058195	0.0059172	0.0767709	-3.70
Hyperlipidemia	0.0541967	0.2264067	0.0966469	0.2957682	-16.13
Diabetes W/o Compl	0.0281827	0.1654956	0.0473373	0.212569	-10.06
Diabetes With Compl	0.01713	0.1297565	0.035503	0.1852301	-11.50
Cancer - Head/Neck	0.0011482	0.0338656	0	0	4.79
Cancer - Upper Gastrointest	0.000081185	0.0090099	0	0	1.27
Cancer - Lower Gastrointest	0.0014265	0.0377427	0.0019724	0.0444116	-1.33
Cancer - Liver/Pancreas	0.00026675	0.0163304	0.0019724	0.0444116	-5.10
Cancer - Lung	0.00026675	0.0163304	0.0039448	0.0627453	-8.03
Cancer - Skin/Bone	0.0037229	0.0609023	0.0019724	0.0444116	3.29
Cancer - Breast	0.0023312	0.0482261	0.0059172	0.0767709	-5.60
Cancer - Female	0.0282407	0.1656608	0.0098619	0.098914	13.47
Cancer - Male	0.0005335	0.0230916	0	0	3.27
Cancer - Urinary	0.000661077	0.0257031	0.0019724	0.0444116	-3.62
Cancer - Brain/Nervous	0.0013685	0.0369687	0.0019724	0.0444116	-1.48
Cancer - Thyroid	0.000927827	0.0304463	0.0039448	0.0627453	-6.12
Cancer - Lymphoma	0.001241	0.0352057	0	0	4.99
Cancer - Leukemia/Myeloma	0.0016701	0.0408328	0	0	5.78
Cancer - Other/Secondary	0.0023892	0.0488208	0.0019724	0.0444116	0.89
Cancer - Malignant Neoplasm	0.00042912	0.0207109	0	0	2.93
Dementia	0.008652	0.0926133	0.0019724	0.0444116	9.20
Mood (Depression) Disorder	0.2586897	0.4379173	0.1755424	0.3808061	20.27
Schizophrenia	0.0114587	0.1064307	0.0216963	0.1458337	-8.02
Alcohol-related Disorder	0.0386672	0.1928016	0.0315582	0.1749933	3.86
Substance-related Disorder	0.1218236	0.3270839	0.0966469	0.2957682	8.08
Heart Attack (AMI)	0.000301544	0.0173625	0.0039448	0.0627453	-7.92
Coronary Atheroscl/Heart Dis	0.0027719	0.052576	0.0433925	0.2039403	-27.30
Conduction Disorder	0.0043724	0.0659797	0.0059172	0.0767709	-2.16
Cardiac Dysrhythmia	0.0497779	0.217487	0.0374753	0.1901111	6.03
Congestive Heart Failure	0.0021688	0.0465201	0.0197239	0.1391871	-16.93
Acute Cerebrovascular Dis	0.003259	0.0569948	0.0118343	0.1082468	-9.92
Occl/Sten of Precerebral Arter	0.0005335	0.0230916	0	0	3.27
Cerebrovascular Dis - Other	0.0012178	0.0348755	0.0019724	0.0444116	-1.89
Transient Cerebral Ischemia	0.000405924	0.0201436	0.0019724	0.0444116	-4.55
Rheumatoid Arthritis	0.0048247	0.0692927	0.0039448	0.0627453	1.33
Osteoarthritis	0.0252369	0.1568447	0.0335306	0.1801952	-4.91
Osteoporosis	0.002969	0.0544083	0.0039448	0.0627453	-1.66
COPD	0.0197047	0.1389844	0.0453649	0.2083087	-14.50
Asthma	0.1873978	0.3902328	0.2721893	0.4455264	-20.26
Renal Neph/Sclerosis	0.0018557	0.0430376	0.0019724	0.0444116	-0.27
Chronic Kidney Disease	0.0039897	0.063038	0.0098619	0.098914	-7.09
Parkinson Disease	0.000208761	0.0144471	0	0	2.04
Multiple Sclerosis	0.0016817	0.0409741	0	0	5.80
HIV	0.0021572	0.0463958	0	0	6.58
Hepatitis	0.0062396	0.078745	0.0157791	0.124743	-9.15
Sickle Cell Anemia	0.0025167	0.0501041	0	0	7.10
Cystic Fibrosis	0.000939425	0.0306358	0	0	4.34
Back Problems	0.4022361	0.4903519	0.2228797	0.4165893	39.44
Autism	0.0394906	0.1947602	0.0197239	0.1391871	11.68
Obesity	0.1248739	0.3305778	0.2031558	0.4027449	-21.26
Hypothyroidism	0.041845	0.200236	0.0295858	0.169609	6.61
Liver/Cirr Dis Non-viral	0.0122357	0.109937	0.0197239	0.1391871	-5.97
Severe/Acute Conditions	0.0733911	0.2607789	0.0552268	0.2286481	7.41

CCHH Tier 1 “Acute/Severe Members Excluded” Analysis – Baseline Differences

Variable	CONTROL		TRMT		Standardized Difference (%)
	Mean	SD	Mean	SD	
Age	26.4229638	16.8443171	17.1244186	15.2000668	57.96
Gender (Fem='0',Male='1')	0.4418122	0.496609	0.5170068	0.5005627	-15.09
Hypertension - Essential	0.0987873	0.29838	0.1054422	0.307646	-2.20
Hypertension - Compl/Second	0.0029485	0.0542206	0	0	7.69
Hyperlipidemia	0.0723021	0.2589908	0.0714286	0.2579785	0.34
Diabetes W/o Compl	0.0322283	0.1766081	0.0306122	0.1725584	0.93
Diabetes With Compl	0.0194088	0.1379585	0.0204082	0.141633	-0.72
Cancer - Head/Neck	0.001205	0.0346931	0	0	4.91
Cancer - Upper Gastrointest	0.000102556	0.0101266	0	0	1.43
Cancer - Lower Gastrointest	0.0014101	0.0375259	0	0	5.31
Cancer - Liver/Pancreas	0.000205112	0.0143205	0	0	2.03
Cancer - Lung	0.000256391	0.0160104	0	0	2.26
Cancer - Skin/Bone	0.0042048	0.0647088	0.0034014	0.0583212	1.31
Cancer - Breast	0.0025383	0.0503179	0.0068027	0.0823377	-6.26
Cancer - Female	0.0194857	0.1382262	0.0068027	0.0823377	11.15
Cancer - Male	0.000461503	0.0214779	0	0	3.04
Cancer - Urinary	0.000717893	0.0267843	0.0034014	0.0583212	-5.92
Cancer - Brain/Nervous	0.000974284	0.0311987	0	0	4.42
Cancer - Thyroid	0.000923006	0.0303674	0	0	4.30
Cancer - Lymphoma	0.000923006	0.0303674	0	0	4.30
Cancer - Leukemia/Myeloma	0.0015383	0.039192	0	0	5.55
Cancer - Other/Secondary	0.0022306	0.0471771	0.0034014	0.0583212	-2.21
Cancer - Malignant Neoplasm	0.000128195	0.0113218	0	0	1.60
Dementia	0.0062816	0.079008	0	0	11.24
Mood (Depression) Disorder	0.2265467	0.4186022	0.1088435	0.3119738	31.90
Schizophrenia	0.0121016	0.1093412	0.0170068	0.1295169	-4.10
Alcohol-related Disorder	0.0258185	0.1585956	0.0034014	0.0583212	18.77
Substance-related Disorder	0.0803528	0.2718421	0.047619	0.213322	13.41
Heart Attack (AMI)	0.000256391	0.0160104	0	0	2.26
Coronary Atheroscl/Heart Dis	0.0028716	0.0535108	0.0170068	0.1295169	-14.29
Conduction Disorder	0.0039228	0.0625099	0	0	8.87
Cardiac Dysrhythmia	0.0393303	0.1943821	0.0136054	0.1160437	16.08
Congestive Heart Failure	0.0016409	0.0404753	0	0	5.73
Acute Cerebrovascular Dis	0.0019742	0.0443887	0	0	6.29
Occl/Sten of Precerebral Arter	0.000743533	0.027258	0	0	3.86
Cerebrovascular Dis - Other	0.000846089	0.0290757	0	0	4.12
Transient Cerebral Ischemia	0.000384586	0.0196073	0	0	2.77
Rheumatoid Arthritis	0.0049227	0.0699899	0.0034014	0.0583212	2.36
Osteoarthritis	0.0253827	0.1572864	0.0136054	0.1160437	8.53
Osteoporosis	0.0023844	0.048773	0.0034014	0.0583212	-1.89
COPD	0.0185883	0.1350676	0.0204082	0.141633	-1.32
Asthma	0.1933185	0.3949056	0.2380952	0.4266439	-10.90
Renal Neph/Sclerosis	0.0019229	0.0438096	0	0	6.21
Chronic Kidney Disease	0.0038715	0.0621016	0.0034014	0.0583212	0.78
Parkinson Disease	0.000179473	0.0133957	0	0	1.89
Multiple Sclerosis	0.001564	0.0395168	0	0	5.60
HIV	0.0028203	0.0530322	0	0	7.52
Hepatitis	0.006179	0.0783645	0	0	11.15
Sickle Cell Anemia	0.0021537	0.0463584	0	0	6.57
Cystic Fibrosis	0.0011281	0.033569	0	0	4.75
Back Problems	0.3564598	0.4789594	0.1666667	0.3733134	44.23
Autism	0.0524062	0.2228477	0.0272109	0.1629748	12.91
Obesity	0.1228623	0.3282833	0.1938776	0.3960082	-19.54
Hypothyroidism	0.0459708	0.2094245	0.0204082	0.141633	14.31
Liver/Cirr Dis Non-viral	0.0105377	0.1021121	0.0136054	0.1160437	-2.81

CCHH Tier 2 “All Member” Analysis – Baseline Differences

Variable	CONTROL		TRMT		Standardized Difference (%)
	Mean	Std Dev	Mean	Std Dev	
Age	43.5765621	12.8536077	36.895214	19.3105927	40.73
Gender (Fem='0',Male='1')	0.339498	0.4735531	0.4549654	0.4985438	-23.76
Hypertension - Essential	0.5378287	0.4985819	0.4595843	0.4989404	15.70
Hypertension - Compl/Second	0.030203	0.1711505	0.0323326	0.1770864	-1.22
Hyperlipidemia	0.4081302	0.4915022	0.3256351	0.4691537	17.18
Diabetes W/o Compl	0.2362796	0.4248086	0.2332564	0.4233932	0.71
Diabetes With Compl	0.1462111	0.3533284	0.1524249	0.3598481	-1.74
Cancer - Head/Neck	0.0037829	0.0613905	0.0069284	0.0830441	-4.31
Cancer - Upper Gastrointest	0.000660502	0.0256925	0	0	3.64
Cancer - Lower Gastrointest	0.0054041	0.0733159	0.0046189	0.0678841	1.11
Cancer - Liver/Pancreas	0.000660502	0.0256925	0.0023095	0.0480569	-4.28
Cancer - Lung	0.0024619	0.0495576	0.0046189	0.0678841	-3.63
Cancer - Skin/Bone	0.0124294	0.1107957	0.0092379	0.0957796	3.08
Cancer - Breast	0.01315	0.1139204	0.0115473	0.1069599	1.45
Cancer - Female	0.0536808	0.2253935	0.039261	0.1944399	6.85
Cancer - Male	0.0031224	0.0557926	0.0023095	0.0480569	1.56
Cancer - Urinary	0.0043833	0.0660635	0	0	9.38
Cancer - Brain/Nervous	0.002582	0.0507489	0.0023095	0.0480569	0.55
Cancer - Thyroid	0.0055842	0.0745211	0.0046189	0.0678841	1.35
Cancer - Lymphoma	0.0043233	0.0656114	0	0	9.32
Cancer - Leukemia/Myeloma	0.0029422	0.0541642	0	0	7.68
Cancer - Other/Secondary	0.0073256	0.085278	0.0092379	0.0957796	-2.11
Cancer - Malignant Neoplasm	0.0028822	0.0536102	0.0046189	0.0678841	-2.84
Dementia	0.0172931	0.1303653	0.0115473	0.1069599	4.82
Mood (Depression) Disorder	0.5454545	0.4979445	0.3949192	0.4893988	30.51
Schizophrenia	0.0512189	0.2204506	0.0508083	0.2198601	0.19
Alcohol-related Disorder	0.1120452	0.3154315	0.0762125	0.2656447	12.29
Substance-related Disorder	0.3584124	0.4795485	0.2933025	0.4558026	13.93
Heart Attack (AMI)	0.0096673	0.0978492	0.0023095	0.0480569	9.55
Coronary Atheroscl/Heart Dis	0.068452	0.2525276	0.0854503	0.2798741	-6.38
Conduction Disorder	0.0251591	0.1566129	0.0230947	0.150378	1.35
Cardiac Dysrhythmia	0.1813378	0.3853094	0.0923788	0.2898948	26.10
Congestive Heart Failure	0.0266002	0.1609167	0.0484988	0.2150663	-11.54
Acute Cerebrovascular Dis	0.0193347	0.1377026	0.0207852	0.1428296	-1.03
Occl/Sten of Precerebral Arter	0.0097274	0.0981496	0.0138568	0.1170318	-3.83
Cerebrovascular Dis - Other	0.0064849	0.0802699	0.0092379	0.0957796	-3.12
Transient Cerebral Ischemia	0.0051639	0.0716768	0.0092379	0.0957796	-4.82
Rheumatoid Arthritis	0.0196349	0.1387463	0.0092379	0.0957796	8.72
Osteoarthritis	0.1913054	0.3933407	0.1224018	0.3281285	19.03
Osteoporosis	0.0171731	0.1299198	0.0277136	0.164341	-7.12
COPD	0.1399664	0.3469626	0.1893764	0.3922606	-13.35
Asthma	0.2347784	0.423873	0.2863741	0.4525893	-11.77
Renal Neph/Sclerosis	0.0058244	0.0760976	0.0023095	0.0480569	5.52
Chronic Kidney Disease	0.0354269	0.1848619	0.0415704	0.1998363	-3.19
Parkinson Disease	0.000480365	0.0219126	0.0069284	0.0830441	-10.63
Multiple Sclerosis	0.0062447	0.0787789	0.0046189	0.0678841	2.21
HIV	0.005224	0.0720902	0.0069284	0.0830441	-2.19
Hepatitis	0.0428726	0.2025759	0.0415704	0.1998363	0.65
Sickle Cell Anemia	0.0031824	0.0563248	0.0069284	0.0830441	-5.28
Cystic Fibrosis	0.0018614	0.0431052	0	0	6.11
Back Problems	0.6299388	0.4828353	0.4226328	0.4945495	42.44
Autism	0.0115288	0.1067545	0.0461894	0.2101378	-20.82
Obesity	0.3944998	0.4887577	0.4387991	0.4968143	-8.99
Hypothyroidism	0.1652456	0.3714132	0.1039261	0.3055176	18.04
Liver/Cirr Dis Non-viral	0.0874264	0.2824674	0.0554273	0.229077	12.45
Severe/Acute Conditions	0.1749129	0.379904	0.1939954	0.3958827	-4.92

CCHH Tier 2 “Acute/Severe Members Excluded” Analysis – Baseline Differences

Variable	CONTROL		TRMT		Standardized Difference (%)
	Mean	SD	Mean	SD	
Age	47.1083434	11.7439282	36.3967268	20.7656043	63.50
Gender (Fem='0',Male='1')	0.3673025	0.4821137	0.477707	0.5011012	-22.49
Hypertension - Essential	0.6321526	0.4822634	0.4267516	0.4961883	42.05
Hypertension - Compl/Second	0.0287012	0.1669805	0.0127389	0.1125042	11.22
Hyperlipidemia	0.5511353	0.4974235	0.3375796	0.4743976	44.01
Diabetes W/o Compl	0.3075386	0.4615163	0.2420382	0.4296879	14.71
Diabetes With Compl	0.1778383	0.3824113	0.133758	0.3414813	12.18
Cancer - Head/Neck	0.0034514	0.0586525	0	0	8.32
Cancer - Upper Gastrointest	0.000544959	0.0233401	0	0	3.30
Cancer - Lower Gastrointest	0.0039964	0.0630961	0	0	8.96
Cancer - Liver/Pancreas	0.000544959	0.0233401	0	0	3.30
Cancer - Lung	0.0016349	0.0404042	0	0	5.72
Cancer - Skin/Bone	0.0145322	0.1196815	0	0	17.17
Cancer - Breast	0.0158038	0.1247272	0.0063694	0.0798087	9.02
Cancer - Female	0.0417802	0.2001047	0.0254777	0.1580751	9.05
Cancer - Male	0.0030881	0.0554899	0	0	7.87
Cancer - Urinary	0.0043597	0.0658897	0	0	9.36
Cancer - Brain/Nervous	0.0016349	0.0404042	0	0	5.72
Cancer - Thyroid	0.0069028	0.0828035	0.0063694	0.0798087	0.66
Cancer - Lymphoma	0.0034514	0.0586525	0	0	8.32
Cancer - Leukemia/Myeloma	0.0016349	0.0404042	0	0	5.72
Cancer - Other/Secondary	0.0056312	0.0748368	0.0063694	0.0798087	-0.96
Cancer - Malignant Neoplasm	0.0010899	0.0329989	0	0	4.67
Dementia	0.009446	0.096739	0.0127389	0.1125042	-3.14
Mood (Depression) Disorder	0.4688465	0.4990738	0.2929936	0.456592	36.82
Schizophrenia	0.0386921	0.1928776	0.0636943	0.244989	-11.36
Alcohol-related Disorder	0.0728429	0.259902	0.044586	0.2070535	12.04
Substance-related Disorder	0.270663	0.4443427	0.2038217	0.404127	15.76
Heart Attack (AMI)	0.0081744	0.0900502	0	0	12.84
Coronary Atheroscl/Heart Dis	0.0741144	0.2619808	0.0573248	0.2332061	6.78
Conduction Disorder	0.0163488	0.1268243	0.0191083	0.1373437	-2.09
Cardiac Dysrhythmia	0.1342416	0.3409427	0.0382166	0.1923322	34.72
Congestive Heart Failure	0.0199818	0.1399504	0.0382166	0.1923322	-10.86
Acute Cerebrovascular Dis	0.0143506	0.1189421	0	0	17.06
Occl/Sten of Precerebral Arter	0.0098093	0.0985637	0.0063694	0.0798087	3.84
Cerebrovascular Dis - Other	0.0050863	0.0711431	0	0	10.11
Transient Cerebral Ischemia	0.0039964	0.0630961	0.0063694	0.0798087	-3.31
Rheumatoid Arthritis	0.0170754	0.1295641	0	0	18.64
Osteoarthritis	0.2065395	0.4048589	0.1210191	0.3271932	23.26
Osteoporosis	0.0170754	0.1295641	0.0382166	0.1923322	-12.92
COPD	0.128247	0.3343951	0.1401274	0.3482299	-3.49
Asthma	0.1791099	0.3834791	0.2547771	0.4371302	-18.44
Renal Neph/Sclerosis	0.0067212	0.0817141	0	0	11.63
Chronic Kidney Disease	0.0372389	0.1893638	0.0191083	0.1373437	10.97
Parkinson Disease	0.000544959	0.0233401	0.0127389	0.1125042	-15.05
Multiple Sclerosis	0.0069028	0.0828035	0	0	11.79
HIV	0.0058129	0.0760273	0.0063694	0.0798087	-0.72
Hepatitis	0.0392371	0.1941761	0.0127389	0.1125042	16.71
Sickle Cell Anemia	0.0012716	0.0356397	0	0	5.05
Cystic Fibrosis	0.0012716	0.0356397	0	0	5.05
Back Problems	0.5594914	0.4964933	0.3121019	0.4648339	51.52
Autism	0.0118074	0.1080285	0.0573248	0.2332061	-25.11
Obesity	0.4161671	0.4929667	0.4522293	0.4993054	-7.28
Hypothyroidism	0.1845595	0.387975	0.0828025	0.2764654	30.24
Liver/Cirr Dis Non-viral	0.0762943	0.2654925	0.0127389	0.1125042	31.19

CCHH Tier 3 “All Member” Analysis – Baseline Differences

Variable	CONTROL		TRMT		Standardized Difference (%)
	Mean	Std Dev	Mean	Std Dev	
Age	49.8296526	9.6918489	43.5756979	17.0957497	45.01
Gender (Fem='0',Male='1')	0.3573948	0.4792975	0.3905325	0.4893196	-6.85
Hypertension - Essential	0.8390773	0.3675095	0.6213018	0.4865043	50.61
Hypertension - Compl/Second	0.0985075	0.29804	0.0650888	0.2474155	12.22
Hyperlipidemia	0.7221167	0.4480163	0.5147929	0.5012664	43.69
Diabetes W/o Compl	0.4778833	0.4995784	0.2544379	0.4368391	47.68
Diabetes With Compl	0.3335142	0.4715324	0.2011834	0.4020762	30.24
Cancer - Head/Neck	0.0062415	0.078767	0.0118343	0.1084614	-5.91
Cancer - Upper Gastrointest	0.0010855	0.0329332	0.0059172	0.0769231	-8.19
Cancer - Lower Gastrointest	0.0157395	0.1244828	0.0118343	0.1084614	3.35
Cancer - Liver/Pancreas	0.0029851	0.0545616	0	0	7.74
Cancer - Lung	0.0056988	0.0752851	0.0059172	0.0769231	-0.29
Cancer - Skin/Bone	0.0233379	0.1509947	0.0118343	0.1084614	8.76
Cancer - Breast	0.0244233	0.1543804	0.0118343	0.1084614	9.45
Cancer - Female	0.046133	0.2098015	0.0414201	0.199852	2.30
Cancer - Male	0.0067843	0.0820979	0	0	11.69
Cancer - Urinary	0.012483	0.1110431	0.0059172	0.0769231	6.88
Cancer - Brain/Nervous	0.0018996	0.0435488	0	0	6.17
Cancer - Thyroid	0.0084125	0.0913454	0.0118343	0.1084614	-3.42
Cancer - Lymphoma	0.009498	0.0970067	0.0059172	0.0769231	4.10
Cancer - Leukemia/Myeloma	0.0054274	0.0734807	0	0	10.45
Cancer - Other/Secondary	0.0130258	0.1134002	0.0177515	0.1324392	-3.84
Cancer - Malignant Neoplasm	0.0032564	0.05698	0	0	8.08
Dementia	0.0369064	0.1885575	0.0177515	0.1324392	11.77
Mood (Depression) Disorder	0.6412483	0.4796992	0.591716	0.4929769	10.20
Schizophrenia	0.0914518	0.2882897	0.0828402	0.2764597	3.05
Alcohol-related Disorder	0.1443691	0.3515113	0.0946746	0.2936349	15.36
Substance-related Disorder	0.4925373	0.5000122	0.408284	0.4929769	17.00
Heart Attack (AMI)	0.0396201	0.1950914	0.035503	0.1855972	2.17
Coronary Atheroscl/Heart Dis	0.2559023	0.4364264	0.1420118	0.3500996	28.82
Conduction Disorder	0.068114	0.2519756	0.0473373	0.2129904	8.92
Cardiac Dysrhythmia	0.3473541	0.4761941	0.1775148	0.3832393	39.34
Congestive Heart Failure	0.1237449	0.329335	0.112426	0.3168286	3.51
Acute Cerebrovascular Dis	0.0588874	0.2354457	0.035503	0.1855972	11.04
Occl/Sten of Precerebral Arter	0.0409769	0.1982637	0.0177515	0.1324392	13.79
Cerebrovascular Dis - Other	0.0222524	0.1475233	0.0059172	0.0769231	13.90
Transient Cerebral Ischemia	0.0176391	0.1316535	0.0177515	0.1324392	-0.09
Rheumatoid Arthritis	0.0390773	0.1938053	0.0236686	0.1524663	8.85
Osteoarthritis	0.3864315	0.4869975	0.2485207	0.4334395	29.96
Osteoporosis	0.0431479	0.2032175	0.0295858	0.1699452	7.25
COPD	0.3924016	0.4883516	0.2781065	0.4493977	24.39
Asthma	0.2966079	0.4568241	0.3254438	0.4699328	-6.23
Renal Neph/Sclerosis	0.014654	0.1201798	0.0295858	0.1699452	-10.17
Chronic Kidney Disease	0.1115332	0.314834	0.0887574	0.2852384	7.59
Parkinson Disease	0.002171	0.0465493	0.0177515	0.1324392	-15.74
Multiple Sclerosis	0.0103121	0.1010372	0.0177515	0.1324392	-6.33
HIV	0.0043419	0.065759	0.0118343	0.1084614	-8.37
Hepatitis	0.0895522	0.285578	0.0710059	0.257598	6.83
Sickle Cell Anemia	0.0040706	0.0636796	0	0	9.04
Cystic Fibrosis	0.0013569	0.0368155	0	0	5.21
Back Problems	0.7402985	0.4385303	0.5443787	0.4995067	41.76
Autism	0.0040706	0.0636796	0.0118343	0.1084614	-8.75
Obesity	0.5641791	0.4959312	0.591716	0.4929769	-5.58
Hypothyroidism	0.2621438	0.4398601	0.2011834	0.4020762	14.49
Liver/Cirr Dis Non-viral	0.197829	0.3984166	0.0887574	0.2852384	31.51
Severe/Acute Conditions	0.319403	0.4663086	0.2366864	0.4263113	18.54

CCHH Tier 3 “Acute/Severe Members Excluded” Analysis – Baseline Differences

Variable	CONTROL		TRMT		Standardized Difference (%)
	Mean	SD	Mean	SD	
Age	51.8271762	8.4848959	42.4911103	19.2805712	62.68
Gender (Fem='0',Male='1')	0.3286979	0.4700371	0.3902439	0.4938648	-12.85
Hypertension - Essential	0.8786346	0.326758	0.5853659	0.498779	70.17
Hypertension - Compl/Second	0.0834387	0.2767191	0.0731707	0.2636517	3.82
Hyperlipidemia	0.8040455	0.3971848	0.4878049	0.5060608	70.07
Diabetes W/o Compl	0.5360303	0.4990157	0.2439024	0.4347694	62.77
Diabetes With Compl	0.3476612	0.4765291	0.1219512	0.3312946	55.24
Cancer - Head/Neck	0.0025284	0.0502518	0	0	7.12
Cancer - Upper Gastrointest	0.0025284	0.0502518	0	0	7.12
Cancer - Lower Gastrointest	0.0139064	0.1171769	0.0243902	0.1561738	-7.66
Cancer - Liver/Pancreas	0	0	0	0	0.00
Cancer - Lung	0.0012642	0.0355559	0	0	5.03
Cancer - Skin/Bone	0.022756	0.149219	0.0243902	0.1561738	-1.08
Cancer - Breast	0.0353982	0.1849011	0.0243902	0.1561738	6.47
Cancer - Female	0.0480405	0.2139871	0.0487805	0.2180848	-0.34
Cancer - Male	0.0075853	0.0868178	0	0	12.36
Cancer - Urinary	0.0202276	0.1408669	0.0243902	0.1561738	-2.82
Cancer - Brain/Nervous	0.0025284	0.0502518	0	0	7.12
Cancer - Thyroid	0.0088496	0.0937142	0	0	13.36
Cancer - Lymphoma	0.0126422	0.1117953	0	0	16.00
Cancer - Leukemia/Myeloma	0.0063211	0.0793039	0	0	11.28
Cancer - Other/Secondary	0.0088496	0.0937142	0	0	13.36
Cancer - Malignant Neoplasm	0.0012642	0.0355559	0	0	5.03
Dementia	0.011378	0.1061263	0.0243902	0.1561738	-9.83
Mood (Depression) Disorder	0.6042984	0.4893103	0.5365854	0.5048545	13.71
Schizophrenia	0.0745891	0.2628934	0.0243902	0.1561738	23.30
Alcohol-related Disorder	0.0922882	0.2896155	0.0243902	0.1561738	29.28
Substance-related Disorder	0.4285714	0.4951848	0.3414634	0.4800915	17.97
Heart Attack (AMI)	0.0214918	0.1451086	0	0	20.96
Coronary Atheroscl/Heart Dis	0.2819216	0.45022	0.0487805	0.2180848	66.10
Conduction Disorder	0.0581542	0.2341829	0	0	35.14
Cardiac Dysrhythmia	0.2642225	0.4411973	0.0487805	0.2180848	62.09
Congestive Heart Failure	0.0935525	0.2913893	0.0487805	0.2180848	17.48
Acute Cerebrovascular Dis	0.0379267	0.1911398	0.0487805	0.2180848	-5.33
Occl/Sten of Precerebral Arter	0.0505689	0.2192543	0.0243902	0.1561738	13.82
Cerebrovascular Dis - Other	0.0151707	0.1223088	0	0	17.55
Transient Cerebral Ischemia	0.0126422	0.1117953	0	0	16.00
Rheumatoid Arthritis	0.0353982	0.1849011	0.0243902	0.1561738	6.47
Osteoarthritis	0.3817952	0.4861341	0.2439024	0.4347694	30.07
Osteoporosis	0.0391909	0.1941717	0	0	28.56
COPD	0.391909	0.4884854	0.1707317	0.3809488	50.75
Asthma	0.2642225	0.4411973	0.195122	0.4012177	16.48
Renal Neph/Sclerosis	0.0139064	0.1171769	0	0	16.79
Chronic Kidney Disease	0.0960809	0.2948886	0.1219512	0.3312946	-8.31
Parkinson Disease	0.0012642	0.0355559	0	0	5.03
Multiple Sclerosis	0.0063211	0.0793039	0.0487805	0.2180848	-26.16
HIV	0.0050569	0.0709767	0	0	10.08
Hepatitis	0.091024	0.2878253	0.0243902	0.1561738	28.87
Sickle Cell Anemia	0.0012642	0.0355559	0	0	5.03
Cystic Fibrosis	0.0012642	0.0355559	0	0	5.03
Back Problems	0.7509482	0.4327375	0.4146341	0.498779	72.55
Autism	0.0025284	0.0502518	0.0243902	0.1561738	-19.06
Obesity	0.5903919	0.4920726	0.5365854	0.5048545	10.87
Hypothyroidism	0.2958281	0.4567029	0.1707317	0.3809488	29.91
Liver/Cirr Dis Non-viral	0.1554994	0.3626094	0.0731707	0.2636517	26.09

CCHH Tier 4 “All Member” Analysis – Baseline Differences

Variable	CONTROL		TRMT		Standardized Difference (%)
	Mean	Std Dev	Mean	Std Dev	
Age	52.7742883	7.926838	45.3372145	16.733909	56.80
Gender (Fem='0',Male='1')	0.3501292	0.4773187	0.2417582	0.4305206	23.91
Hypertension - Essential	0.9405685	0.2365835	0.6923077	0.4640955	67.70
Hypertension - Compl/Second	0.2583979	0.4380369	0.1538462	0.3628001	26.06
Hyperlipidemia	0.8682171	0.3384734	0.5164835	0.5024968	82.43
Diabetes W/o Compl	0.6369509	0.4811898	0.4505495	0.5003052	38.10
Diabetes With Compl	0.5607235	0.4966199	0.3846154	0.4891996	35.84
Cancer - Head/Neck	0.0129199	0.1130021	0	0	16.18
Cancer - Upper Gastrointest	0.0064599	0.0801656	0	0	11.40
Cancer - Lower Gastrointest	0.0180879	0.1333554	0	0	19.19
Cancer - Liver/Pancreas	0.0064599	0.0801656	0.010989	0.1048285	-4.87
Cancer - Lung	0.0232558	0.1508124	0	0	21.82
Cancer - Skin/Bone	0.0387597	0.1931465	0.010989	0.1048285	17.90
Cancer - Breast	0.0387597	0.1931465	0.043956	0.2061331	-2.61
Cancer - Female	0.0813953	0.2736181	0.032967	0.1795395	20.97
Cancer - Male	0.0090439	0.0947298	0	0	13.51
Cancer - Urinary	0.0219638	0.1466602	0.010989	0.1048285	8.63
Cancer - Brain/Nervous	0.002584	0.0508	0	0	7.20
Cancer - Thyroid	0.0129199	0.1130021	0	0	16.18
Cancer - Lymphoma	0.005168	0.0717489	0	0	10.19
Cancer - Leukemia/Myeloma	0.0090439	0.0947298	0.021978	0.147424	-10.48
Cancer - Other/Secondary	0.0284238	0.1662877	0	0	24.19
Cancer - Malignant Neoplasm	0.005168	0.0717489	0	0	10.19
Dementia	0.1007752	0.3012255	0.043956	0.2061331	22.06
Mood (Depression) Disorder	0.7596899	0.427548	0.6373626	0.4834249	26.90
Schizophrenia	0.1524548	0.3596936	0.0659341	0.2495417	28.01
Alcohol-related Disorder	0.1498708	0.3571755	0.0879121	0.2847358	19.23
Substance-related Disorder	0.6524548	0.4764986	0.4615385	0.5012804	39.16
Heart Attack (AMI)	0.1175711	0.3223078	0.010989	0.1048285	44.52
Coronary Atheroscl/Heart Dis	0.5788114	0.494069	0.1868132	0.3919209	88.13
Conduction Disorder	0.1821705	0.3862346	0.0769231	0.2679457	31.73
Cardiac Dysrhythmia	0.5749354	0.4946725	0.2857143	0.4542568	61.08
Congestive Heart Failure	0.4224806	0.4942736	0.1648352	0.3730873	58.98
Acute Cerebrovascular Dis	0.1343669	0.3412666	0.043956	0.2061331	32.13
Occl/Sten of Precerebral Arter	0.1149871	0.3192126	0.010989	0.1048285	43.82
Cerebrovascular Dis - Other	0.0658915	0.2482527	0.021978	0.147424	21.55
Transient Cerebral Ischemia	0.0465116	0.2107265	0.010989	0.1048285	21.38
Rheumatoid Arthritis	0.0633075	0.2436727	0.021978	0.147424	20.56
Osteoarthritis	0.5813953	0.4936493	0.3076923	0.4640955	57.30
Osteoporosis	0.0749354	0.2634573	0.032967	0.1795395	18.66
COPD	0.7273902	0.4455898	0.2967033	0.4593354	95.48
Asthma	0.3488372	0.4769105	0.3516484	0.4801302	-0.59
Renal Neph/Sclerosis	0.0322997	0.1769093	0.010989	0.1048285	14.68
Chronic Kidney Disease	0.2777778	0.4481928	0.2087912	0.4086967	16.13
Parkinson Disease	0.0090439	0.0947298	0	0	13.51
Multiple Sclerosis	0.0245478	0.1548425	0	0	22.43
HIV	0.0077519	0.0877599	0	0	12.50
Hepatitis	0.1614987	0.3682283	0.1208791	0.3277928	11.68
Sickle Cell Anemia	0.005168	0.0717489	0	0	10.19
Cystic Fibrosis	0.002584	0.0508	0	0	7.20
Back Problems	0.8217054	0.383008	0.6593407	0.4765566	37.69
Autism	0.001292	0.0359443	0.032967	0.1795395	-24.60
Obesity	0.6757106	0.4684114	0.5934066	0.4939191	17.15
Hypothyroidism	0.3255814	0.4688947	0.2857143	0.4542568	8.66
Liver/Cirr Dis Non-viral	0.3087855	0.4622912	0.2417582	0.4305206	15.05
Severe/Acute Conditions	0.5956072	0.4910915	0.2857143	0.4542568	65.70

CCHH Tier 4 “Acute/Severe Members Excluded” Analysis – Baseline Differences

Variable	CONTROL		TRMT		Standardized Difference (%)
	Mean	SD	Mean	SD	
Age	54.4231446	6.5393709	44.3138143	18.2373832	73.79
Gender (Fem='0',Male='1')	0.3035714	0.4639609	0.2413793	0.4354942	14.00
Hypertension - Essential	1	0	0.7931034	0.4122508	72.23
Hypertension - Compl/Second	0.0714286	0.2598701	0.1034483	0.309934	-11.35
Hyperlipidemia	0.875	0.3337119	0.4137931	0.50123	109.94
Diabetes W/o Compl	0.6071429	0.4928054	0.4137931	0.50123	39.42
Diabetes With Compl	0.4821429	0.5042031	0.3793103	0.493804	20.88
Cancer - Head/Neck	0	0	0	0	0.00
Cancer - Upper Gastrointest	0	0	0	0	0.00
Cancer - Lower Gastrointest	0.0178571	0.1336306	0	0	19.07
Cancer - Liver/Pancreas	0	0	0	0	0.00
Cancer - Lung	0	0	0	0	0.00
Cancer - Skin/Bone	0.0178571	0.1336306	0	0	19.07
Cancer - Breast	0.0178571	0.1336306	0	0	19.07
Cancer - Female	0.1071429	0.3120939	0.0344828	0.1856953	28.61
Cancer - Male	0	0	0	0	0.00
Cancer - Urinary	0	0	0.0344828	0.1856953	-26.73
Cancer - Brain/Nervous	0.0178571	0.1336306	0	0	19.07
Cancer - Thyroid	0.0357143	0.1872563	0	0	27.22
Cancer - Lymphoma	0	0	0	0	0.00
Cancer - Leukemia/Myeloma	0	0	0.0344828	0.1856953	-26.73
Cancer - Other/Secondary	0.0357143	0.1872563	0	0	27.22
Cancer - Malignant Neoplasm	0	0	0	0	0.00
Dementia	0.0535714	0.2272078	0.0344828	0.1856953	9.31
Mood (Depression) Disorder	0.625	0.4885042	0.5517241	0.5061202	14.93
Schizophrenia	0.0714286	0.2598701	0.1034483	0.309934	-11.35
Alcohol-related Disorder	0.0892857	0.2877364	0.0344828	0.1856953	22.89
Substance-related Disorder	0.6607143	0.4777518	0.3793103	0.493804	58.70
Heart Attack (AMI)	0	0	0.0344828	0.1856953	-26.73
Coronary Atheroscl/Heart Dis	0.6428571	0.4834938	0.0344828	0.1856953	167.80
Conduction Disorder	0.1428571	0.3530939	0.0344828	0.1856953	38.84
Cardiac Dysrhythmia	0.3392857	0.4777518	0.1724138	0.3844259	38.96
Congestive Heart Failure	0.2321429	0.4260205	0.0689655	0.2578807	46.87
Acute Cerebrovascular Dis	0.0714286	0.2598701	0	0	39.22
Occl/Sten of Precerebral Arter	0.1785714	0.3864591	0	0	65.94
Cerebrovascular Dis - Other	0.0178571	0.1336306	0	0	19.07
Transient Cerebral Ischemia	0.0892857	0.2877364	0	0	44.28
Rheumatoid Arthritis	0.0535714	0.2272078	0.0344828	0.1856953	9.31
Osteoarthritis	0.5178571	0.5042031	0.2413793	0.4354942	59.43
Osteoporosis	0.1428571	0.3530939	0	0	57.74
COPD	0.6964286	0.4639609	0.2758621	0.4548588	92.75
Asthma	0.2678571	0.4468505	0.3448276	0.4837253	-16.76
Renal Neph/Sclerosis	0	0	0.0344828	0.1856953	-26.73
Chronic Kidney Disease	0.1428571	0.3530939	0.1724138	0.3844259	-8.12
Parkinson Disease	0	0	0	0	0.00
Multiple Sclerosis	0.0178571	0.1336306	0	0	19.07
HIV	0	0	0	0	0.00
Hepatitis	0.2321429	0.4260205	0.1034483	0.309934	34.96
Sickle Cell Anemia	0	0	0	0	0.00
Cystic Fibrosis	0	0	0	0	0.00
Back Problems	0.8214286	0.3864591	0.4827586	0.5085476	76.07
Autism	0	0	0	0	0.00
Obesity	0.7678571	0.4260205	0.5862069	0.50123	39.60
Hypothyroidism	0.4464286	0.5016207	0.2068966	0.4122508	52.83
Liver/Cirr Dis Non-viral	0.3214286	0.4712514	0.2413793	0.4354942	17.87

Caveats and Limitations

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