

L.A. Care eManagement Evaluation

Final Report

Prepared for L.A. Care Health Plan and
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Introduction

L.A. Care Health Plan (L.A. Care) is the nation's largest publicly operated health plan, serving over two million members across five health plans. In October 2016, building on the success of eConsult, a technology application connecting primary care providers (herein referred to as "providers") to specialists, L.A. Care launched a behavioral health technology application called eManagement. The eManagement program facilitates linkages between providers and behavioral health specialists and supports earlier detection and screening for behavioral health conditions in order to improve quality and delivery of behavioral health care services for L.A. Care members. In the eManagement program, providers can screen for anxiety, depression, and alcohol use using a pre-screen tool (and a follow-up full screen as appropriate) and can subsequently engage with a consulting psychiatrist to ensure compliance with best practices and provide medication management to members as needed. If necessary, a referral to a behavioral health specialist for a face-to-face consultation can be initiated and tracked.

In January 2018, L.A. Care and the California Health Care Foundation (CHCF) engaged [JSI Research & Training Institute, Inc. \(JSI\)](#), a public health research and consulting organization, to study the implementation of eManagement and to evaluate its effectiveness in improving providers' behavioral health practices as well as member-level health care utilization and health care outcomes for L.A. Care members.

This report summarizes findings from JSI's data collection and analysis. The report includes a brief description of the evaluation goals and methods, followed by key findings and recommendations, for program refinement, sustainability, and scaling. To conduct a more robust evaluation and address the limitations of a lack of a control group, JSI employed a quasi-experimental approach to categorize providers into two groups: high and low users of eManagement, based on their actual utilization of eManagement. Members of these providers were then categorized into two groups: members of high users comprise the "intervention group" while members of low users comprise a "comparison group".

The findings are organized into the following sections:

- Who are eManagement users?
- How do high and low users and their members differ in their experience of eManagement?
- What has the impact of using eManagement been on provider practice change and member level outcomes comparing members of high versus low users?

Evaluation Goals, Design & Questions

Goals

The primary goals of the evaluation were to study the implementation of eManagement, by comprehensively understanding the experience of users, and to evaluate its effectiveness in improving providers' behavioral health knowledge and screening practices, as well as quality of care and health outcomes for members. The evaluation also aimed to contribute to the evidence base by identifying promising practices (e.g., use of incentives, outreach, real-time strategy refinement, etc.) and key considerations when designing and testing technology-based solutions in primary health care.

Design

The evaluation focused broadly on three main domains: provider experience, quality of care, and health outcomes. Given the parameters of the evaluation project (timeline and resources) and data availability, the evaluation focused on health care utilization outcomes (emergency department visits, inpatient admissions, and outpatient visits) associated with a behavioral health diagnosis as a proxy for quality of care and health outcomes. Health outcomes were also assessed through an evaluation of behavioral health diagnoses among members receiving multiple screenings in eManagement.

In addition, a mixed-method design was employed compiling and/or collecting qualitative and quantitative data, and a quasi-experimental approach was used to create two groups of provider users (high users and low users). Members of users were then categorized into two groups: (1) members of high users, subsequently referred to as the "intervention group"; and (2) members of low users, subsequently referred to as the "comparison group".

This decision was informed by several factors. First, the program implementation strategy (i.e., eManagement was offered to all L.A. Care providers meeting certain criteria and with rolling enrollment) limited the ability to conduct a rigorous experimental analysis. Second, evaluations of other technology applications show that technology adoption entails behavior and practice changes and takes time (Barnett et. al 2017)ⁱ. As such, there are often different types of users—early adopters vs. others who may need more touchpoints and higher engagement, and still others who may also need additional resources in order to get started. To address the lack of a control group and meet the evaluation goals of comprehensively understanding eManagement users, a quasi-experimental design was used to categorize providers and their members into these two groups. Most analyses and findings described in this report compare and contrast the experiences, practices, perceptions and outcomes of interest among these two types of users and their respective groups of members.

Provider High/Low Classification Criteria. The evaluation included providers (and their members) who enrolled in the eManagement program between October 1, 2016, and March 31, 2018. In collaboration with L.A. Care and CHCF, JSI developed three criteria for classifying providers as high or low users of

eManagement. Providers meeting at least one of the following criteria as of July 2018 were considered high users¹:

1. Criterion 1: Screened at least 25% of patient panel (n=16)
2. Criterion 2: Conducted 20 or more screens per month of provider eManagement enrollment (n=8)
3. Criterion 3: Conducted 100 or more screens since joining the program (n=9)

All other providers were considered low users (n=70), including providers who were trained and enrolled in the system but never entered a screening into eManagement (n=22). The provider classification was conducted using eManagement program data from July 2018. High and low classifications are used throughout the report, including for the analysis of survey and program data.

Evaluation Questions

Table 1 maps evaluation goals and domains to evaluation questions. This report synthesizes findings collected from various data sources to provide key findings in response to the specific evaluation questions as described below.

Table 1. Key Questions by Goal and Evaluation Domain

Evaluation Domains	Evaluation Questions
Goal #1: Explore the implementation of the eManagement program	
Provider Experience	1. What are providers' perceptions of, experience with, and satisfaction with eManagement? How do perceptions differ across high and low users of eManagement? Do providers adopt screening as part of their workflow for all appointments?
	2. What are the key drivers and barriers to eManagement utilization, including the role of incentives? How do perceptions differ across high and low users of eManagement?
	3. What are L.A. Care program staff's perceptions of, experience with, and satisfaction with the eManagement recruitment, implementation, and support process? ²

¹ After removing pediatricians and providers enrolled for less than three months, the three criteria were applied sequentially to the population of eManagement users; Criteria 2 was only applied to those providers who did not meet Criteria 1, and Criteria 3 was only applied to those who did not meet either Criteria 1 or 2.

² Program staff's perceptions of, experience with, and satisfaction with the eManagement recruitment, implementation, and support process were gathered from JSI's interview with the L.A. Care team in 2018 prior to launching the provider survey. As this information was gathered from only one data point, the findings from this interview are included in Appendix.

Goal #2: Evaluate the effectiveness of the eManagement program in improving providers' behavioral health screening and referral practices, and quality and health care outcomes among their members

Provider Experience	4. What are the differences in utilization of behavioral health screening tools and behavioral health diagnoses among providers who are high and low users of eManagement?
Quality of Care	5. What are the pre/post differences in utilization of outpatient behavioral health services per thousand member years comparing members of providers who are high and low users?
	6. What are the pre/post differences in emergency department (ED) visits and inpatient (IP) admissions associated with behavioral health conditions per thousand member years comparing members of providers who are high and low users?
Health Outcomes	7. Among the subset of members who received repeat screening, what are the differences in screening scores which may be indicative of changes in member health outcomes comparing members of providers who are high and low users?

Analytic Approach

The evaluation had two units of analysis: providers and their assigned L.A. Care members. Data sources included: 1) provider-level data — eManagement program data, encounter data, data from in-depth interviews, and a survey with providers, and 2) member-level data — eManagement program data, utilization, enrollment, and risk scores data. Table 2 and Figure 1 provide an overview of the data sources and evaluation timeline, mapping each evaluation questions by data source.

Inclusion Criteria. To be included in the evaluation, providers had to have enrolled in the eManagement program between October 1, 2016, and March 31, 2018, in order to allow them at least three months to develop patterns of eManagement use and/or opinions regarding the program before being asked to respond to a provider experience and satisfaction survey in June/July 2018. We excluded pediatric providers and providers who were not currently enrolled in eManagement as of July 2018. Applying these eligibility criteria, the total number of providers included in the analysis was 103.³ Consistent with standard assessment durations used in program evaluations, a six-month minimum continuous enrollment criteria was applied as an evaluation inclusion criteria for members. L.A. Care members assigned to the providers included in the evaluation had to have at least one six-month continuous enrollment period with L.A. Care after the date that their assigned provider enrolled in eManagement.

³ Upon reviewing data for the claims analysis, we found that some providers labeled as “pediatric” providers were actually serving a significant number of adult members. As a result, all 117 providers who enrolled in the program between October 1, 2016, and March 31, 2018 who were currently enrolled as of July 2018 were included in the claims analysis.

Applying this criteria, the total sample size of adult members included in the analysis was 75,111, and pediatric members (between the ages of 13 and 17) was 19,334. Due to the eManagement focus on adult members and the small number of health utilization encounters for pediatric clients, this report focused on analysis and findings only for adult members.

Analysis. Descriptive analysis was conducted on the eManagement program data and survey data. Bivariate analysis was conducted with survey data to compare responses between high and low providers. Thematic coding was conducted on all qualitative data. At the member level, bivariate analysis was conducted to compare intervention and comparison group members on demographics and risk scores. To study utilization trends over time, total utilization per thousand member years (PTMY) was calculated for six-month intervals from six months⁴ before the member's assigned provider joined eManagement up to 24 months post-eManagement initiation. Given that eManagement enrollment happened on a rolling basis, it was not possible to have a single pre/post-intervention date across providers and members. To address this issue, JSI created six enrollment periods based on the distribution of providers' eManagement enrollment dates. Each individual member's pre- and post- time periods were calculated based on their respective provider's eManagement enrollment period. Finally, subset analyses were conducted to study utilization trends among several subgroups. Sample and analysis methods are described in detail in the Appendix.

Table 2. Overview of Data Sources

Data Sources	Evaluation Questions Addressed	Time period	Sample Details
L.A. Care Team Interview	#3	February, 2018 – Interview April, 2018 – Demo	One phone interview with L.A. Care implementation team and one virtual demonstration of program training that L.A. Care does with providers. ⁵
eManagement Program Data	#1, #4	October 2016 – December 2018	eManagement aggregate program data; data updated as of December 2018. Complete sample: 103 providers.
Encounter Data	#4	October 2016 – December 2018	Data on total number of patient encounters from Go Live date. Complete sample: 264,602 encounters for n=111 providers.

⁴ Data for 7-12 months pre-intervention were analyzed, but excluded from this analysis after consulting with L.A. Care due to the small number of members with enrollment and utilization data in this specific time period.

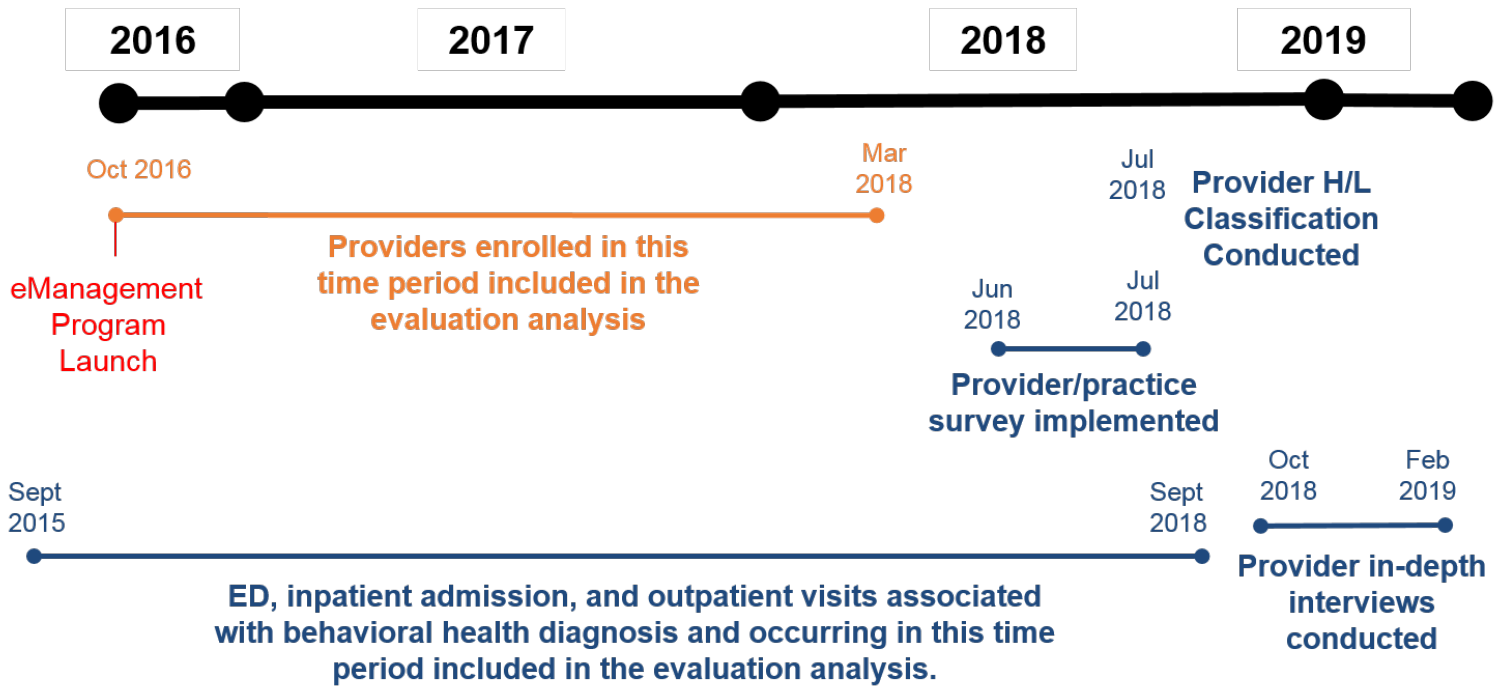
⁵ As described above, the findings from this interview are included in the Appendix.

Dual Screening Program Data	#7	October 2016 – November 2018	Data on patients who received dual screenings as of November 2018. Complete sample: 9,855 screenings completed on 3,471 members.
Provider Survey	#1, #2	June 2018- July 2018	Data from providers who completed online survey. Complete Sample: 37 providers (26 high users, 11 low users). Response Rate: 46% (81 surveys sent out).
Provider Interviews	#1, #2	October 2018 – February 2019	Data from providers who completed phone interview. Complete Sample: 12 providers (6 high users, 5 low users, 1 specialty reviewer).
Claims and Enrollment Data	#5, #6	September 2015 – September 2018	Data on L.A. Care members who were patients of providers included in evaluation study. Complete sample included 94,445 members assigned to 117 providers; 75,111 adult members (18 and above) and 19,334 pediatric members (13-17 years of age). This report includes analysis of adult members only. ⁶

⁶ Due to the eManagement focus on adult members and the small number of health utilization events for pediatric clients, this report focused on analysis and findings only for adult members.

Evaluation Project Timeline

Figure 1. Project Timeline



Summary of Key Findings

Below, we summarize key findings that emerged from our analysis.

1) High users of eManagement have distinct demographic and practice-related characteristics that may encourage greater eManagement use. An analysis of demographic and practice characteristics data for high and low eManagement users indicated that high users of eManagement were more likely to be under 60 years old (71% of high compared to 43% of low users). Half of all practices that included high users of eManagement had three or more providers as part of their practice, as compared to just 4% of low user practices. Relatedly, all practices with 15 or more staff members included high users, while 78% of low users worked in practices with only one provider on staff. Further, the data revealed that having a larger practice was associated with greater eManagement use. Practices with more than one clinician on staff were twice as likely to report daily screening administration and reported data entry within two business days (82% high user practices as compared to 29% low user practices). Overall, users also felt that eManagement is easier to use for practices with quick access to desktops and/or tablets in their offices and for providers/staff who are already familiar with technology and its implementation in their practices.

***Recommendation:** As L.A. Care thinks about refining eManagement they, may want to consider customizing outreach and operational support by type of use. A one-size-fits-all model may not be most efficient, especially with users who require more engagement than others. With time and capacity likely being serious barriers to use for smaller practices, L.A. Care may also need to consider program adaptation and/or additional resources necessary to sustain smaller practices.*

2) High users comprise a smaller proportion of the total member panel, yet they are using eManagement more consistently. High users represent less than half of the total patient panel of providers using eManagement, yet account for 86% of all entered screenings and 86% of all dialogues submitted to date. High users averaged 22.1 screenings per month of provider enrollment in eManagement, while low users averaged only 2.1 screenings per month of enrollment. High users entered a dialogue in 23% of their opportunities to consult as compared to low users who entered dialogues in 14%, submitting 201 screens and 33 screens, respectively. While these numbers collectively represent providers submitting dialogues in less than half of all opportunities to consult, several high users in interviews noted that, over time, the decision not to consult came from their ability to manage mild to moderate behavioral health conditions on their own. Importantly, 91% of closed consultations (most of which were done by high users) were closed as “patient needs addressed”, suggesting the impact of the program on improving provider knowledge and ability to offer quality behavioral health care. High users were more likely to point to quicker access to specialist consultations as an impact of the program (86% of high users vs. 61% of low users) — a finding echoed in provider interviews.

***Recommendation:** L.A. Care may want to consider ways to identify, motivate and sustain eManagement use among high users, such as engaging them as peer champions to promote eManagement within their networks. This may be a way to maximize impact and return on investment (ROI) over the long term.*

3) Experience with eManagement in the initial months following enrollment is essential to continued engagement with the system. In general, those who use eManagement soon after their “Go Live” date are more likely to sustain use of the program over time and become high users. For both high and low users, the number of screenings each provider conducted per month peaked within the first four months of their eManagement use, and then gradually declined in the months that followed. Additionally, providers noted the importance of their early experience with the technology; those that faced challenges during their first uses of the system were less likely to continue to use the program.

Recommendation: An important operational strategy may be encouraging providers to start screening and using the system immediately after training, including by aligning incentives to motivate rapid use. Additionally, building in touchpoints and reminders to regularly re-engage with providers as early as three-to-four months after the initial training may help sustain practice change.

4) Despite high satisfaction with eManagement, deeper inquiry revealed several opportunities for improvement, particularly relating to the user-friendliness and efficiency of eManagement.

Although the majority of interviewees had no concrete suggestions for platform improvement, they emphasized the time it takes to learn how to use the platform. User experience challenges early on may be a deterrent to adoption. A few providers noted difficulty pulling up patient records when they started using eManagement. Integration of eManagement into electronic medical records (EMRs) may be necessary for consistent and sustained adoption. Many interviewees expressed that using eManagement (particularly the step of data entry into the eManagement online platform) was an “add-on step” to their regular workflow since eManagement was not integrated with their existing EMRs.

Recommendation: L.A. Care may want to consider working with their developers to refine the program to better meet user needs. Rapid user testing with a wide range of provider types may support quicker iterations and program refinement.

5) Most practices, including high-use providers, are using eManagement selectively rather than as a standard part of their practice workflow.

On average, providers who were enrolled in eManagement as of December 2018 had conducted screenings in only 9.7% of their patient encounters (i.e., visits) during their period of enrollment. This ranged from 0.1% of patient encounters to 63.4% of patient encounters for the most frequently using provider. Most providers (both high and low users) are screening during less than one-tenth of their patient encounters. However, it is possible that practice change is more extensive than reflected by the data. Interviews revealed that providers may be conducting the screening but not entering the data into the eManagement system due to data-entry burden. Further, since only the first screen per patient per year is incentivized, providers and their staff may not be taking the time to enter un-incentivized repeat pre-screens (especially those that are negative) into the eManagement system.

***Recommendation:** L.A. Care may want to consider better defining and marketing the value proposition of the tool, emphasizing the benefits and ROI of universal screening and the consult features. Convening primary care practitioners and specialists to ‘try out’ the tool and subsequently facilitating online practice networks may one way to manage ongoing challenges, elevate best practices and support greater use.*

6) Both intervention and comparison group members experienced a decline in Emergency Department (ED) visits and inpatient admissions and an increase in outpatient visits, suggesting that eManagement may be effective in redirecting members from high-cost utilization to outpatient services over time. Analysis of utilization data associated with behavioral health diagnosis showed that both intervention and comparison group members experienced a decline in high-cost utilization over time and an increase in outpatient visits. Although the two groups were not similar at baseline and the study design limits the ability to establish causation and attribute utilization differences entirely to the eManagement program, all utilization trends followed the desired direction, with high-cost utilization steadily declining over time and outpatient visits PTMY steadily increasing over time. Further, comparison group members’ Emergency Department (ED) visits PTMY were higher than the intervention group members’ ED visits PTMY, with some fluctuation. Intervention group members’ outpatient visits PTMY were lower than that of comparison group members at all time-points, but increased at the post 19-24 month time period and rose higher than the comparison group members’ visits PTMY.

***Recommendation:** These analyses could be repeated using more recent claims data to assess the extent to which these patterns are sustained over time. Further, depending on L.A. Care’s need for rigor, the high/low provider classification could also be repeated adding a third year of data (2019) to better assess the long-term effectiveness of eManagement.*

7) A sustained downward trend in high-cost service utilization—ED visits and inpatient admissions—and an upward trend in outpatient utilization was most prominent among the subset of members who received at least one eManagement screening. High users did not use eManagement on all their members (data suggests that a high user screens one in four members). A subset analysis was conducted to compare utilization trends for members who ‘ever received an eManagement screen’ vs. members who ‘never received eManagement screen’. Analysis showed that members who received screening experienced more rapid and sustained declines in ED visits and inpatient admissions PTMY among both intervention and comparison groups. Those who received screening had higher outpatient visits PTMY at all time points compared to those who did not receive screening. Further, after a decline in outpatient visits PTMY until the post 13-18 month period, members who received a screening saw a much steeper increase as compared to those who did not receive a screening.

***Recommendation:** These analyses could be repeated using more recent claims data to assess the extent to which these patterns are sustained over time. Further analysis comparing trends among patients with more than one screening may reveal interesting patterns regarding eManagement effectiveness.*

8) Slight differences in utilization trends by race/ethnicity suggests that eManagement may be working differentially by member race/ethnicity. To better understand if there were differences in utilization trends by race/ethnicity, data were disaggregated by race and subset analyses were conducted to compare utilization trends both across and within each race/ethnicity subgroup. White intervention group members experienced a steady decline in ED visits PTMY from post 0-6 months to post 19-24 months, while Hispanic/Latinx intervention members experienced a decline until the post 7-12 month period followed by an increase in the next two time periods. Black intervention members similarly experienced a decline until post the 7-12 month period, followed by an increase in the post 13-18 month period, only to decline again in the post 19-24 month period. Similarly, while inpatient admissions for White intervention members declined, Black and Hispanic/Latinx members' inpatient admissions PTMY fluctuated. Outpatient visits PTMY for all three races followed similar trends, declining for the first 12 to 18 months and then increasing in subsequent time periods.

***Recommendation:** Given the racial/ethnic diversity in L.A. Care's membership, further analysis may be warranted to understand the root causes behind differential outcomes by race/ethnicity. This could include association studies (e.g., correlations and regressions) to understand factors associated with a favorable shift in utilization trends, as well as qualitative research to understand provider and patient perspectives on patient-provider relationships and quality of care and treatment adherence.*

9) Subset analysis among members receiving more than one eManagement screen indicates that eManagement may be supporting detection of behavioral health conditions among L.A. Care members, as well as improvement of existing conditions. Analysis of repeat screenings in eManagement found that over half of members with repeat screening tests showed an improvement in their condition, reflected by a lower score on the screening test. Conversely, roughly a third of members had a new diagnosis detected on a re-screen, reflected by a repeat screening test revealing a diagnosis that was not detected on the previous screen. These findings indicate that the use of eManagement may be supporting timely detection of behavioral health conditions, and potentially improving conditions through earlier screening, detection, and access to treatment.

***Recommendation:** Sharing the evidence of eManagement's potential impact on behavioral health condition detection and treatment could be motivating for providers who are considering using eManagement; communicating these potential impacts could lead to increased use of the program.*

10) Incentives may play a role in driving initial practice change. The majority of the survey respondents (76% all users, 100% high users, and 61% of low users) indicated that the financial incentives offered by L.A. Care for completing screenings and entering the data were an important factor in their decision to participate in eManagement. In contrast, in the interviews most providers reported that incentives were "nice to have" but not essential. Many did go on to elaborate that they would likely not have started using eManagement without an incentive; some providers further explained that the incentive was helpful in covering the additional staff time required to use eManagement, particularly the additional

data-entry step. Taken together, the data suggest that incentives may be important in motivating getting providers to try out a new program, even if in conversation some providers may be hesitant to report the degree to which a small financial incentive is a motivating factor for them to participate in the program.

Recommendation: *Incentives may have been key to getting providers started, and may be a strategy to continue while engaging new providers. One-time incentives alone, however, may not support the scale of change needed, and L.A. Care may want to consider other high-touch engagement and motivation strategies as described above.*

Detailed Findings

Who Are eManagement Users?

High Users



42% are less than
60 years old



33% have at least 3 clinicians
on staff



60% have at least 6 staff
members on their team (and
24% have at least 15)



48% are general
practitioners

Low Users

69% at least
60 years old

70% have only 1
clinician on staff

71% have between 2-5 staff
members on their team

47% are family practitioners

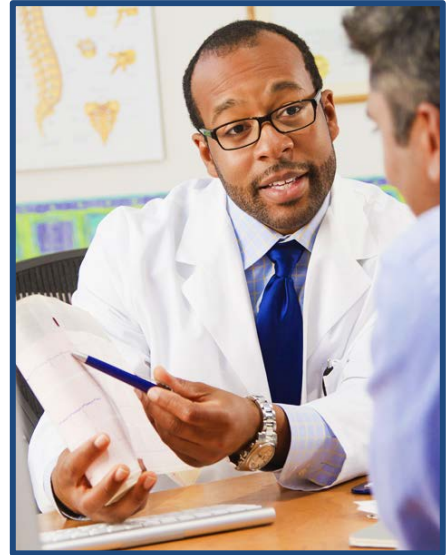
USER SPOTLIGHTS

Providers engaged with the eManagement program in a variety of ways. The following user profiles are composites based on data collected from provider interviews and surveys. These profiles have been created for program designers and evaluators to better understand and anticipate the benefits and barriers associated with the use of the program. All identifying information has been removed.

High User Spotlight: “Dr. Ruiz”

About

Dr. Ruiz has practiced internal medicine in Los Angeles for nearly twenty-five years. While his job can sometimes feel stressful because of the high number of patients he sees every day, Dr. Ruiz values that everyone on his care team – from nurses to the office manager – shares a collaborative spirit when it comes to serving their patients. Dr. Ruiz is usually willing to try innovative approaches to care and feels fortunate to work at a clinic that has many resources for its staff and patients.



eManagement Use

Dr. Ruiz screened his first patient within three weeks of the eManagement program going live at his clinic. He finds the program’s user interface easy to use and continues to use the program almost daily. Dr. Ruiz shares responsibility of the program with his whole team:

- ◆ A Medical Assistant guides all patients that come to the practice through pre-screens
- ◆ Dr. Ruiz completes full screens
- ◆ An Office Manager enters the data into the program within two business days as per L.A. Care’s recommendations

Dr. Ruiz appreciates this breakdown of roles because he feels it has made it easier to integrate the program into his clinic’s workflow and provide his patients with timely care. While he felt it “took a lot of time” to get used to the program initially, he thinks “now it’s much simpler”. He is proud that the majority of consultations his clinic has produced to-date have been closed.

Reflections on eManagement

Dr. Ruiz feels the eManagement program has improved his clinic’s ability to provide quality behavioral health care in many ways, such as enabling them to detect patient needs earlier, opening up an avenue for patients to seek mental health care when they may not otherwise have done so, and providing access to specialists in the primary care setting. Overall, Dr. Ruiz is very satisfied with the eManagement program and plans to recommend it to some of his fellow clinicians.

“*I found it useful in more than one way, sometimes it helps not only the clinicians, but the clinic as a whole to see the importance of mental health.*”

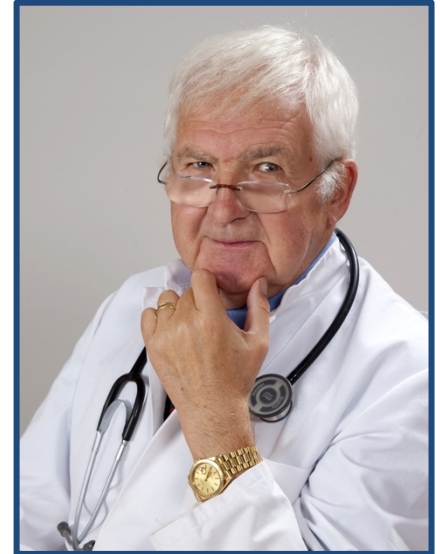
Low User Spotlight: “Dr. Wilson”

About

Dr. Wilson has been caring for families in the same clinic for almost fifty years. Over the course of his career, he has witnessed many changes in health care delivery. Dr. Wilson runs a small clinic where he is the only provider, so he often finds it challenging to keep up with the seemingly-constant changes, but his team is committed to offering their patients the best care possible.

eManagement Use

When Dr. Wilson was first contacted about the eManagement program, he was interested in the idea of using technology to improve patient outcomes and maybe even improving his own skills in addressing and understanding his patients’ behavioral health needs.



Although Dr. Wilson feels that he was provided with a comprehensive orientation to the program, he acknowledges that it was tough for his team to implement. About three months passed before Dr. Wilson could complete his first screen. When he tried to use the program, he found the interface tricky and thought it was difficult to pull up patient records. Although Dr. Wilson’s Medical Assistant could support him by completing pre-screens with his patients and entering their data into the program, overall his team did not have the staff or the technology to keep up with the extra demands of screening and data entry while juggling other patient needs and reporting requirements.

Though the associated incentives helped a bit, Dr. Wilson’s clinic just didn’t have the right resources in place to easily participate. Dr. Wilson continued using paper screens because he did feel it was a valuable way to assess for behavioral health issues in his patient population.

Reflections on eManagement

While Dr. Wilson is no longer participating in the eManagement program, he was satisfied with what he learned from the program and feels he now knows how to detect behavioral health needs earlier than he could before. He would recommend the program to other physicians who “are familiar with tech and these platforms” and who have the resources needed to participate.

“*The time consuming aspect is not treating the patient, but reporting to eManagement. These are different programs; we have to go back and forth between programs and EHRs to get this to happen.*”

How do providers use and experience eManagement?

The providers included in this analysis represented a total panel of 136,064 members and conducted a total of 16,168 behavioral health screenings using the eManagement tools, screening only 11.9% of the total panel eligible for screening. Table 3 below compares eManagement use of high and low users of the program. As of December 31, 2018, high users completed 86% of all pre-screens in the eManagement program despite representing less than half of the patient panel of all providers using the program. High users averaged 22.1 screenings per month of provider enrollment in eManagement while low users averaged 2.1 screens per month of enrollment. These patterns indicate that high and low users were dramatically different in terms of their adoption of eManagement as part of their workflow.

Table 3. eManagement Use among High and Low users (December 2018)⁷

	High Users	Low Users
Number of providers	33	70
Total panel size	56,659	79,405
Total screenings	13,934	2,297
% of all screenings	86%	14%
% of all positive pre-screens	79%	21%
% of all dialogues submitted	86%	14%
% of total depression anxiety screenings scoring mild to moderate	79%	21%
Average # of screenings per provider enrolled month	22.1	2.1
Providers enrolled for less than 13 months	6	9
Providers enrolled for 13-18 months	7	31
Providers enrolled for 19-24 months	10	26
Providers enrolled for more than 24 months	10	4

⁷ Program data are dynamic and updated monthly, however, for the purpose of this analysis, JSI analyzed data collected through December 2018. Since July 2018 data were used for high/low classification, with the same providers being classified as high/low for member-level claims data pulls, we used the same classification here. Per July 2018 data, there were N=33 high users and n=70 low users. This analysis excludes pediatric providers, providers who enrolled in eManagement after April 1, 2018, and providers who disenrolled from the program prior to July 1, 2018. Review of L.A. Care provided updated program data showed that 21 low users included in this analysis disenrolled from the program after July 1, 2018 but before December 31, 2018. Data reflecting eManagement use excluding these 21 low users can be found in Appendix 5.

Frequency of use

Time to enter first screen differed widely between high and low users. The program data indicate that early on in their eManagement utilization journeys, high users and low users began to differentiate in their usage patterns. High users entered their first screening much closer to their “Go Live” date than low users, even when discounting low users who were yet to enter a screening into eManagement (on average, it took high users 19 days to enter a screen vs. 76.2 days for low users) (Data in Appendix 5). Provider interviews revealed that some providers may have experienced challenges in using the online data portal (e.g., in pulling up patient records). These roadblocks during early use could be a deterrent to ongoing adoption of eManagement and changes to provider practice workflow.

Screenings peaked in the first few months after enrollment and then declined. For many providers, the number of screenings conducted per month peaked within the first four months of eManagement use, declining over time. Provider interviewees reflected on this finding as well, noting that the initial spike in eManagement use post training tends to decrease. Providers reported several reasons for the decline including: ongoing data entry burden and especially without staff; lack of integration of EMRs and eManagement; and the challenge of having to use different workflows by a patient’s insurance coverage.

“*Additional tasks (like eManagement) are most likely to slip” with increased workloads, resulting from a higher volume of patient encounters.*

- Provider

High and low users differed widely in self-reported frequency of using eManagement. In the provider survey administered in July 2018, providers and their staff reported on their perceived experience with the eManagement program, including their self-reported frequency of behavioral health screening administration and data entry. Table 4 below summarizes findings related to practices’ self-reported frequency of administering behavioral health screens and entering the data into the eManagement system. Differences between high and low users were evident even in self-reported data, as high users were almost three times as likely to report daily administration of screenings as compared to only 17% of low users. Low users were more likely to estimate that they administer screenings, with 30% of respondents indicating that they screen patients one or more times a week. Twenty-six percent of low users also reported a variation in their screening patterns depending on patient volume and staff availability, as compared to 7% of high users.

Table 4. Self-reported Frequency of Behavioral Health Screening Administration

	High Users (n=14)	Low Users (n=23)
Frequency of screening administration		
Daily	50%	17%
1+ times a week	21%	30%
1+ times a month	14%	9%
It varies, depends on patient volume and staff availability	7%	26%
It varies, depends on patient need (i.e., if we suspect patients need to be screened for behavioral health conditions)	7%	0%
We signed up, but haven't had a chance to use the program yet	0%	13%
Don't know	0%	4%

High and low users differed widely in self-reported eManagement data entry practices. Usage patterns of high and low users were different in terms of reporting on their data entry into eManagement. Table 5 compares self-reported frequency of data entry into the eManagement system between high and low users of the program. High users tended to more closely follow L.A. Care protocols with 64% reporting that they enter data into the eManagement system within two business days of screening or less. Low users were still more likely to report varied processes for data entry depending on staff availability and volume of screens completed (26% low users vs. 14% high users). In interviews providers often cited data entry as a prominent barrier to continued uptake of the program and the lack of integration with their EMR systems. This meant that staff often completed this data entry as a separate task from their workflow. No single method for this integration into workflow was followed by users of the program although, with more staff on average, high users were more likely to have a split workflow between various staff members, which potentially lessens the burden of data entry.

“*The time consuming aspect is not treating the patient, but reporting to eManagement. These are different programs; we have to go back and forth between programs to get this to happen*”

- eManagement User

Table 5. Self-reported Frequency of Data Entry into the eManagement System

	High Users (n=14)	Low Users (n=23)
Frequency of data entry into eManagement		
Real-time (i.e., enter the data live as the screen is completed)	21%	30%
Within 2 business days of screening	43%	13%
Once a week	7%	4%
Once every two weeks	14%	4%
Varies, depending on staff availability for data entry	0%	17%
Varies, depends on the volume of screens completed	14%	9%
Don't know	0%	9%
(blank)	0%	13%

Discrepancy between self-report and actual use. In survey responses, providers often reported screening more frequently than the program data suggests. For example, 30% of low users estimated that they administer screens to patients one or more times a week despite low users of the program averaging three screens per month of eManagement membership. In survey responses, two respondents reported screening patients daily despite never having entered a screen. While the survey data is expected to be influenced by self-reporting bias, further conversations with the L.A. Care team and in provider interviews offered some possible explanations for the discrepancy. One potential reason was inconsistent entry into the eManagement system, a theme that provider interviews echoed. The survey implementation strategy, wherein surveys were intentionally sent to providers and their key staff but perhaps not completed by staff/providers responsible for entering data, may have also resulted in differences between perceptions of use and actual utilization.

Little uniformity in usage patterns and lack of consistent use within practices. In survey responses, providers reported varied screening and data-entry practices. Further, data from provider interviews suggest that it is hard to identify a standard usage or implementation approach across practices. Several interviewees noted that only select staff in their practices were using eManagement — often only Medical Assistants (MAs), office managers, and Nurse Practitioners (NPs), while some remarked that their providers chose not to access the system for consultations at all. Broadly, there appear to be two approaches to screening: two-thirds of providers reported screening all L.A. Care members in their patient panels annually, while the remaining third described a more selective, trigger-based approach, wherein providers screen only if

“

"When a patient comes in and complains about anxiety or depression, I'll do the PHQ-9 or GAD-7 and try to figure out what the patient has."

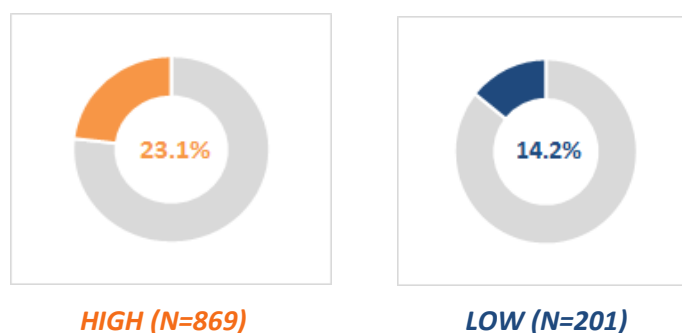
"All L.A. Care members age 14 and up are screened at least once a year, either during their annual physical or whenever the program started."

- eManagement Users

members appear to have or report having psychiatric symptoms to staff/providers while taking their medical history or when noting the reasons for their visit.

High and low users differed in their use of the consult feature. Not surprisingly, high and low users were also very different in their use of the consult feature of the platform, with high users accounting for 86% of all dialogues submitted to specialists. Figure 2 shows the percentage of times providers chose to consult when patients screened positive for a behavioral health condition. High users entered a dialogue in 23.1% of their opportunities to consult as compared to low users who entered dialogues in 14.2%, submitting 201 screens and 33 screens, respectively. While these numbers collectively represent providers submitting dialogues in less than half of all opportunities to consult, several high users in interviews noted that, over time, the decision not to consult came from their ability to manage mild to moderate behavioral health conditions on their own. As such, high users were more likely to point to quicker access to specialist consultations as an impact of the program (86% of high users vs. 61% of low users), a finding echoed in provider interviews.

Figure 2. Percentage of Times Consult Made When Patients Screened Positive: High vs. Low users



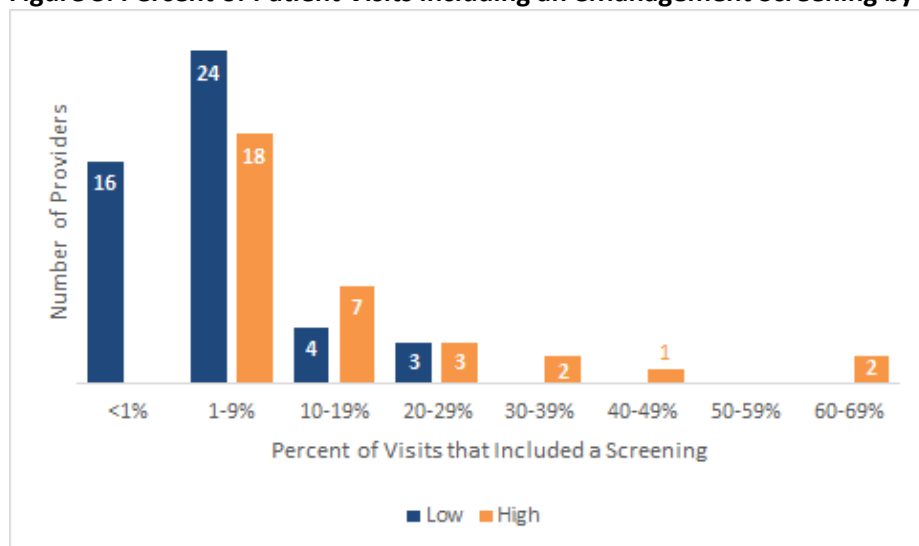
To what extent has eManagement resulted in practice changes?

Interview data revealed that in most practices, including among high users, eManagement was being used selectively rather than as a standard part of practice workflow. Analysis of program and encounter data support this qualitative finding; on average, providers who were enrolled in eManagement as of December 2018 had conducted screenings in only 9.7% of their patient encounters (i.e., all patient visits) during their period of enrollment. This ranged from 0.1% of patient encounters to 63.4% of patient encounters for the most frequently using provider. This analysis reflects the extent of practice change among providers by evaluating how often they are screening per visit rather than per assigned member, which may be a better reflection of how they are using eManagement in their daily practice. Figure 3 shows the percent of patient visits that included a screening by high and low providers in our sample.⁸ Though high-utilizing providers are generally conducting screenings in a higher portion of patient encounters, most providers are still only screening in less than 10% of their patient encounters. However, it is possible that practice change is more extensive than reflected by the data. In interviews, some providers revealed that while they may be conducting the screening, the data-entry step is

⁸ The sample size for this analysis is smaller than 103 as a result of providers dis-enrolling from the program between July and December 2018.

burdensome. Additionally, since only the first screen per patient per year is incentivized, providers and their staff may not be taking the time to enter un-incentivized repeat pre-screens (especially those that are negative) into the eManagement system. If this is the case, providers may be integrating screening into their practice in a more routine way than is reflected in the data. If un-incentivized screens are not being entered into eManagement, it is difficult to determine the extent to which providers may be re-screening patients and thus conducting a higher percentage of screenings per encounter.

Figure 3. Percent of Patient Visits including an eManagement Screening by High vs. Low user



Most providers consult in less than 10% of their patient encounters

Incentives may play a role in driving initial practice change. Survey and interview data suggest that the financial incentives offered by L.A. Care to support eManagement use are an important factor in initial participation and motivation for practice change. The majority of survey respondents (76% all users, 100% high users, and 61% of low users) indicated that the financial incentives offered by L.A. Care for completing screenings and entering the data were an important factor in their decision to participate in eManagement. Although many interviewees said the incentive was not essential, most said they would likely not have started using eManagement without an incentive. Some providers further explained that the incentive helped cover the additional staff time required to use eManagement, particularly the additional data-entry step. Taken together, the data suggest that incentives may be important in motivating early use or getting providers to try out a new program, even if in conversation some providers may be hesitant to report the degree to which a small financial incentive is a motivating factor in their decision to participate in eManagement.

To what extent are providers satisfied with eManagement?

Providers enrolled in eManagement expressed satisfaction with eManagement and the support they received from L.A. Care. Among survey respondents, 92% of high users “agreed” or “strongly agreed” that the eManagement interface is simple and easy to use. Interviewees described the eManagement technology platform as easy to use and intuitive to navigate. They appreciated features like having data

entry be mostly mouse-clicks and the simplicity of setting up a consult request and communicating in real time with the specialist. They also favored other aspects, such as the ability to score the pre-screen without having to log into the platform, explaining that this allowed flexibility to integrate behavioral health into their workflow. Ninety-three percent of high users who responded to the survey also “agreed” or “strongly agreed” that L.A. Care helped them to develop an appropriate workflow to integrate eManagement into their current practices, though high users were less likely than low users to agree that L.A. Care provided a comprehensive orientation helping them to get started.

Interviewees also consistently expressed satisfaction with eManagement’s consult feature. Small-to-midsize practices with little opportunity for peer engagement particularly valued the opportunity to consult with a specialist. In interviews, providers described four distinct reasons for engaging in a consultation including: 1) difficult cases where they felt uncertain on how best to address the patient’s condition; 2) cases where they saw no improvements in patient outcomes from other treatment plans; 3) cases where medication was necessary and they wanted a specialist’s recommendation or a second opinion for their proposed treatment plan; and 4) cases that presented with a screening score of moderate to severe on the PHQ-9, Audit C, and/or GAD-7. Both providers’ and the specialist’s accounts suggest that the process of setting up the consult, sharing relevant data and engagement is quick and supports improving the treatment of behavioral health conditions. Several providers noted an improvement in their knowledge about how to treat behavioral health conditions due to their interactions with the specialist.

Overall, providers expressed satisfaction with their eManagement experience, with 93% of high users who responded to the survey noting high satisfaction and likeliness to recommend eManagement to a colleague (i.e., rated 8 or higher on a 10-point scale).

“*There have been times, I have put in a Consult just for the sheer benefit of having someone to speak to about the issue and I’m glad I did because I got new information and I learned a lot.*”

- Provider

How does use of the eManagement Program Impact Health Care Utilization Outcomes?

This section focuses on the impact of eManagement on L.A. Care members. We compare health care utilization outcomes (emergency department visits, inpatient admissions, and outpatient visits) associated with a behavioral health diagnosis among an intervention group (members of high users) and a comparison group (members of low users) from 6 months before the initiation of eManagement program (subsequently referred to as “program”) to 24 months after.

Intervention and comparison group members differed on several demographic factors, limiting the ability to attribute observed differences in utilization to eManagement over baseline differences between the two groups.

Figures 4-7 depict the differences between the intervention and comparison group members on demographic and risk assessment factors. Intervention members were more likely to be slightly younger than 50 years of age as compared to control members (69.1% vs. 68.9%, respectively), while comparison group members were more likely to be older than 50 years of age as compared to intervention members (31.9% vs. 30.9%, respectively). Intervention group members were also more likely to report as White, Asian, or an unreported race/ethnicity as compared to comparison group members, who were more likely to report as Black or Hispanic/Latinx. Intervention group members were more likely to be characterized as ‘healthy’ or having a ‘minor chronic health condition’ as compared to comparison group members who were more likely to be sicker with ‘dominant or moderate chronic conditions’ or ‘dominant, metastatic and catastrophic’ conditions’. More comparison group members as compared to intervention group members were characterized as ‘adult expansion’ (36.9% vs. 33.7%) or ‘disabled’ (15.3% vs. 12.9%) aid categories.

Figure 4. Member Age Distribution by Study Group: Intervention vs. Comparison Group

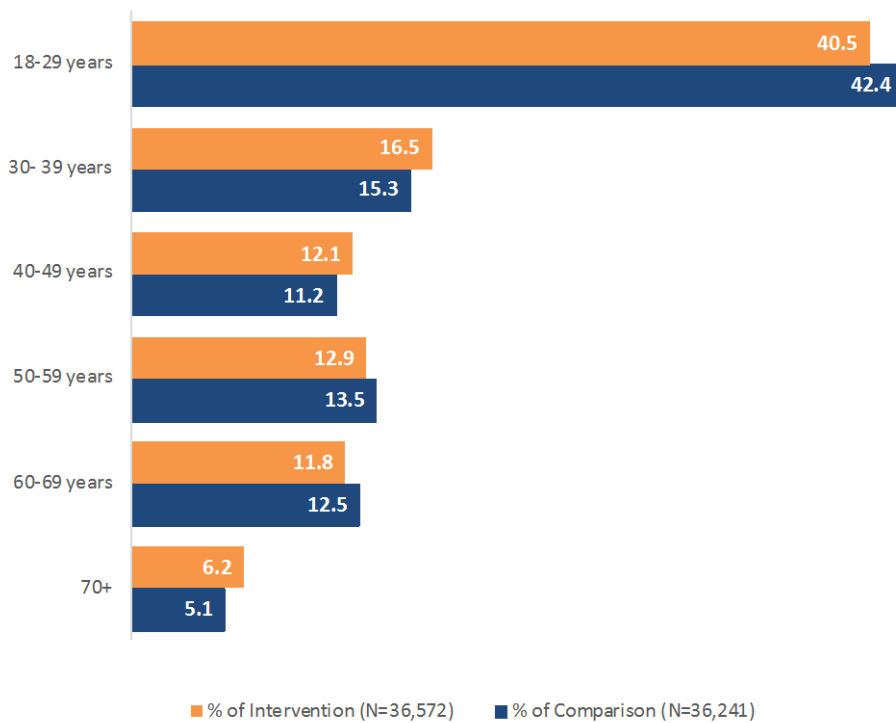


Figure 5. Clinical Risk Assessment Score by Study Group: Intervention vs. Comparison Group

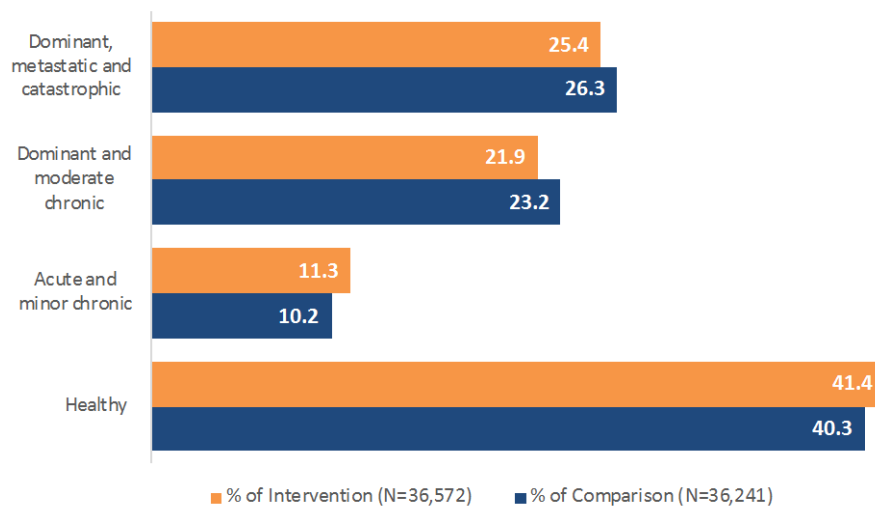


Figure 6. Member Race/Ethnicity by Study Group: Intervention vs. Comparison Group

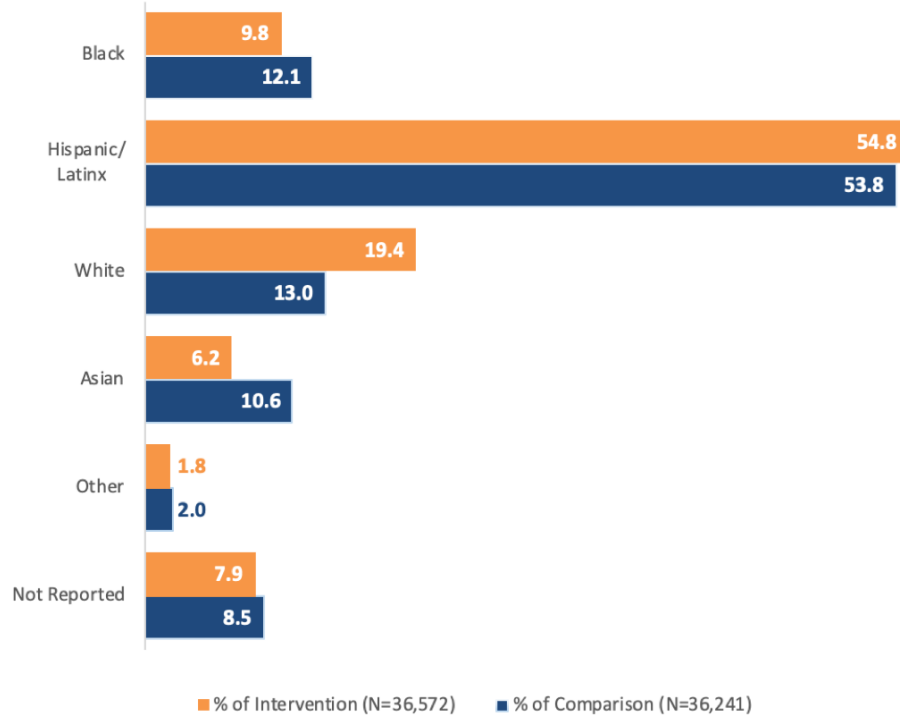
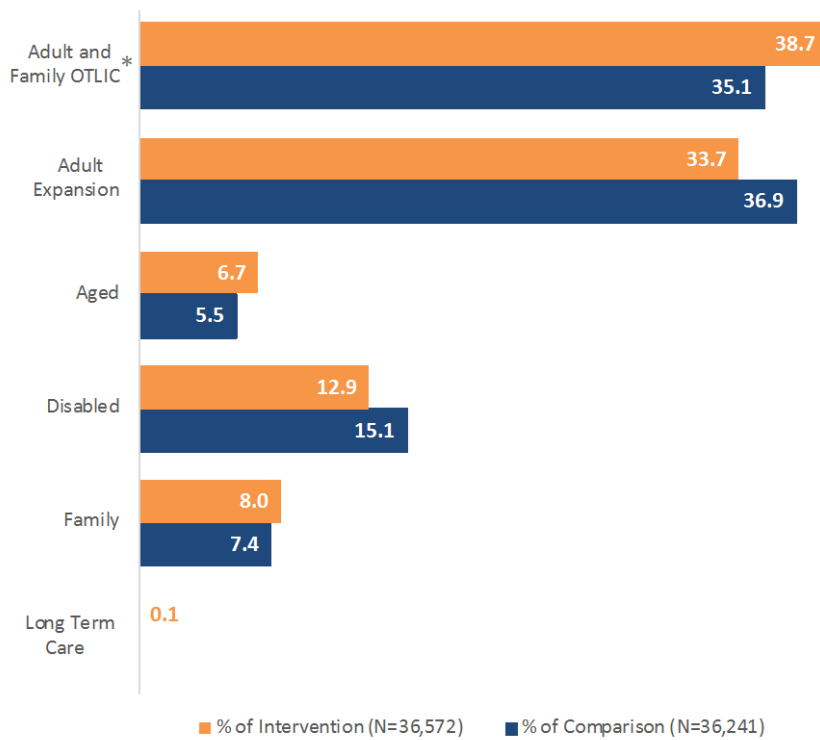


Figure 7. Member Aid Category by Study Group: Intervention vs. Comparison Group



*OTLIC – Optional Targeted Low-Income Children

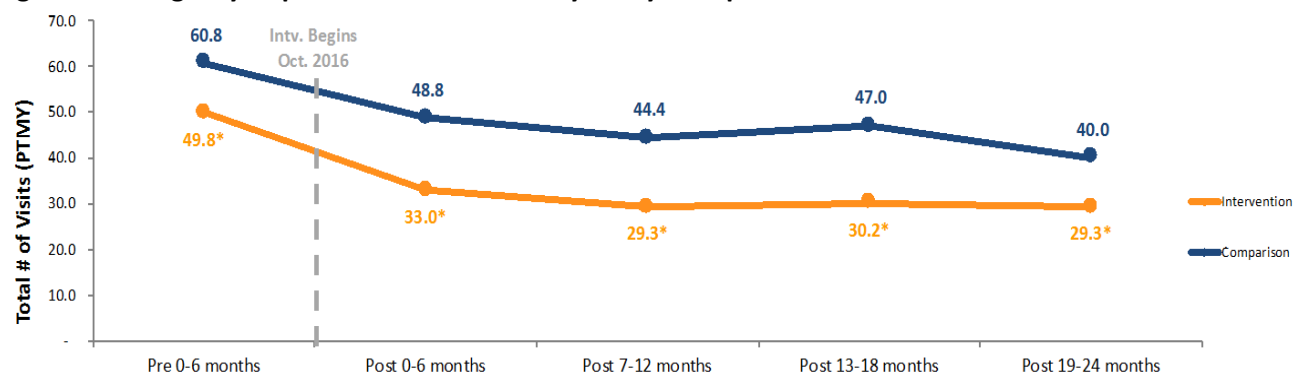
Taken together, these data indicate that the two groups differed at baseline on several demographic and risk factors that may be confounding eManagement program impact. This finding is not unexpected given the use of a quasi-experimental approach to creating two study group (high and low provider groups and their respective member groups). Nevertheless, given the parameters of the evaluation project, the limitations of not being able to create a control group due to program operation strategy, and L.A. Care's evaluation goals of comprehensively understanding users' experiences, this was the most robust approach possible. Evaluation findings do provide key insights regarding the effectiveness of eManagement.

Both intervention and comparison groups experienced a downward shift in ED visits and inpatient admissions associated with a behavioral health diagnosis PTMY, but intervention group members' visits PTMY started out and remained consistently lower throughout the 24 months post eManagement.

Figures 8 and 9 depict the shift in utilization associated with a behavioral health diagnosis PTMY from 6 months before the program to 24 months after the program. The timeline is depicted on the x-axis and divided into six-month intervals to demonstrate the subtle utilization shifts taking place over time.

ED Visits. For intervention group members, ED visits PTMY declined from the pre 0-6 month to the post 0-6 month period and remained on the downward trend. Comparison group members' ED visits followed a similar downward trend. At all time periods, however, comparison group members' ED visits PTMY were significantly higher than that of the intervention group members. Further, comparison group members experienced a slight increase after 12 months and returned to a downward trend post 18 months, while intervention group member maintained a steady lower rate between 12 and 24 months.

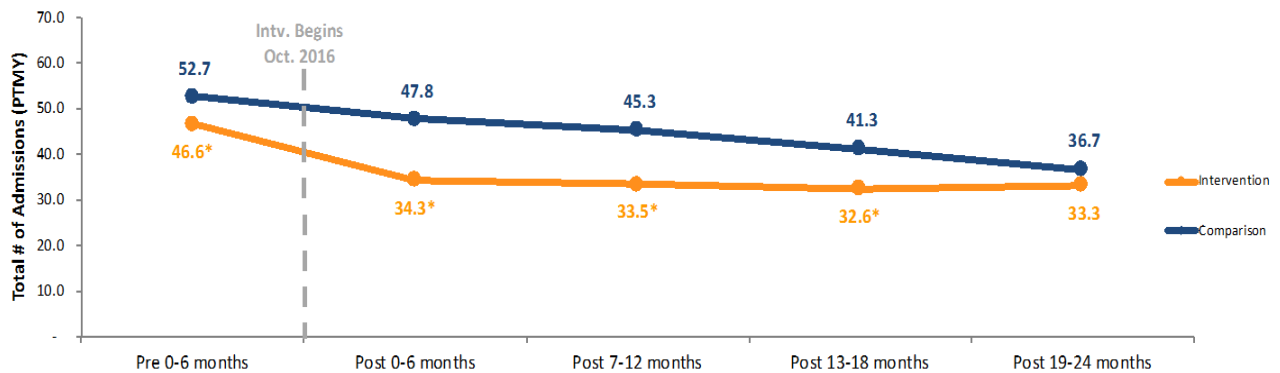
Figure 8. Emergency Department Visits PTMY by Study Group – All Members



*p < .05

Inpatient Admissions. For intervention and comparison group members, inpatient admissions PTMY declined substantially from the pre 0-6 month to the post 0-6 month period and remained on the downward trend over time. The rate of decline appears to have been more rapid for comparison group members; intervention group members went from 34.3 in the post 0-6 month period to 33.3 in the post 19-24 month period, while the comparison group members went from 47.8 in the post 0-6 month period to 37.7 in the post 19-24 month period.

Figure 9. Inpatient Admissions PTMY by Study Group – All Members



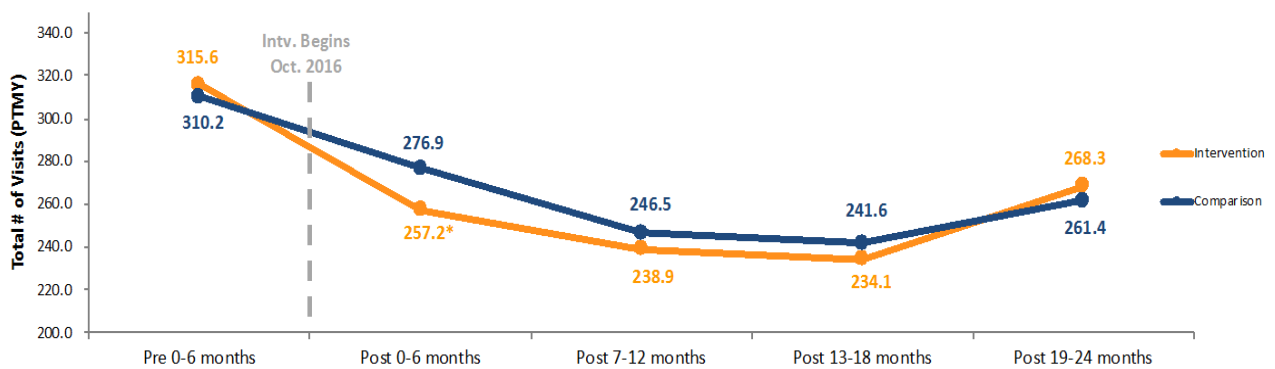
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Differences between the two groups could be due to several factors beyond the differential use of eManagement by providers. First, baseline differences between the study groups (as described above) could influence health care utilization outcomes. Second, members could have switched from a high-utilizing provider to a low-utilizing provider during the evaluation project timeline but, per standard evaluation practices, we used the intent-to-treat principle wherein members are compared in terms of their final results within the groups to which they were originally assigned (McCoy CE 2017)ⁱⁱ. Further analysis is needed to determine the percentage of members that switch providers and the frequency of switching in order to assess the extent to which this phenomenon may be impacting results. Third, providers themselves may shift from being high users to low users and vice versa over the evaluation project timeline. Due to the study design and time lag with obtaining claims data, we had to select a single point of time (July 2018) to create the two group classification. Furthermore, in using the intent-to-treat principle, final results were compared based on initial assignments. These analyses could be repeated by redoing the classification on the most up-to-date program data. Finally, even high users are not screening patients universally (a high user screens about 25% of their patient panel), and as such, high and low users are not that different. When examining utilization trends for high and low users' entire patient panels, small favorable effects for the few members that received eManagement screening may be hard to discern. These limitations aside, the data suggest that the program is likely having some impact on utilization with ED visits and inpatient admissions PTMY and moving these rates in the desired downward direction.

Both intervention and comparison group members experienced an increase in outpatient visits PTMY after 18 months, suggesting that the program may be effective in redirecting members from ED and inpatient admissions to outpatient services.

Outpatient Visits. Outpatient visits PTMY for both intervention and comparison group members mapped quite closely at all time periods (Figure 10). For both groups, outpatient visits PTMY declined from the post 0-6 month period through 18 months, but then started to increase in the post 19-24 month period. It would be necessary to follow members over a longer time period to assess whether the upward trend continues. However, studying trends does suggest that, over time, the program may be effective in redirecting members away from high-cost utilizations towards outpatient utilization.

Figure 10. Outpatient Visits PTMY by Study Group – All Members



*p < .05

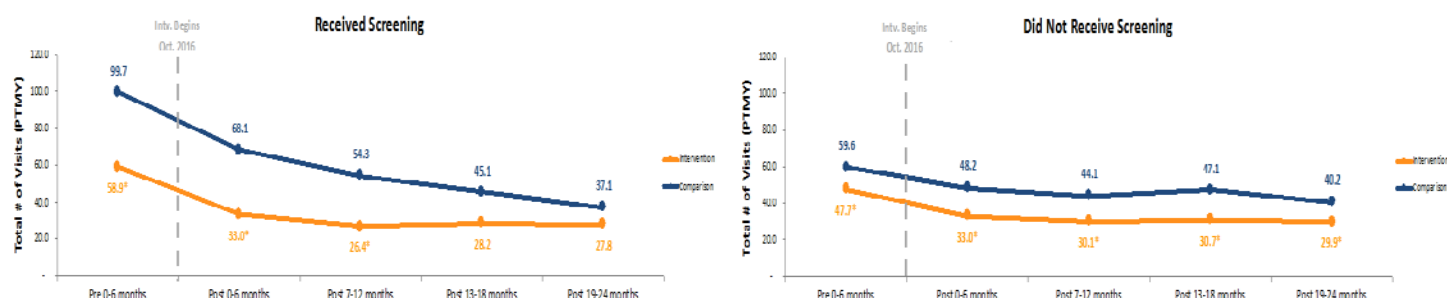
A sustained downward trend in high-cost service utilization and upward trend in outpatient utilization was more prominent among the subset of members who received at least one eManagement screening vs. members who did not receive eManagement screening.

Since not all high users were using eManagement and screening patients universally (eManagement program data suggests that high users screened 25% of their patient panels), we hypothesized that the real effect of the program would be among the members who actually received the program (i.e., at minimum received one eManagement screening). To this end, we conducted a subset analysis comparing utilization trends for members who 'ever received an eManagement screen' vs. members who 'never received eManagement screen' (Figures 11-13). About a tenth of the evaluation project sample (n=8361) had ever received an eManagement screen; 87% of these members were in the intervention group or had providers who were classified as high users, while 13% were in the comparison group or had providers who were classified as low users.

ED Visits. For the subset of members **with** a screening, ED visits PTMY declined rapidly for both the intervention and comparison groups (Figure 11). For the intervention group, members **with** a screening had higher ED visits PTMY in the pre 0-6 months as compared to those **without** a screening and dropped to lower ED visits PTMY at the post 19-24 months as compared to the intervention group **without** a screening (58.9 vs. 47.7 and 27.8 vs. 29.9, respectively). For the comparison group, those **with** a screening started out with higher ED visits PTMY as compared to those **without** a screening at the pre 0-

6 month period (99.7 vs. 59.6). After the 12 month period, the comparison group **with** a screening experienced a greater and sustained decline over time, as compared to the comparison group **without** a screen who saw an increase in the post 13-18 month period followed by a slight decline in the post 19-24 month period. Overall, the data suggest that receiving a screen or receiving eManagement had a favorable impact on reducing high-cost utilization associated with behavioral health diagnosis.

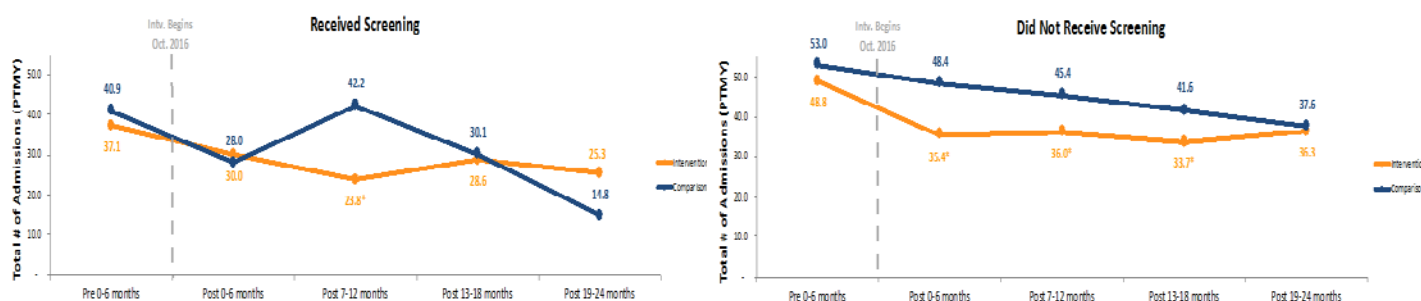
Figure 11. Emergency Department Visits PTMY by Study Group: Comparison of Subset Who Received vs. Did Not Receive Screening



*p < .05

Inpatient Admission. Among the subset of members **with** a screening, the intervention group had a more sustained decline in inpatient admissions PTMY as compared to the comparison group: inpatient admissions PTMY declined until 12-months post program, followed by a slight increase at the post 13-18 month period, only to return to a downward trend in the post 19-24 month period (Figure 12). In contrast, the comparison group **with** a screening experienced much more fluctuation. An initial downward trend at the post 0-6 month period was followed by an increase in the post 7-12 months, and then a more rapid decline following 12 months. This fluctuation in both groups could be attributed to decreasing sample size in the longitudinal data. The subset **without** a screening experienced similar trends to those **with** a screen, but at every six-month interval, the absolute value of inpatient admissions PTMY was higher among those **without** vs. those **with** a screening. Overall, the data suggest that receiving a screen had a favorable impact on reducing high-cost utilization associated with behavioral health diagnosis.

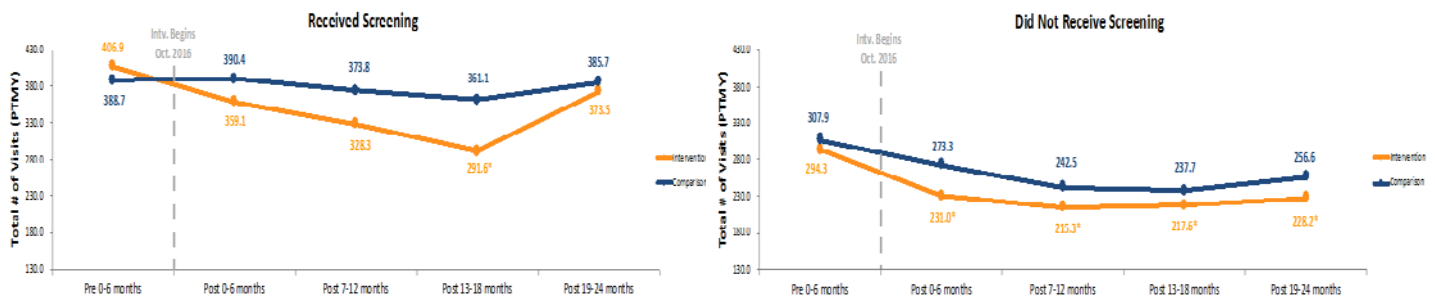
Figure 12. Inpatient Admissions PTMY by Study Group: Comparison of Subset Who Received vs. Did Not Receive Screening



*p < .05

Outpatient Visits. Comparing the intervention groups **with** vs. **without** a screen, outpatient visits PTMY were higher at all six-month intervals and the increase at the post 19-24 month period was greater for those **with** a screening vs. **without** (Figure 13). A similar pattern was observed when comparing the comparison group members **with** vs. **without** a screen. Overall, the data suggest that receiving a screen had a favorable impact in redirecting members from high-cost utilization to outpatient visits.

Figure 13. Outpatient Visits PTMY by Study Group: Comparison of Subset Who Received vs. Did Not Receive Screening

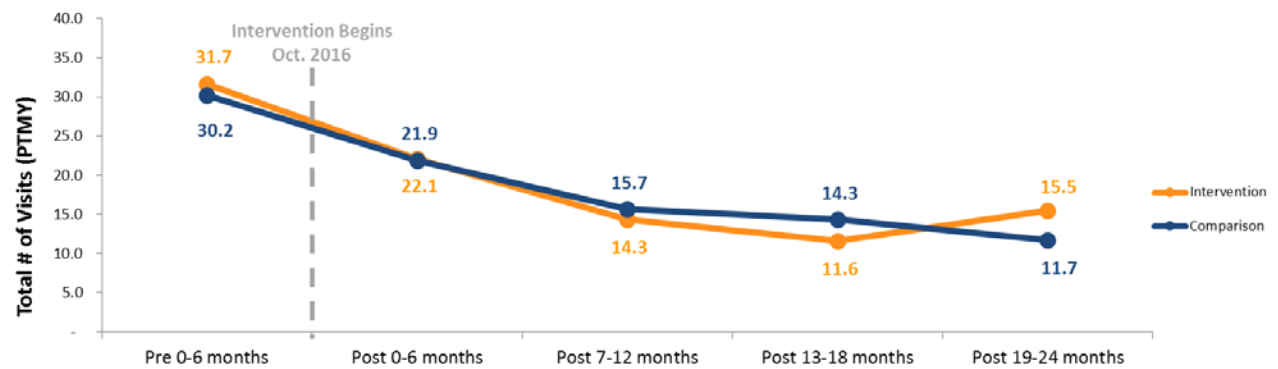


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Differences in utilization trends by members' risk-assessment status ('healthy' vs. 'moderate chronic') suggest that the program may work differentially based on other health factors.

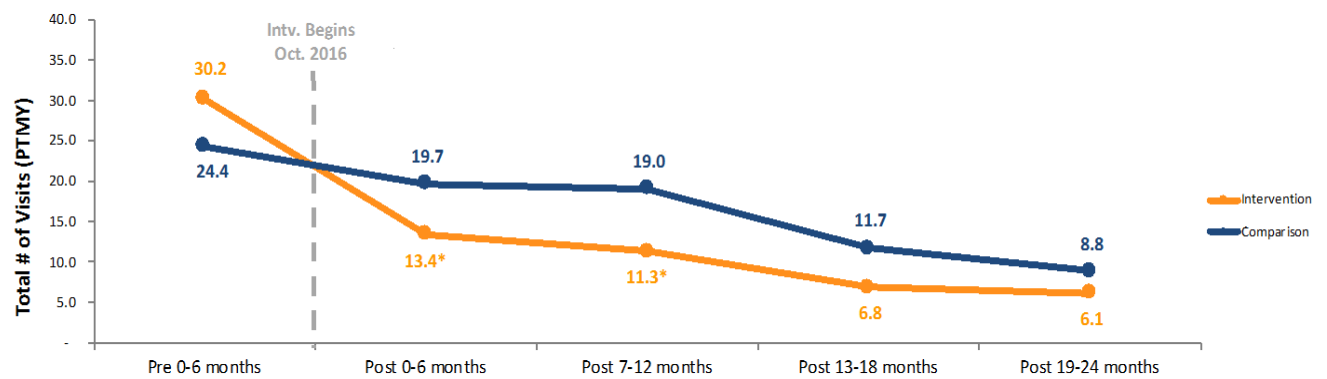
ED Visits. Figures 14-17 compare ED visit trends among members with different risk assessment scores. Not surprisingly, ED visits PTMY for members categorized as 'healthy' were much lower than ED visits PTMY for the overall project sample. ED visits PTMY declined over time for both intervention and comparison group members except for a slight increase for intervention members in the post 19-24 month period. Members categorized as having a 'dominant metastatic or catastrophic conditions' similarly had lower ED visits PTMY and experienced a decline over time; not surprising given their health conditions. Intervention group members in this subset seemed to fare better than members in the comparison group, starting out with higher ED visits PTMY as compared to the comparison group and declining more rapidly over time. In contrast, members categorized as having 'dominant and moderate chronic conditions' had a slight decline in ED visits PTMY until the 7-12 month period, and then experienced an increase at the post 13-18 month period. This pattern was true for both intervention and comparison group members. These members' chronic health conditions over and above behavioral health conditions may be the reason for sustained high ED visits PTMY. Members categorized as having 'acute and minor conditions' experienced a decline in ED visits PTMY until the post 0-6 month period, after which members in both groups' ED visits plateaued until the post 7-12 month period. While comparison group members experienced a decline over time, at the post 19-24 month period, members in the intervention group experienced significantly lower ED visits PTMY as compared to their ED visits PTMY in the pre 0-6 month period. The decline in ED visits may be indicative of a favorable eManagement program effect.

Figure 14. Emergency Department Visits PTMY– Healthy Members



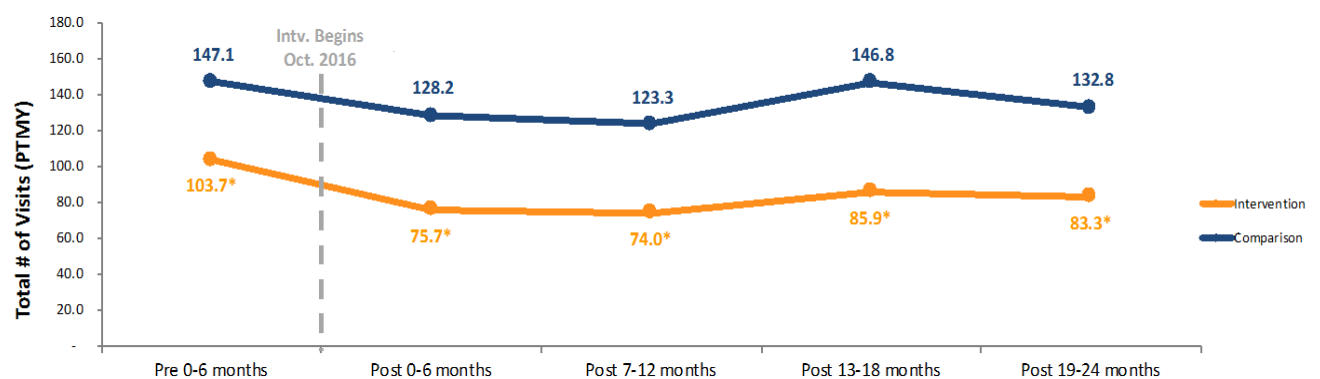
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Figure 15. Emergency Department Visits PTMY by Group – Members with Dominant Metastatic or Catastrophic Conditions



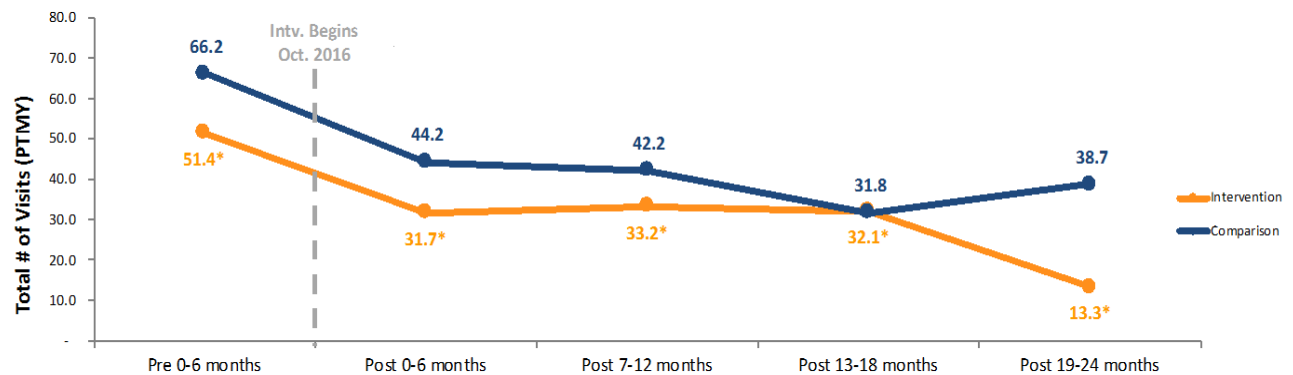
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Figure 16. Emergency Department Visits PTMY by Group – Members with Dominant and Moderate Chronic Conditions



*p < .05

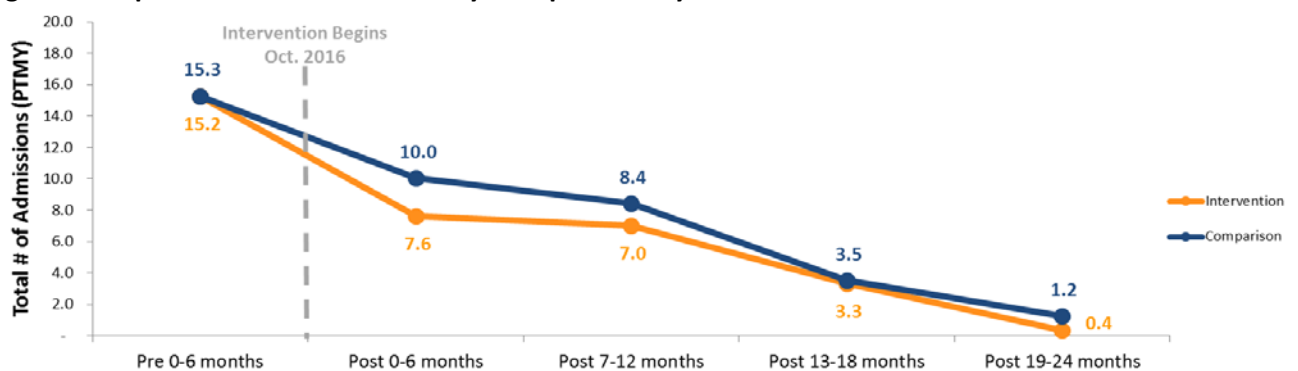
Figure 17. Emergency Department Visits PTMY by Group – Members with Acute and Minor Conditions



*p < .05

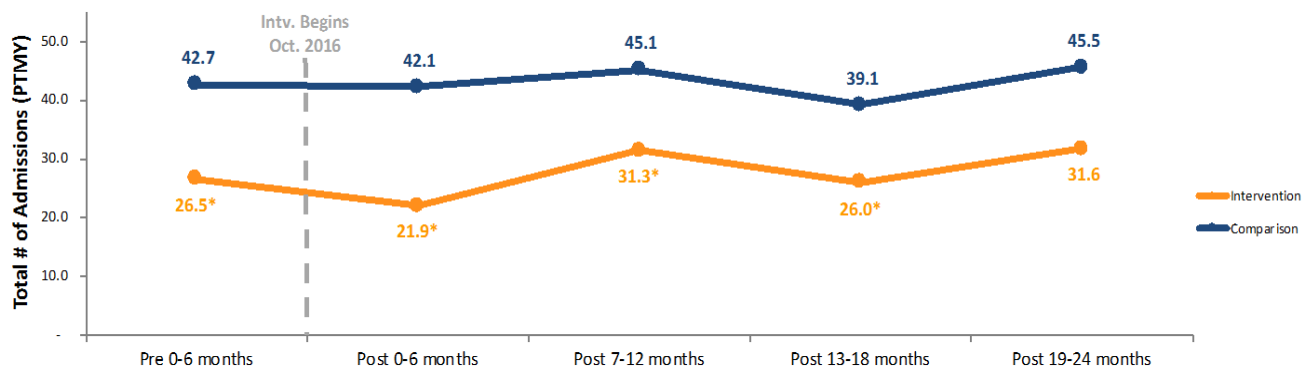
Inpatient Admissions. Figures 18-21 compare inpatient admission trends among members with different risk assessment scores. Not surprisingly, inpatient admissions PTMY for members categorized as ‘healthy’ declined over time and were lower than inpatient admissions PTMY for the overall project sample. In contrast, members categorized as having ‘dominant metastatic or catastrophic conditions’ experienced fluctuation throughout the project time period, while the subgroup of members categorized as having ‘dominant and moderate chronic conditions’ experienced a decline in inpatient admissions among both the intervention and comparison groups until 12 months post program, after which their rates started to rise. Among members categorized as having ‘acute and minor conditions’, inpatient admissions PTMY declined steadily following the program. Intervention group members started and ended with a higher inpatient admissions rate as comparison group members, but experienced a sharper decline until the post 7-12 month period. Both groups near 0 inpatient admissions PTMY by the post 19-24 month period. Data suggest that members categorized as having ‘dominant metastatic or catastrophic conditions’ and ‘dominant and moderate chronic conditions’ may continue to see fluctuations in inpatient admissions due to conditions other than a behavioral health diagnosis.

Figure 18. Inpatient Admissions PTMY by Group – Healthy Members



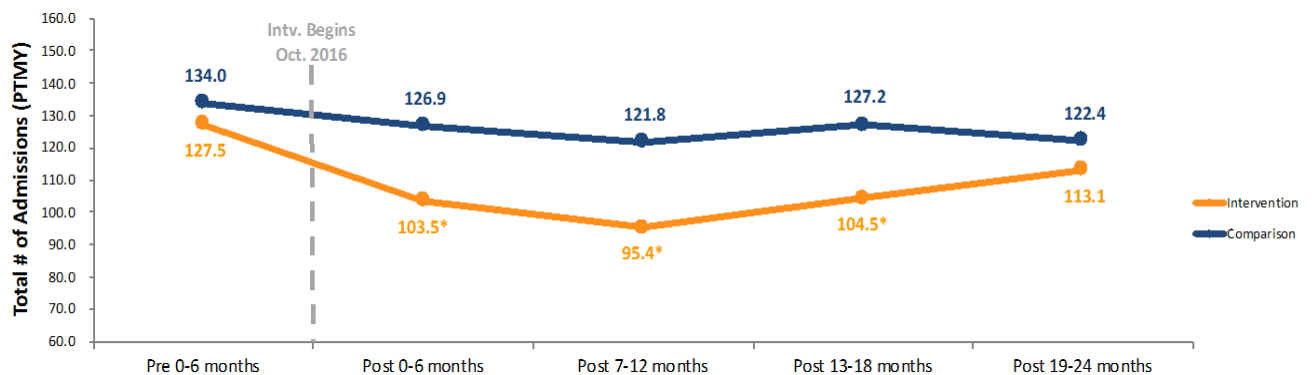
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Figure 19. Inpatient Admissions PTMY by Group – Members with Dominant Metastatic or Catastrophic Conditions



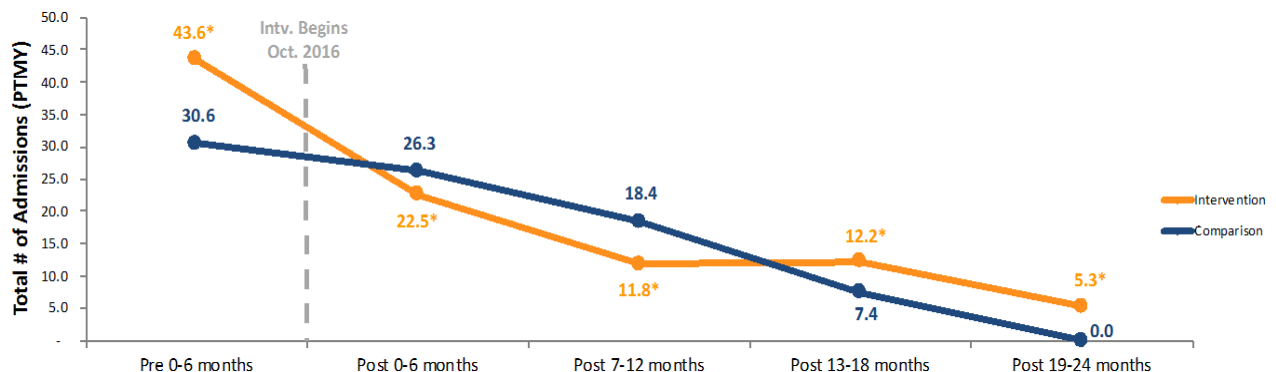
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Figure 20. Inpatient Admissions PTMY by Group – Members with Dominant and Moderate Chronic Conditions



*p < .05

Figure 21. Inpatient Admissions PTMY by Group – Members with Acute and Minor Conditions

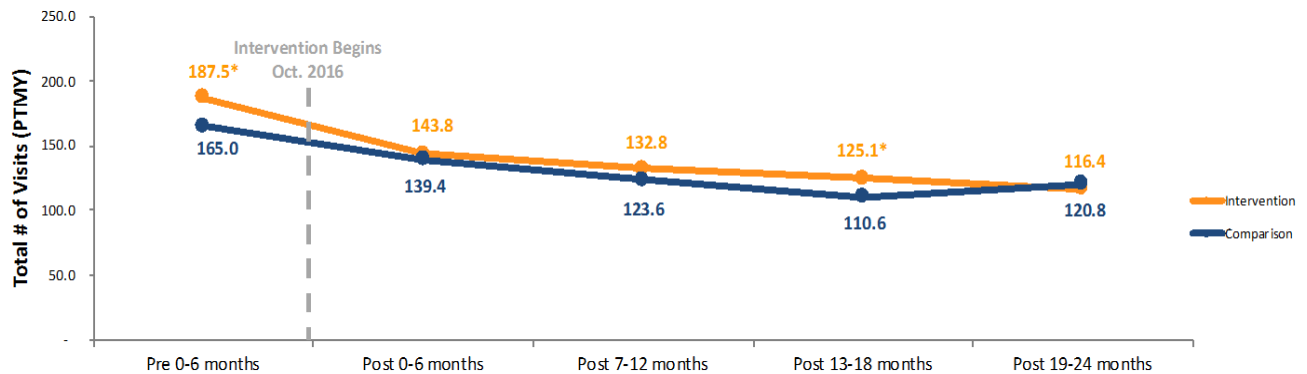


*p < .05

Outpatient Visits. Figures 22-25 compare outpatient visit trends among members with different risk assessment scores. For members categorized as ‘healthy’, outpatient visits PTMY started out comparable to the overall project sample but then declined steadily over time. Similarly, members categorized as having ‘dominant metastatic or catastrophic conditions’ outpatient visits PTMY started out with high rates that dramatically and continuously declined over time, not surprising given their health status. Members categorized as having ‘dominant and moderate chronic conditions’ outpatient

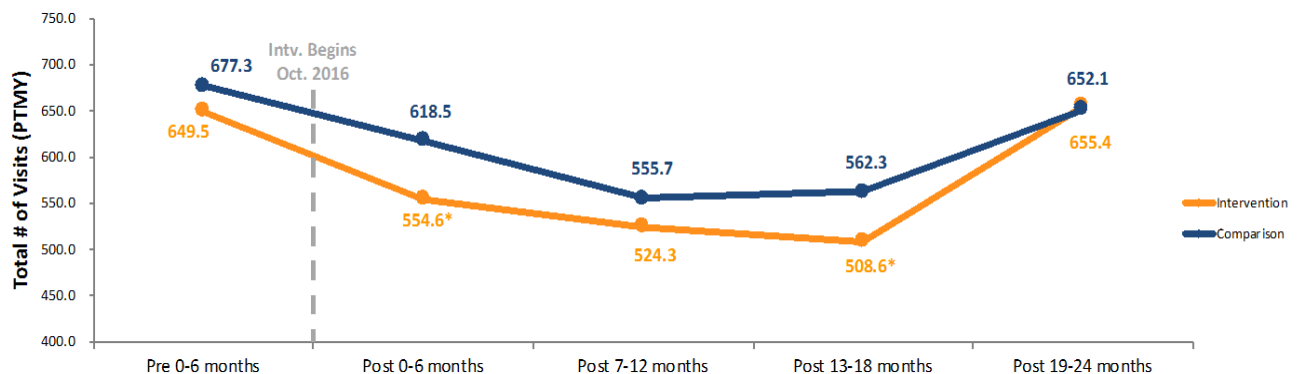
visits PTMY had higher outpatient visits PTMY, more comparable to the overall project sample; a slight decline through 18 months was followed by an increase in the post 19-24 month period that was higher than the pre 0-6 month outpatient visits PTMY. Members categorized as having 'acute and minor conditions' in both groups experience declines in outpatient visits PTMY until the post 13-18 month period. While intervention group members start with a higher outpatient visit rate than comparison group members in the pre 0-6 month period, by the 19-24 month period comparison group members experience significantly more outpatient visits PTMY as compared to intervention group members.

Figure 22. Outpatient Visits PTMY by Group – Healthy Members



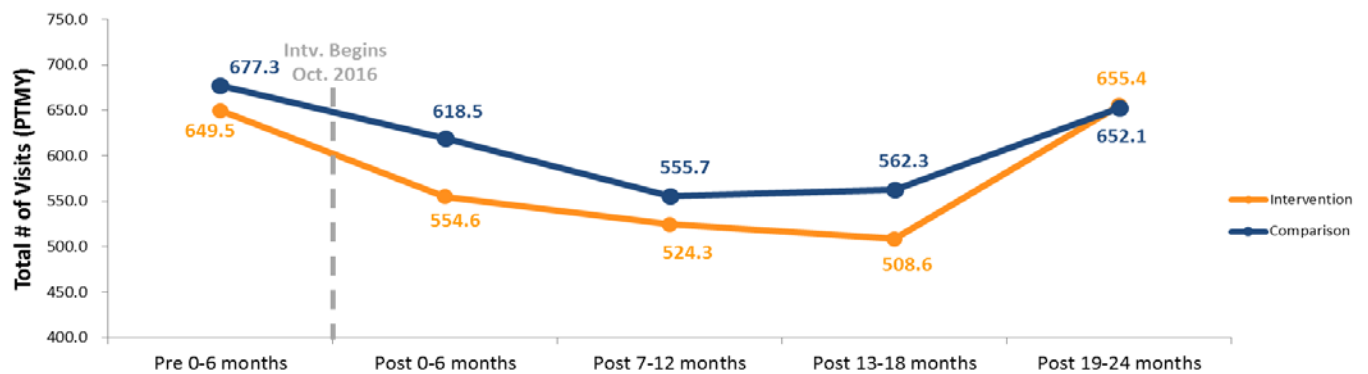
*p < .05

Figure 23. Outpatient Visits PTMY by Group –Member with Dominant Metastatic or Catastrophic Conditions



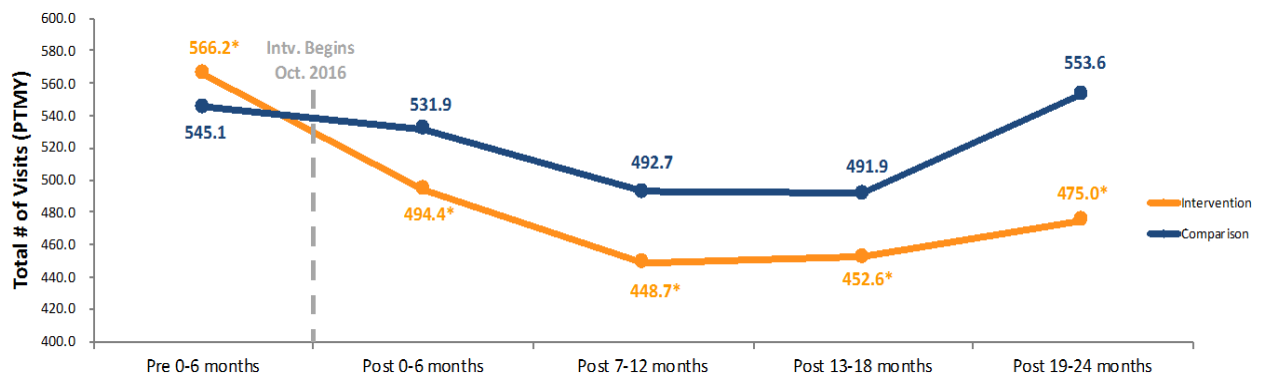
*p < .05

Figure 24. Outpatient Visits PTMY by Group – Members with Dominant and Moderate Chronic Conditions



*p < .05

Figure 25. Outpatient Visits PTMY by Group – Members with Acute and Minor Conditions



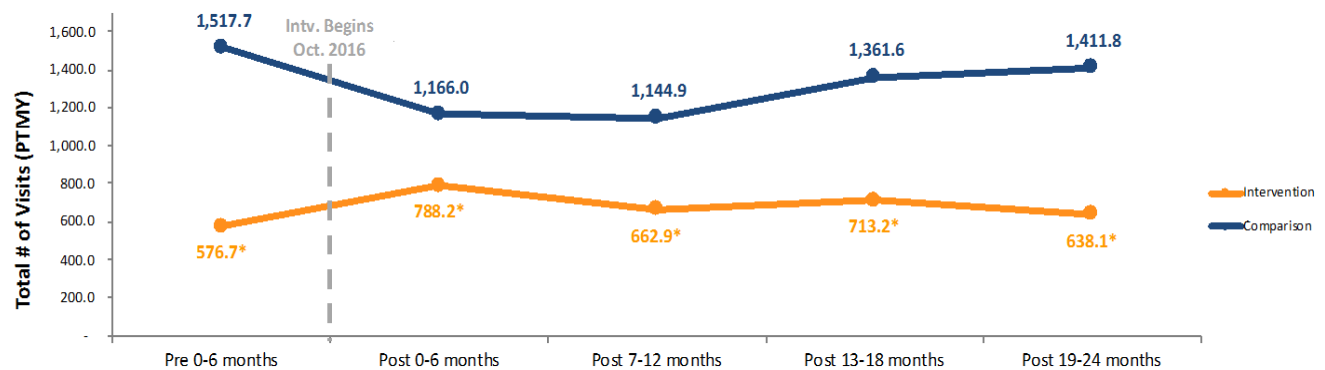
*p < .05

The program appears to be working even among hard-to-reach populations such as members classified as homeless, with notable declining trends in ED visits and upward trends in outpatient visits over time.

Given the homelessness crisis in the state (L.A. Care Health Plan. 2017) (California State Auditor 2017),^{iiiiv} we conducted a subset analysis to study program impact among populations classified as homeless.

ED Visits. Not surprisingly, ED visits PTMY for this subset are substantially higher than ED visits PTMY for the overall project sample (Figure 26 vs. Figure 8). However, for the intervention group, after an initial increase in the post 0-6 month period, ED visits PTMY declined in the post 7-12 month period and remained on a downward trend. In contrast, ED visits PTMY for the comparison group declined up until 12 months post eManagement and then started to increase.

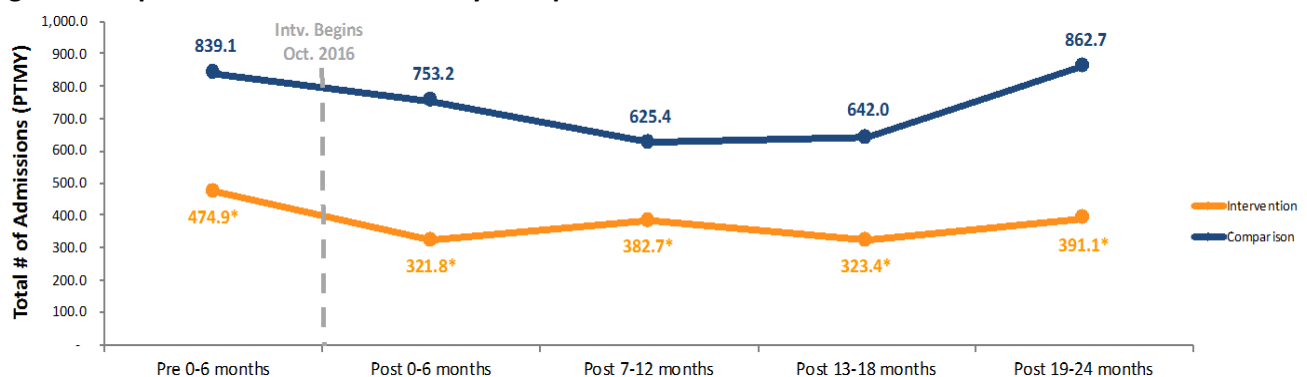
Figure 26. Emergency Department Visits PTMY by Group – Homeless Members



*p < .05

Inpatient Admissions. Inpatient admissions PTMY for members classified as homeless fluctuated throughout the evaluation project timeline (Figure 27). This trend was true for intervention and comparison groups. Importantly, at all six-month intervals, the inpatient admissions PTMY were significantly lower for the intervention group as compared to the comparison group. This fluctuation in both groups could be attributed to decreasing sample size in the longitudinal data.

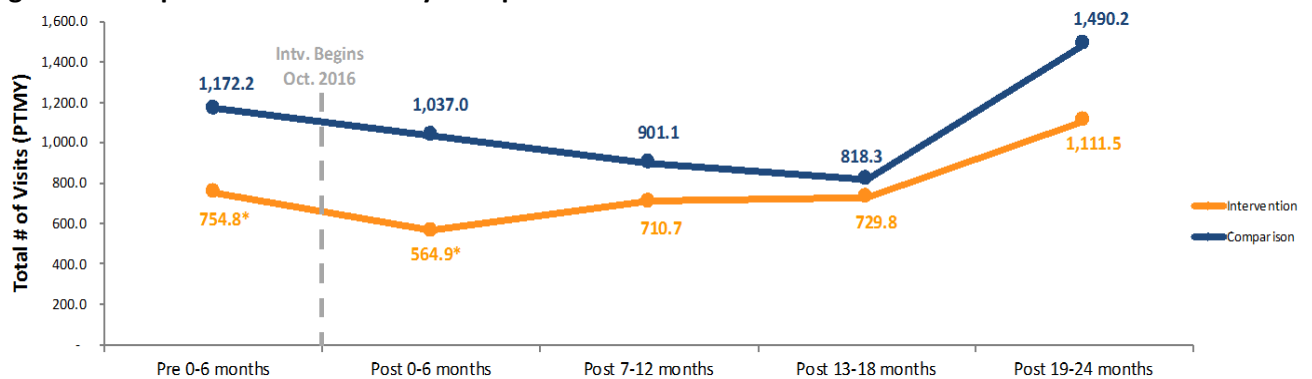
Figure 27. Inpatient Admissions PTMY by Group – Homeless Members



*p < .05

Outpatient Visits. Outpatient visits PTMY for the subset of members classified as homeless followed an upward trend for both intervention and comparison groups (Figure 28). After an initial decline in the post 0-6 month period, outpatient visits PTMY for intervention group members started to increase following this period and remained on the upward trend, almost doubling at the post 19-24 month period. Outpatient visits PTMY for the comparison group declined and remained on the downward trend for longer, through the post 13-18 months, and then started to increase, almost doubling in the post 19-24 month period.

Figure 28. Outpatient Visits PTMY by Group – Homeless Members



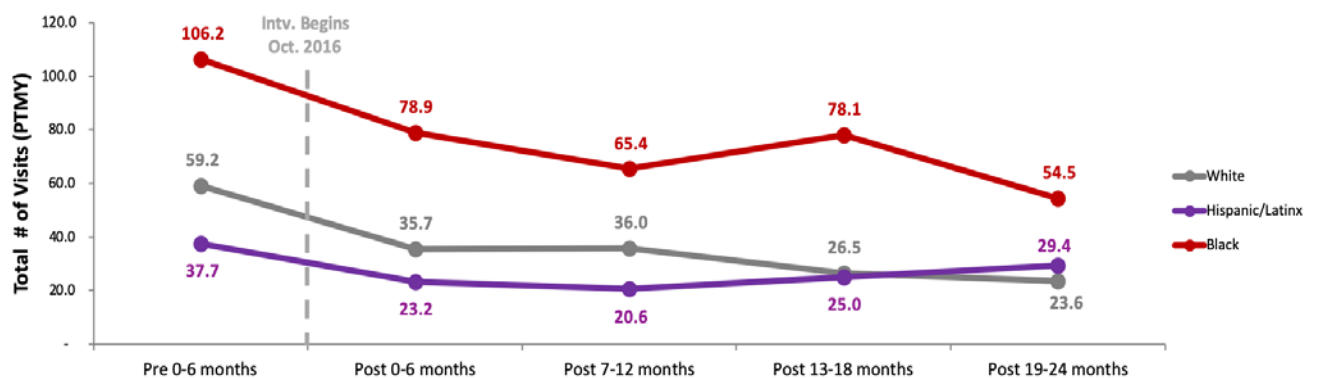
*p < .05

Slight differences in utilization trends by race/ethnicity suggests that eManagement may be working differentially by member race/ethnicity.

Members of providers utilizing the eManagement program largely identified within three distinct race/ethnicity groups: White (19.4%), Hispanic/Latinx (54.8%), and African-American/Black (10%). To better understand if there were differences in utilization trends by race/ethnicity, we disaggregated the data by race and conducted subset analysis comparing utilization trends both across and within each race/ethnicity subgroup.

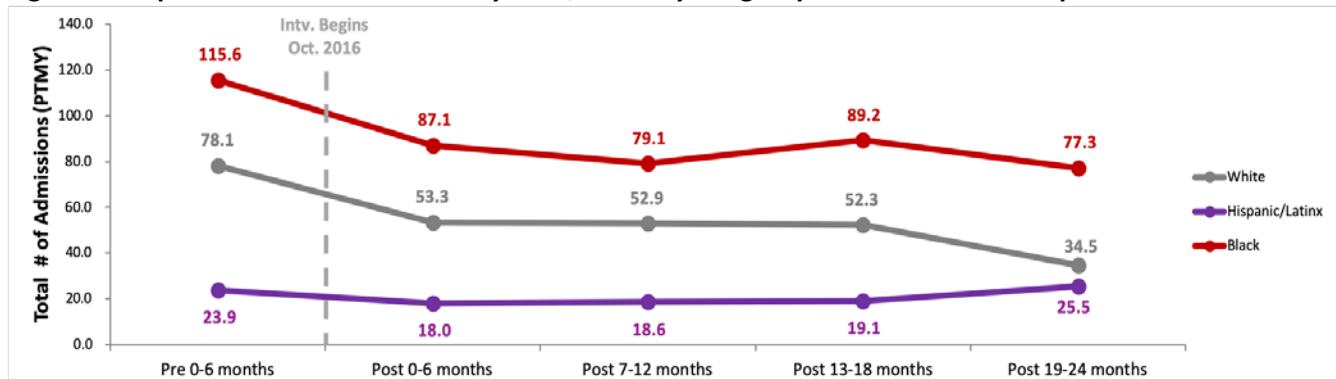
ED Visits. Figure 29 depicts pre/post ED visit utilization trends among White, Black and Hispanic/Latinx intervention group members. Even though Black members represented a smaller proportion of the member sample (10%) as compared to other races/ethnicities, their ED visits PTMY were higher than that of White and Hispanic/Latinx intervention members at all time points. Further, while White intervention group members experienced a steady decline in ED visits PTMY from post 0-6 months to post 19-24 months, Hispanic/Latinx intervention members experienced a decline until the post 7-12 months followed by an increase in the next two time periods, and Black intervention members experienced a decline until the post 7-12 month period, followed by an increase in the post 13-18 month period, only to decline again in the post 19-24 months. Further analysis may be needed to examine root causes behind these differential patterns.

Figure 29. Emergency Department Visits PTMY by Race/Ethnicity Subgroup – Intervention Group Members



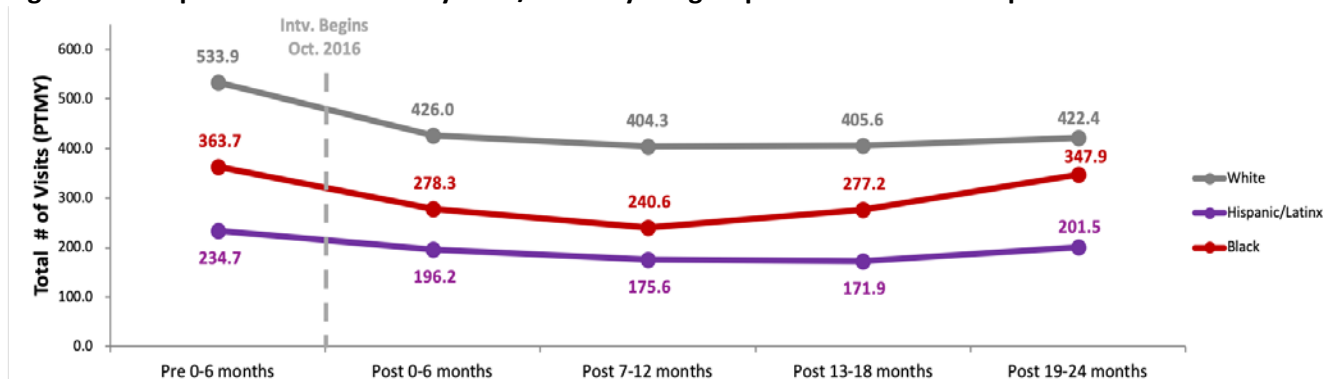
Inpatient Admissions. Figure 30 depicts pre/post inpatient admission utilization trends among White, Black and Hispanic/Latinx intervention group members. Inpatient admissions PTMY for White intervention members declined from the pre 0-6 to post 0-6 month period and then plateaued until the post 13-18 month period, then dropped rapidly at the post 19-24 month period. In contrast, inpatient admissions PTMY for Black intervention members fluctuated, decreasing until the post 7-12 month period, rising back up in the post 13-18 month period, only to decline again in the post 19-24 month period. Inpatient admissions PTMY for Hispanic/Latinx members were perhaps in the least desirable direction, declining slightly in the post 0-6 month period, then plateauing, followed by a gradual increase in the next two time periods.

Figure 30. Inpatient Admissions PTMY by Race/Ethnicity Subgroup – Intervention Group Members



Outpatient Visits. Figure 31 depicts pre/post outpatient visit utilization trends among White, Black and Hispanic/Latinx intervention group members. Outpatient visits PTMY for White intervention members declined slightly through the post 13-18 month period, and then increased slightly. For Black intervention members, outpatient visits PTMY declined for two post-eManagement time periods, followed by an increase in the two subsequent time periods. For Hispanic/Latinx intervention members, outpatient visits PTMY declined through the post 13-18 month period but then started to increase.

Figure 31. Outpatient Visits PTMY by Race/Ethnicity Subgroup – Intervention Group Members

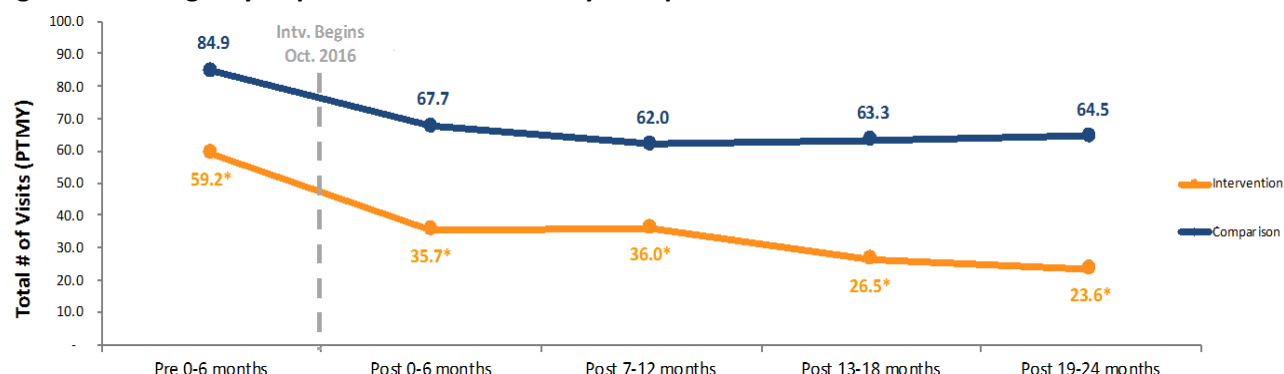


Among the subset of White members, use of the eManagement program appears to have favorable and long-term effects on ED utilization and inpatient admissions, but does not appear to influence outpatient visits.

Figures 32, 33, and 34 depict shifts in utilization associated with a behavioral health diagnosis PTMY from 6-months before eManagement to 24-months post eManagement among White members.

ED visits. Intervention group members started out with a lower ED visits PTMY as compared to comparison group members and remained consistently lower throughout the evaluation period. Even though comparison group members experienced a decline in ED visits PTMY over time, members in the intervention group experienced a sharper and more sustained decline compared to that of the comparison group. The gap between intervention and comparison group members may be increasing over time. Following users over a longer time period may be necessary to assess if these changes are sustained over time.

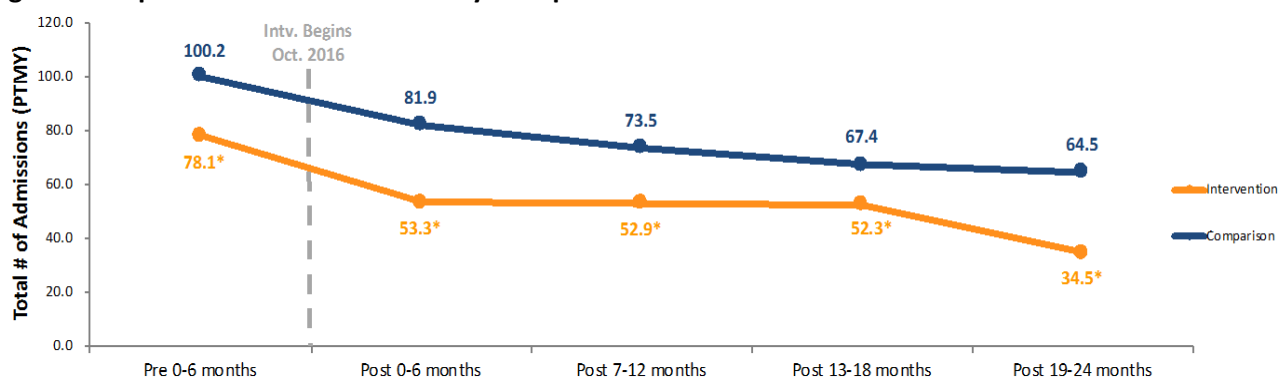
Figure 32. Emergency Department Visits PTMY by Group – White Members



*p < .05

Inpatient Admissions. Intervention group members started out with lower inpatient admissions PTMY as compared to control members and remained consistently lower throughout the evaluation period. Both groups experienced a decline in inpatient admissions PTMY following program implementation but the intervention group experienced a sharp decline at the post 19-24 time period, and the gap between the two trend lines increases.

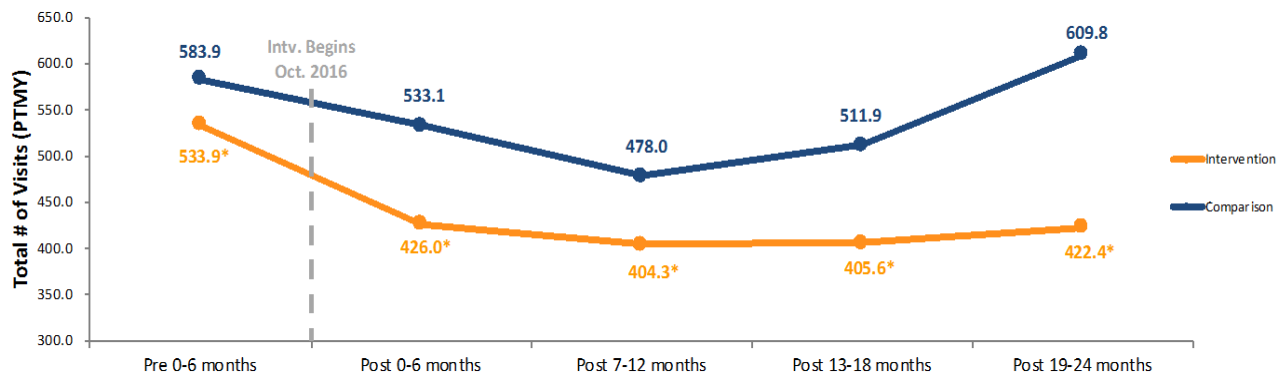
Figure 33. Inpatient Admissions PTMY by Group – White Members



*p < .05

Outpatient Visits. Intervention group members started out with lower outpatient visits PTMY as compared to comparison group members and remained consistently lower throughout the evaluation period. Comparison group members experienced a slight drop in their inpatient admissions PTMY in the post 0-6 month and the post 7-12 month period, followed by an increase in all subsequent time periods. It will be important to study patterns for a longer duration to better assess the differential impact of the program, if any, between study groups.

Figure 34. Outpatient Visits PTMY by Group – White Members



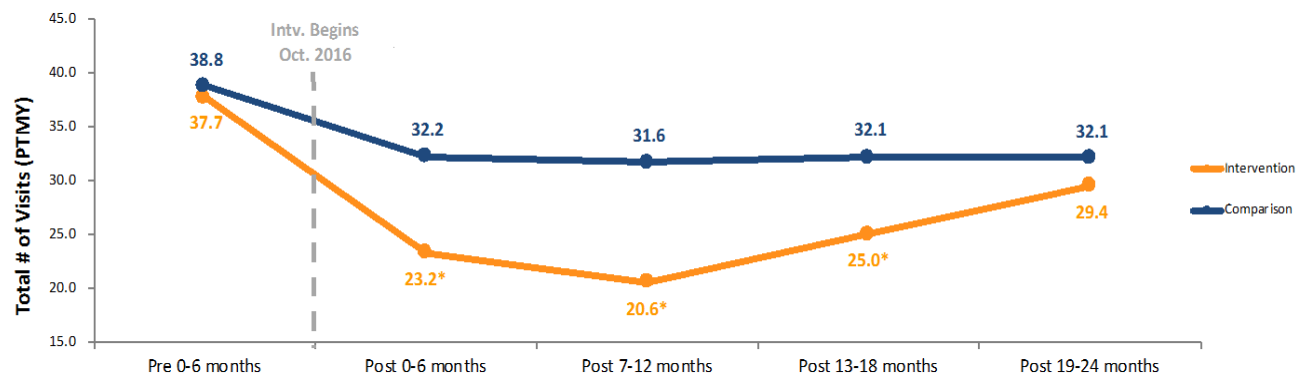
*p < .05

Among the Hispanic/Latinx patient subgroup, use of the eManagement program appears to have some short-term effects on ED visits and inpatient admissions.

Figures 35, 36, and 37 depict shifts in utilization associated with a behavioral health diagnosis PTMY from 6-months before eManagement to 24-months post eManagement for Hispanic/Latinx members.

ED visits. Intervention and comparison group members had similar ED visits PTMY in the pre 0-6 month period. While both groups experienced a decline in ED visits PTMY in the post 0-6 month period, the comparison group experienced a smaller decline that plateaued after six months. Intervention group members, in contrast, experienced a decline in ED visits PTMY until the 12 months period, followed by an increase in the post 13-18 month period.

Figure 35. Emergency Department Visits PTMY by Group – Hispanic/Latinx Members

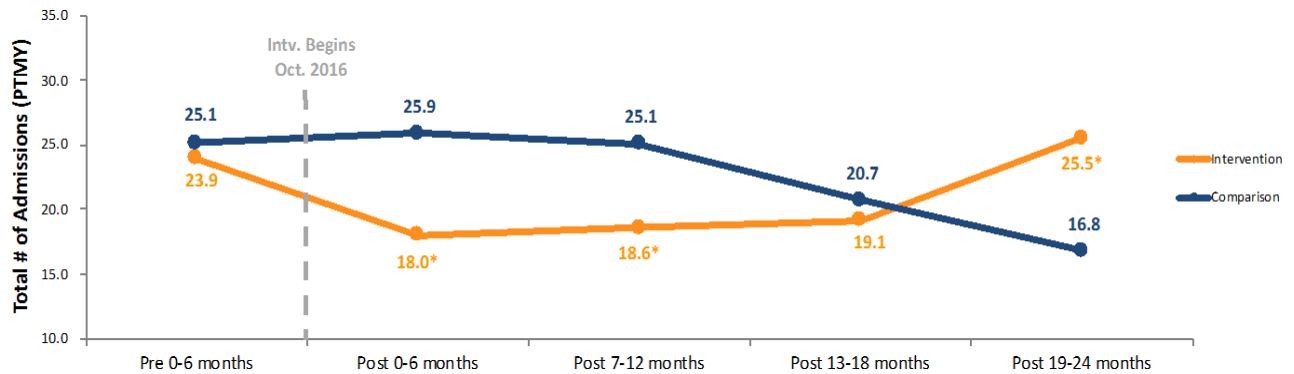


*p < .05

Inpatient Admissions. Inpatient admissions PTMY fluctuate for the two groups but in opposite directions. For the intervention group, inpatient admissions PTMY dropped in the post 0-6 month

period, followed by a gradual increase over time. For the comparison group, inpatient admissions increased in the post 0-6 month time period and then began to decrease. The two trend lines converge after the post 13-18 month period, with intervention members' inpatient admissions moving in the non-desired direction and the comparison group moving in the desired downward direction.

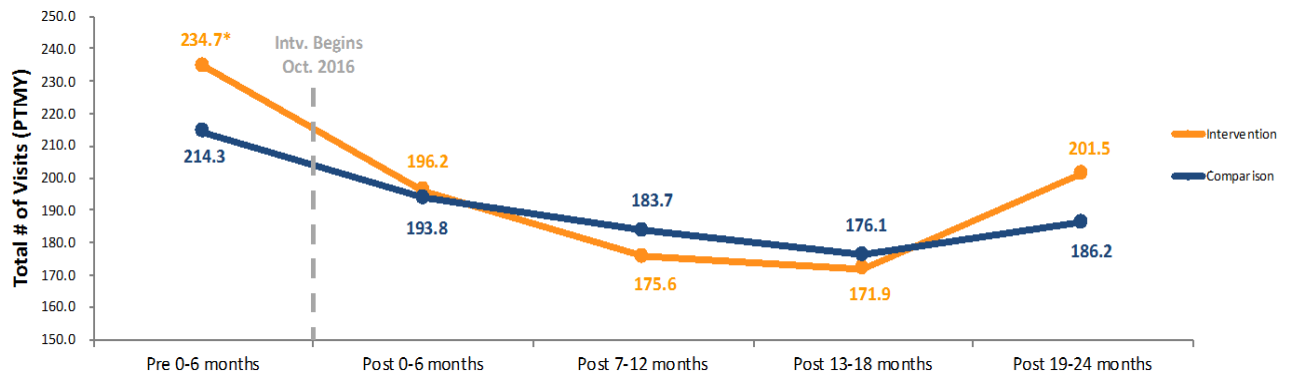
Figure 36. Inpatient Admissions PTMY by Group – Hispanic/Latinx Members



*p < .05

Outpatient Visits. Outpatient visits PTMY for the intervention and comparison groups map quite closely for all time points. Both groups experience a slight decline in the first year, followed by an increase in utilization post 18 months.

Figure 37. Outpatient Visits PTMY by Group – Hispanic/Latinx Members



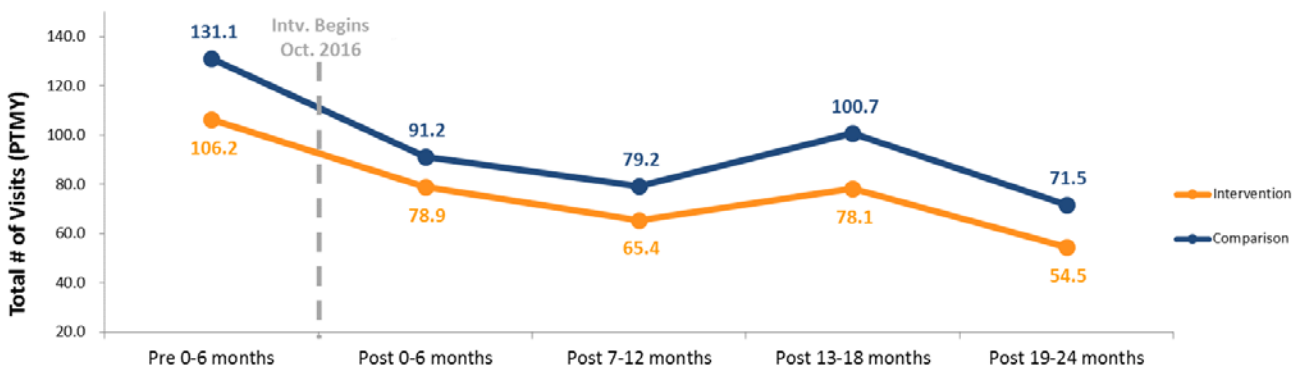
*p < .05

Among Black members, the use of the eManagement program appears to have a favorable effect on outpatient visits over time.

Figures 38, 39, and 40 depict shifts in utilization associated with a behavioral health diagnosis PTMY from 6-months before eManagement to 24 months post eManagement for Black members.

ED visits. Trends in ED visits PTMY map quite closely for the intervention and comparison groups, even though the intervention group rates are lower at each six-month interval. Both groups experienced a decline in ED visits PTMY for the first year after eManagement, followed by an increase in the post 13-18 month period and a sharp decline in the post 19-24 month period. Further study over a longer time period may be needed to see if the decline is sustained over time suggesting a favorable effect of the program over time.

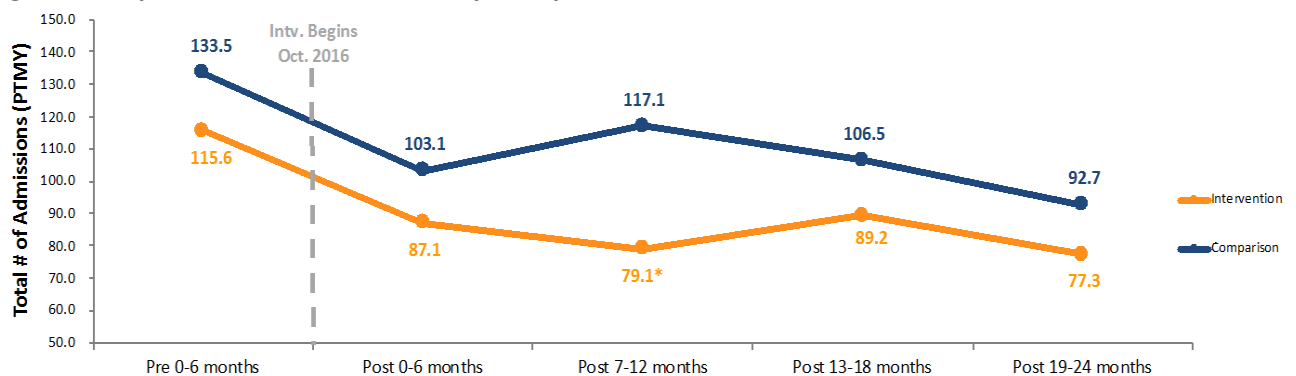
Figure 38. Emergency Department Visits PTMY by Group – Black Members



* $p < .05$

Inpatient Admissions. Intervention group members began with and had lower inpatient admissions PTMY as compared to comparison group members at all six-month intervals. At 12-months post eManagement, comparison group members experienced an increase in inpatient admissions PTMY. In the post 13-18 month period the trend reversed, with inpatient admissions for the intervention group rising and that of the comparison group falling. Over time, the gap between the two groups narrowed. It may be important to follow members over time to determine the intervention impact, if any, among the subgroup of Black members.

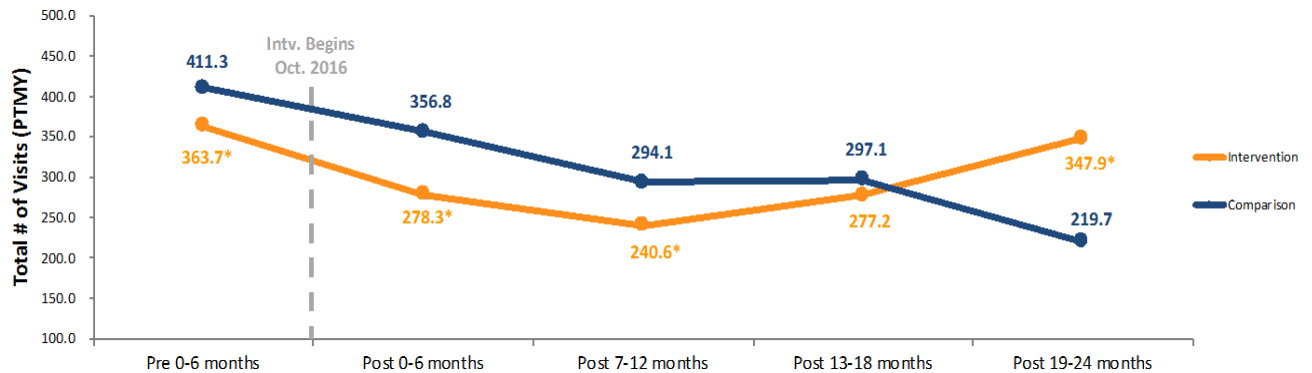
Figure 39. Inpatient Admissions PTMY by Group – Black Members



*p < .05

Outpatient Visits. Outpatient visit PTMY declined for both groups till the 12-month post-eManagement period. At the 13-month mark, intervention members experienced an increase in outpatient visit PTMY which was sustained in the subsequent time period, while comparison group members experienced a further decline. The data suggest that among Black members, eManagement may have a delayed yet favorable effect over time by increasing outpatient visits associated with a behavioral health diagnosis.

Figure 40. Outpatient Visits PTMY by Group – Black Members



*p < .05

Table 6. Snapshot of eManagement Program Effect on Key Utilization Patterns by Race/Ethnicity Subgroup

	Emergency Department Visits	Inpatient Admissions	Outpatient Visits
White Members	Long-term effect (reduction over time).	Long-term effect (reduction over time).	No major change in trends over time.
Hispanic/Latinx Members	Short-term effect (reduction over time).	Short-term effect (reduction over time).	No major change in trends over time.
Black Members	Trend fluctuates over time.	Trend fluctuates over time.	Delayed effect with small increases.

How does eManagement use impact member health outcomes?

Though it can be difficult to assess changes to member health status using utilization data, and over a relatively short period of time, changes in screening scores and related diagnoses obtained from the eManagement program data may be indicative of favorable program impact in terms earlier identification of behavioral health conditions and improved access to appropriate treatment.

Using data on members receiving more than one prescreen in eManagement (between October 2016 and November 2018) we evaluated the impact of eManagement on member health outcomes (see appendix for details on methodology). Table 7 depicts the number of members who received multiple screenings for the same condition at least six weeks apart, and the outcomes of those screenings (whether there was a change in score and/or diagnosis over time, and whether that change reflected improvement or worsening of the condition).

Table 7. Changes in Diagnosis Detected through Repeat Screenings

	PHQ9	GAD	SHA
Number of members receiving repeat screenings	248	207	65
Number of members with a change in score	232	196	59
Number of members with a change in diagnosis	215	184	59
Number of score decreases (condition improving)	133	114	34
Number of score increases (condition worsening)	110	87	27
Number of score increases that reflect detection of a new diagnosis (repeat test revealed a diagnosis after previous screen did not)	90	69	23

For each screening test, over half of members with repeat screening tests showed an improvement in their condition, reflected by a lower score on the screening test (54% of PHQ-9 rescreens, 55% of GAD-7 re-screens, and 52% of SHA re-screens). Conversely, roughly a third of members had a new diagnosis detected on a re-screen, reflected by a repeat screening test revealing a diagnosis that was not detected on the previous screen (36% of PHQ9 re-screens, 33% of GAD re-screens, and 35% of SHA re-screens). These findings indicate that the use of eManagement is leading to detection of behavioral health conditions, and potentially to improvement of existing conditions through detection and better medication management.

Limitations

The findings should be examined in light of several limitations. First, sample sizes for the provider survey and eManagement data were relatively small (n=37 for the provider survey and n=103 for the program data). This limits the ability to conduct more advanced analysis; for example, testing if high-and-low user survey responses were statistically different. Importantly, the sample sizes are in line with sample sizes used in rapid evaluation efforts where the focus is on evidence gathering and understanding implementation rather than establishing proof of concept. As such, JSI's goal is not to provide conclusive evidence about the effectiveness of eManagement, but rather to offer insights that can inform L.A. Care's implementation strategy and operations refinement.

Second, there were discrepancies between self-reported data and actual utilization, observed by comparing survey responses to eManagement program data. The survey implementation strategy and the program implementation model may together contribute to this discrepancy. After consulting with the L.A. Care program team, the decision was made to send the survey to providers and key staff in their practices to increase the survey response rate and because staff had been trained in eManagement program use and were supporting their providers in utilizing eManagement. The survey was anonymous and included only a practice National Provider Identifier (NPI), and, as such, there is no way of knowing which specific staff member and/or providers completed the survey. Those who completed the survey could be different from the staff/provider responsible for eManagement data entry, explaining the differences between perceived use (via the survey) and actual use (via the eManagement data). In-depth interviews with providers confirmed that users did experience technical challenges in using eManagement, which may contribute to lower data entry.

Third, the absence of a standardized program implementation model may influence the lack of variation in health care utilization trends between intervention and comparison group members. JSI's in-depth interviews with providers and interview with the L.A. Care program team revealed that there were variations in the implementation strategy adopted across practices. There was no standard usage or implementation approach across practices, with most practices using eManagement selectively. In some practices, only select staff used eManagement, often only MAs, office managers, and nurse practitioners. While in others only the provider used eManagement. Further, in some practices, providers chose not to access the consult feature. While a non-prescriptive implementation strategy can have tremendous benefits in influencing provider practice change, it poses challenges for evaluation. Due to the variation in program implementation across providers and their practices, all high users and all low users are likely not two homogenous groups. As such, it is unrealistic to expect the same change at the member-level from members of high vs. members of low users, when in fact 'using eManagement' might mean very different things for different providers and their practices.

Fourth, per the use of a quasi-experimental approach, the intervention and comparison groups differed at baseline on several demographic and risk factors which could be confounding program impact. Observed differences in health care utilization outcomes between the two groups cannot be attributed solely to the differential use of eManagement and could be due to baseline differences between the groups and other unmeasured confounders. While a limitation of the evaluation results, per the

evaluation goals and parameters, this was the most robust approach possible and does provide insights on the impact of eManagement for quality and health care outcomes.

Fifth, there is a potential for dilution of small effect sizes when working with a large sample (the total sample size of adult members included in claims analysis was 75,111) and two study groups were not that different in terms of their use of eManagement. High users were not screening members universally (most high users conducted a screening in less than 10% of their patient encounters), and, as such, high and low users are not that different. When examining utilization trends for high and low users' entire patient panels, small favorable effects for the few members that received eManagement screening may have been hard to discern. To address this limitation, we conducted a subset analysis looking at the utilization patterns and variation between intervention and comparison group members who received at least one eManagement screening.

Sixth, there is a possibility of cross-over between high and low users resulting in limited variation in health utilization outcomes when comparing intervention to comparison group members. Due to the quasi-experimental design, ongoing enrollment strategy, and time lag with obtaining claims data, we had to pick a single point in time (July 2018) to create the two group classification, and further used the intent-to-treat principle wherein final results were compared based on initial assignments. Review of the program data over time, however, did show that screening conducted each month peaked within the first four months and then gradually declined in the months that followed. As such it is possible, that even providers classified as high users—based on cumulative usage—tend to decline in screenings conducted over time and begin operating more like users. Thus, over time, health care utilization trends among intervention and comparison group members may converge or be very similar. JSI reviewed the eManagement program data at two time points (using July 2018 and December 2018 program data) and re-ran the classification criteria on the list of providers to assess the extent to which providers' eManagement usage patterns were shifting, thereby changing their status from high to low user or low to high user. These analyses could be repeated by redoing the classification on the most up-to-date program and claims data. As of December 2018 the following changes to the classification of enrolled providers:

- Twenty-one low users had disenrolled from the program
- Seven low users would have become high users as two screened 25% of their panel, and five completed 100+ screens in the months between July and December
- One high provider would have been reclassified as a low user as their average screens per member month fell below 20

Seventh, members could have switched from a high-utilizing provider to a low-utilizing provider during the evaluation project timeline, but per standard evaluation practices, JSI used the intent-to-treat principle wherein members are compared in terms of their final results within the groups that they were initially assigned to, independent of whether they received the allocated exposure. The L.A. Care claims team may want to pursue further analysis internally to determine what percentage of their members switch providers and in what frequency, in order to assess the extent to which this provider switching may be impacting the results.

Conclusions

Overall, the mixed-method evaluation project was able to meet evaluation goals and provide insights on eManagement users: who they are, how they experience eManagement, usage patterns, drivers and facilitators to usage; and potential effectiveness on changing practices and influencing member-level health care utilization.

The data suggest that the eManagement program is likely influencing provider practices, albeit slowly, and supporting earlier detection, screening and management of behavioral health conditions among L.A. Care members. Utilization analysis showed a decline in high-cost utilization associated with behavioral health diagnosis over time, and an increase in outpatient services associated with a behavioral health diagnosis. Even though both groups (intervention and comparison) experienced these trends, the downward trend was more sustained for intervention group members versus the comparison group members who experienced some fluctuations over time. Moreover, these trends were even more favorable among the subset who were not just members of high users but had actually received an eManagement screening. Despite limitations of the lack of a rigorous control group, small sample sizes, variation in program implementation, etc., the results are directionally promising and could be meaningful, both to members' human experience and to L.A. Care's program and strategy refinement.

In conclusion, the eManagement program is likely to have a positive impact on the population it is serving. The longitudinal utilization analysis suggests that patience may be necessary to see results, a common sentiment in most safety-net health care program evaluations. Indeed, other innovative health care delivery interventions that target the highest cost and most vulnerable populations, and that aim to change utilization behavior, seem to require investment over more than 18 months to realize and sustain improvements in utilization, health outcomes, patient experience and quality of care (Friedberg M.W., Rosenthal M.B., Werner, R. et al. 2015)^v

L.A. Care will need diligent data collection and analysis over time to track what is and is not working, remembering that an early assessment may deem the program as a failure too soon, while a longer-term horizon may enable assessment of the true value and ROI of the program.

APPENDIX

Appendix 1: Data and Methods

The evaluation had two units of analysis: providers and their assigned L.A. Care members. Data sources included provider-level data — eManagement program data, encounter data, data from in-depth interviews, and a survey with providers — and member-level data — eManagement program data, utilization data, enrollment, and risk scores data.

Inclusion Criteria. To be included in the evaluation, providers had to have enrolled in the eManagement program between October 1, 2016, and March 31, 2018, in order to allow them at least 3-months to develop patterns of eManagement use and/or opinions regarding the program before being asked to respond to a provider experience and satisfaction survey in June/July 2018. We excluded pediatric providers and providers who were not currently enrolled in eManagement as of July 2018. Applying these eligibility criteria, the total number of providers included in the analysis was 103.⁹

Consistent with standard assessment durations used in program evaluations, a six-month minimum continuous enrollment criteria was applied as an evaluation inclusion criteria for members. L.A. Care members assigned to the providers included in the evaluation had to have at least one six-month continuous enrollment period with L.A. Care after the date that their assigned provider enrolled in eManagement. Applying this criteria, the total sample size of adult members included in the analysis was 75,111.

Each data source and the analyses conducted are briefly described below.

Program Data: L.A. Care provided JSI with eManagement program data at multiple points throughout the analysis (aggregate program data were received for January, May, July, October and December 2018). This dataset included information on currently enrolled and disenrolled providers, provider enrollment dates, the number of screenings conducted by each provider, the results of their screenings, the number of consultations conducted and their results. These program data were used to identify and classify the provider sample into two groups of users in order to more comprehensively study the eManagement usage patterns. Descriptive statistics were conducted on the program data to compare differences in utilization between high and low users across screenings and consults conducted on the platform and frequency of use per month of eManagement enrollment. Program data analysis was also conducted to understand overall adoption of the program into provider workflow as measured by the percent of patient encounters that included a screening.

Provider Survey: The L.A. Care provider survey (see Appendix 2) was developed in collaboration with L.A. Care and CHCF between March and May 2018. The survey included questions on utilization protocols, data entry of eManagement pre-screens and full screens, as well as perceptions of, experience with, and satisfaction with eManagement. On June 1, the survey was distributed online via Survey Gizmo to practices that had at least three months of experience with the eManagement

⁹ Upon reviewing data for the claims analysis, we found that some providers labeled as “pediatric” providers were actually serving a significant number of adult members. As a result, all 117 providers who enrolled in the program between October 1, 2016 and March 31, 2018 who were currently enrolled as of July 2018 were included in the claims analysis.

program, followed by a second dispatch on July 1 to providers who joined the program in March 2018 to allow this subgroup at least three months to have used the program before being asked to complete a survey. In total, 81 surveys were sent out to the 103 providers included in this analysis. If providers were from the same practice, they were sent only one survey link. L.A. Care identified some practices that received two separate survey links either due to having two providers who were frequent users of the program or two providers with dichotomous use e.g., one frequent and one infrequent user. A \$25 incentive was offered for all complete surveys. Descriptive and bivariate analysis were conducted comparing responses of high vs. low providers.

In-Depth Interviews: Between October 2018 and February 2019, 12 in-depth phone interviews were conducted with providers and the specialist contracted for the eManagement program. This included six high users, five low users, and one specialist. In total, we contacted 46 providers via email to request interviews, including at least one follow-up for those who did not respond within a week. After conducting an initial round of interviews, we identified an additional 13 providers that we hoped to reach to balance the interview sample. L.A. Care supported this effort by reaching out to these additional providers directly and requesting their participation in an interview. Despite repeated attempts to contact providers, the sample could be increased. In some cases, interviews were conducted with staff of a provider's office, with or without the provider's participation in the interview. JSI team members independently reviewed notes and transcripts from the interviews. Thematic coding was conducted to identify key themes as relevant to the evaluation questions.

Dual Screening Data. JSI received a dataset containing data on repeat eManagement screenings (for members receiving more than one screening in eManagement) dated November 30, 2018. The original dataset contained data on 9,855 screenings completed on 3,471 members. From this dataset, we removed any members who had dual screens conducted but no scores or diagnosis on any of their screens, indicating they received only pre-screens and JSI would be unable to make any meaningful inferences about changes in scores/diagnosis. This resulted in a dataset of 2,213 screenings for 844 members. Next, per L.A. Care's recommendation that changes in scores are considered clinically meaningful as early as six weeks after initial treatment, we removed screens that were conducted fewer than six weeks apart. This resulted in a dataset with: 291 members with multiple screens/pre-screens, at least one of which has a PHQ-9 score/diagnosis; 244 members with multiple screens/pre-screens, at least one of which has a GAD-7 score/diagnosis; and 83 members with multiple screens/pre-screens, at least one of which has an Audit C score/diagnosis. Descriptive analysis was done on this data to calculate the differences in screening score and diagnosis for any repeat screening, and the direction of change (increasing score/worsening condition, decreasing score/improving condition).

Claims and Enrollment data. JSI received claims data, enrollment data and risk scores data for L.A. Care members empaneled to the set of providers identified as having joined eManagement between October 1, 2016 and March 31, 2018. The member eligibility dataset had 131,380 observations, and the claims dataset had 126,850 observations. 4,530 observations with eligibility data but no claims data were removed from, dropping the sample size to 126,850. Per our evaluation inclusion criteria, members who did not have at least one six-month continuous enrollment with L.A. Care and members less than 12 years of age were removed from the analysis, reducing the sample size to 94,445. The dataset was then

split into two groups: adult members (18 years and above, sample size 75,111) and 12-18 years of age (sample size 19,334). Analysis were conducted on the adult users.

Bivariate statistics and utilization analysis. At the member level, bivariate statistics were conducted to compare intervention and comparison group members on demographics and risk scores. To study utilization patterns over time and maximize use of available data, we worked with L.A. Care analytics team to establish six-month intervals starting from 6-months pre eManagement to 24 months after. Given that eManagement enrollment was ongoing, it was not possible to have a single pre/post intervention date. To address this issue, we created six enrollment periods based on the distribution of eManagement providers' eManagement "Go Live" dates. Each individual member's pre- and post-time periods were calculated based on their respective provider's eManagement enrollment period. Since members had varying membership durations, the sample size available per six-month interval varied and declined substantially 24 months post eManagement initiation. Table 8 depicts the drop in sample size availability over time.

Table 8. Variation in Sample Availability Over Time

Time Period	All members with active member months (N=75,111)	Intervention Group members with active member months (n=37624)	Comparison Group members with active member months (n=37487)
0-6 pre intervention	61,072 (81%)	30,258 (80%)	30,814 (82%)
0-6 post intervention	68,566 (91%)	34,192 (91%)	34,374 (92%)
7-12 post intervention	73,153 (97%)	36,559 (97%)	36,594 (98%)
13-18 post intervention	59,409 (79%)	29,963 (80%)	29,446 (79%)
19-24 post intervention	24,629 (33%)	15,000 (40%)	9,629 (26%)

Utilization patterns were examined over these intervals for the following health outcomes that were associated with a behavioral health diagnosis: inpatient admissions, emergency department (ED) visits, and outpatient visits. Based on the literature and in-consultation with L.A. Care JSI developed a list of ICD 9 and 10 codes indicative of a behavioral health conditions. Health care utilization with at least one of these codes were pulled for this study. For each interval and by intervention and comparison group, utilization by each outcome were aggregated (e.g., total ED visits associated with a behavioral health diagnosis), divided by member months in that interval for each respective group (e.g., total member months for a time period), and multiplied by 12,000 to calculate total utilization per thousand member years (PTMY). In addition to utilization analysis for the full adult sample, subset analyses were conducted to assess for variation in program impact by subgroup characteristics. Subset analyses were conducted for the following subgroups: 1) members who had ever received at least one eManagement screening; 2) members classified as homeless, 3) members classified as African American, Hispanic/Latinx, or White, and 4) members classified as adult Medicaid expansion. Sample and Analysis methods are described in detail in the Appendix.

Appendix 2: Provider survey tool

Feedback Survey for L.A. Care's eManagement Program

LANDING PAGE

Hello,

As a valued member of the L.A. Care network, you have been selected to participate in a brief survey. L.A. Care is interested in your feedback about their eManagement program, a web-based system facilitating linkages between primary care practices and behavioral health specialists to improve the quality and delivery of behavioral health care and services (e.g., mental health and substance use related care). We value and appreciate your opinions, regardless of how often you have used eManagement.

How long will the survey take?

This survey will take less than **10 minutes** to complete.

Who should take the survey?

It would be most efficient to complete the survey collaboratively as a practice team (clinician with other office staff, for example, MA, office manager). **We are looking for one survey response per practice.** When possible, indications have been made of who (staff or clinician) may be best equipped to respond.

How will survey responses be used?

Your responses will help L.A. Care better understand your needs and refine the eManagement program accordingly. The survey is being administered by an independent research firm, [John Snow Research & Training, Inc. \(JSI\)](#). This survey is voluntary. You can stop at any time, save your responses, and come back when convenient, or skip questions that you feel uncomfortable answering or may not have the answers to. We respect your privacy. All information provided is completely confidential. Only JSI will have access to the data. We will analyze the data and provide aggregated results to L.A. Care. **Your responses will NOT in any way affect the services you currently receive from L.A. Care.**

As a token of our appreciation for your time, we will offer each complete survey a \$25 gift card. Thank you again for making time to complete this survey!

If you have any questions regarding the survey, please contact Tracey Kirui at JSI California, 415-400-0020.

Click NEXT to take the survey

Please enter your individual Provider NPI here to get started* _____

Section I: Using eManagement in Your Practice

The following questions pertain to using eManagement in your practice. **Office managers, medical assistants, or other staff may be best equipped to answer these questions. However, feel free to work in collaboration with your full team, including the clinician(s) when completing this section.**

1. On average, how often does your practice administer the eManagement behavioral health pre-screenings and follow up with full screenings when needed? (select one)*
 - 1) Daily
 - 2) One or more times a week
 - 3) One or more times a month
 - 4) It varies, depends on patient volume and staff availability
 - 5) It varies, depends on patient need (i.e. if we suspect patients need to be screened for behavioral health conditions)
 - 6) We signed up, but haven't had a chance to use the program yet
 - 7) Don't know

IF RESPONDENT SELECTS #6 PROGRAM SURVEY TO SKIP to Q4

2. On average, how frequently does your practice enter screening results into the eManagement system?*
- 1) Real-time (i.e., enter the data live as the screen is completed)
 - 2) Within 2 business days of screening
 - 3) Once a week
 - 4) Once every two weeks
 - 5) Varies, depending on staff availability for data entry
 - 6) Varies, depends on the volume of screens completed
 - 7) Don't know
3. The following statements pertain to protocols in administering the behavioral health screens. Please check all that apply.*

	Clinician	Self-administered by patient	Office Manager	Medical Assistant	Other office staff	Don't know
Who administers the eManagement behavioral health pre-screens?	1	2	3	4	5	9
Who administers the eManagement behavioral health full screens i.e., if the pre-	1	2	3	4	5	9

screens are positive and full screens are needed?						
Who enters the results of the pre-screens into the eManagement system?	1	2	3	4	5	9
Who enters the results of the full screens into the eManagement system?	1	2	3	4	5	9

4. For the following statements, please reflect on your experience interacting with the L.A. Care eManagement staff, the technology, and implementing the workflow. Using the scale of 'Strongly Agree' to 'Strongly Disagree', please indicate the extent to which you agree/disagree with the statement. You may also select "Not Applicable" if a statement doesn't apply. **Please select only one response per statement.***

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Not Applicable (N/A)
L.A. Care provided a comprehensive orientation helping us to get started.	1	2	3	4	5	6
L.A. Care helped us develop an appropriate workflow to integrate eManagement into current practices.	1	2	3	4	5	6
The eManagement interface is simple and easy to use.	1	2	3	4	5	6
L.A. Care helpdesk support requests are handled in a timely manner.	1	2	3	4	5	6

Section II: Benefits of Using eManagement

The following questions pertain to your perceptions of the eManagement program, benefits, and overall satisfaction. **Clinician(s) may be best equipped to complete this section. However, please feel free to consult with your clinician and then complete as a team, if more efficient.**

5. Why did you decide to participate in eManagement? For each statement, please indicate the extent to which this was an important consideration in your decision to participate. Using the scale from 1 to 5 where '1' is 'Not At All Important' and '5' is 'Extremely Important'.*

	Not at All Important (1)	(2)	(3)	(4)	Extremely Important (5)
Interest in exploring the use of technology to improve patient outcomes	1	2	3	4	5
Wanting to understand the prevalence of behavioral health conditions in our patient panel	1	2	3	4	5
Wanting to improve knowledge and skills to treat behavioral health conditions	1	2	3	4	5
Financial incentives offered by L.A. Care for completing screenings and entering into eDialogues with psychiatrist	1	2	3	4	5

6. For the following statements, please reflect on how participating in the eManagement program may have impacted your practice. Using a scale of 1 to 5, where '1' is 'Not At All Improved' and '5' is 'Very Much Improved', please select a response that best reflects how you feel for each of the following statements.*

	Not At All Improved				Very Much Improved	Not Applicable (N/A)	Don't Know
Understanding the prevalence of behavioral health conditions among patients	1	2	3	4	5	6	9
Earlier detection of behavioral health conditions	1	2	3	4	5	6	9

Knowledge, confidence and skill in treating behavioral health conditions	1	2	3	4	5	6	9
Quicker access to specialist consultations	1	2	3	4	5	6	9
Quality of behavioral health care for patients	1	2	3	4	5	6	9

7. Overall, how satisfied are you with your experience participating in the eManagement program? Please think about all aspects of your experience, interacting with the program team, getting set up, and using the systems. **Please ensure that the clinician in your office is consulted in these responses.** Use the scale below where '0' is 'Not at all satisfied' and 10 is 'Extremely satisfied' and select one option.

Not At All satisfied										Extremely Satisfied
0	1	2	3	4	5	6	7	8	9	10

8. How likely are you to recommend the eManagement program to your colleagues? Use the scale below where '0' is 'Not At All likely' and 10 is 'Extremely likely' and select one option.

Not At All Likely										Extremely likely
0	1	2	3	4	5	6	7	8	9	10

9. If you have not been able to use the program as desired and/or make the practice changes you had desired, please explain the reasons why this may be the case (e.g., lack capacity to screen all patients, limited technology, lack capacity for real time data-entry).
10. Please use the space below to offer your suggestions for improvement or anything else you would like to share.

Appendix 3: Provider/Staff In-depth Interview Guides

L.A. Care Interview Guide

Provider Guide

Introductions

Purpose: JSI is working in collaboration with L.A. Care to get your feedback on the eManagement program to learn what is working and what can be improved. Your responses will be anonymous.

***ASK IF WE CAN RECORD INTERVIEW**

1. To get started, please tell us about your practice, how many clinicians and staff do you have?

Probes (if multiple providers):

- Do all providers in your practice use eManagement?
2. Do you have an EHR?
 3. Were you screening for behavioral health conditions prior to joining the eManagement program?
 4. Why did you decide to sign up for eManagement? What motivated you to enroll?
 - *Probes:* Improve personal knowledge and skills; understand prevalence of BH conditions; use technology to improve patient outcomes; financial incentives
 5. How often do you personally use (log into) the eManagement system?
 6. Do you use eManagement for both screenings and e-consults?
 - *If no, why not?*
 7. Can you walk me through your workflow for using eManagement to **screen patients**?

Probes

 - How do you decide who to prescreen? (All patients, patients with known history, etc.)
 - How is the screening administered and by whom? (Paper, computer, verbally) Why is it done this way?
 - Do you see differences in responses between staff vs. self-administered or other ways?
 - Who collects and reviews the responses to determine next steps?
 - If a full screen is needed, who administers that and how?
 - Who enters screening results into eManagement? When does this happen?
 - How soon before you (if provider) get to see the results and discuss with patient?
 - Do all screenings get entered into the system?
 - What are the sticking points? What slows this process down?
 - Probe: High users only, have you conducted more than 1 annual screening for a client based on need? We know the incentive is associated with an annual screen but imagine there are cases that require more frequent management. How do you handle these in terms of process of maintaining data records?

8. Can you walk me through your workflow for using eManagement to ***consult with a specialist?***
9. How do you decide whether or not to use eManagement for a consultation with a specialist?
Why do / don't you use it?
 - Has this changed over time?
 - *Probes:* Able to manage it on your own, too time consuming, prefer to refer patients to specialists I know
10. Has eManagement met your expectations?
 - For screening purposes?
 - For quicker consultation with specialists?
11. Does the amount of staff support you have impact your use of eManagement? In what way?
12. What do you like best about eManagement?
 - *Probes:* personal learning, impact on patients, ease of use
13. How has your use of eManagement impacted your work? What has changed for you and your patients?
14. What are the main barriers to your use / increased use of eManagement?
15. What changes would make it easier for you to use / increase your use of eManagement?
 - Additional staff support?
 - Increased support from L.A. Care? What type of support?
 - Increased incentive? More frequent incentives
 - Access to technology/hardware?
 - What about changes you need to make within your practice?
 - Changes at L.A. Care?
16. Would you recommend eManagement to your colleagues? Why or why not?
17. Is there anything else you would like to share with us as feedback to support refinement of eManagement?

Staff Guide

Introductions

Purpose: JSI is working in collaboration with L.A. Care to get your feedback on the eManagement program to learn what is working and what can be improved. Your responses will be anonymous.

***ASK IF WE CAN RECORD INTERVIEW**

1. To get started, please tell us about your practice, how many clinicians and staff do you have?

Probes (if multiple providers):

- Do all providers in your practice use eManagement?
- Which provider do you work with most commonly on eManagement?
- Do different providers give different instructions for use of eManagement or is it uniform across your office?

2. Do you have an EHR?

3. Were you screening for behavioral health conditions prior to joining the eManagement program?

4. How did your practice decide to sign up for eManagement?

Probes:

- Improve personal knowledge and skills; understand prevalence of BH conditions; use technology to improve patient outcomes; financial incentives
- Possible staff does not know.

5. How is your practice using eManagement? For both screenings and e-consults?

- *If no, why not?*

6. Can you walk me through your workflow for using eManagement to **screen patients**?

Probes

- How do you decide who to prescreen? (All patients, patients with known history, etc.)
- How is the screening administered and by whom? (Paper, computer, verbally) Why is it done this way?
 - Do you see differences in responses between staff vs. self-administered or other ways?
- Who collects and reviews the responses to determine next steps?
- If a full screen is needed, who administers that and how?
- Who enters screening results into eManagement? When does this happen?
- How soon before the provider get to see the results and discuss with patient?
- Do all screenings get entered into the system?
- Who all in your practice is logging into the eManagement system? How frequently?
- **What are the sticking points? What slows this process down?**
- Probe: High users only, have you conducted more than 1 annual screening for a client based on need? We know the incentive is associated with an annual screen but imagine

there are cases that require more frequent management. How do you handle these in terms of process of maintaining data records?

7. Safe to assume you don't use eManagement to ***consult with a specialist*** and the provider does that?
8. Overall, has eManagement met your expectations?
 - For screening purposes?
 - For quicker consultation with specialists?
9. Does the number of staff impact your use of eManagement? In what way?
10. What do you like best about eManagement?
 - *Probes:* personal learning, impact on patients, ease of use
11. How has your use of eManagement impacted your work?
 - *Probes:* What has changed for you and your patients?
12. What are the main barriers to your use / increased use of eManagement?
13. What changes would make it easier for you to use / increase your use of eManagement?
 - Training
 - Onboarding
 - Real-time technical support
 - Additional staff support?
 - Increased support from L.A. Care? What type of support?
 - Increased incentive? More frequent incentives?
 - Access to technology/hardware?
 - What about changes you need to make within your practice?
 - Changes at L.A. Care?
14. Is there anything else you would like to share with us as feedback to support refinement of eManagement?

Appendix 4: L.A. Care staff's experiences with eManagement

L.A. Care reported highly successful outreach in Year 1 of the program, estimating that 60-70% of providers contacted via cold calls agreed to a demo and approximately 80-85% of demos resulted in enrollment. When asked to reflect on reasons for high enrollment, staff listed two reasons: 1) monetary incentives, and 2) the fact that providers understand the relevance and need for consistent behavioral health screening and intervention among their patient populations. However, the team did clarify that in their experience, champions of behavioral health integration were not strongly influenced by incentives, but rather saw eManagement as a much needed intervention to improve quality of care and health outcomes. The L.A. Care team further explained that Year 2 outreach efforts had been modified to more strategically target potential users, and clarify participation expectations.

The team was also asked to reflect on barriers and facilitators to utilization. Facilitators included user friendliness of the system. L.A. Care also relayed provider-identified barriers to utilization and uptake including staff turnover, and lack of on-site technology limiting real-time data entry.

Appendix 5: Other Data References

December 2018 eManagement Use Excluding Disenrolled Providers

Table 9 below shows the eManagement use by high/low users excluding the 21 low users included in this report's analysis who disenrolled from the program after July 1, 2018 but before December 31, 2018.

Table 9. eManagement use among high and low users excluding 21 disenrolled (December 2018)

	High Users	Low Users	Low Users Excluding Disenrolled
Number of providers	33	70	49
Total panel size	56,659	79,405	52,584
Total screenings	13,934	2,297	2,236
% of all screenings	86.2%	14.2%	13.8%
% of all positive pre-screens	78.9%	21.3%	21.1%
% of all dialogues submitted	85.9%	14.1.1%	14.1%
% of total depression anxiety screenings scoring mild to moderate	79.1%	21%	20.9%
Average # of screenings per provider enrolled month	22.1	2.1	2.9
Providers enrolled for less than 13 months	6	9	6
Providers enrolled for 13-18 months	7	31	22
Providers enrolled for 19-24 months	10	26	4
Providers enrolled for more than 24 months	10	4	17

Time to Initiate Screening

Table 10 below shows the amount of time between high and low users' "Go Live" date (the date at which users can begin screening in eManagement) and the date of their first screening entry into eManagement. On average, high users enter their first screening much closer to their Go Live date than low users, even discounting the low users who have yet to enter a screening into eManagement (on average, 19 days for high users and 76.2 days for low users). This finding supports anecdotal data from L.A. Care; they suggested that providers who wait to conduct screenings often require follow up and retraining before engaging with the system.

Table 10. Time (days) between Go Live date and date of first screening

	High Users (n=14)	Low Users (n=23)
Average*	19.1	76.2
Median	3	123.5
Range*	0 - 188	0 - 447

*Excludes 22 low users who never completed a screening.

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