

# Landmark Behavioral Health Treatment Effect Study Shows 66% Reduction in Inpatient Utilization

***Care coaching and behavioral health provider referral programs produce long-term savings, reductions in avoidable utilization, and increases in targeted services to treat behavioral health conditions.***

Ontrak Health's landmark behavioral health study proving that the Ontrak program effectively engages complex populations and delivers meaningful outcomes was recently published in the prestigious peer-reviewed American Journal of Managed Care (AJMC). The study, "[Treatment Effect of the Ontrak Program](#)," compared Ontrak program graduates to a highly similar, propensity-matched group of individuals who were eligible but did not enroll in the program.

To show that the Ontrak program produces the long-term changes in cost and utilization associated with enrolling and graduating from the program, Ontrak conducted a study that simulated a randomized control trial (RCT) — the gold standard of comparative effectiveness research — to better understand the real-world effect (or 'treatment effect') of the Ontrak program, using 36 months of continuous eligibility health plan claims data across the company's book of business.

The research team for the study was led by Dr. Hilary Placzek, whose work focuses on measuring the impact of social and behavioral health interventions at scale. Dr. Placzek has a PhD in Clinical and Population Health Research from the University of Massachusetts Medical School, and an MPH in Global Health/Epidemiology from Boston University School of Public Health.

Advisors to Dr. Placzek's team include Robert M. Kaplan, faculty member at the Stanford School of Medicine Clinical Excellence Research Center (CERC) and a Distinguished Research Professor of Health Services and Medicine at UCLA, and Jill Glassman PhD, Biostatistician and Senior Center Manager of Quantitative Analysis at the Stanford School of Medicine Clinical Excellence Research Center (CERC).

## Key Findings

### Ontrak Graduates vs. Control Group



**\$485 PMPM cost savings, durable 24 months post-enrollment**



**\$11,664 total savings per member over 2 years**



**66% reduction in IP utilization**



**\$110 PMPM increase (50%) for primary care and behavioral health office visits**

## Study Design

To control differences between those who enrolled in the program and those who did not, it was important to build treated and control cohorts that are as similar as possible. To accomplish this, the team utilized Propensity Score Matching, a rigorous statistical methodology which matches treated and control members based on a set of criteria, resulting in a balanced, matched comparison cohort that is as similar as possible to the treated cohort.

Use of this approach ensures that the results are not simply “regression to the mean,” but rather real change correlated with the Ontrak program.

The research team created a simulated control group of 900 individuals to compare with 900 graduates of the Ontrak program. The control group were members who were eligible to participate but did not enroll in the program.

The treatment group were those that enrolled and completed the Ontrak program. The study was conducted over 36 months, and data such as utilization of emergency departments, hospitalizations and-all cause office visits were analyzed for 12 months prior to enrollment in the program, and again for 24 months post-enrollment, to measure outcomes and determine whether the behavioral changes were durable over the long-term because of Ontrak’s approach.

The study calculated differences in costs and utilization between the 12-month pre-enrollment time period, and 24 months post-index time period for both groups, and described the difference of those values to understand per member per month (PMPM) cost savings and changes in utilization in the treated group over time relative to the control group.

Profile of study population	Graduated Members (treated)	Never-Enrolled members (control)
<b>Number of Members (n)</b>	900	900
<b>Age (mean)</b>	58	58
<b>Gender, %</b>		
Female	64%	(65%)
Male	(36%)	(35%)
<b>Plan Type, %</b>		
Commercial	(50%)	(50%)
Medicare Advantage	(50%)	(50%)
<b>Top 3 Clinical Comorbidities, %</b>		
Hypertension	(77%)	(73%)
Chronic Pain	(42%)	(37%)
Diabetes	(37%)	(32%)
<b>Top 3 Psychiatric Comorbidities, %</b>		
Anxiety	(71%)	(71%)
Depression	(68%)	(68%)
SUD	(62%)	(62%)

## Outcomes

The treated member cohort in the study incurred an average of \$33,348 in total costs in the 12 months before treatment. The study concluded that members who completed the 12-month Ontrak program saved on average \$485 per month over the 24 months post enrollment period compared to those who did not enroll in the program. That is just shy of \$12,000, or 20%, cost savings per member over 24 months.

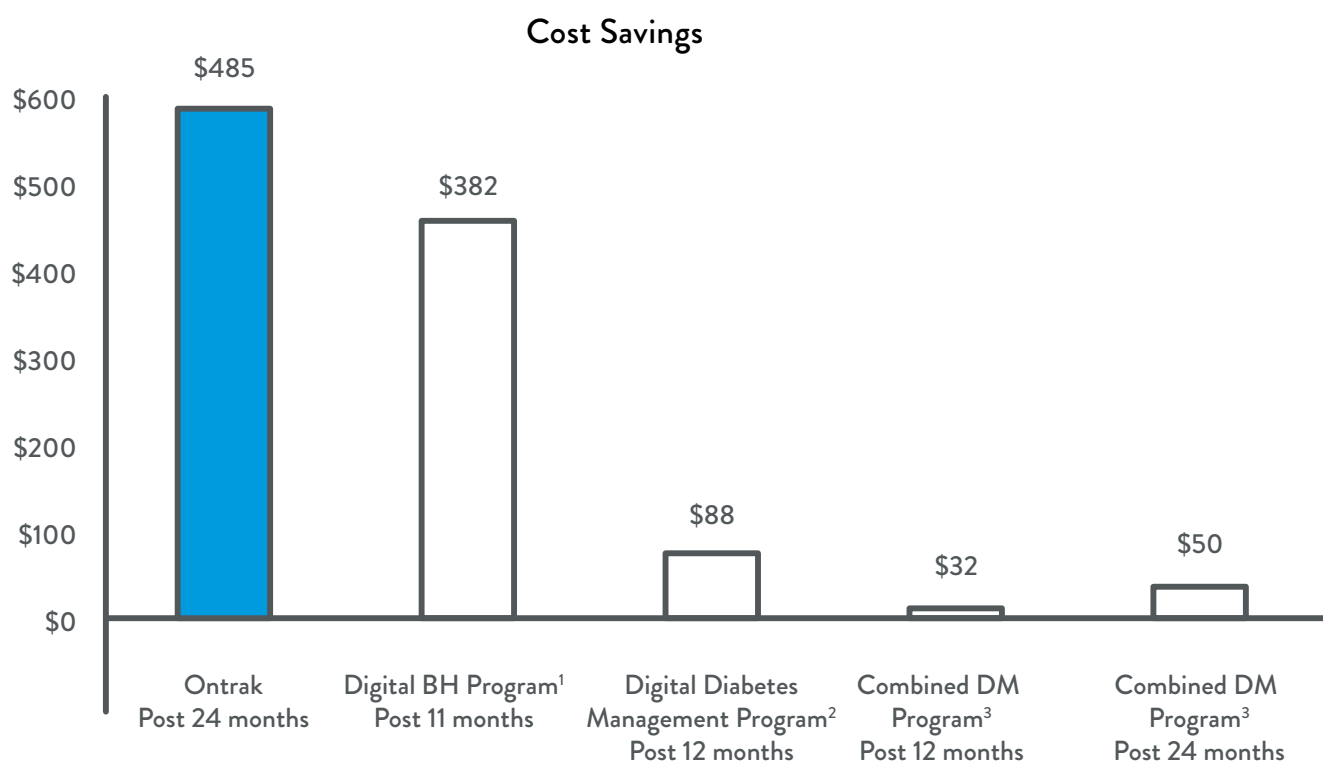
This large savings was driven by a statistically significant 66% reduction in inpatient utilization associated with \$488 per member per month (PMPM) savings for inpatient admissions, demonstrating that the Ontrak program reduces costly and avoidable “crisis care” utilization.

Further, the study found a statistically significant cost increase of \$110 PMPM — a 50% increase — for all-cause primary care and behavioral health office visits in the treated cohort compared to control.

It is important to underscore that the study found that cost savings and changes in utilization continued for 12 months after the Ontrak Program ended, evidence of the lasting impact of Ontrak’s omnichannel, whole-person approach.

### How do these results compare to other behavioral health and disease management programs?

Compared to digital behavioral health and other disease management (DM) programs, the study found the PMPM savings attributed to Ontrak is considerably higher and sustained over a longer time frame, demonstrating that Ontrak delivers substantial value to health plans.



<sup>1</sup> Digital BH management program included anyone who registered with the app and had claims during the 11 month period.

<sup>2</sup> Digital diabetes management program included anyone who was continuously enrolled throughout 12 month study period.

<sup>3</sup> Combined Program included results from 4 DM programs: diabetes, coronary heart disease /hypertension, asthma/COPD, and congestive heart failure/ chronic kidney disease. Included anyone who enrolled during the 3 year study period.

## Why does this study matter for health plans and their members?

First and foremost, evidence has shown that individuals with behavioral health conditions and chronic disease experience extraordinary gaps in care and treatment. The results of this study identify a post-enrollment member journey that sees increased utilization of behavioral health and primary care services via office visits, and reduced consumption of IP services.

This signals that the Ontrak program helps health plans to close gaps in care and meaningfully reduce costs through an increase in productive, preventative care, and a decrease in expensive, avoidable crisis care utilization.

Secondly, these results provide real-world evidence that the Ontrak program delivers sustained, long-term cost savings to health plans over 24 months post-enrollment.



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More than half of adults  
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## A Growing Behavioral Health Crisis: Why Delivering Meaningful Outcomes Matters Now More Than Ever

According to Mental Health America, nearly 1 in 5 adults (50 million) reported experiencing a mental health illness in 2022, and just over 19 million reported having a substance use disorder.

For adults with mental illness, 55%, or 28 million, were not receiving treatment, and nearly a quarter reported that they were seeking treatment but still not able to receive needed services due to barriers.<sup>1</sup> Worse yet, people with depression have a 40% higher risk of developing cardiovascular and metabolic diseases than the general population and the people with serious mental illness are nearly twice as likely to develop these conditions.

Additionally, almost 20% of adults in the U.S. with mental health illness also experience a substance use disorder.<sup>2</sup> That more than half of American adults with mental health issues are not receiving care is incredibly concerning on its own, but more so when considering that the prevalence of behavioral health conditions is expected to rise by up to 50%<sup>3</sup> by the end of 2021 in the wake of COVID-19 and its long-lasting impacts.

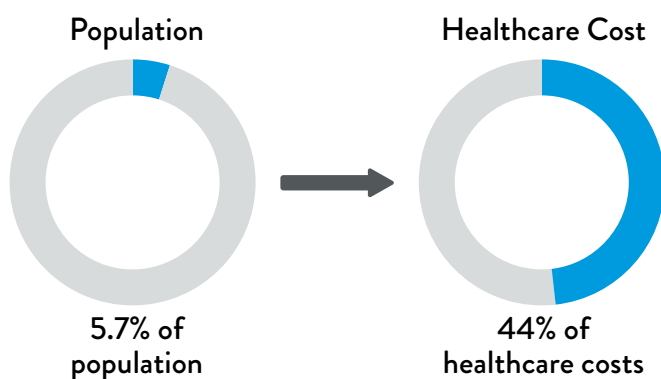
The primary drivers of this unmet need are a litany of barriers that individuals must overcome, including lack of access or availability, lack of qualified providers, cost, low perceived need, stigma, and barriers related to social risks such as transportation, food insecurity and housing.

<sup>1</sup>“The State of Mental Health in America 2022.” Mental Health America, Oct. 2022, p. 9.

<sup>2</sup><https://www.nami.org/mhstats>

<sup>3</sup><https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/understanding-the-hidden-costs-of-covid-19s-potential-impact-on-us-healthcare>

Further, a recent Milliman analysis found that behavioral health conditions are major drivers of cost in the US health care system — inflating costs by up to 6 – 7 times compared to non-behavioral health populations.<sup>4</sup> These higher costs are largely driven by increased utilization of emergency department (ED) and inpatient (IP) stays,<sup>5</sup> which often function as primary care for exacerbated chronic medical conditions. The high-cost behavioral health group in the analysis accounted for only 5.7% of the total population, yet drove 44% of total healthcare costs, with little to none spent on behavioral healthcare. This type of utilization is generally viewed as avoidable<sup>6</sup> and can be effectively reduced by expanded behavioral health services and integrated care delivery.<sup>7,8</sup>



### How does the Ontrak program overcome common challenges to behavioral health engagement to produce meaningful and differentiated outcomes?

Ontrak's whole-person solution is designed specifically to solve for the barriers outlined above, and to find and engage the costly, complex populations with unaddressed behavioral health conditions and chronic medical comorbidities.

By combining the benefits of high-touch, omnichannel support from dedicated care coaches with virtual and in-person treatment from behavioral health providers, we help members realize durable behavior change and health outcomes.

*Populations with Unaddressed Behavioral Health Conditions and Chronic Medical Comorbidities Drive a Majority of Costs, much of Which is Avoidable, and Face Myriad Barriers to Care*

Ontrak leverages proprietary predictive algorithms to identify health plan members with unaddressed behavioral health conditions — even absent a diagnosis — and co-existing chronic disease who could benefit from a personalized behavior change program that connects them to needed behavioral health services.

Once identified, Ontrak's Member Enrollment Specialists work to establish trust with members and drive program enrollment through persistent outreach that focuses on what is most important to them.

Upon enrollment, dedicated Care Coaches screen members for social risks and help them identify and prioritize their health goals. Care Coaches apply an evidence-based, whole-person approach to help members overcome and manage barriers, navigate the health system, build skills and improve health literacy, with the end goal of developing self-efficacy.

<sup>4</sup><https://www.milliman.com/en/insight/How-do-individuals-with-behavioral-health-conditions-contribute-to-physical>

<sup>5</sup>[https://www.nasmhpd.org/sites/default/files/Assessment%20%239\\_The%20Uncoordinated%20Costs%20of%20Behavioral%20and%20Primary%20Health%20Care.pdf](https://www.nasmhpd.org/sites/default/files/Assessment%20%239_The%20Uncoordinated%20Costs%20of%20Behavioral%20and%20Primary%20Health%20Care.pdf)

<sup>6</sup>Lanoye A, Stewart KE, Rybarczyk BD, Auerbach SM, Sadock E, Aggarwal A, Waller R, Wolver S, Austin K. The Impact of Integrated Psychological Services in a Safety Net Primary Care Clinic on Medical Utilization. *J Clin Psychol*. 2017 Jun;73(6):681-692. doi: 10.1002/jclp.22367. Epub 2016 Aug 9. PMID: 27505218.

<sup>7</sup>Mojtabai R, Olfson M, Sampson NA, Jin R, Druss B, Wang PS, Wells KB, Pincus HA, Kessler RC. Barriers to mental health treatment: results from the National Comorbidity Survey Replication. *Psychol Med*. 2011 Aug;41(8):1751-61. doi: 10.1017/S0033291710002291. Epub 2010 Dec 7. PMID: 21134315; PMCID: PMC3128692. Mojtabai 2014

<sup>8</sup>Mojtabai R, Chen LY, Kaufmann CN, Crum RM. Comparing barriers to mental health treatment and substance use disorder treatment among individuals with comorbid major depression and substance use disorders. *J Subst Abuse Treat*. 2014 Feb;46(2):268-73. doi: 10.1016/j.jsat.2013.07.012. Epub 2013 Aug 29. PMID: 23992953; PMCID: PMC3840086.



Care Coaches also work with members to develop a course for care, which lasts for up to 52 weeks and includes connecting members to licensed therapists, counselors, and psychiatrists in their health plan's network to provide treatment for behavioral health needs. Care Coaches and providers work collaboratively to address underlying health issues and promote ongoing engagement by personalizing each member's path to better health.

They also identify and connect members with community resources and support to address social determinants of health, such as arranging transportation, addressing housing or food insecurity, economic challenges, or language or literacy issues.

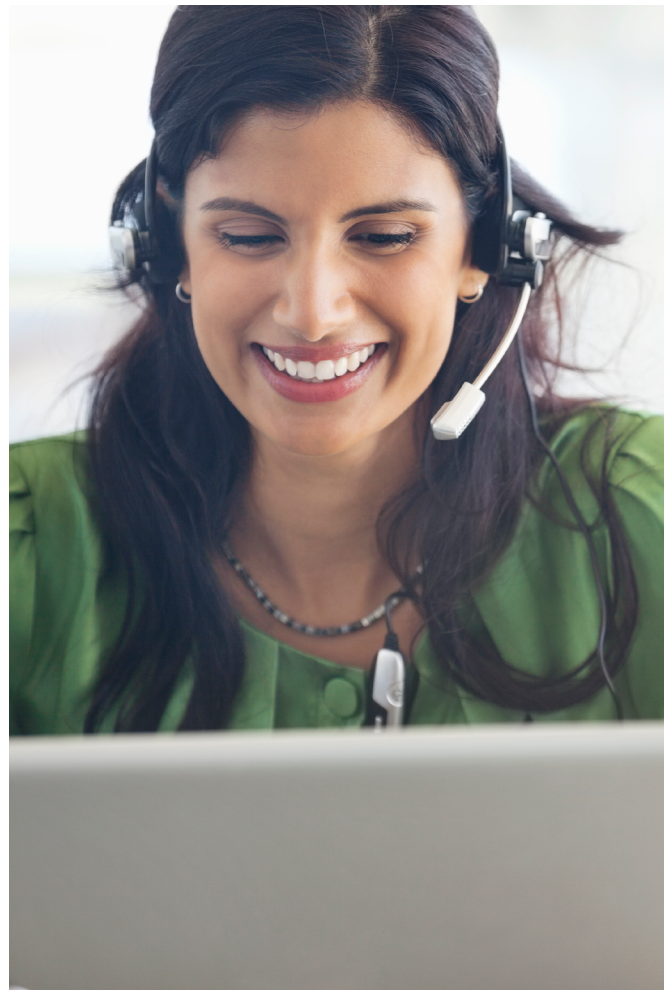
Our whole-person approach produces lasting outcomes that have been proven to be durable two years after program enrollment. Members' behavioral outcomes include sustainable lifestyle changes, management of personal and social barriers to care, and improved engagement with their health plan and behavioral and primary care providers.

## Summary

There is a complex and costly population in the U.S. with unaddressed behavioral health issues and chronic medical conditions who are struggling with serious gaps in care. These individuals face myriad barriers to care that prevent them from actively engaging in the healthcare system and managing their health, resulting in overutilization of ED and IP utilization and a significant inflation in avoidable costs.

Our evidence-based, whole-person approach is unique in the healthcare ecosystem in how it is solving for this serious and growing challenge:

- ▶ Advanced analytics identify hard-to-engage populations with unmet needs — even those without a diagnosis.



- ▶ Engaging the previously unreached through persistent outreach and establishing trust.
- ▶ A collaborative care approach connects members to dedicated coaches and providers who address all aspects health, including overcoming barriers.
- ▶ Up to 52 weeks of care personalized to each individual provides the length and type of support needed to build skills, achieve true behavior change and develop self-efficacy.

[The Ontrak Treatment Effect study](#) has demonstrated that through this approach, Ontrak helps members reduce costly, avoidable IP utilization and increase beneficial, preventative utilization, delivering lasting improvements in health outcomes for members and durable cost savings for health plans.



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## About Ontrak

Ontrak, Inc. is a leading AI and telehealth-enabled healthcare company, whose mission is to help improve the health and save the lives of as many people as possible. Ontrak identifies, engages, activates and provides care pathways to treatment for the most vulnerable members of the behavioral health population who would otherwise fall through the cracks of the healthcare system. We engage individuals with anxiety, depression, substance use disorder and chronic disease through personalized care coaching and customized care pathways that help them receive the treatment and advocacy they need, despite the socio-economic, medical and health system barriers that exacerbate the severity of their comorbid illnesses. The company's integrated intervention platform uses AI, predictive analytics and digital interfaces combined with dozens of care coach engagements to deliver improved member health, better healthcare system utilization, and durable outcomes and savings to healthcare payors.

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