Data-Driven Pre-Claim Wellness Programs Bend the LTCI Claims Cost Curve

The Numbers Are In.

March 2024

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Executive Summary

With the average age of nearly 7 million long-term care insurance policyholders above 80 and the rising cost of care, insurance carriers and regulators must work together to offer solutions that bend the claims cost curve.

This report presents the groundbreaking success of one such solution—designed and executed by Assured Allies—based on the findings from an analysis of its program deployed with five long-term care carriers and 135K lives for over three years.

The results of our analysis show that the program delivered not only consistent claim reduction patterns across all five carrier program deployments but also an impressive ~10% overall reduction in claims payments in our longest-running program. In addition to the financial impact of the program, the policyholder benefit has been overwhelmingly positive, both measured by customer satisfaction (average Net Promoter Score of 50+) and strong clinical outcomes measured by Patient Reported Outcome Measures (PROMs).

The analysis also revealed that the response to the program is non-uniform, indicating that an absence of a data-driven outreach approach or deployment of incorrect engagement methods could lead to 'post-outreach claims,' creating excess costs that would offset the savings from claim reduction entirely.

With this new data and understanding, we have drastically changed our program execution model to result in maximal claim reduction impact and minimal potential of negative response by policyholders. Our key value proposition—engaging with the right policyholders, at the right time, with the right interventions, in a regulatory-compliant manner—remains at the crux of our approach.

In this report, Assured Allies and Faegre Drinker detail:

- The design and engagement approach of a pre-claim program
- The rigorous analysis performed to quantify the impact
- Wellness program results and key drivers
- Implications for implementation of pre-claim programs in the future
- Regulatory compliance requirements in light of the findings and implications

Program Overview

In 2020, Assured Allies launched an evidence-based program to reduce aging-related disability and help LTCI policyholders remain independent longer.

The program has two core pillars:

1. Stratified engagement: Ongoing policyholder outreach based on stratification of their risk of a claim and the likelihood of positive impact we could have on them (stratification is performed using predictive analytics models); and,
2. Personalized care interventions: Delivery of individualized care, based on standardized assessment and care protocols. The interventions are delivered by experienced professionals and a national network of providers who support policyholders' specific needs.

Stratified Engagement

Stratified engagement is an ongoing process throughout the program to continuously evaluate which policyholders would benefit the most from the program. Given that policyholder engagement can be costly and that response to programs is non-uniform (detailed analysis below), this process ensures that resources are prioritized based on stratification of risk and potential impact. Policyholder data is captured in every step of the program and fed into proprietary predictive models to refine the stratification. The key guiding principle is to drive engagement with the right policyholders at the right time while ensuring that every policyholder who responds receives access to the program and the help that they need.

Initial Outreach

The process begins with an initial risk evaluation of the population based on a series of factors, including policy and policyholder characteristics, carrier interactions, and the history of the policy (e.g. prior rate actions). Based on the initial risk evaluation, the population is stratified and our outreach protocols drive program awareness and response.

Ongoing Outreach

As additional data about the policyholder's risk becomes available (e.g. changes in policyholder status or specific actions taken by a policyholder such as a move to a new address or appointment of a power of attorney), additional outreach efforts may be conducted to remind policyholders of program eligibility. Such efforts are used to drive both initial engagement and re-engagement with individuals who have previously participated in the program and to ensure that any relevant identification of changes in policyholder needs is captured in a continuous process.

Relationships with policyholders are developed over time, often requiring multiple touchpoints over several months in which new needs are identified and addressed. We use multiple modalities and frequencies of outreach based on stratification level.

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Personalized Care Interventions

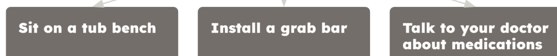
Through the use of proprietary assessments, we identify opportunities to support policyholders and improve their ability to manage specific activities that, if not addressed, increase their likelihood of needing long-term care services. All policyholder interactions are conducted virtually by a board certified health coach who has experience working with older adults. These coaches are supervised by a team of experts in the field of aging and population health, including master level social workers nurses, physical therapists and PhD occupational therapists.

Our system is designed to detect policyholder limitations in high-level domains (e.g., bathing, falls, dressing, etc.) and the individualized issues that should be addressed to resolve the limitation. The following illustration is a sample flow demonstrating how a single limitation (need) may have multiple associated issues and interventions used to address them. In the illustration we show the resolution of only one issue; however, it is common that multiple issues tied to a single need will require addressing.

What high-level domains are difficult? (“Needs”)

What specifically makes this difficult? (“Issues”)

What changes can we make that will help? (“Goals”)



Analysis of our care and assessment protocols shows meaningful clinical and functional improvement in more than 50% of the needs identified and addressed with interventions.

Impact Analysis

In the Fall of 2023, three years following the launch of our first program, we conducted a comprehensive analysis to evaluate program data from five randomized controlled deployments, with varying program durations across 135,000 lives, totaling approximately 200,000 exposure years. Each of the programs included in the analysis was deployed as a randomized controlled trial within each carrier's block of business. Equally balanced groups were created, with one group receiving access to the pre-claim program (intervention group) and the other receiving no intervention (control group).

De-identified data, encompassing diverse factors such as gender, age, household status, recovered claims, and benefit changes, formed the basis of the evaluation. Within the analysis, numerous sub-cohorts were defined and analyzed to determine any consistent and generalizable patterns that occurred across the various programs.

Impact measurement of pre-claim wellness programs is challenging because of the inherent volatility in claim experience data, emanating from several different factors, including reporting delays, elimination periods, highly volatile expensive claims, and incurred-but-not-reported (IBNR)

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claims. As a result, attribution of any results related to claim incidence or claim payments requires significant time and claim experience.

To adapt to this reality, we moved away from relying solely on claim incidence and claim payments as key metrics for success, and instead focused impact measurement on a familiar concept, Disabled Lives Inforce (DLI)—or the number of policyholders eligible to receive claim payments—ignoring the size (or dollar amount) of each payment. The key benefits of using DLI to measure success are summarized below:

- DLI provides insights into both the frequency (likelihood and timing) and severity (length or duration) of incurred claims
- In actuarial terms, this metric represents the combined effect of claim incidence rates and claim termination rates
- DLI accumulates over time, which provides more statistical power in less time
- DLI is highly correlated with claim payments, making it a reasonable proxy for savings claim payments during early periods of high volatility

Our analysis also explored leading indicators of reduction in DLI, differences and patterns between carriers, and metrics around engagement with the program and its clinical effects. The analysis is ongoing, but given the high importance of the findings, the decision was made to share initial research with the industry.

The Results

Disabled Lives Inforce (an indicator of savings)

> **Across multiple clients, across certain sub-cohorts, we observe consistent patterns of fewer claim months in the intervention vs control. In these sub-cohorts, we observe a shift in the DLI curve and an average ~7% reduction in claim months.**

(A sub-cohort is a group defined by a set of criteria [e.g. demographics and policy characteristics] that can be applied to both the control and intervention groups.)

> **Further, in the case of the longest-running program, the reduction in DLI has translated to an impressive 10%+ reduction in claim payments in the intervention group over three years, compared to the control group.**

The following graphs illustrate the impact observed in that program. First, we show the cumulative DLI and observe a lower slope for the intervention vs. control. This graph showed the positive effect of the program more than a year before cumulative payments for this carrier were realized.

Figure 1: Cumulative payments in our

longest-running program (N=~17,500)

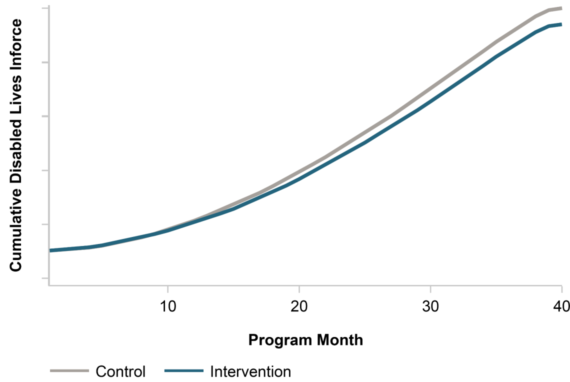

Figure 1 shows the cumulative Disabled Lives In-Force. The X-axis represents the month in the program, while the Y-axis represents the cumulative count of lives who were on an active claim until this point in time.

Second, we examine the cumulative claim payments and see how the DLI materialized into payments in a predictable manner. The divergence between the lines is, in fact, the bending of the cost curve. Such divergence across the blocks in the industry would result in billions of dollars in savings.

Figure 2: Cumulative DLI in our longest-running program (N=~17,500)

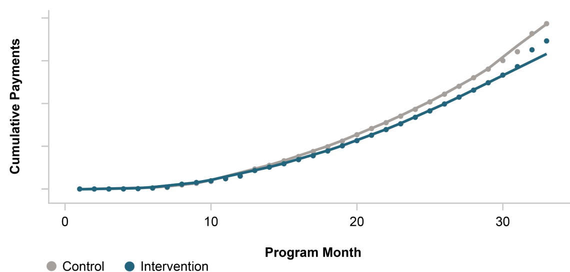

Figure 2 shows actual and smoothed cumulative claim payments. The X-axis represents the month in the program, while the Y-axis represents the cumulative sum of total claim payments in each group. Dots represent actual claim payment amounts in each group, while the lines represent the smoothed trend of these actuals throughout the program. The LOWESS (non-parametric) smoothing method was used.

Leading Indicators

The analysis identified several indicators that correlate well to future reductions in DLI (and ultimately claim payments). These indicators include: 1) opt-in into the program; 2) repetitive engagement with health coaches on solving needs, and 3) policyholder-reported outcome measures on the success of interventions in improving functional status/independence.

Program opt-in

Opt-in is defined as the response to our outreach with consent to participate in the program (e.g. the program terms). Policyholders who opted-in to the program saw a significant reduction in claims incidence compared to both the cohort of policyholders who did not opt-in to the program, and the control group.

The following graph shows a consistent reduction in claim incidence rate among policyholders who opted-in to the program, in three different carriers. All incidence rates are normalized to the incidence rate of the control group for each cohort, which is used here as the benchmark. Opting in is a leading indicator of incidence/DLI reduction because it takes time for the interventions to create impact and for claim months to accumulate.

It is worth noting that if the reduction among opt-in members would merely be the result of a selection bias, we would expect to see a rise in the incidence rate in

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policyholders who did not opt in (reflecting an opposing trend of adverse selection in this group). As demonstrated in the charts, this is not the case—the reduction among opted-in members reflects a true causal positive effect of participation in the program.

Figure 3: Normalized claim rate vs. opt-in status

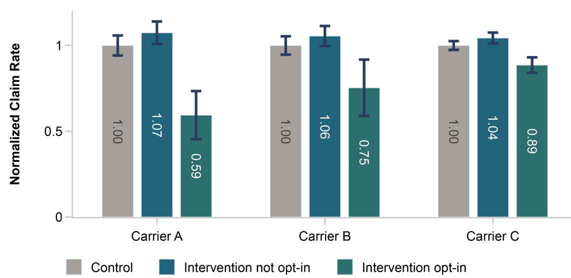

Figure 3 shows the claim incidence rate among the control group, the non opted-in policyholders in the intervention group, and the opted-in policyholders in the intervention group. The X-axis represents the group and the Y-axis represents the incidence rate normalized to the incidence rate in the control group. Each sub-plot represents one cohort of the program.

The clinical success of Interventions

The following chart illustrates the high rates of needs resolved across all of our carrier programs, reflected as either an actual meaningful improvement in the functional status of the policyholders or the lack of deterioration in this status. The success rate is measured using patient-reported outcome measures (PROMs)—standardized tools that objectively capture patients' perspectives on health, symptoms, and treatment impact.

Given the age of the target population (75 and older), their complex set of needs, and their health status, a lack of change in function is also considered a positive sign of the effect of the program. Combined, we show high rates of positive clinical response to the personalized interventions delivered by the program. These needs, if unaddressed, are highly correlated with the submission of long-term care claims.

Figure 4: Rates of positive change in the functional status

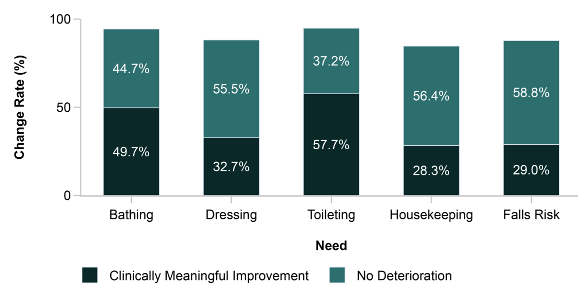

Figure 4: Rates of positive change in the functional status of policyholders with various needs. The X-axis represents the type of need that was identified and the Y-axis represents the rate of policyholders that showed a clinically meaningful change or no deterioration of their functional status, following the provision of personalized intervention.

Non-uniform response to the program

> **When analyzing the 3+ years of program experience, it is evident that policyholders' response to the program was non-uniform.**

In some sub-cohorts, when comparing control to intervention, a significant positive impact is achieved in the form of a longer period of independence. However, for other

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sub-cohorts, a pattern of post-outreach claims is observed (e.g. increased claims that follow program outreach efforts, primarily without any direct engagement with the program).

The following graph demonstrates the variability in the response to the program across different sub-cohorts of different carriers. Each line represents the difference in DLI between the control and intervention groups in a sub-cohort throughout the first 15 months of the program. In this example, Carrier A, sub-cohort 1 shows a positive response, Carrier B, sub-cohort 1 shows a neutral response and Carrier C, sub-cohort 4 shows a negative response that dissipates with time (and lessening of engagement efforts).

Figure 5: Relative difference in DLI in specific sub-cohorts

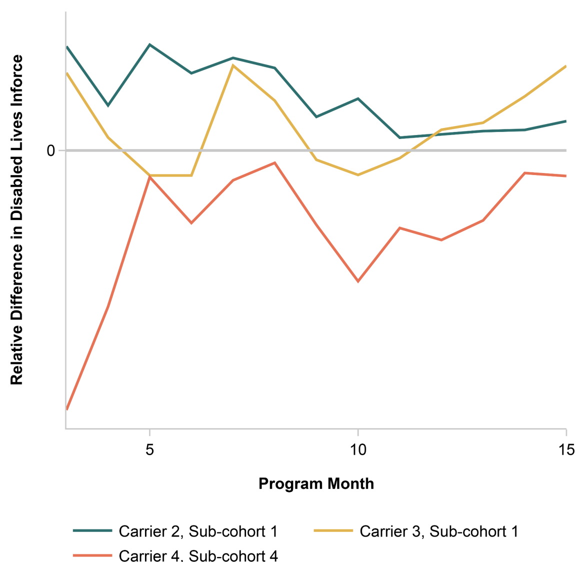

Figure 5 shows the response to the program among different sub-cohorts of different carriers. The X-axis represents the month in the program, and the Y-axis represents the relative difference in DLI between the control and intervention groups of each sub-cohort, calculated as (Control DLI - Intervention DLI)/Control DLI. The gray line represents zero difference, and the area above it represents a positive impact of the program, while the area below it represents a negative impact of the program.

> **Unless mitigated, the effect of the post-outreach claims may completely offset the savings from the sub-cohorts in which a positive impact is realized.**

The negative response (post-outreach claims) can be mitigated by engaging with the right policyholders at the right time, and with the right interventions.

The answers to these questions lie in the interaction between dozens of factors such as age, benefit pool size, needs, and rate actions).

We redesigned our engagement approach with predictive models that handle this complexity and provide a clear path of engagement.

Regulatory Considerations

Wellness and aging-in-place programs offered to policyholders by long-term care insurers have been positively received by the regulatory community. While regulators have asked questions and required information depending on their individual state requirements, the overall regulatory environment has been welcoming. This is

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positive and should facilitate the continued rollout of wellness and aging-in-place programs, to the benefit of policyholders. The regulatory community has also generally recognized that long-term care insurers still have much to learn about wellness programs and that there will be a period over which the insurers will run limited programs, gather data, and learn.

While there are many regulatory considerations in play for insurers considering long-term care wellness programs, the two that are most prominent currently are concerns around rebating and unfair discrimination. Insurers that have commenced wellness programs have thus far navigated these issues, but have wisely kept a close eye on the applicable regulations.

The most significant regulatory development impacting long-term care insurance wellness programs was the NAIC's adoption of amendments to Section 4H of its Unfair Trade Practices Model Act. Those amendments delineated certain objectives that insurers could pursue by offering value-added services or programs to policyholders without running afoul of the prohibitions on rebating in the Unfair Trade Practices regulations. A number of those delineated objectives apply squarely to long-term care insurance wellness programs generally, and the Assured Allies program in particular. For example, insurers may provide loss mitigation or loss control; reduce claim costs or claim settlement costs; monitor or assess, identify sources, or develop strategies for eliminating or reducing risk; and enhance health.

The wellness programs that long-term care insurers have offered thus far—including the Assured Allies programs—fit squarely within these permitted objectives. At this stage, there are approximately 17 states that have either adopted the amendments to the Unfair Trade Practices Model Act or that did not prohibit rebating in the first place. That number continues to grow.

There is also the question of whether to file any notice with the regulators concerning a proposed wellness program. The states that have adopted the amendments to the Unfair Trade Practices Model Act generally have a filing requirement. The requirement is principally informational for the regulatory community, but it has yielded follow-up questions from certain regulators. Examples of follow-up questions received in response to wellness program filings include: (i) questions concerning any consumer-facing disclaimers insureds will receive; (ii) requests for copies of the policy forms for insureds being offered the program(s); (iii) questions concerning data generated pursuant to the wellness program; and (iv) questions about how the wellness program might be offered beyond the initial information gathering or "pilot" phases. While there have been some individual state objections that have impeded the rollout of certain programs in those specific states, by and large questions and objections received pursuant to wellness filings have been handled effectively by insurers.

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Two other categories of regulatory concerns that have been prominent for insurers are general unfair discrimination concerns and data security and privacy issues. With respect to unfair discrimination in who gets offered wellness programs and services, it is important to have an actuarially sound, data-driven, and compliant basis for any distinction made between otherwise similarly situated policyholders. As wellness programs mature and provide more and more data for analysis, it is possible (if not likely) that the data will show that certain programs or engagement methods are more effective for certain categories of policyholders.

With respect to data security and privacy issues, insurers and vendors have thus far worked together effectively to address those issues. Although these types of programs are relatively new to long-term care insurance, data security and privacy protocols are not. Generally, standard data security and privacy measures applicable to third-party business associates have been an effective starting point, and insurers and wellness providers have worked together well to implement compliant processes. These issues will continue to be front of mind for regulators and insureds, however, and so diligent documentation and focus on data security and privacy will remain very important.

Conclusions

As evidenced by our program results to date, the opportunity to drive positive impact within long-term care blocks is massive: an increase in functional ability leads to a 10% reduction in claims payments and strong customer satisfaction. However, such results can only be achieved with a deep understanding of the engagement protocols and overall design that mitigate the risks of negative response, all within the regulatory guidelines.

Based on the learnings detailed in this research paper, we have improved the impact of our program, by including significant optimizations to the engagement strategy. This ensures the appropriate focus is placed on those policyholders most likely to benefit from pre-claim intervention. Our ability to drive predictable and scalable impact from pre-claim programs is stronger today than ever before. Moreover, we have developed actuarial projection tools that could provide a customized/tailored projection and plan for any industry block.

At Assured Allies and Faegre Drinker, we will continue to analyze the impact of wellness programs and monitor the regulatory landscape to ensure that the long-term care insurance industry can continually improve as a result of our shared learnings.

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Contact Us to Discuss Our Findings and How to Best Design, Execute, and Project the Impact of Wellness Programs for Long-term Care Insurance Blocks

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