# The Helper Bees

The Greater Need for Hands-on Assistance Increases Care Hours Needed from In-Home Healthcare Management

# Content





# Overview

***The Greater Need for Hands-on Assistance Increases Care Hours Needed from In-Home Healthcare Management***

This white paper demonstrates that a care-recipient requiring more hands-on assistance with their activities of daily living (ADL) correlates with a need for more intense hours of in-home care. This digital data collection methodology brings significant validation for home care visits and is imperative to help us understand how many hours are needed when cor-related to a plan of care.

Because ADLs are an industry-standard in care evalua-tion, the data collected provides excellent insight into estimating the number of care hours each claimant will need based on the help they need with the tasks they face in their daily routine.

This marks the first time that ADL scores have been quantified and applied in this way, with the purpose of providing quantitative analysis of quality and consistency of care.

This data collection methodology is crucial in helping insurance, healthcare and long-term care companies can esti-mate the number of care hours for each claimant case. Given the validation of this digital acquisition technique, further analysis is now possible using this data set with the goal of lessening chances of acute care transitions, decreasing time on claims and enabling care- recipients to re-main at home for as long as they choose.

# A History of Care

For centuries, those lucky enough to advance into their twilight years were often take in by their families to help care for them as they aged. While this practice is still customary in several cultures, in most countries, it has seen a decline over the decades, including the United States.

As more and more members of the American family went into the workforce, the psychological and physical demands of caring for an elderly loved one at home, proved to be complicated. Families began to realize the obligations of work and managing a household significantly limits the amount of time that can be spent caring for an elderly person. And while the family may face physical and emotional stress, without proper supervision, older adults that have issues such as dementia, incontinence and restricted mobility are at risk for injury or more serious illness. A person deciding to act as a caregiver doesn't always understand the demands of managing medications, coping with changes in behavior, and lifting and moving an older person.

Several solutions to family care have become popular in the past decades. Nursing homes gained in popularity in the 1960s, the 1990s saw an upswing in assisted living, and more recently, many seniors are choosing independent living facilities with moderate assistance.

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Today, the elderly population is increasing rapidly. Every day, 8,000 Americans join the 40 million Americans who are already 65 and older. This boom in the aging population has prompted more types of senior care to expand across the United States; one popular option is home health care. Home care offers assistance from a professional helper, that is knowledgeable about a variety of medical conditions while letting an elderly person live in the comfort of their own home. But with living at home, assistance is often needed by others and must have a standard of care and way to evaluate daily activities. These basic daily functions are known in the industry as Activities of Daily Living (ADLs).

In the 1950s, Dr. Sidney Katz, a specialist in gerontology, and his team at Benjamin Rose Hospital in Cleveland, Ohio, developed a chart for standards of living, called Activities of Daily Living index, which was used to assess the functional abilities of older adults living with chronic conditions the required long-term services and support from others. Medical and health professionals use an older person's ability or inability to perform ADLs as a measurement of their ability to function properly on a daily basis.

While ADLs have gone through some minor changes, the ADLs that Dr. Katz created are nationally classified and recognized by all healthcare professionals as eating, bathing/groom, toilet hygiene, dressing, and mobility, also called transferring.

# A Mission of Care:

## More HOA = More Care

THB mission is to provide personal in-home assistance to elderly or disabled care- recipients, as well as carefully measure and track the amount of care that is needed. This care typically involves assisting with one or more ADLs per visit. Along with providing home care, THB licenses their mobile technology to any caregiver to help them with managing their home care visit tracking. As a result of this rich dataset, THB has implemented an analytical program that measures the level of care needed at each independent visit and tracks the ADL level with the number of hours spent at that visit. This capture of data from each visit helps frame how much care is needed, in terms of intensity and hours of hands-on assistance, with each level of ADL.

At each visit, a caregiver records the ADL level of care needed for that patient's individual visit (based on the max score ratings of 0-5) and logs the number of hours spent at the visit into the THB mobile app. This ability to capture data at each visit is crucial in helping to identify how many hours of care each patient needs based on the severity of their ADL score. The higher the score, the more hands-on help a patient needs from a caregiver.

Because THB began recording, capturing, and analyzing this crucial data, a consistent pattern has emerged that demonstrates: if a claimant needs more hands-on assistance with ADL tasks at home, then that claimant benefits from having more hours of care overall from a worker. This is a non-trivial observation as it validates the ADL scoring methodology as an accurate mechanism for tracking care changes.

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# Data:

## Visits: Data Collection

THB collected the data between October 2018 and September 2019, studying patients using the THB mobile app – Helper Hive. A total of 314 unique patients were evaluated during this time frame by 843 different helpers, which resulted in 39,778 visits.

Each visit was registered into their system by the assigned helper creating a timesheet that captured the level of care needed for each ADL at each visit. The majority of data was recorded by submitting the information from the Helper Hive mobile app. Each visit only has one submission and one score. If a single timesheet spanned over 24 hours, it was removed from the analysis. This occurs when a helper submits one timesheet for multiple days. The proper process would have been to split into two timesheets, and the data was eliminated as it would have been redundant.

During the visit, the helpers use The Helper Bees' proprietary scoring system that assigns ADLs with a value from 0-3 depending on the severity of care provided. A score of 0 (NP or None Provided) indicated that no help is needed or requested. A score of 1 (CUE, cueing) meant a client needed a reminder or nudge about a behavior, but they did not need assistance or require monitoring during the activity. A score of 2 (SBA or stand by assistance) signified that the helper needed to be in the same room and stand by to assist with the task as required. Finally, a score of three (HOA or hands-on assistance) denoted full hands-on assistance was needed from the helper to perform a task.

For each unique visit, an average of all recorded ADL scores are tallied and submitted with the timesheet. The possible score can range from 0 to 15. A score of 15 being that the person needed maximum help for each ADL. After the data is submitted, the results are averaged on both a daily and weekly basis.

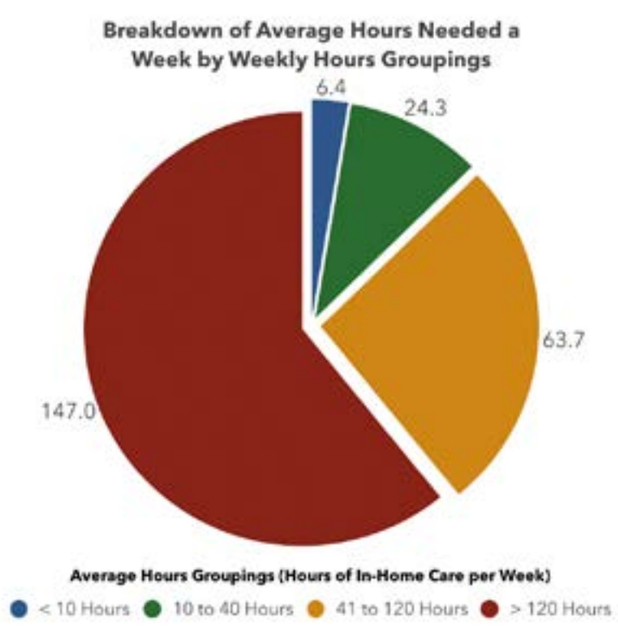
Of the 314 patients analyzed, 69 patients need help with 2 ADLs or less. Over the course of a year, those patients only needed an average of 5.062 hours of care per visit and 23.50 hours per week. The other 245 patients needed between 2 and 4 ADLs per visit — those patients, on average, required around 7.366 hours per day, and 41.60 hours per week.

# Data:

## Weekly Hours and ADL Scores

When examining the weekly hours, a patient that needs less than 10 hours of care a week, had an average score from their ADL visit that week of 5.5, out of the maximum 15, and the average hours spent with each of those customers was 6.4.

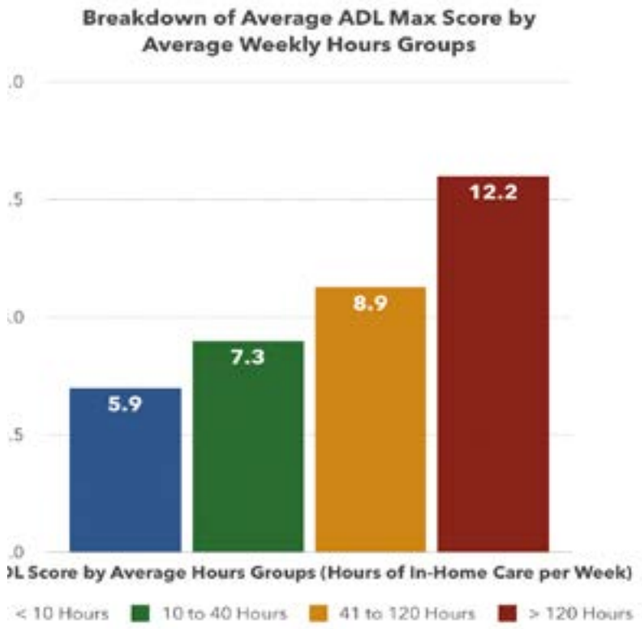
Conversely, a patient that needed more than 120 hours a week had an average ADL score of 11.6 and needed an average of 147 hours per week. As shown, this is over double the ADL score but demonstrates an astonishing 1100% higher required for hands-on assistance during the week, and 2196.87% more hours per customer.

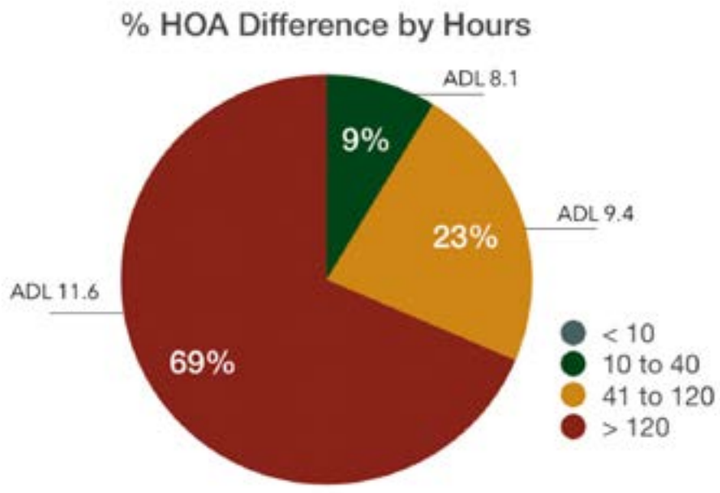





There were two midrange groups, one had between10-40 hours, and the patients receiving that care had an average ADL score from their visit of 8.1, with 24.3 hours needed a week. 41-120 hours saw an increase in their
ADL score to 9.4, and a significantincrease in the average number of weekly hours, which was 63.7.

This trend continues when the patient's hours are averaged together. Under 10 hours had an average ADL score of 5.9. While 120 or above had an average of 12.2. 10-40 hours saw an average score of 7.3, and 41-120 had an average ADL of 8.9.



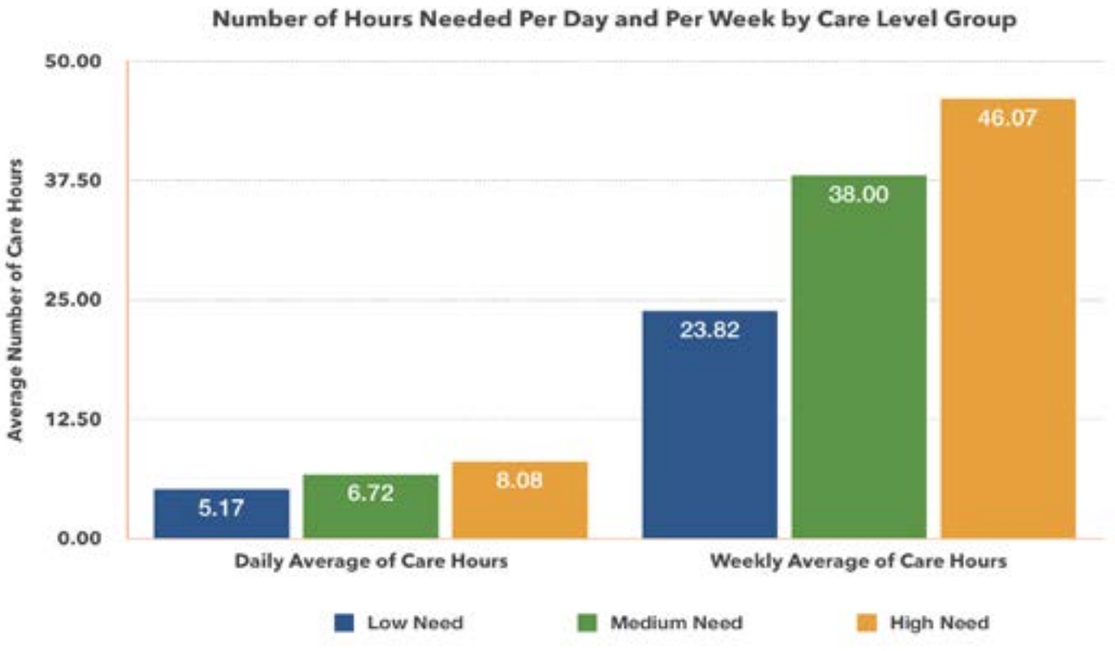




Percentage difference between amount of HOA hours needed by weekly hours grouping And ADL Max Score.

# Data:

## Low, Medium, and High Groups

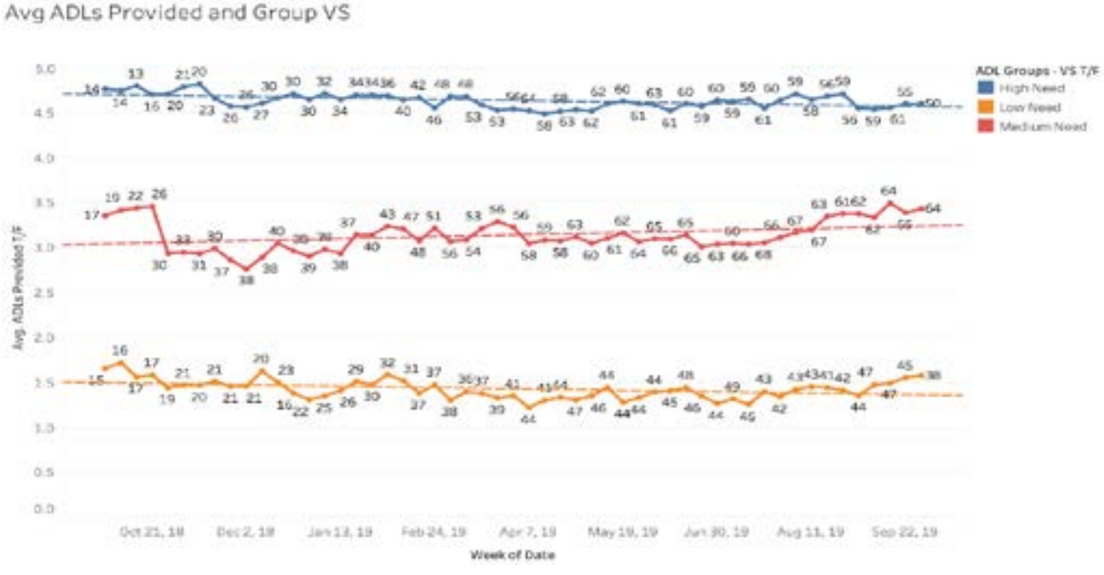
Need level categories are: low, medium, and high. Patients that fell into the low group needed assistance with an average of 1.4 ADL tasks, out of the five total ADL tasks that available for scoring. This group also required an average of 5.172 hours per visit and 23.82 hours per week. The medium need group needed help with 3.12 of the ADL tasks and saw an increase of hours per visit to 6.715. This is a 29.83% increase in daily HOA needs. Each patient had an average of 38 hours per week. The high need group required assistance with an average of 4.62 ADLs, just shy of the five categories. Their daily average was 8.079 hours, up 56.19% for the low group, and had an average of 46.07 hours a week per customer.




Comparison of Low, Medium, and High Need Groups related to average number of hours of care received by daily and weekly averages.



As with all care, a patient's needs may change during the course of their care. They may cross into different care level groups as they progress or digress in their condition, and some leave home to care for various reasons. Comparing data from active and inactive patients still demonstrates the same breakdown in need levels versus hours of care. An average of all active and inactive patients shows the low need group still averaged 5.4 hours a visit and 32.1 hours a week. The medium need group needed 6.5 hours a day on average, and their weekly hours were 38.3. The high need group noted 8.1 hours of care were required each day, with an average of 45.3 hours a week.




The ADL groups appear to stay relatively stable over time. The largest group (the medium score group) migrated slightly.

# Evaluation Value

One of the many benefits that this data holds is helping companies understand the number of hands-on hours of care a claimant will need in relation to their recovery needs and level of required assistance with their ADLs, or their ADL score. The THB data allows for less guesswork and sets up the carrier and claimant for success after a claim is filed. This could involve a faster recovery for the patient and less money and time towards new claims for the insurance company.

When an individual files a claim with their insurance company, the insurer can utilize THB data to ensure that the claimant will receive the proper amount of hands-on assistance hours related to their daily needs. This data is also highly valuable because it provides insurance companies with reliable data to make a case that the more hours of care that are given to a high-needs claimant will result in less chance of a claimant causing more injury to themselves during their recovery period. These additional hours of care lower the risk of further injury to the patient, which in turn lowers the need to file a new claim, and then reduces the amount of

money spent on additional care from both the insurance company and out of pocket for the patient. In the long run, through predictive analysis, this data can help insurers and care providers better assess risk for this group, allowing them to update policies and rates to match a claimant's needs better.

It is also beneficial to the overall healthcare system. If a claimant receives the appropriate amount of hours during recovery, and because the number of hands-on hours rises for patients at the highest risk, then the number of accidents or new claims goes down. This lowers the need to use emergency rooms, urgent care clinics, and have extended hospital stays, as well as pay for expensive medications or labs and equipment for testing. Using fewer medical resources, outside of in-house care, poses a very favorable long-term outcome for both claimants and insurance companies. Insurance companies do not need to shell out big dollars for lengthy hospital stays if a claimant is able to receive the care they need in their own home.



This becomes a sort of care intervention for the claimant as well. The first advantage for the patient is that, in almost all cases, they can receive their care in their own home. Another improvement for the patient is their out-of-pocket costs should go down due to the fact they are receiving more care, based on their ADL, and that lessens the chance of them injuring themselves. Beyond the financial benefit, being at home often contributes to a better emotional outlook for the patient. Remaining independent can be critical in how a patient does in recovery. The patient's overall recuperation time could lessen from having more intense care, not sustaining more injury, and seeing the benefits of living in their own home.

# Conclusion

Because of The Helper Bees technology, data that has long been needed to validate the correlation between the number of care hours needed, and the ADL level of the patient has been collected and analyzed. It provides definitive confirmation that a patient who has physical conditions that demand more hands-on assistance each day, specifically for their ADL tasks, requires more hours of intense hands-on assistance from a healthcare professional. As the ADL score rises, or the higher the max score for each patient is, the HOA hours increase for a patient, as well as the intensity of the care, a higher ADL, the more hands- on hours a care worker must dedicate to the patient. This data helps better inform decisions and planning efforts for many different organizations, and ultimately the patient themselves.

While to laypeople, it may seem to be a simple concept, more physical and mental needs equals more care by a professional; however, this data is groundbreaking in that it shows a positive correlation between patients that present with extensive needs in their daily life and how many hours of hands-on care by a professional they receive.

# Company

The Helper Bees' goal is to use data to understand how to enable aging in place. This is accomplished through an industry-first innovative technology platform that collects data from various touchpoints from both in-house and networked staff. These key insights are gathered as personalized services are delivered by teams of nurses, care managers, and caregivers (agency and private), then mined by a team of data scientists. This model enables is a radically different way to power aging in place.

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