

How 450+ healthcare facilities reduced employee turnover by a median of 38%



Overview

High employee turnover plagues today's health care organizations. The average turnover in health care jobs in 2017 was 20.6%, according to Compdata, up from 15.6% in 2010. Health care's turnover rates are second only to the hospitality industry.

Replacing key employees is time-consuming and costly. Health care organizations spend up to \$105,000 to replace a single nurse, according to a study in the *Journal of Nursing Administration*.

Data and predictive analytics offer a new solution. Arena captures large amounts of data about applicants and uses data science to help organizations improve outcomes by finding the right people for each role, in each department, at each location. **To date, Arena has helped over 450 health care facilities reduce employee turnover by a median of 38% across every job category.** Every one of Arena's clients has seen a reduction in turnover as a result of implementing the product into their hiring processes.

In this paper, we discuss:

1. The problem of employee turnover in health care
2. How we got here
3. How data and predictive analytics can help
4. Arena's results

Employee Turnover is a Huge Problem in Healthcare

The health care job market has never been tighter. The U.S. Bureau of Labor Statistics (BLS) in February 2018 reported that health care unemployment remained at 2.5% — as close as you can get to full employment.

Despite countless initiatives over the years, health care remains plagued by high turnover. A survey by Compdata of data from 11,000 health care employees with more than 11 million employees found the average turnover in health care jobs in 2017 was 20.6%. That compares with earlier Compdata surveys finding turnover of 19.9% in 2016, 17.7% in 2014, and 15.6% in

2010. Among all industries, health care turnover now ranks second to only hospitality; in 2010, it ranked fifth.

This situation is most critical among nurses, whose work directly impacts safety, quality, and patient experience. The most recent data from NSI Nursing Solutions found that the annual turnover rate for bedside RNs is nearly 15%, and first year turnover for a new nurse is roughly twice that rate.

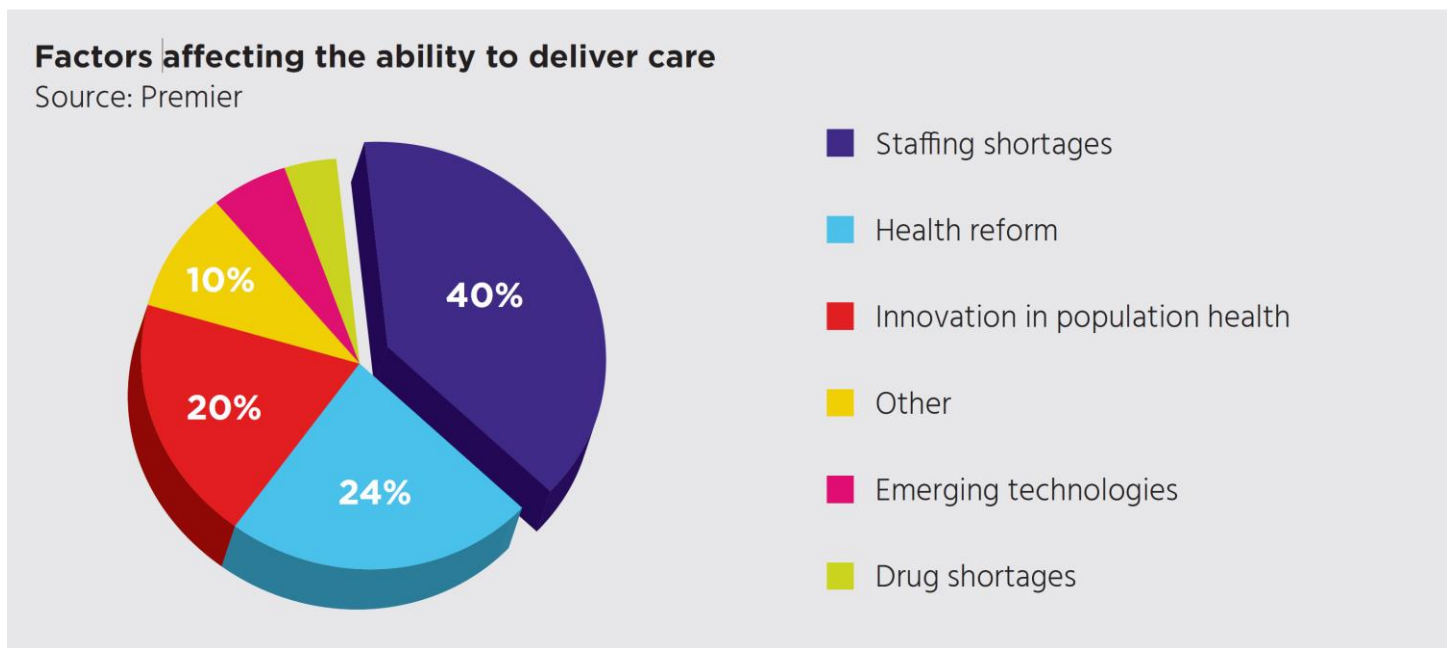
Few health systems formally track the direct costs related to employee churn, such as recruitment,

training and overtime pay, let alone the indirect costs, such as loss of productivity, added pressure on remaining staff, and the impact on the quality and safety of patient care. A study in the Journal of Nursing Administration found that it may cost anywhere from \$97,216 to \$104,440 in today's dollars to replace a nurse, including pre-hire recruitment and elements such as unstaffed beds, overtime and losses in productivity. Afterward, onboarding and training require additional time and money.

The outlook for the next several years is even more

Staffing shortages are top of mind for C-suite executives, with 41% of those surveyed for the Fall 2016 Premier Inc. Economic Outlook calling it their biggest concern and the issue that will have the most significant impact on their system's ability to deliver care.

The Premier study also found that 72% of respondents said they think that the current supply of primary care physicians will not meet their needs over the next three years, and 51% don't have enough nurse practitioners, physicians and other caregivers.



ominous: The National Council of State Boards of Nursing says half of all nurses are aged 50 or older, and more than 1 million of them are expected to retire in the next decade. The BLS projects the need for 649,100 replacement nurses by 2024, which combined with the needed growth in the nursing ranks would create 1.09 million job openings.

Physicians are also in high demand. A 2015 study by the American Association of Medical Colleges projects that the country will face a shortage of 46,000-90,000 physicians by 2025.

How We Got Here

Ensuring the health care workforce is comprised of the right people with the right aptitude and the willingness to stay in their role for an appropriate tenure is no easy feat. The challenge lies in the difficulty of sizing up a candidate based on an application, resume, interview, and references, each of which is presented in the most positive way possible.

Perhaps the best evidence for the need to change hiring protocols is health care's first-year turnover rate, which stood at 28.3% on average in one study,

significantly higher than the norm in other industries. When an employee does not stay at an institution for even a year, this is usually categorized as a “bad hire” — a candidate who was a poor fit for the position in the first place. This measure tends to be a strong barometer of the success of an organization’s approach to talent acquisition, onboarding, and assimilation.

“Unfortunately, there is no industry that is more archaic in recruiting and talent management than health care. The approach and overall attitude found in many health care recruiting functions is often

like us or make us comfortable — but that does not always yield the best candidate. In fact, managers need to be aware of what he calls “typical unconscious psychological traps,” such as overrating capability or making snap judgments. The Gallup Organization has conducted research in behavioral economics that shows that managers are not good at predicting who will be the right people for the right jobs.

“Unconscious bias — something all people have — crops up in the everyday decisions of life. And, unfortunately, bias can manifest at work leading to a myopic, homogenous workplace,” Gallup found

Factors affecting the ability to deliver care

Source: Premier

The ROI of solving turnover in a five-hospital nonprofit health system		
The challenge		The result of using data analytics to predict best hires
Number of employees	>15,000	Three times the RN applicant flow
Average turnover	12.8%	34%
First-year employee turnover in critical role departments, including nursing	18.9%	40% reduction in hiring manager time spent on recruitment
Annual staffing agency and overtime costs	\$7.6 million	\$4.3 million annual savings

antiquated,” writes Nadia Gruzd, vice president and chief recruitment and retention officer of All Med Search, a recruiting firm. As just one example, she cites a tendency to leave hiring to the human resources department, which may not be up to speed on the kind of talent needed or the cultural fit of a particular department.

Claudio Fernández-Aráoz, a senior adviser at Egon Zehnder International, a global executive search firm, and the author of *Great People Decisions* and *The Definitive Guide to Recruiting in Good Times and Bad*, writes that we are hardwired to hire people who are

Data, AI, and Predictive Analytics Offer a New Way

Today, many organizations attempt to reduce turnover through retention strategies designed to keep employees engaged and happy in their current roles. Increasing compensation, offering more professional development opportunities, improving onboarding processes, and providing leadership training are common focuses. But the persistent rates of employee turnover in health care organizations tell us that more often than not, these strategies are not enough.

Many healthcare organizations are already using data and analytics in clinical areas to predict patient outcomes, including hospital readmissions and hospital-acquired conditions. A small but growing number of institutions are applying these same innovative tools in their hiring practices. “Big data” replaces what has been informed guesswork in the hiring process with science-based analysis, predicting which employees will stay a reasonable length of time and help to contribute to an optimized healthcare delivery system.

Leveraging large amounts of data enables an organization to objectively evaluate a huge variety of data points about thousands of people — gaining valuable signals from patterns in the data instead of our emotional, subjective, and subconscious perceptions.

A meta-analysis of 17 studies of applicant evaluations, first published in 2013 in the *Journal of Applied Psychology*, found that a simple equation outperformed human decisions by at least 25%. The effect holds in any situation with a large number of candidates, regardless of whether the job is on the front line, in middle management, or the C-suite.

Moreover, the research looked at studies in which the people making the call were highly familiar with the organization and often had more information about the applicants than was included in the equation. “The problem is that people are easily distracted by things that might be only marginally relevant, and they use information inconsistently,” the study authors wrote in a later piece in the *Harvard Business Review*. “They can be thrown off course by such inconsequential bits of data as applicants’ compliments or remarks on arbitrary topics — thus inadvertently undoing a lot of the work that went into establishing parameters for the job and

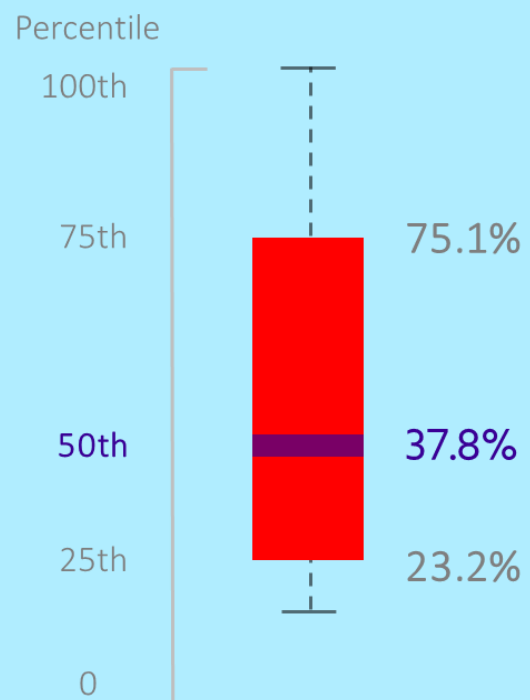
collecting applicants’ data. So they’d be better off leaving selection to the machines.”

Results

Since its founding, Arena has helped over 450 health care facilities reduce employee turnover by a median of 38%. The box plot below shows our aggregate results across all of our clients, locations, departments, and roles.

What is a box plot?

A box plot is a graphical rendition of statistical data based on the minimum, first quartile, median, third quartile, and maximum. The term “box plot” comes from the fact that the graph looks like a rectangle with lines extending from the top and bottom.



Arena works with facilities ranging from acute care hospitals to long-term care facilities and academic medical centers. Clients include Mount Sinai Health System, Sunrise Senior Living, MultiCare, Regional One Health, Benchmark Senior Living, LifeBridge Health, and Adventist HealthCare.

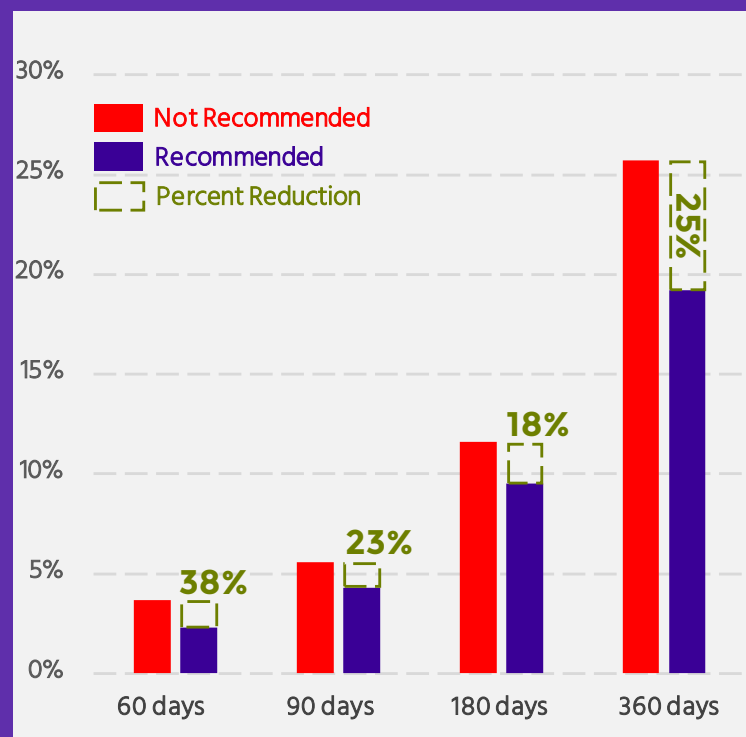
Case Study: How MultiCare Health System Saved \$1.9 Million a Year with Arena

At MultiCare Health System, based in Tacoma, Washington, nursing turnover was above 10% in 2015, with first-year turnover nearly twice that amount.

A nurse leaving for another job is an expensive proposition. Because nurses make up a large percentage of MultiCare's clinical staff, the average cost of nurse turnover rises into the seven digits annually. Beyond the expense, numerous vacancies or fill-in nurses can be noticeable to patients, and could have an impact on the satisfaction with their care.

MultiCare implemented Arena to help improve this picture. In just the first four months after rollout, Arena helped MultiCare reduce 90-day turnover by 36.5%. Through the third quarter of 2017, predictive-modeling based recommended hires turned over an average of 29% less than those not recommended. More than 20,000 applications have been processed, and the applicant completion rate on the app is above 90%. We estimate MultiCare has saved approximately \$1.9 million annual net cash savings.

First-year employee turnover is 25.3% lower for hires that are recommended by Arena

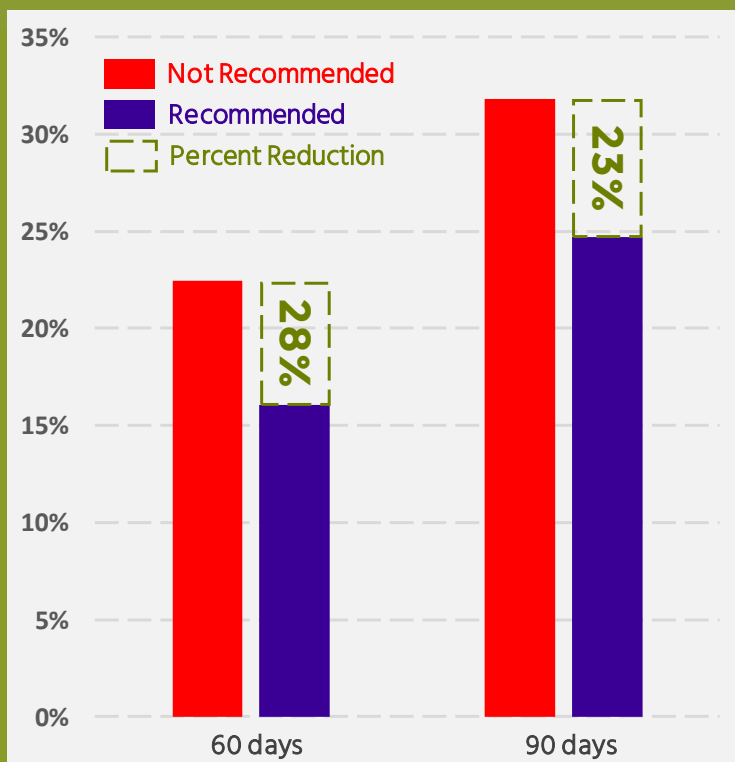


“If you can keep them for two years instead of one, you saved yourself \$6,000 to \$20,000; significant reductions in turnover are worth millions of dollars in terms of reduced productivity and the cost of hiring.”

– Bill Robertson, CEO of MultiCare Health System

Case Study: How Arena Helped a Nationwide Senior Living Provider Reduce Employee Turnover by 22%

90-day employee turnover is 23.2% lower for hires that are recommended by Arena



“Hires that went through the new system are turning over at rates far lower—by double-digits—than new workers who did not go through the process or who were hired even though the analytics did not deem them a good fit.”

Faced with high employee turnover in both clinical and non-clinical roles, a major nationwide senior living provider turned to Arena. Employee turnover was impacting productivity, efficiency, and quality of care. Arena and the provider embarked on a 90-day pilot to prove the technology’s efficacy before a widespread implementation.

Over the course of the pilot, Arena reduced 60-day turnover by 28% and 90-day turnover by 22%. After demonstrating success during this pilot, the provider decided to expand the use of Arena across all their locations nationwide.

Now It's Your Turn

To see how Arena can help reduce employee turnover at your organization, visit our website and request a briefing.

How Arena Works

Arena collects and analyzes vast amounts of application, interaction, and third-party data and matches it to financial and patient outcome data from each client to generate customized predictions for each role in each department in each location. Arena can measure these attributes independently of judgment and hypothesis, in order to develop and apply models that align most closely with success and longevity on the job.

Many times, the outcomes will be a surprise. One organization asked applicants if they had ever been a leader in a community organization. They did so because they believed community leaders made better employees. This client had an acute care facility on one side of the street and a long-term care facility on the other. It hired clinical nurse assistants with the same job description in both and it turned out that leaders in a community organization were more likely to stay longer in the acute care setting and leave earlier in the long-term care setting.



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