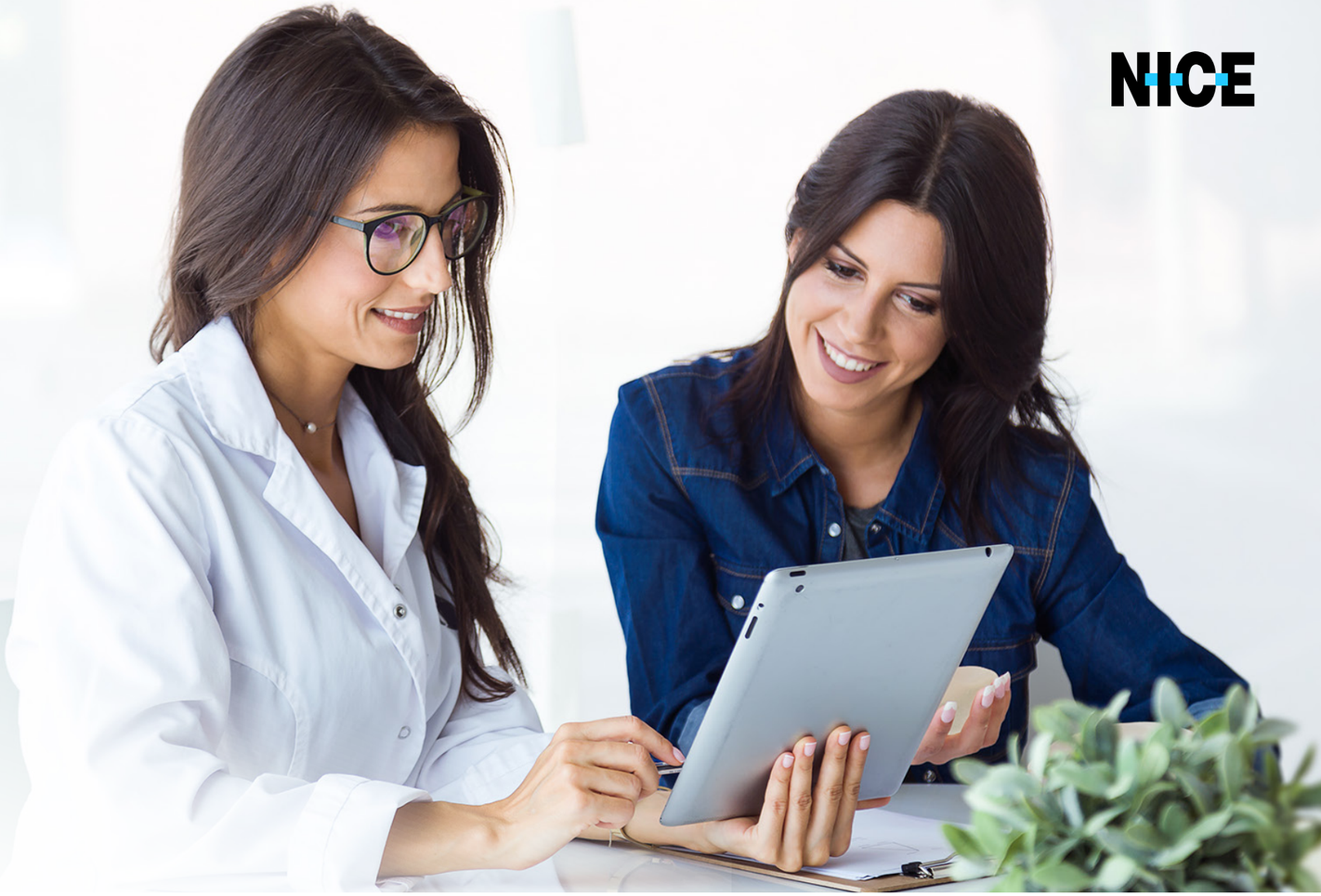

Improve Healthcare Productivity, Boost Employee Engagement, And Lower Costs with Performance Management Software

WHITE PAPER

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About NICE

With NICE (Nasdaq: NICE), it's never been easier for organizations of all sizes around the globe to create extraordinary customer experiences while meeting key business metrics. Featuring the world's #1 cloud native customer experience platform, CXone, NICE is a worldwide leader in AI-powered self-service and agent-assisted CX software for the contact center – and beyond. Over 25,000 organizations in more than 150 countries, including over 85 of the Fortune 100 companies, partner with NICE to transform – and elevate – every customer interaction.

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INTRODUCTION

Healthcare, broadly defined, is the largest industry in the United States. According to the National Health Expenditure accounts, an arm of the Centers for Medicare & endcap Medicaid Services, US healthcare spending grew 2.7% in 2021, reaching $4.3 trillion or $12,914 per person. Healthcare spending accounted for 18.3% of US gross domestic product and employed over 20 million people. Of those, 6.1 million are employed in US hospitals. Industry analysts peg the total estimated annual revenue of the US healthcare industry at $1.3 trillion.

Not only does the healthcare industry stand out in terms of the size and economic contribution, but the industry also excels in innovation. The following are just a few recent technology advances in the US healthcare industry.

Table 1: Recent Technology Advances in Healthcare USA

Technology	Applications	Technology	Applications
Artificial Intelligence	• Improves cancer diagnostics • Identifies people at high risk • Delivers personalized dosages	Natural Language Processing	• Combining chat technologies with AI systems to create a virtual Interventional Radiologist
Personalized Mobile Apps	• Speeds appointment process by requesting physician appointments, checking in, and uploading the patient's medical history	Organ Care Technology	• The Organ Care System can keep a heart, lung, or liver outside of the body for several hours
Augmented Reality	• Headsets can provide information to the surgeon allowing them to use both hands during the operation	Remote Patient Monitoring	• Physicians can now know what is going on with the patient without being physically close
Smart Watches	• Smartwatches can monitor heart rate and blood oxygen saturation • They are improving their ability to measure blood vitals	3D Printing	• 3D-printed prosthetics are entirely bespoke • The digital functionalities enable developers to match an individual's precise measurements

But We Have a Cost Problem

However, the cost of healthcare in the United States does not compare favorably to other advanced nations. In 2020 the per-person cost of healthcare in the USA was $11,945. The next most costly was Switzerland with a per capita cost of $7,138. Our neighbors to the north, Canada, spent $5,370 per capita which is just slightly more than the United Kingdom, which is $5,260. In general, the citizens of comparable countries spend about half as much on healthcare as citizens of the United States.

Why is that? Notwithstanding how the numbers are collected, as well as differing political systems and social attributes, the differences are substantial. The reasons are varied and highly complex, but it is clear that labor is the main driver. Unlike other industries—where investments in capital are expected to return a positive ROI, primarily by reducing employment in favor of automation—in the US healthcare ecosystem, increases in demand are satisfied by hiring more workers.

Industry experts estimate that if the healthcare delivery industry relied more heavily on labor productivity gains rather than workforce expansion to meet demand growth, by 2028 healthcare spending could potentially be (on a nominal basis) about $280 billion to $550 billion less than current national health expenditures projections suggest. In short, job creation—not labor productivity gains—was responsible for most of the growth in the US healthcare delivery industry.

Participants in a productivity workshop at Johns Hopkins Medical Center confirm that staff expansion was a major contributor to high costs.

In our workshop, the Hopkins team pointed out that 20 years ago, the 1,000-bed, academic Johns Hopkins Hospital employed 3,000 people to care for its patients. Today, it employs just below 12,000, with the same number of beds and approximately the same number of discharges. Although the patients may be more acutely ill and the treatment more complex, no other industry has had this type of growth in labor costs. Some of the costs were due to regulatory requirements, some to technologies that hurt productivity, and some to more complex therapies. We believe that a large portion of the costs increases are driven by the organic, instead of designed, development of health care systems. For example, nurses spend approximately 7 percent of their time hunting for supplies such as medications, infusion pumps, commodes, and nutritional supplements. At Johns Hopkins Hospital, we estimated that these activities take 20 percent of nurse time. For example, we found that there is generally no signal to indicate to nurses when a medication arrives on the unit from the pharmacy. Nurses search the unit to determine whether the medication is available.

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Many other factors contribute to high costs and reduced productivity in the United States healthcare industry:

- Hospitals' administrative costs—including costs for submitting and processing claims—account for 25 percent of total spending on hospital care.
- Doctors spend about three hours per week dealing with billing-related matters. For each doctor, a further 19 hours per week are spent by medical support workers.

Between 2001 and 2016, healthcare delivery contributed 9% of the $8.1 trillion ($4.2 trillion in real terms) growth in the US economy—but 29% of the 14.4 million net new jobs. Clearly, the recipe for improving productivity in the healthcare industry is to reduce employment, or at least reduce the rate of growth of employment.

As we noted earlier, healthcare in its broadest definition is the largest industry in the United States except for the federal government. It is difficult and probably unwise to attempt to pare down the number of doctors, nurses, and skilled operators of complex and costly equipment. However, we can improve the productivity of the tens of thousands of workers that do not directly interact with patients. These are commonly referred to as "back office" employees. In large healthcare organizations and in business generally, the term "back office" refers to functions that do not involve direct contact with the customer or patient, but are essential to the success of the organization. Typical examples include admissions, insurance claims processing, billing and collections, and compliance.

Table 2 shows employment of nonprofessional employees who have little direct interaction with patients. The numbers are very large.

All those positions, and presumably many more, involve routine processing of tasks and documentation. Savings of just 10% of the time required to complete such assignments would translate into industry savings of over $2 billion annually.

Table 2: Selected Occupations in US Hospitals

Occupation	Employed	Income/yr.	Total cost
Secretaries and Administrative Assistants	242,590	$43,330	$10,511,424,700
Office Clerks, General	55,950	$39,290	$2,198,275,500
Material Recording, Scheduling, Dispatching, and Distributing	75,940	$39,960	$3,034,562,400
Interviewers, Except Eligibility and Loan	60,060	$39,160	$2,351,949,600
Human Resources Specialists	18,690	$68,230	$1,275,218,700
Customer Service Representatives	60,060	$38,610	$2,318,916,600
Bookkeeping, Accounting, and Auditing Clerks	36,510	$45,450	$1,659,379,500
Billing and Posting Clerks	31,320	$43,480	$1,361,793,600
Bill and Account Collectors	21,550	$42,820	$922,771,000
Total	**602,670**	**$42,535**	**$25,634,291,600**

Source: US Bureau of labor Statistics

Introducing Performance Management (PM) Software

Application software designed to boost productivity of virtually any employee that performs routine functions is known as performance management software. NICE Systems, a global company with a huge presence in the US, is the largest producer of this software.

Performance management software was originally designed for contact centers and came into use in the early 1980s. The primary goal was to alert supervisors and employees to employee performance levels, as measured against key performance indicators (KPIs). These metrics were displayed on employee and supervisor screens and on large wallboards.

Today, the software has advanced considerably. Leveraging desktop analytics, PM applications can not only spot deviations in performance, but even recommend actions to rectify the situation.

NICE Systems offers different PM solutions depending on specific business functions and technology environments. For hospitals, NICE recommends Back Office Essentials. The Back Office Essentials package (BOE) offers managers comprehensive visibility into back-office employee activities, application usage and performance. Desktop analytics and work tracker tools provide granular, actionable insight into task handle times, employee behavior and process bottlenecks, while coaching and gamification are tailored for each employee in the back-office environment.

The primary components of Performance Management BOE and their contributions are summarized below.

Desktop Analytics

- Captures desktop activity and categorizes it into productivity buckets
- Determines work compliance standards and specific application usage
- Identifies processing time standards
- Determines process activity breakdown

Desktop Work Tracker

- Captures process handle and cycle times
- Evaluates time spent on tasks
- Measures process cycle time
- Captures off-desktop work
- Understands the reason a task was stopped
- Understand your employee's proficiencies

NICE Performance Management

- Robust visualization of desktop process data
- Performance related KPIs, trends and deep-dive analysis
- New Engagement KPI for tracking employee engagement over time
- Define and execute targeted coaching sessions for driving performance

Performance data is displayed on customizable screens that appear on employee and supervisor desktops, and on the desktops of other authorized individuals. The BOE performance management software provides many important advantages.

Benefits of Performance Management Software

- Increases employee productivity and reduces costs
- Drives awareness and accountability with performance transparency
- Creates enterprise-wide visibility
- Uncovers issues that can be addressed in coaching sessions
- Leverages individual competitiveness to achieve superior scores
- Makes supervisors' lives easier and agents' jobs more fun

Of course, the most important value of PM software is to identify specific processes that are amenable to automation. Fortunately, the NICE software includes an "Automation Finder." This tool leverages Desktop Analytics and AI technologies to accurately pinpoint the optimal business processes to automate.

NICE

The Importance of Key Performance Indicators (KPIs)

It is essential that every organization, whether they use PM software or not, have a set of clearly defined quantitative goals that are paired with measurable metrics reflecting performance against these goals. In contact center environments, there are over one hundred metrics that are generally accepted to be fair and meaningful indicators of individual and team performance. Common examples of contact center KPIs include:

- Average handle time
- Average speed of answer
- Average time in queue
- Average abandonment rate
- First call resolution
- Agent turnover rate

There are dozens, if not hundreds, of metrics for success in areas like financial performance and plant utilization. Yet, for complex medical environments such as major hospitals there is no large set of generally accepted performance metrics at the micro level. Here is a list of some possible metrics for patient visits.

- Visit duration
- Wait time
- Schedule utilization percentage
- No show percentage
- Cancellation percentage
- Bump percentage
- Average visits by practitioner
- Average visits by day and month

For specific job functions you will need KPIs, including targeted goals, at a more granular level. This will require an investment in job analysis. You must know all the activities that comprise a process and an estimated average time for completing each task. Map out the specific steps in completing the task and develop an estimated completion time for each step.

Start with Billing and Insurance

A good place to start is billing and insurance-related (BIR) tasks. Administrative costs consume approximately 25-31% of total health care spending in the United States, with approximately 82% of these costs attributable to BIR.

In a 2018 academic study entitled **Billing And Insurance-Related Administrative Costs: A Cross-National Analysis**, Phillip Tseng and colleagues measured BIR administrative costs at an academic health system in the US by carefully examining the processes required to perform physician BIR activities. This study revealed that the estimated processing time and cost of billing for the health care provider studied varied from thirteen minutes and $20.49 per bill for a primary care visit to 100 minutes and $215.10 for an inpatient surgical procedure.

Time-driven activity-based costing uses techniques from industrial engineering to estimate the personnel, equipment, and space expenditures for medical services. This method of estimating BIR costs starts by developing a process map that portrays the path of a bill through the revenue cycle, from the time a patient checks in to the point when final payment is received. Performance management solutions can establish KPIs for each activity in the BIR process, calculate norms and deviances, and spotlight activities that are inherently counterproductive and should be eliminated or restructured.

Summary

Performance management applications are proven solutions for improving productivity, lowering costs, and creating greater employee engagement.

Advances in fields like artificial intelligence, robotic process automation, and analytics will continue to make the software even more effective and easier to use. NICE Systems is leading the way with these advanced applications.

About the Author

Dick Bucci is Principal of Pelorus Associates (www.pelorusreports.com) where he specializes in contact center technologies. He has authored 19 in-depth market research reports on workforce optimization applications and numerous articles and white papers. Dick has operated as an independent analyst for the past 19 years. Prior to that he held a variety of senior sales and marketing management positions with telecommunications companies. He is one of a handful of industry analysts that have been elected to the Contact Center Pipeline Wall of Fame.