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# Can AI Address Health Care's Red-Tape Problem?

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**Medtronic**

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TECHNOLOGY

# Can AI Address Health Care's Red-Tape Problem?

by Minoo Javanmardian and Aditya Lingampally

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Productivity in the United States' health care industry is declining — and has been ever [since World War II](#). As the cost of treating patients continues to rise, life expectancy in America is beginning to [fall](#). But there is mounting evidence that artificial intelligence (AI) can reverse the downward spiral in productivity by automating the system's labyrinth of labor-intensive, inefficient administrative tasks, many of which have little to do with treating patients.

Administrative and operational inefficiencies [account for](#) nearly one third of the U.S. health care system's \$3 trillion in annual costs. Labor is the industry's single largest operating expense, with [six](#)

out of every 10 people who work in health care never interacting with patients. Even those who do can spend as little as 27% of their time working directly with patients. The rest is spent in front of computers, performing administrative tasks.

Using AI-powered tools capable of processing vast amounts of data and making real-time recommendations, some hospitals and insurers are discovering that they can reduce administrative hours, especially in the areas of regulatory documentation and fraudulent claims. This allows health care employees to devote more of their time to patients and focus on meeting their needs more efficiently.

To be sure, as we've seen with the adoption of electronic health records (EHR), the health care industry has a track record of dragging its feet when it comes to adopting new technologies — and for failing to maximize efficiency gains from new technologies. It was among the last industries to accept the need to digitize, and by and large has designed digital systems that doctors and medical staff dislike, contributing to warnings about burnout in the industry.

Adopting AI, however, doesn't require the Herculean effort electronic health records (EHRs) did. Where EHRs required billions of dollars in investment and multi-year commitments from health systems, AI is more about targeted solutions. It involves productivity improvements made in increments by individual organizations without the prerequisite collaboration and standardization across health care players required with EHR adoption.

Indeed, AI solutions dealing with cost-cutting and reducing bureaucracy — where AI could have the biggest impact on productivity — are already producing the kind of internal gains that suggest much more is possible in health care players' back offices. In most cases, these are experiments launched by individual hospitals or insurers.

Here, we analyze three ways AI is chipping away at mundane, administrative tasks at various health care providers and achieving new efficiencies.

### **Faster Hospital Bed Assignments**

Quickly assigning patients to beds is critical to both the patients' recovery and the financial health of hospitals. Large hospitals typically employ teams of 50 or more bed managers who spend the bulk of their day making calls and sending faxes to various departments vying for their share of the beds available. This job is made more complex by the unique requirements of each patient and the timing of incoming bed requests, so it's not always a case of not enough beds but rather not enough of the right type at the right time.

Enter AI with the capability to help hospitals more accurately anticipate demand for beds and assign them more efficiently. For instance, by combining bed availability data and patient clinical data with projected future bed requests, an AI-powered control center at Johns Hopkins Hospital has been able to foresee bottlenecks and suggest corrective actions to avoid them, sometimes days in advance.

As a result, since the hospital introduced its new system two years ago, Johns Hopkins [can assign beds 30% faster](#). This has [reduced](#) the need to keep surgery patients in recovery rooms longer than necessary by 80% and cut the wait time for beds for incoming emergency room patients by 20%. The new efficiencies also permitted Hopkins to accept 60% more transfer patients from other hospitals.

All of these improvements mean more hospital revenue. Hopkins's success has prompted Humber River Hospital in Toronto and Tampa General Hospital in Florida to [create their own AI-powered control centers](#) as well.

### **Easier and Improved Documentation**

Rapid collection, analysis and validation of health records is another place where AI has begun to make a difference. Health care providers typically spend nearly \$39 billion every year to ensure that their electronic health records comply with about 600 federal guidelines. Hospitals assign about [60 people to this task on average](#), one quarter of whom are doctors and nurses.

This calculus changes when providers use an AI-powered tool developed in cooperation with electronic health record vendor Cerner Corporation. Embedded in physicians' workflow, the AI tool created by Nuance Communications offers real-time suggestions to doctors on how to comply with federal guidelines by analyzing both patient clinical data and administrative data.

By following the AI tool's recommendations, some health care providers [have cut the time](#) spent on documentation by up to 45% while simultaneously making their records 36% more compliant.

### **Automated Fraud Detection**

Fraud, waste, and abuse also continues to be a consistent drain. Despite an army of claims investigators, it annually costs the industry as much as \$200 billion.

While AI won't eliminate those problems, it does help insurers better identify the claims that investigators should review — in many cases, even before they are paid — to more efficiently reduce the number of suspect claims making it through the system. For example, startup Fraudscope has already [saved insurers](#) more than \$1 billion by using machine learning algorithms to identify potentially fraudulent claims and alert investigators prior to payment. Its AI system also prioritizes the claims that will yield the most savings, ensuring that time and resources are used where they will have the greatest impact.

### **Getting Ready for AI**

When it comes to cutting health care's administrative burden through AI, we are only beginning to scratch the surface. But the industry's ability to amplify that impact will be constrained unless it moves to remove certain impediments.

First, healthcare organizations must simplify and standardize data and processes before AI algorithms can work with them. For example, efficiently finding available hospital beds can't happen unless all departments define bed space in the same terms.

Second, health care providers will have to break down the barriers that usually exist between customized and conflicting information technology systems in different departments. AI can only automate the transfer of patients from operating rooms to intensive care units (ICU) if both departments' IT systems are able to communicate with each other.

Finally, the industry's productivity will not improve as long as too many health care personnel continue in jobs that don't add value to the business by improving outcomes. Health care players need to begin reducing their workforces by taking advantage of the industry's [20% attrition rate](#) and automating tasks, rather than filling positions on autopilot.

The task of improving productivity in health care by automating administrative tasks with AI will not be completed quickly or easily. But the progress already achieved by AI solutions is encouraging enough for some to wonder whether re-investing savings from it might also ultimately cut the overall cost of health care as well as improve its quality. For an industry known for its glacial approach to change, AI offers more than a little light at the end of a long tunnel.

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