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# Identifying, Controlling, and Reducing Overhead Costs in the Healthcare Sector

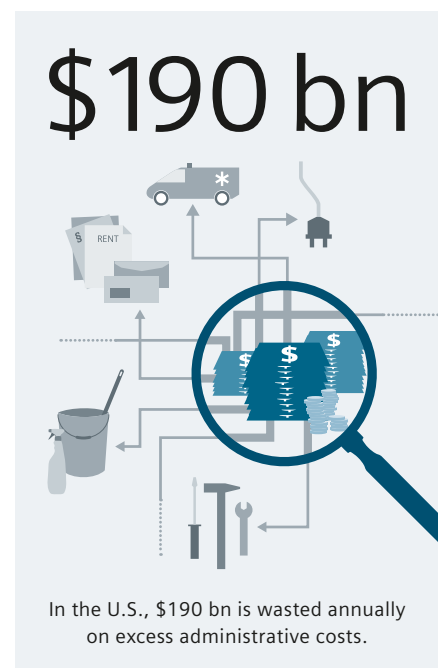
Many expenses cannot only be attributed to individual patients, diagnoses, or therapies – a challenge for every provider

## Introduction

Reducing the total cost of care delivery is the main concern of providers worldwide. In U.S. hospitals, for example, it is the number one area for improvement in order to reach financial targets in a three-year time frame.<sup>1</sup>

Overhead costs account for a significant portion of total costs and are, to a certain degree, unavoidable. Healthcare institutions, like other businesses, have certain operating expenses that are necessary for the continued function of the business. »Overhead burden« refers to the effort (or the need) to manage and limit these expenses. Overhead costs can include governance and documentation, billing, supplies, energy, rent/property maintenance, transportation, capital charges, cleaning, waste disposal, and other costs for non-clinical personnel.

For many types of hospital running costs (HRC), however, there seems to be no precise definition for indirect overhead costs or direct, diagnosis/treatment-related expenses. Examples of these not uniformly defined costs include labs, laundry, and the like.<sup>2</sup> But drawing clear boundaries is difficult even if you use the common definition of overhead costs, i.e. costs that are not directly attributable to the medical care of a patient. For instance, meals for patients are partially allocated to overhead expenses and partially to patient-related costs. The same goes for the operation of a hospital's own laboratory.



Setting out to reduce overhead costs across the board would be a mistake, as some overhead expenses actually improve the overall economic performance of a hospital as well as its medical care. Examples can include investments in modern IT systems, which initially lead to high costs for hardware, software, personnel and training, but can quickly pay for themselves. It can actually be more effective to increase the cost transparency, which calls for accurate cost-unit accounting.

One example is service accounting. Many hospitals hire outside, non-medical specialists for entering, encoding, and calculating services. They know the requirements well and are experts at hospital IT. Many of these specialists will even accompany doctors on rounds so they can provide a more precise service accounting afterwards. Although this does increase overhead costs on the one hand, the billing specialists do free up the medical staff to concentrate more on their actual work and patients. And they ensure that all billable services are claimed, while non-refundable services aren't fed into the system at all.

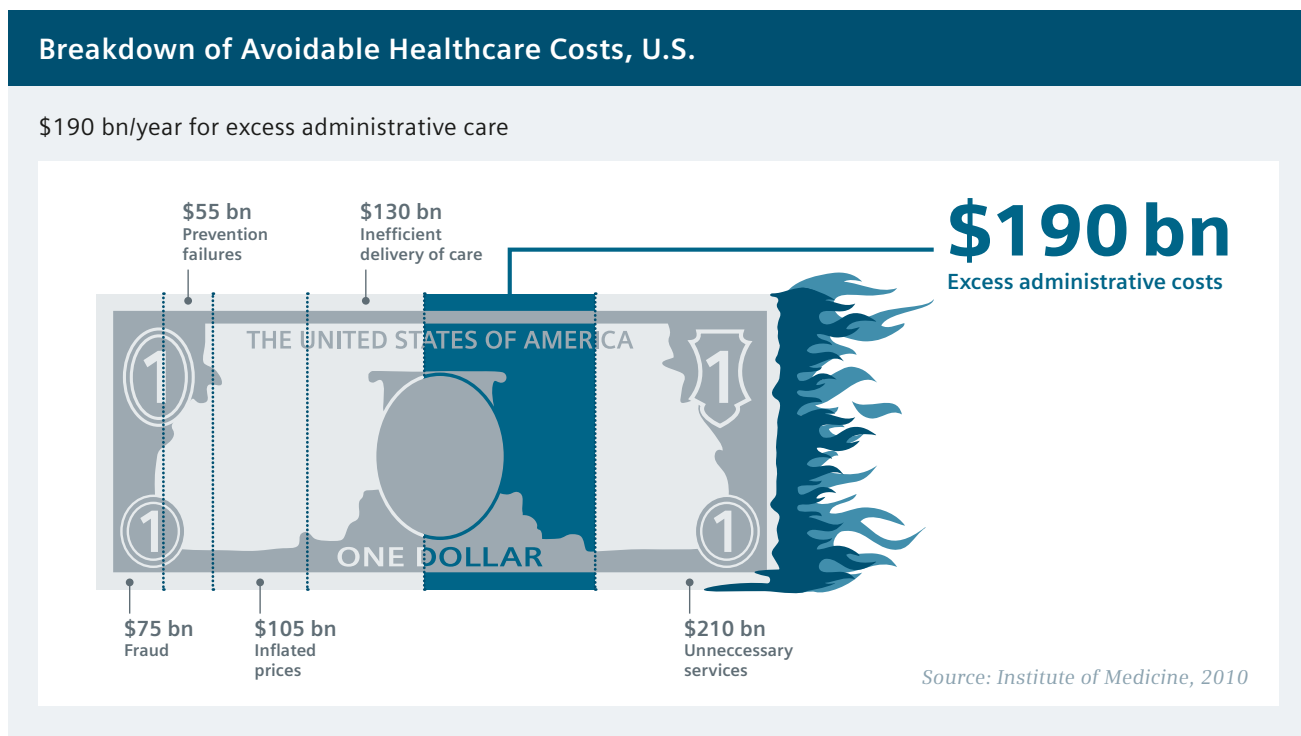
However, this also shows the problems of separating administrative from medical expenses and how comparing overheads between individual hospitals or systems doesn't always make sense – because the cost of medical personnel

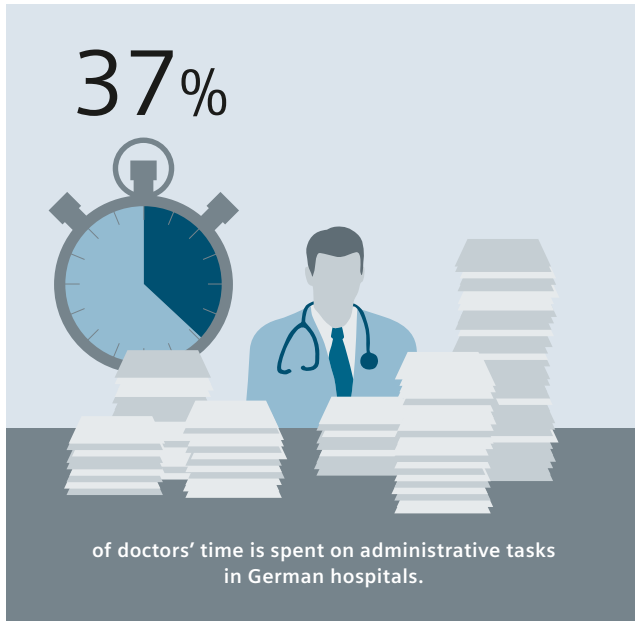
isn't usually attributed to overhead costs, although doctors and nurses spend much of their time on non-case-related administrative activities. As a result, this increasing workload cannot be adequately remunerated via DRGs.

Nevertheless, one problem with overhead expenses is that the cost of operating many hospitals is generally increasing rather than decreasing. What could, however, be avoided are costs associated with mistakes in reimbursement and documentation processes, incorrect procedures, supply chain management, or insufficient technology servicing. Hospital operators who reduce avoidable overhead costs and invest in overhead expenses that create value increase their competitiveness.

### Rising Costs and High Administrative Expenses Worldwide

Health costs are rising worldwide at an alarming rate: In the U.S. healthcare industry, for example, they have regularly risen by up to three times the annual inflation rate since the mid-1960s.<sup>3</sup> If the cost of food had undergone a comparable development, a dozen oranges would cost more than \$130 today.<sup>4</sup> Yet, a significant portion of these costs could be avoided. In the U.S. healthcare system, each year \$750 billion is spent on expenses that are not directly linked to healthcare.<sup>5</sup>





Administrative costs play a decisive role here. In the U.S., there is a viable assumption that about \$190 billion is wasted per year due to unreasonably high administrative costs. This is about 15 cents per healthcare dollar.<sup>5</sup> The main causes of this are:

- Insurance paperwork costs that are generally above benchmarks
- Insurers' administrative inefficiencies
- Inefficiencies on the provider side due to extensive care documentation requirements

More than five years ago, the Healthcare Administrative Simplification Coalition (HASC) estimated that even a modest 10% optimization of administrative processes and technologies would save the U.S. healthcare system approximately \$500 billion over ten years.<sup>6</sup>

With regard to the actual amount, causes, meaningful recording, and the necessity, and optimization potential of unnecessary costs and expenses, there is little valid data due to the aforementioned allocation problem. If providers scrutinize the variability of cost, and bring some transparency into pricing (something that is shockingly absent in modern medicine), they will be able to attack these variances.<sup>7</sup>

The causes of unnecessary spending and wasting time vary widely but, in general, they point toward administrative expenses, particularly those associated with payers. For example, a U.S. study investigating waste in the activities of front-line healthcare workers found that 35 percent of

the workers' time was wasted.<sup>5</sup> Physicians reported spending an average of 43 minutes a day on interactions with health plans – which adds up to almost three weeks per year on such activities. Nursing staff spent nine hours per physician per week interacting with health plans, and clerical staff 30 hours per physician per week.<sup>8</sup> And according to a study by the consulting firm A.T. Kearney, German hospital doctors spend an average 37 percent of their time on administrative tasks. Among German nursing staff, the average rate is 32 percent and among medical-technical staff, it is 27 percent.<sup>9</sup>

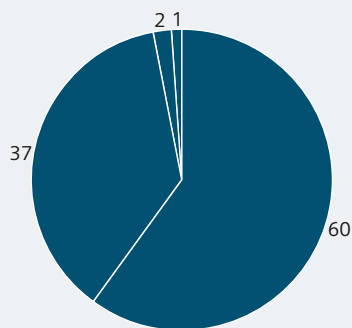
### Complexity and Competition as Cost Drivers

The share of administrative costs differs greatly from country to country – among other things, this has to do with the varying complexity of health systems and the intensity of competition in each country. A study of hospital administrative costs in several nations finds that hospital bureaucracy consumed 25.3 percent of hospital budgets in the U.S. in 2011, far more than in other nations and without any evidence that the high costs translated into better care or yielded any other benefits. Next highest were the Netherlands (19.8 percent) and England (15.5 percent). Scotland and Canada, whose single-payer systems pay hospitals global operating budgets, with separate grants for capital, had the lowest administrative costs (about 12 percent). According to the study, hospital administrative spending totaled \$667 per capita in the U.S., \$158 in Canada, \$164 in Scotland, \$211 in Wales, \$225 in England and \$325 in the Netherlands. Reducing U.S. per capita spending on hospital administration to Scottish or Canadian levels would have saved more than \$150 billion in 2011.<sup>10</sup>

But why do administrative costs devour a much larger portion of the healthcare dollar in the U.S. than in countries with publicly financed healthcare? The authors of the survey found that countries operating under a single-payer health system, such as Canada and Scotland, had the lowest administrative spending. According to the survey, the high administrative costs in the U.S. are caused by: The complexity of billing multiple insurers with varying payment rates, rules, and documentation requirements; and the imperative for hospitals to generate a profit (or, for non-for-profit hospitals, surpluses), in order to fund the modernization and upgrades essential to survival. Paradoxically, this entrepreneurial imperative reduces efficiency, due to, for example, higher marketing expenses or the need to provide high-volume services.

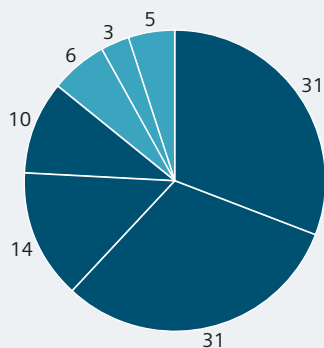
The researchers found that within the U.S., administrative costs were highest (27% of spending) at for-profit hospitals. The relatively high hospital administrative costs in the Netherlands and rising costs in England – both of which are transitioning to market-oriented hospital systems – are also cited as evidence that increasing reliance on market mechanisms raises administrative costs.<sup>10</sup>

## Cost Allocation in German Hospitals in 2013



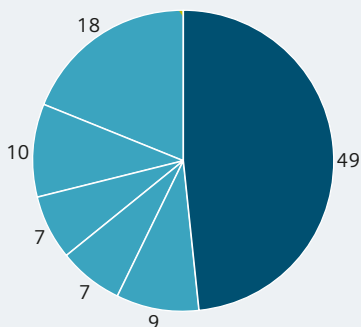
Overall cost structure (in %, rounded)

- Staff (60%)
- Material resources (37%)
- Training (2%)
- Interest, taxes (1%)



Staff costs (in %, rounded)

- Medical (31%)
- Nursing (31%)
- Medical-technical (14%)
- Functional services (10%)
- Administrative (6%)
- Maintenance (3%)
- Other (5%)



Costs of materials (in %, rounded)

- Medical needs (49%)
- Operating requirements (9%)
- Water, energy (7%)
- Administrative (7%)
- Maintenance (10%)
- Other (18%)\*

Med. Overhead

\* E.g.: External doctors, fees for external staff, outsourced services

Source: German Federal Statistical Office

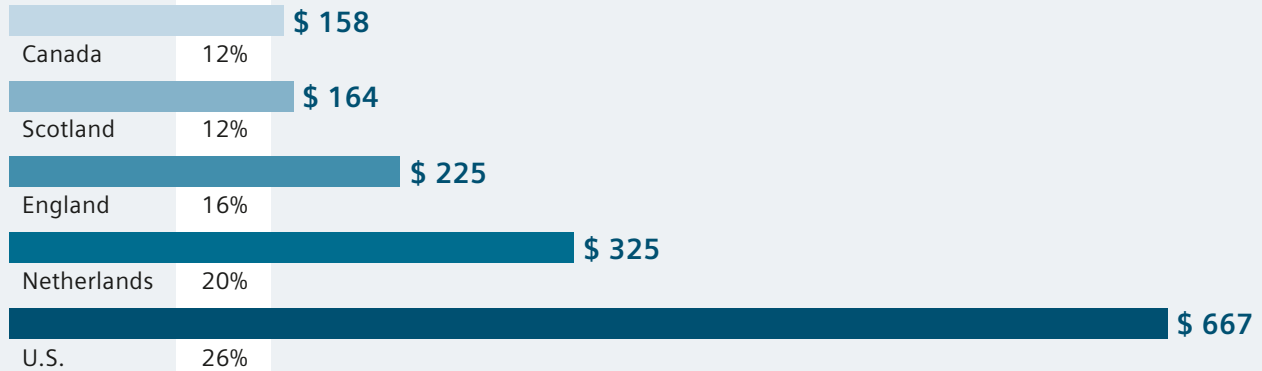
Unfortunately, healthcare providers have no immediate influence on the complexity of healthcare systems and the level of competition. But the higher the administrative costs, the greater the need for cost-efficiency measures. This includes successful efforts to increase the quality of care – because quality of care can enhance a hospital’s reputation, which reduces marketing expenses. Furthermore, investment in modern IT systems can help successfully tackle the increasing complexity.

### Good Management Reduces Overhead Costs

As described above, overhead costs generally comprise a significant proportion of a hospital’s operating costs and must be allocated correctly to produce the best estimate of the costs of clinical and non-clinical care. »It is critical that the most appropriate allocation statistic is used to allocate overhead costs to the relevant final cost centers or end-product classes,« recommends the Australian-based Independent Hospital Pricing Authority (IHPA). According

## Hospital Administration Costs Worldwide

### Expenditure per capita



In relation to total hospital expenditure

Source: HealthAffairs 2014

to the organization, all costs accumulated in overhead costs centers should be allocated to the final cost to ensure that each product category (patient and non-patient) has its fair share of overhead. This should be done before any partitioning of costs into product categories, and subsequently into end classes within product categories is attempted.<sup>11</sup>

If overhead costs are not accurately recorded and allocated, this impedes or prevents intervention measures to reduce costs. Conversely, it becomes more complicated to make targeted and useful investments in overhead expenses where the investment creates demonstrable added value.

The need to precisely record overhead costs is not just about immediate economic aspects. Particularly in areas of care where patients pay for at least some of the services, lack of transparency has significant negative consequences in terms of patient satisfaction and hospital reputation.

For example, on the East Coast of the U.S., extensive media coverage about ambiguous overhead costs recently generated a lot of attention, to the point where state officials took notice of the uproar:<sup>12</sup> A Boston Medical Center charged a New Hampshire patient a \$600 flat share »facility fee« for a routine 20-minute exam in an adjacent office building – on top of the \$250 the surgeon billed for his services. The patient subsequently dropped his longtime caregiver in favor of physicians not employed by hospitals. Another one was charged \$1,525 in operating room and facility fees for a minor skin procedure – on top of \$354 for the

doctor's service. Another hospital had charged a \$600 »operating room and facility fee« – at a medical office building 1.5 miles away from the clinic. Hospitals argue that overhead fees help them pay for crucial services such as 24-hour emergency rooms and trauma units or support research and teaching. Further U.S. Medicare rules allow hospitals to include overhead fees on bills for care provided at physician's practices they own. The consequences of such a difficult-to-understand pricing policy are impossible to communicate to patients and the public.

But the call for a fair and transparent allocation of overhead costs is more easily made than answered. First, it requires an in-depth analysis of such expenses. Second, it requires a modern, elaborate accounting system. In many cases, that is simply not given. For instance, the British Care Quality Commission recently found that the Cambridge University Hospitals NHS Foundation Trust, a prestigious

» If shopping were like healthcare, product prices would not be posted, and the price charged would vary widely within the same store, depending on the source of payment. «

The Institute of Medicine

operator of hospitals, had serious weaknesses in its management oversight and governance system. In fact, a former CEO of the trust and a world-famous transplant physician, admitted to the daily newspaper The Guardian, »I've never done any finance or management courses.«<sup>13</sup>

This is not unusual. Physicians without business administration training are still frequently found in healthcare provider management positions. It may be time to rethink this strategy.

### Learning from Other Industries

For representatives of other industries, the high administrative cost ratios of hospitals are often incomprehensible. Indeed, the healthcare industry and hospitals tend to see their industry as basically in a class of its own, for which proven cost-efficiency measures do not apply. Despite the high degree of flexibility required to run a hospital, there are also many parallels and opportunities to learn – from, for example, the manufacturing industry – in the field of just-in-time concepts. It would be wise for healthcare providers to look to successful cost-efficiency measures in other industries.

For example, in Germany the introduction of fixed prices for DRGs made it indispensable to have an accurate grasp

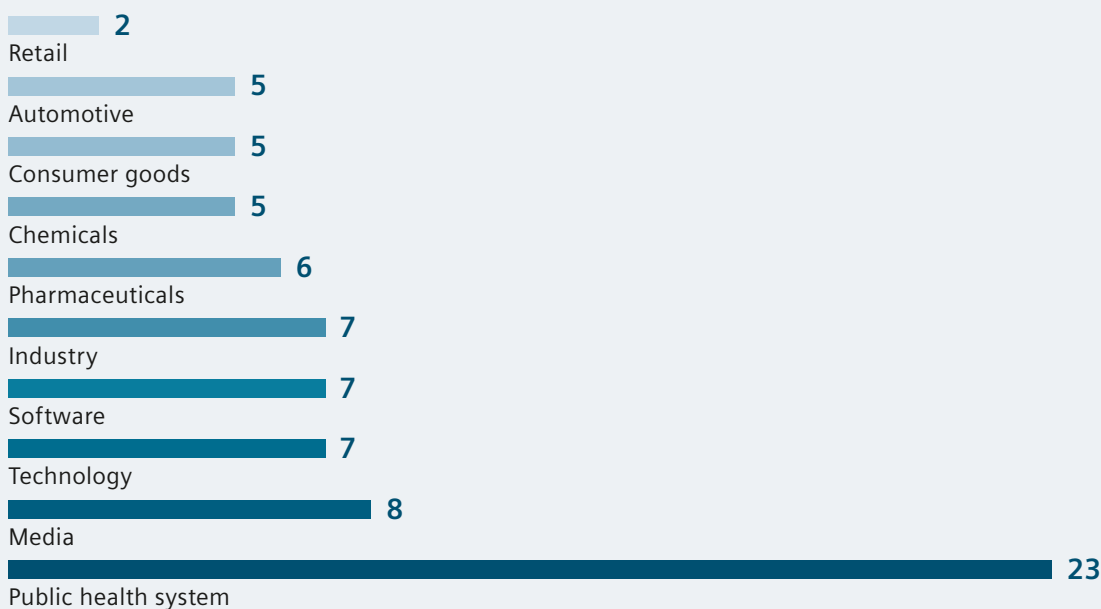
of the entire treatment process, its costs, and time requirements. It is crucial that the direct and indirect costs of a given DRG can be allocated on a costs-by-cause basis. This requires cost accounting that doesn't just calculate the cost rates of direct costs, such as physician time, but also the indirect costs (overheads).<sup>14</sup>

Short throughput, optimum utilization, minimum downtime, short transport routes, low storage costs, low error rates, complete knowledge of what is currently in stock on a given day, and where production resources are stored – in industrial production such factors are undisputed determinants of success, and high levels of attention and planning are devoted to them.

The situation in healthcare is often very different. Here, for years hospitals have accepted declining bed occupancy rates (averaging 77 percent in Germany in 2014 and 67 percent in the U.S. in 2011) in conjunction with regular overcrowding at peak times. Attempts to schedule plannable surgery at low utilization times, for example, often appear unsuccessful. And expensive diagnostic devices are not used productively outside of core hospital working hours to enable, for example, profitable services for the pharmaceutical industry or other interested parties outside the hospital.

## Administrative Cost Ratios in Germany (in %, rounded)

In healthcare, administration costs are up to ten times higher than in other industries.



Source: A.T. Kearney, AdminiStraight, Administrative costs and quality in German companies, 2010

## Parallels between Medical Care and Industry

Of course, people are not cars, just as doctors and nurses are not production resources. Nevertheless, there are many similarities between industrial production and a treatment process, from which opportunities for optimization can be derived.

Success factors in industrial manufacturing	Success factors in the treatment process
Fast production	Short stay
Short waiting times	Short waiting times
Low error and repair rates	Low rates of repeat surgery and infection
No unnecessary movements/paths at the assembly line	No duplicate examinations that are not medically indicated
Optimized inventories	Optimized capacity utilization
Optimized storage	Quick, error-free access to drugs, diagnostic equipment, and surgical resources
Minimized transportation	Few transfers
Efficient production planning	Efficient treatment planning
Reduced space requirements	Reduced space requirements

Source: Pfänder and Fischlein

### Optimization Potential in Service Billing

All over the world, hospital operators are working under the burden of complexity and bureaucracy. Even a seemingly straightforward activity such as filling a prescription order is fraught with unexpected intricacies. In the U.S., for example, it can be accomplished in 786 different ways, involving a number of different healthcare professionals and technological channels. Managing the requirements of many different health-benefit plans places a heavy administrative burden on clinicians.<sup>5</sup>

In many countries, the sheer number of cost bearers and diversity of covered services is already a challenge. Approximately 60 percent of Americans under age 65 obtain health insurance from more than 1.5 million different employers, which purchase insurance plans from more than 1,200 insurers. Moreover, in a typical year roughly 20 percent of health insurance policyholders change their plans, e.g. due to transitions in job status, changes in eligibility for public programs or decisions to enroll in another employer-sponsored or individual plan.<sup>5</sup> So in a new referral, patient data often needs to be re-entered in its entirety, instead of using existing records.

In Germany, there are more than 120 health insurance companies for the approximately 70 million people who have statutory health insurance<sup>9, 15</sup> – their membership numbers vary between nine million and just over 1,000.

For many medical or nursing services, a co-payment obligation exists, against which those insured through the statutory health system can at least partly insure themselves with private insurers. In addition, there are some eight million private patients and civil servants and retirees under Germany's »Beihilfe« plan. Consequently, the services not paid by the statutory health insurers are calculated separately. Constant reforms and changes in legislation also significantly increase the administrative burden. Add to that, particularly with innovative forms of therapy, a great uncertainty regarding billable services and immense communication barriers among the parties involved – hospitals, insurance companies, patients, pharmacies, etc.

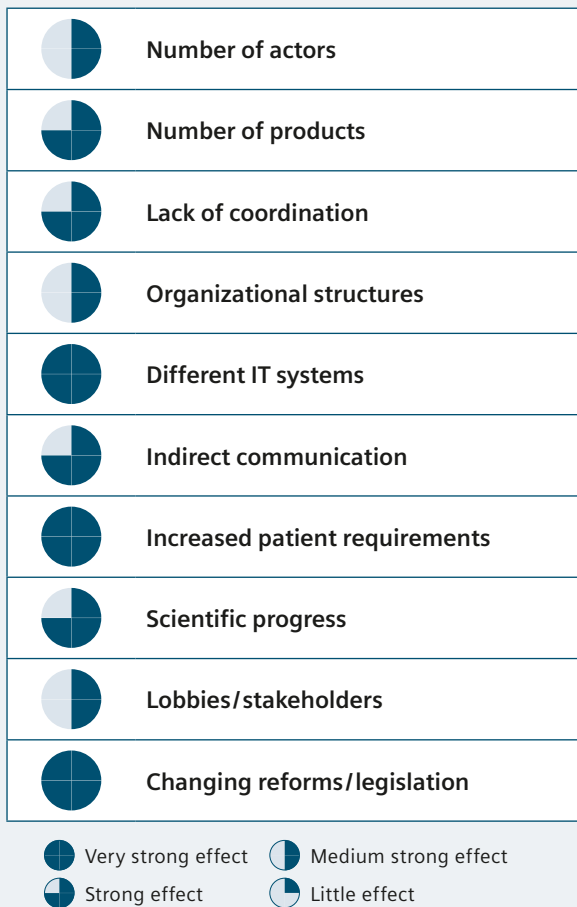
Physicians and practice staff who bill services for property and casualty deal with a process that can often be confusing and time-consuming. One of the most effective ways to reduce overhead costs is to optimize the recording and billing of services provided. In Germany, for example, one of the main reasons for the heavy administrative workload of medical staff is discharge letters, which involve correctly coding diagnoses and procedures and entering this data into the hospital information software.<sup>9</sup> This is a largely manual process, which then must be further processed by hospital administration staff.

In the U.S., healthcare providers handled more than 2.4 billion transactions manually in 2013. On average, only



## Complexity Drivers in German Hospitals

Incompatible IT systems, increased patient requirements, and changing reforms and laws are the greatest complexity drivers for German hospitals.



Source: A.T. Kearney

72 percent of eligibility transactions are performed electronically.<sup>16</sup> However, average adoption rates of fully electronic transactions varied widely, from 92 percent for claim submission to just 7 percent for prior authorization.

The potential for significant cost savings is enormous due to the large volume of transactions, as well as the dramatic cost difference between manual and electronic transactions. Healthcare providers' estimated costs per transaction averaged more than \$5 for a manual transaction and approximately \$1.60 for each electronic transaction. The findings indicate that U.S. healthcare providers could save a total of approximately \$7 billion annually by transitioning six

routine business transactions from manual to electronic.<sup>16</sup> This represents average savings potential of 86 percent compared to the costs of manual transactions.

In addition, U.S. hospitals lose billions each year through incorrect invoices to cost bearers: According to the AMA's National Health Insurer Report Card, one in every five medical claims is processed inaccurately by commercial health insurers. A 20 percent error rate represents a level of inefficiency that wastes an estimated \$15.5bn in claims that are never corrected and reprocessed.<sup>17</sup>

To manage the complexities around the healthcare reimbursement process, providers must hire more staff, further eroding their bottom line. Often, the cost to manage the process outweighs the payment itself.

### IT as Cost Reducer

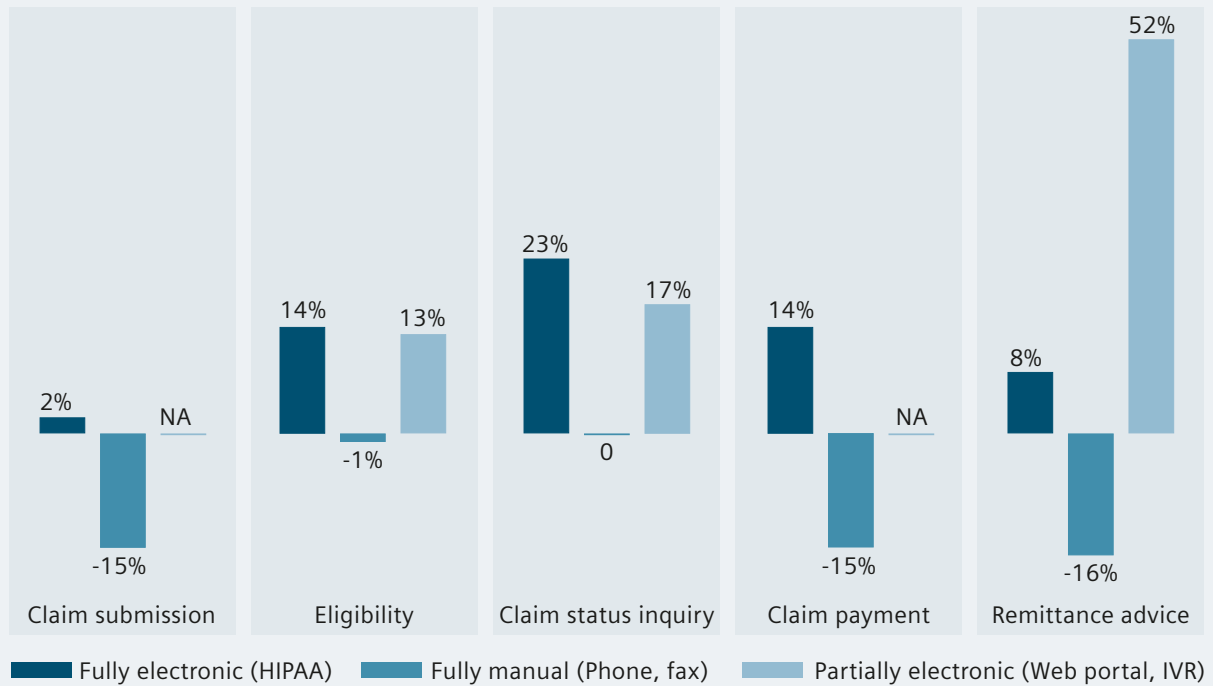
Healthcare is challenged by large amounts of data that is diverse, unstructured, and growing exponentially. Data constantly streams in real-time, through interconnected sensors, monitors and instruments. By 2016, some 4.9 million patients worldwide will use remote monitoring devices.<sup>19</sup> Even in 2010, an average U.S. hospital already had to manage one billion terabytes of data. The amount of data is expected to rise by a factor of 50 from 2014 to 2020. Combined with a growing need for providers and payers to retrieve, analyze, and share data, it's clear why healthcare organizations must consider migrating from their traditionally fragmented technology infrastructure to cloud-based solutions.<sup>20</sup>

One problem with today's IT systems is that their concepts are too rigid, they are often operated as standalone solutions, and they are not sufficiently interconnected. »The structure of the system makes it difficult, if not impossible, to establish binding communication processes solely between protagonists that are directly involved,« writes the management consultancy A.T. Kearney in one study.<sup>9</sup> »Competent treatment support that serves the patient must be established across existing boundaries of care. Only carefully coordinated processes within the system can guarantee an accurate management of processes,« is the recommendation by the study's authors for reducing the administrative burden. They add that communication processes through third parties should be eliminated, as lean information flows would reduce interfaces and thus save costs.

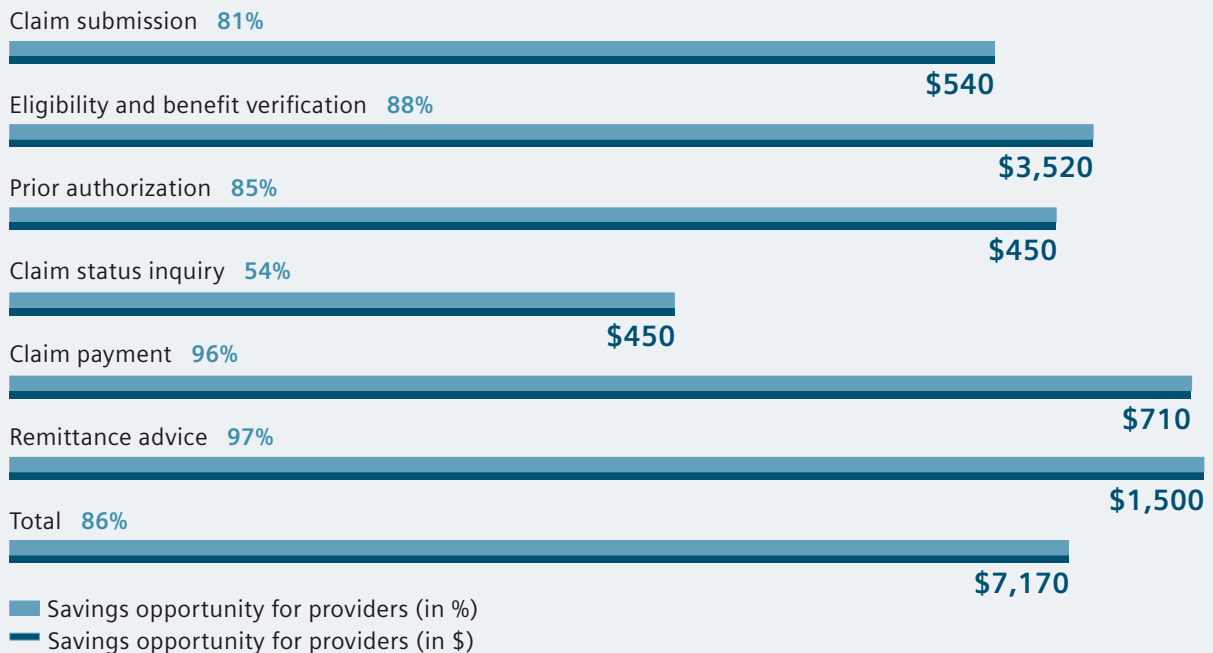
In many countries, a major hurdle lies in the narrow legal restraints on collecting, storing, and disseminating data, which thwarts technically possible leaps in development and cost reductions in the administrative sector as elsewhere. For instance, in Germany, an extensive network of databases and access to such facilities would currently be prohibited on privacy grounds.<sup>9</sup> National and European initiatives (e.g. eHealth – secure digital communications



### Change in Number of Transactions 2012-2013 (U.S.)



### Savings Potential through Increased Electronic Adoption for Healthcare Providers (U.S., millions of dollars)



Source: 2014 CAQH Index

in healthcare) are addressing this issue with the goal to provide a technically and legally sound basis.

Enhancing efficiency through comprehensive and flexible digitalization of hospital processes is essential in the long term to counteract the overhead cost induced by complexity and the lack of transparency.

### Where Healthcare IT Leaders Plan to Invest with a View to ROI

Security systems	47%
Application performance	38%
Cloud technology	31%
Backup and recovery tools	31%

Source: *Healthcarenews.com 2014*

### Singapore: 40% Reduction in Readmissions

#### A case study from Asia shows how overhead expenses can improve the overall financial performance of a hospital.

In 2008, Singapore's Ministry of Health set up the Agency for Integrated Care to reform long-term care delivery, particularly for the city-state's soaring elderly population. Among the initiatives was the Singapore Programme for Integrated Care for the Elderly (SPICE), a community program that uses both local care centers and home care to enable frail elderly patients to be cared for in the community instead of in a hospital, and Holistic Care for Medically Advanced Patients (HOME), a program that provides palliative care in the patient's home. Through the use of Electronic Hospital Records (EHS), eligible patients are accurately assigned to one of the two initiatives.

Funding models include capitated monthly payments and allow providers to pool and redirect resources toward care reforms that improve outcomes while also facilitating patient transitions to appropriate care settings. The funding model supports Aged Care Transition teams to help ensure the coordinated delivery of care after a hospital discharge. The teams consist of transition coordinators who access national EHRs, which are linked to patient registries, track all relevant patients, and transition them from a hospital to an optimal care setting. The transition coordinators manage referrals of patients and supply integrated information for case management to other providers, with a particular focus on high-intensity hospital users.

The outcomes have been positive. The Aged Care Transition teams have reduced 30-day hospital readmission rates by more than 40 percent. SPICE has halved the number of emergency department visits among its population. The annualized savings attributed to the Aged Care Transition program has been 17,000 hospital days, worth more than \$11 million.<sup>18</sup>

### Using Data and Diagnostic Equipment More Efficiently

Computed tomography, magnetic resonance tomography, X-rays, and other forms of imaging generate large volumes of data. More than one million tests a day are performed worldwide with Siemens imaging diagnostic devices alone. A significant portion of the information collected in imaging diagnostics remains unused, among other things because it is stored in different formats and at different locations. Experts estimate that in the U.S. healthcare industry alone, the efficient use of all this data could save hundreds of billions of overhead dollars.<sup>21</sup>

A systematic networking of diagnostic equipment as well as the overarching analysis of operational data can give large hospitals, hospital groups, and diagnostic centers an overview of their equipment fleet utilization. Information about the nature, timing, and duration of the examination could be used, for example, to optimize the utilization of the devices. Hospital groups can determine whether their equipment is being used efficiently and for the right examinations at its current location. Workflows can also be improved. For example, body coils have to be rearranged for different magnetic resonance imaging investigations. Knowing the time this takes allows for a more efficient and tighter organization of scanning sequences.

## In a nutshell

# Overhead Challenges in Healthcare

- 01 The most important prerequisite in eliminating avoidable overhead costs is to precisely define and record these costs, and allocate them properly. This is crucial in order to control these costs in a sensible way.
- 02 In terms of value, overhead costs are not necessarily economic burdens. They can contribute to higher levels of cost efficiency and care quality. However, costs that do not contribute to a higher quality of care should and must be reduced.
- 03 Hospitals in countries with particularly complex health systems and highly competitive markets tend to operate under the highest overhead costs.
- 04 There is considerable potential for optimization in the area of service accounting. The increasing use of electronic transactions helps to avoid unnecessary overhead costs.
- 05 Like other industries, healthcare providers have financial considerations. Benchmarking with other industries and investing in a management team that is well trained and experienced in business administration helps optimize overhead costs.
- 06 Comprehensive, flexible digitization of healthcare processes can be key to increasing cost transparency and process quality, systematically controlling overhead costs, and ultimately increasing cost efficiency and care quality in the long term.

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*Our goal is to be your inspiring partner helping you to achieve better outcomes and reduce costs. As a starting point, we developed this set of white papers to help identifying key challenges in your healthcare organization with some first outlines on improvement methods.* ««

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