



Controlling healthcare costs by improving the productivity of medical service providers

Petter Kilefors, Daniel Winther and Joban Ström

Rising patient expectations, an aging population and often a shortage of medical staff are combining to create a major cost challenge in healthcare. We explain how healthcare service providers can meet this challenge by improving productivity in the crucial area of the medical clinic. We show how applying lean philosophies and methods to medical clinics can increase productivity by 40 % on average, while at the same time improving patient and staff satisfaction.

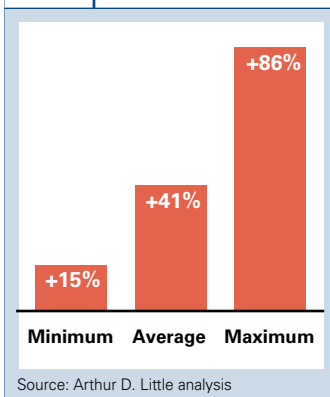
The global business climate may be recovering from severe illness, but the forecasts look dull when it comes to healthcare spending. The availability of new and better therapies, more sophisticated diagnostic tools and healthcare tourism are raising patients' expectations and requirements for healthcare. Add to this an aging population and a shortage of qualified medical staff, and you end up with a seemingly impossible equation with regards to financing.

Most developed countries are indeed facing a major cost challenge. During the period 1997-2007 the share of healthcare spending as a percentage of GDP increased in all 30 countries in the OECD health data report base. In some countries, the quantity of healthcare supplied is level but costs are increasing. In others, there is a need for more healthcare to the same or even lower cost than before. In both cases there is only one way out: increasing the performance of the healthcare service providers.

In this article we will explain how healthcare service providers can considerably improve one aspect of healthcare performance, namely productivity in the medical clinic. Productivity is defined as the throughput of patients for a certain resource input. Based on our experience at 30 medical clinics, the application of "lean" philosophies and methods can lead to a productivity increase of some 40 % on average, while at the same time improving patient and staff satisfaction (see Table 1).

While most people working in medical clinics are aware of the importance of productivity, few have reflected on how to measure it. Even fewer have reflected on its principal drivers. There are two main drivers of productivity in a medical clinic, as is the case with any other service operation: the productive time of staff, and the efficiency of that productive time. In other words, to improve productivity, medical clinics should have two priorities:

Table 1 **Productivity improvements achieved at 30 clinics**

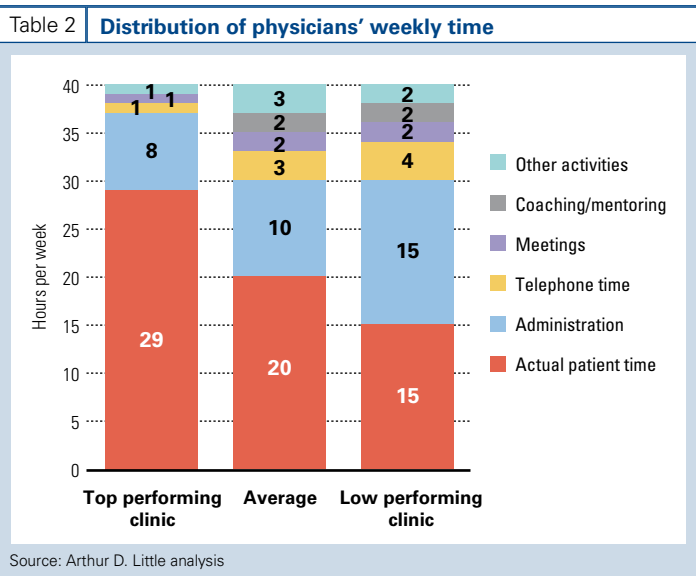


1. To increase the productive time of staff, i.e. spend a larger share of each day with patients
2. To make the best use of productive time, i.e. use the actual hours with patients more efficiently.

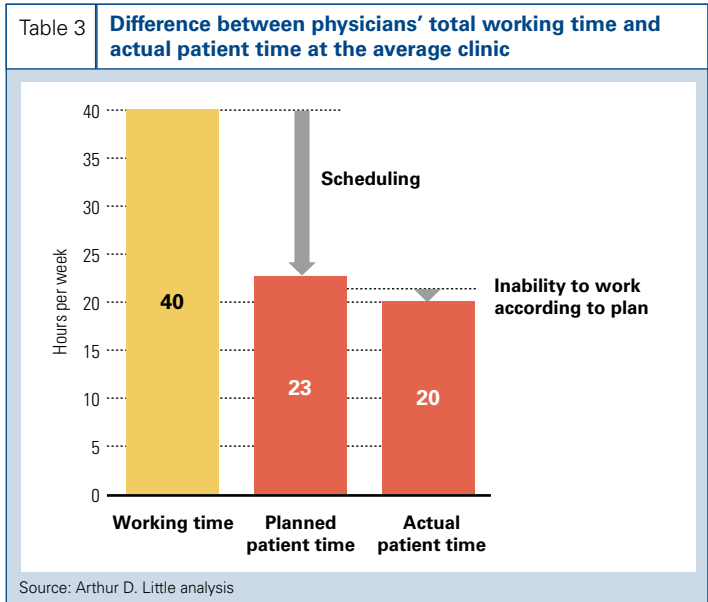
1. Increase the productive time of staff

Through our studies at 30 private and public medical clinics of various sizes and specializations, we have observed large variations in the productive time of physicians (see Table 2). In clinics where a large share of working time is devoted to activities other than spending time with patients, productivity, of course, is low. Physicians at the most productive clinics in any given week spend almost twice as many hours with patients as those at the least productive clinics.

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Two factors explain the variation in actual time spent with patients: the number of planned patient hours per week, and the difference between planned and actual patient hours per week (see Table 3). The former is determined by scheduling, while the latter derives from the inability to work according to plan.



The matter of identifying and reducing time losses has been on the agenda in several industries for decades. In the wake of Lean Management, the manufacturing industry developed and adopted a methodology called Overall Equipment Effectiveness (OEE) in order to identify, classify and reduce time losses. In medical clinics, where physicians, nurses, physiotherapists and other staff constitute the productive resources, different kinds of planned and unplanned activities drive the time losses.

Some time losses are inevitable – no physician or nurse can spend all working hours with patients. Administration, telephone calls, meetings and other activities also need to be scheduled. However, the most productive clinics ensure that these activities are handled in the most efficient way by systematically evaluating the who, what, when and how of each activity. The clinics ranking lower in productivity have not made such a systematic evaluation and suffer from inefficiencies such as:

- Lack of administrative assistance – secretaries are underutilized, which puts most of the administrative burden on physicians.

- Unstructured handling of telephone calls from patients and third parties, which leads to extra work and lack of prioritization between patients.
- Extensive external commitments, such as community activities and professional networks, that do not generate revenues.
- Non-productive meetings with ambiguous agendas and purposes, and more participants than needed.

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The inability to work according to plan, which explains the difference between planned and actual patient time, is often the consequence of factors such as:

- Supply not meeting demand for a certain treatment, due to the lack of attention to customer requirements or visiting patterns, rendering planned patient time unused
- Missing or incomplete information on, for example, the patient's medical record, causing a re-scheduling of the appointment, or extra time needed to find the correct information
- Poor booking of patients, resulting in unused time between seeing two patients
- Patients showing up late, or not at all, which happens frequently in some areas, such as visits to a psychologist.

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2. Make the best use of productive time

Medical clinics with high productivity have a common characteristic with regard to how they use the actual time spent with patients: they maximize the proportion of that time devoted to value-added activities. They do so by paying attention to the following factors (see also Table 4):

- Reduce treatment cycle times, while maintaining medical and service quality.

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Testimonial from Endokrinologikum Hamburg

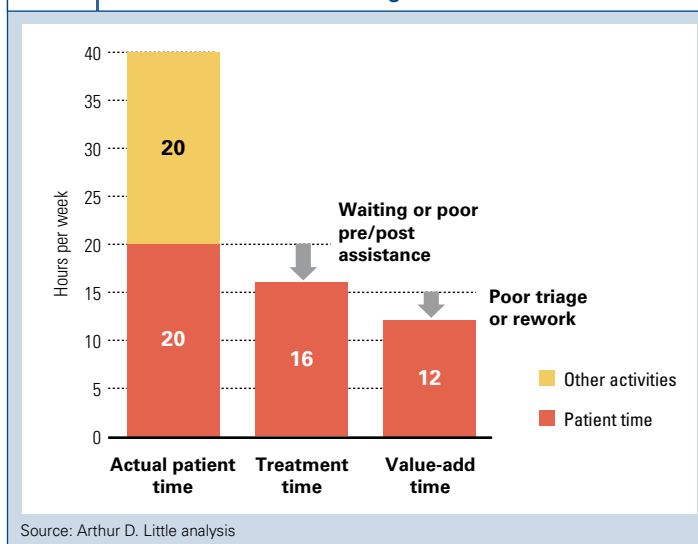
The Endokrinologikum Hamburg is one of Europe's leading specialist diagnostic and care units for hormonal and metabolic disorders. It employs 140 physicians and operates 13 facilities across Germany.

Dr Bernhard Frieling, managing director, says: "The entire healthcare sector in Germany has started to deploy proven management techniques from other industries, such as the outsourcing of services and materials management. But medical staff productivity remains the major value driver and the key differentiator between care units. Part of the variance in productivity is due to individual diagnosis and treatments required for patients – a steady flow of patients and specialization of diagnostics and treatment units helps to level this. Moreover, the hierarchical organization of classical hospitals prevents traditionally trained physicians from collaborating and optimizing beyond the boundaries of their own units. Currently, new-built hospitals serve as lighthouse projects for the ongoing transition of the healthcare industry. Lean work flows and material flows are already built into the functional layout of these state-of-the-art facilities."

- Minimize changeover time between patients through the smart organization of the physical layout, thus minimizing staff movements.
- Standardize how symptoms are assessed and handle each patient at the lowest effective treatment level.
- Build in follow-up mechanisms to promote continuous improvements through simple but effective feedback routines.

Let's look at each of these in more detail.

Table 4 **Difference between physicians' actual patient time and value-add time at the average clinic**



a. Reduce treatment cycle times

Highly productive clinics treat more patients per actual patient hour. They achieve short treatment cycle times by paying attention to the following:

- Separation and optimization of patient flows within the clinic. For example, they separate urgent patients from chronic patients, as defined in the triage model. By re-designing the arrangement of the facilities (including laboratory, surgery, etc.), they optimize collective patient and staff logistics.
- Pre- and post-treatment assistance. In many cases, preparing and finishing a patient treatment consumes as many minutes as the treatment itself. Highly productive clinics allocate an assistant nurse to one or more physicians.
- Laboratory testing prior to the patient meeting the physician. Nurses can prescribe laboratory tests for a set of standardized symptoms, following a predefined logic. Having the test results during the physician consultation improves the quality of the assessment and saves physician time.

- Reduction of waiting times through optimized and flexible staffing. Highly productive clinics use a fact-based approach to staffing the functions within the clinic, where known hours of higher workload imply more extensive staffing. These clinics also have defined routines for handling deviations from the normal through built-in flexibility.

b. Minimize changeover time between patients

Highly productive clinics set up double examination rooms for physicians. The assisting nurse can thereby prepare the next patient during the physician's examination, and support as well as answer questions from the previous patient. By allowing the physician to focus on the actual treatment, the physician's productivity is raised considerably.

c. Standardise how symptoms are assessed

The patient triage model of highly productive clinics is based on a standardized reference document for how to assess symptoms. A governmental body, external research or the physicians themselves can define this reference. It drives the reduction of variance in how assessments and prioritizations are made. The triage model defines the appropriate treatment level – physician, nurse, physiotherapist, psychologist or any other – given a certain symptom (or combination of symptoms). Furthermore, the triage model ensures that a clinic abides by the principle of treating the patient at the lowest effective level possible, which leads to the highest level of collective productivity. The triage model also raises quality for patients, as specialists can spend more time in their area of expertise.

d. Build in follow-up mechanisms to promote continuous improvements

Highly productive clinics ensure follow-up and feedback for continuous improvement of their systems. They integrate these into the daily work, to ensure feedback between staff categories and realization of the targets that have been defined for the clinic, e.g. whether the sorting of patients based on the triage model is done correctly. They

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define simple yet effective routines for learning and improving, day by day.

Testimonial from Primärvården Göteborg

Primärvården Göteborg is a Swedish public organization with 1,400 employees. It operates some 70 different organizational primary care units, covering among other areas district health care services, maternal health services, pediatrics, gynaecology and rehabilitation services.

Christina Malmer, head of business development and regional manager, says: "In order to achieve better availability of medical staff, where the patient is also in focus, several things are required. We have to work to transform the attitude of our employees and think more in terms of competitiveness. Our operational managers need to focus more on continuously developing the way we work. This is a huge cultural challenge – we have to change our employees' thinking so that everything we do benefits the patients. The "lean" concepts have helped our employees to understand that they are all part of a process, i.e. to better recognize the relationships between the cause and effect of what we do. One example is the need for careful planning of the unit's capacity. Another is the need for creating a balanced and even work flow. Historically our starting point has been ourselves, but today we start from the patients' perspective. In this sense all staff are equally important because it is crucial that everyone works at the same pace."

The key to these improvements is managing the time available as wisely as possible in order to get the most out of staff. "Lean" concepts help to increase standardization, reduce variations and eliminate unnecessary activities, i.e. waste.

Insights for the Executive

The need to rein in galloping healthcare costs is universal. Improving the productivity of healthcare service providers in general and the medical clinic in particular can contribute to achieving that objective in important ways. We have found that medical clinic productivity improvements of 40 % can be achieved by applying lean thinking and methods. These methods lead, first, to more clinic time actually spent with patients and, second, to a better "flow" of patients during that time.

The key to these improvements is managing the time available as wisely as possible in order to get the most out of staff. “Lean” concepts help to increase standardisation, reduce variations and eliminate unnecessary activities, i.e. waste. Improvements that allow staff to spend more time with patients and – during this time – to work smart and consistently lead to a threefold reward: better economics, increased staff satisfaction and increased quality for the patients.

Four factors are critical to successfully implementing a lean approach:

- Conduct a fact-based analysis. Without facts, staff will not have a shared picture of the root cause of shortfalls in productivity.
- Design solutions based on the facts. Involve staff from different professional groups in order to reach a solution based on the full picture.
- Run pilots. Start with one or a few clinics, follow up the results, learn and adjust the approach as required.
- During the roll-out, use staff from pilot clinics to convince others. Follow up results and communicate the improvements.

Petter Kilefors

... is a Director in the Stockholm office of Arthur D. Little. He is the Global Leader of the Strategy and Organization Practice

E-mail: kilefors.petter@adlittle.com

Daniel Winther

... is a Manager in the Stockholm office of Arthur D. Little

E-mail: winther.daniel@adlittle.com

Johan Ström

... is a Consultant in the Gothenburg office of Arthur D. Little

E-mail: stroem.johan@adlittle.com