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The Åkermyntan Primary Health Care Center:

Integrating "See-and-Treat" in Primary Health Care

We have no thresholds – everyone is welcome.
You decide when you feel you have the need to come.
– Staffan Bjessmo, MD, PhD

A thoracic surgeon by training, Dr. Staffan Bjessmo, MD, PhD, was used to the fast pace of care delivery at the tertiary university hospitals and academic medical centers he worked at. Having spent the last few years in management positions and as an entrepreneur for a start-up focused on improving collaboration and information transfer among doctors, Dr. Bjessmo was interested in returning to the fundamentals of health care – meeting and treating patients. In May 2013, Dr. Bjessmo began to work as a primary care physician at the Åkermyntan Primary Health Care Center. There, he quickly identified an area for improvement – unscheduled patients who come for drop-in consultations, mainly with colds and infections.

The approach that developed, a standardized drop-in clinic dubbed *Lättakuten* or "Emergency Department-lite", was based on five principles. The first was that patients should always be welcome. The second that patients should always meet a physician. The third that a standardized form specific to a patient's symptoms be used to collect patient and diagnostic information and form the basis for documentation. The fourth that there should be staff and facilities dedicated to the diagnosis and treatment of this patient category. The fifth that those patients with either chronic conditions, multi-morbidities or life-threatening conditions be directed to the appropriate level of care as per the established routines.

After a successful pilot test of two-days per week, opening hours were extended to banking hours during all five week-days. Questionnaires distributed to all who visit *Lättakuten* show that patients feel that they are very well treated by the doctors and staff. The doctors involved feel that the

administrative burden has decreased and that treating more patients is a source of positive energy. Compared to the same month a year before, Åkermyntan has now seen a 28% increase in the number of patient visits, a 25% increase in the profit margin and a drop in staffing costs.

Overview of Primary Health Care in Sweden

Health care in Sweden is managed by 21 autonomous administrative regions consisting of 17 county councils and 4 other administrative regions. They act under government laws that afford them both the right and the obligation to provide health care to their local population on the basis of need. This publicly financed (through taxes) care is organized in payer and provider systems and is responsible for the majority (80%) of total health care expenditures (Health Consumer Powerhouse, Euro Health Consumer Index 2013 report) on a county level.

Primary health care (PHC) is a key component of the Swedish health system. It retains the responsibility to diagnose, treat, and monitor patients with diseases such as acute but minor as well as chronic conditions that do not need hospital resources (e.g. those that require specialist competence or highly technical equipment). PHC acts therefore as the first line of health care that a person contacts when in need of care. When needed, PHC physicians help patients come in contact with other health care providers through referrals to specialist care as well as coordinate between care givers (*Vårdval i Sverige*, SOU 2008:37).

A wave of reforms influencing primary health care: Patient choice (*Vårdval*)

A wave of reforms introducing patient choice of care facilities and doctors as well as privatization (*Vårdval*) was initiated in 2007. The main objectives behind the reform were to strengthen the role of primary health care in and to improve performance, specifically in terms of access and responsiveness. Following a typical Swedish reform pattern, the reforms began as local initiatives among the 21 individual county councils. New primary health care models were developed and implemented first in the county councils of Halland (January 1, 2007) with Västmanland and Stockholm introducing similar reforms a year later. In February 2009, the Swedish Parliament decided that the choice of primary care provider should be a right for the entire population. They also made it mandatory from January 1, 2010 that the market be opened up for the establishment of accredited private providers who fulfilled requirements determined by the local county councils.

Reimbursement models

The patient choice reform had major implications on the reimbursement system in primary health care, even though it is designed and operated by each county council. Reimbursement systems in primary health care are and have been, centered on capitation. Capitation is a system of fixed compensation based on the number of registered patients adjusted for case-mix (factors such as age, complexity of the clinical group, and socio-economic characteristics. Capitation is often combined with a fee-for-service component based on the number of visits (defined as care production) and achievement of target goals. The size and type of the variable component of the reimbursement model used varies between counties. For example, the Stockholm county reimbursement model has a very large fraction of variable compensation, and includes (Lindgren 2014):

- 60% capitation for registered individuals weighted by age
- 40% payment per visit for all patients, registered or not

- Performance compensation consisting of increased or decreased fixed payments equal to 3% of total payment for registered individuals depending on the attainment of 17 target goals. These include access via telephone services within one-minute and compliance with recommendations for which medications to use from regional committees.

Since increasing access to GP services was an important objective behind the patient-choice reform in Stockholm, the pay-for-performance approach could be expected. A study conducted on the productivity of care after the patient-choice reform found significant differences across both public and private providers, which indicate the potential for additional productivity improvements (Rehnberg et al 2010).

Primary Health Care in Stockholm: The Stockholm Future Health Care Plan

Stockholm County is the largest county in Sweden and provides health care to 2.15 million inhabitants. Over 200 Primary Health Care Centers (PHCCs) exist within the Stockholm County. Approximately 50% of the primary health care production in Stockholm is provided by private actors.

The Stockholm County Council (SCC) aims to deliver accessible, high quality, safe and cost-effective care (Vision 2025) to its rapidly growing and aging population with a broad spectrum of acute and chronic conditions. To achieve this aim, SCC has developed a long-term strategic plan – *The Future Health Care Plan* – that calls for major structural and financial reforms. Many of these are already in progress.

In brief, the care delivery process is to be seen as a network of service providers collaborating with and around the patient. Services will therefore need to move out of the hospitals as much as possible and primary health care physicians will help patients to navigate through the network of care providers. To develop this network, several strategies, such as health promotion, e-health services, and close collaboration between primary care physicians and other specialists are recommended. While the central role of primary health care is emphasized throughout all strategic documents, the implications of these reforms on primary health care have not been analyzed. Furthermore, the strategy document and investment plans overall pay cursory attention to primary health care.

Åkermyntan Primary Health Care Center

The private care provider with roots in Norway, Legevisitten AB, founded Åkermyntan Primary Health Care Center in September 2010. Åkermyntan Center is located in a suburb within the Stockholm County. The location was chosen for two reasons. A now defunct PHCC had been previously located in Åkermyntan Center several years before and many of the patients in the area went to the county-managed Hässelby PHCC located 2.5 km south-west of Åkermyntan. The result was that the PHCC had 20,000 listed patients. This suggested the possibility to attract patients back from Hässelby PHCC.

A core group of multi-professional staff consisting of doctors, registered nurses (RNs), lab technicians, and others were instrumental in starting up Åkermyntan PHCC. The manager was herself an experienced RN and recruited new staff through her network of contacts at other PHCCs. Services offered included a primary health care practice, a pediatric health care center, and a maternal health care center, all open during weekday office-hours. In September 2010, a clinic for minor acute

conditions was opened in the evenings (17.00-20.00) and weekends (10.00-16.00). The clinic was staffed with a doctor, an RN, and a receptionist who worked closely as a team. Patients called during regular office hours and received a time-slot in the evening. Despite the popularity among patients and the enthusiasm of the involved staff, in March 2012, this evening and weekend service was discontinued due to lack of profitability, as the number of listed patients could not support the extra costs and due to county regulations regarding opening hours.

A Growing Patient Base: A blessing and a burden

Åkermyntan was successful in attracting patients from Hässelby PHCC as many patients were unsatisfied with the long waiting times and poor care continuity. A PHCC for older patients located in a neighboring suburban center was closed in March 2011 and nearly all these 2000 patients chose to be listed at Åkermyntan. By January 2012, approximately 5000 patients were listed at Åkermyntan PHCC. This grew to 10,000 in November 2013 and reached approximately 10,700 in March 2014.

This fast pace of growth was not only beyond the expectation of the founders but also beyond the capacity of the facilities which were designed for 5000 listed patients. One year after opening, the manager coordinated the rearrangement of staffing and a psychologist who initially had a consultation room at Åkermyntan moved to another of Legevisitten AB's PHCCs in the area of Blackeberg located in Bromma, a suburb to Stockholm, Sweden. In April 2013, the use of a new building next to the PHCC was obtained and the pediatric healthcare center and the manager's office were moved to the new building. As the demand for pediatric services increased, an additional midwife was hired.

Several challenges emerged as patient demand increased. The increased number of patients listed at Åkermyntan PHCC had a negative impact on access to care, patient and staff satisfaction, productivity and thus profit.

With an increased patient volume, physician's capacity to deal with unscheduled patients had become insufficient. Patients called mainly during the morning and "acute" visits were scheduled for later the same day. As more patients called during morning hours, managing phone calls had also become a challenge. Indeed, as economic incentives were tied to the percentage of phone calls that were answered within one hour, many nurses were allocated to answer phone calls and additional RNs were hired which prevented them from seeing patients.

In order to accommodate the unplanned visits, time slots for acute visits were reserved in the physicians' schedules. However, as the number of listed patients increased, the time-slots reserved had become insufficient. Within the existing facilities, employing more physicians was not a viable alternative when there was no space for new examination rooms. Instead, the management team wanted to increase productivity with the existing staff.

Increased patient volume led to an increased demand for laboratory services. The laboratory of the PHCC was staffed with one medical laboratory technician who was responsible for all the tests needed –acute and chronic patients and of patients who visited the PHCC for tests only (for follow-up in later visits). This meant that there was a very high capacity utilization at the laboratory. This had a negative impact on staff work satisfaction.

Timeliness of providing acute services was particularly important as patients who were not able to get an appointment at Åkermyntan were referred to the city of Bromma's Local Emergency Unit (A local emergency unit (*Närakuten* in Swedish) is a freestanding unit which treats patients with acute needs who which do not need hospitalization. They are primarily staffed by Family Medicine specialists.). However, Åkermyntan's patients were not satisfied with this solution. As patient satisfaction and quality of care were of supreme importance for Åkermyntan's management, this was not considered acceptable. Furthermore, Legevisitten had to pay a fee to Bromma's local emergency unit for every Åkermyntan patient that visited or was referred to Bromma.

Lättakuten

Setting the stage

Dr. Staffan Bjessmo was recruited in May 2013, to work as a general practitioner. A specialist in thoracic surgery with a research background, he had previously worked in tertiary university hospitals and surgical emergency departments, as well as in local emergency units. He had also had several management roles, extensive involvement in improvement projects and lean applications in health care, as well as entrepreneurial experience from a start-up he founded to improve collaboration among physicians. Dr. Bjessmo was now interested in returning to the core of health care and the patient-doctor interaction.

In his new role as a primary care physician and with an entrepreneurial mindset in an entrepreneurially oriented PHCC, Dr. Bjessmo was excited to draw on his previous experiences to address challenges in primary care. He saw the same challenges faced at Åkermyntan in taking care of the high patient volume, especially the stress it created for RNs including the need to hire RNs who only task was to answer telephone calls within one-minute. Dr. Bjessmo proposed opening a similar evening and weekend clinic as had previously existed but to streamline the care process to make it more profitable.

During the summer of 2013, with listed patients nearing the 10,000 mark, discussions began again at the Åkermyntan PHCC about offering an evening and weekend clinic. County regulations had changed allowing for opening hours between 08.00-22.00, but the challenges were how to maintain economic viability and how to staff evening shifts with the current personnel without breaking overtime regulations. To hire additional personnel was ruled out as it would increase the scope of the project and raise the economic risk-level too high.

Why Not Increase Accessibility Through Patient Streaming?

The idea to streamline the care process for acute care patients during daytime was prioritized over evening and weekend opening ours. The rationales were three. First, physicians are the most expensive resource in health care and should therefore be highly utilized as this can also have a positive effect on quality of care. Second, a large fraction of patients visiting the emergency departments are not in need of hospital care, and can therefore be treated in the primary health care setting. Third, Dr. Bjessmo realized that the process for acute care patients could be more standardized as physicians often used the same phrases when they dictated patient information for the medical health records.

Physicians dictate patient care information that is digitally recorded. The file is then accessed by a medical secretary who transcribes the information into the patient's electronic health record. The information is then reviewed by the physician who approves it by means of an electronic signature.

During the summer of 2013, it occurred to Dr. Bjessmo that a standardized symptom-form (Exhibit 6) could make the doctors' dictation faster. Later, Dr. Bjessmo also saw the form as a way to involve patients in the care process. Instead of repeating the same questions for every patient, the form could be used to collect this basic information in a standardized way prior to the physician consultation. Moreover, the symptom-form could be used to select which patients were suitable for the acute clinic, i.e. by limiting care to those patients who had a suitable symptom formula. The symptom forms were developed between August and September 2013 by Dr. Bjessmo by discussing the developing forms with the other physicians at the PHCC.

The principles of *Lättakuten* are summarized in Box 1.

Box 1: PRINCIPLES OF *LÄTTAKUTEN*

- All patients that come are welcome
- Every patients should meet a physician
- A standardized form specific to a patient's symptoms is used to collect patient and diagnostic information and forms the basis for documentation
- Specific staff and facilities are dedicated to the diagnosis and treatment of this patient category
- Patients with either chronic conditions, multi-morbidities or life-threatening conditions are directed to other staff

Lättakuten: an answer to a care management challenge

Dr. Bjessmo's idea to develop *Lättakuten* was received well by the staff and the manager of the PHCC. *Lättakuten* was seen as an answer to efficiently and effectively manage the increasing number of listed patients. The facilities were reorganized during the night between 30 September and 1st October 2013 and the doors opened that morning. Initially *Lättakuten* was run only Mondays and Tuesdays between 8.30 AM and 12. Opening hours were expanded to three midmornings per week in December 2013. During October 2013, only Dr. Bjessmo worked at *Lättakuten* together with one of two licensed practical nurses (LPNs) who were responsible for taking all the lab tests. In November, the manager of Åkermyntan PHCC understood that everyone had to know how to run *Lättakuten*, otherwise the process would become too dependent on Dr. Bjessmo. As more physicians got involved in *Lättakuten,* those who seemed initially were sceptical to the concept became more supportive.

In January 2014, the manager at the PHCC received formal responsibility for the whole PHCC. One of the first changes she made was to adopt TakeCare as the EHR (electronic health record) system. Another important decision was to further expand the operations of *Lättakuten*. The latter happened in February 2014 when the manager decided to open *Lättakuten* 5 days a week between 08.30 AM and 12 as well as 1:00 to 2.30 PM.

Patient characteristics

On a regular day, 35-40 patients are seen in *Lättakuten*. Most patients seek care between 08:30 and 09:30 AM. The patient flow is about 12 patients per hour (Exhibit 8). The majority of patients seek help for upper respiratory symptoms, sore throat, skin changes, ear or urinary tract symptoms

(Exhibit 3). Upper respiratory symptoms and sore throats together constitute 50% reasons for seeking care.

Facilities

Lättakuten shares facilities with the PHCC (Exhibit 1). *Lättakuten* uses one waiting room, 1-2 consultation rooms, a laboratory and one corridor.

Patients enter *Lättakuten* either through the *Lättakuten* entrance or through the main entrance of the PHCC (Exhibit 2). The waiting room is used only by *Lättakuten* patients where they fill out symptom forms. The laboratory is used for taking tests and administrative work (payment, registration in the EHR system, etc.). The consultation rooms are used for physician consultations. The corridor is used for waiting (on a bench and chairs) and for displaying symptom forms on magazine holders hanging on the wall.

If needed and directed by the physician to do so, patients book follow-up consultations by walking to the district nurse's office to schedule the appointment. During the first month of *Lättakuten*, the main reception of the PHCC was used for payment. The payment capability was then moved to the laboratory room and is now handled by the LPN.

Care process

The care process includes meeting two different professionals, an LPN and a physician (Exhibit 4). Many patients are referred to *Lättakuten* after calling a district nurse to book an appointment (Exhibit 5). Upon entrance to *Lättakuten*, the patient, directed by signs or by the LPN if the signs are not seen or understood, finds the symptom forms on the wall. The patient takes a queue number, chooses a suitable symptom form, and goes to the waiting room to fill out the form while waiting to be called. The LPN calls the patient who follows from the waiting room into the laboratory for registration lab tests. The LPN asks about the symptoms the patient is experiencing and is guided by the symptom form to select the appropriate lab tests. After registration, tests and payment, the LPN places the symptom form in a stack, and the patient waits in the corridor for the physician. When the physician is ready for the next consultation, the LPN takes the next symptom form and calls the patient from the corridor into the physician's office for the consultation. The physician verifies the symptoms with the patient and performs a physical examination if needed. Physical examinations are semi-standardised and the results of the exam are recorded in fields on the same symptom form. The physical examinations are performed face-to-face and all instruments needed are in arm's reach of the physician's chair.

IT/information medium

Administrative and patient data flow through two mediums during a patient's visit at the *Lättakuten*: the symptom forms and the Electronic Health Record (EHR) system.

Symptom form

Each symptom form (Exhibit 6), of which there are 11 in total, is designed for a specific set of symptoms, and is comprised of three sections. The first section is based on a set of questions providers usually ask during consultations for patients who present with specific symptom sets, e.g. the localisation and duration of pain or the presence of cough, sore throat or cold-symptoms. In the second section, LPN records lab results in predefined boxes for any of the six lab tests available at the

Lättakuten (Exhibit 7). During the consultation, the physician verifies the information filled in by the patient and adds additional history notes into the third section of the symptom form. The physician’s section of the form includes fields for examination, diagnosis, and prescribed treatment. Common diagnoses and treatments for the symptom set are listed with checkboxes. The physician can add clarifying notes anywhere on the physician’s part of the symptom form. During the opening hours of *Lättakuten*, the physician keeps the symptom forms from all the visits in their consultation room.

Recording in the Electronic Health Record

After the opening hours, the physician delivers all symptom forms to a medical secretary who scans the forms into the EHR. While physicians seldom enter information or log into the EHR, they are able to enter patient diagnoses, prescribe drugs, write sick leave documents, and order additional tests not taken in the *Lättakuten* laboratory.

Take Care, an EHR system, is used at PHCCs in Stockholm, and is used in the *Lättakuten* for the administrative registration of the visit (for reimbursement), booking physician appointments, and ordering tests. The LPN registers most patients in the HER and doctors seldom use the EHR system during the consultations. The most relevant and up-to-date patient information is communicated through the symptom form.

Capacity planning

The number of patients seeking care at the *Lättakuten* has increased continuously from the start, and action has been taken to manage the increasing demand. Opening hours were increased from two mid-morning blocks per week to five mid-morning and five afternoon blocks per week. The *Lättakuten* personnel capacity was intended to accommodate one physician and one LPN. However, occasionally an additional physician is assigned to *Lättakuten* during “rush hours” between 08.30 and 10.00 (Exhibit 1). The economic feasibility of hiring another medical secretary specifically for the *Lättakuten* is currently under consideration due to the increased number of records to process. The *Lättakuten* does not have the capacity to allow for more LPNs at the moment, thus when patient flow is high, the lab becomes overloaded, and some patients are sent to the main lab of the PHCC for lab tests, which interferes with work flows. Thus, the actual capacity includes an additional laboratory and physician when needed.

Results

This section is organized around three sets of performance measures: measurements currently monitored by the organization, staff-reported perceived effects, and process performance. In short, *Lättakuten* had a very high patient satisfaction. The average length of stay (from entering to exiting the care process) was around 30 minutes. From the staff’s perspective the general tone was positive, however doctors, nurses, and the medical secretary all admitted increased workload and stress levels when patient flow was high. Some process deviation was observed mainly concerning patients who had difficulties entering the process.

Performance reported by the organization

Åkermyntan itself monitors two outcome measures to evaluate the performance of *Lättakuten*: patient satisfaction and the number of patients treated.

Patient satisfaction

Patients at *Lättakuten* are surveyed at the end of their visits. Aggregated results for 139 patients (data collected up to January 2014) are presented in Exhibit 9. The questionnaire used included seven questions that patients rate on a five-point Likert-scale ranging from 1 (“very bad”) to 5 (“very good”). The questions included the overall impression of *Lättakuten*, how safe the patient felt, how he/she was treated by the personnel, and how well information was provided and explained.

In general, patients were very satisfied with *Lättakuten*, expressing that they felt very well treated by staff and that the health care provided was safe. The only dimension that some of the respondents rated low was the clarity of the information given on arrival at the *Lättakuten*.

Staff self-reported perceived effects of *Lättakuten*

Based on staff interviews with 10 members of the Åkermyntan staff and the CEO of Legevisitten, AB, four main effects of *Lättakuten* were identified: effects on employees’ workload, quality of care from patients’ perspective, process performance, and monetary value for the PHCC.

Employees’ workload

Some employees reported a lighter workload because of standardized procedures, a decreased administrative burden, and increased energy from the satisfaction from helping more people. Others reported a heavier workload especially when patient flow was high.

Two doctors reported a decrease in workload while working in *Lättakuten*. These doctors also reported decreased administrative burden and greater satisfaction and motivation from helping more people in a shorter period of time. One doctor also reported that the standardized work procedures and relatively simple conditions of patients decreased the complexity of the work.

The lab technician in the main lab was positive to *Lättakuten* as many of the tests he had to take before were now handled by *Lättakuten*’s lab. The lab assistant also reported that the main lab could now focus better on chronic patients. Before the creation of *Lättakuten*, it was both time-consuming and stressful to handle both chronic patients, requiring more complicated care, and acute patients who wanted fast answers.

Since *Lättakuten* was established, the amount of phone calls to the PHCC had decreased by 25%. This freed time for the district nurses in charge of answering the phone.

However, not all interviewees reported a decreased workload after the introduction of *Lättakuten*. The medical secretary expressed that while she could see the benefits of *Lättakuten* for patients, from her perspective it had resulted in an increased workload. Because *Lättakuten* handled more patients, there was simply more administrative work to do. The symptom forms also led to more work since they were more time consuming to handle and enter into the HER which was often done by scanning in them in .pdf form.

Both doctors and RNs working in *Lättakuten* reported that the increased patient flow could negatively affected their work. It could be challenging to maintain focus and energy with 40-50 patients in one day. In the morning, it could become impossible to take a coffee break (something of a holy rite in Sweden where average coffee consumption is around 9 cups per day). On those occasions, one had to postpone the coffee break by one hour until the rush was over. One LPN found

that a high patient flow increased stress – a high patient inflow meant that patients would accumulate in the waiting room, which could become stressful. A high patient inflow also required improvisation – occasionally one needed to find another LPN or ask for help from the main lab.

Quality of care

Concerning the quality of the given healthcare, the general trend was positive. The doctors in particular felt that they could focus more on diagnosing and treating patients when much of the information they otherwise needed to gather themselves was already collected through the symptom form. One doctor believed that the quality of care for acute patients had increased since the start of *Lättakuten* because processes were more standardized. However, from a managerial level, concerns were raised around the symptom forms. While it was legal to scan in the symptom forms, some management personnel expressed concerns for patient safety.

Doctors felt they could spend more time listening to patients because information had been collected (symptom form and blood tests) before the consultation. As a result, patients felt well treated, heard, and therefore safe in the care of providers. Doctors reported that they could diagnose and treat faster, and more time was allowed for the detection of more severe diseases. For example, a middle-aged overweight man may come in with an symptoms indicative of an upper respiratory tract infection, but if the doctor has time to also take a blood pressure and discover the patient is hypertonic. Another physician had a patient originally seeking for cold symptoms, but heard the patient complain about pain in one of his calves. The doctor had time to examine the calf, and sent the patient too nearest emergency department with the suspicion of deep vein thrombosis.

All interviewees except one stressed the importance of the symptom form. Beyond the advantages already listed, the symptom form was reported to increase the reliability of information given provided the patient. One doctor found that as the patients began to think about their condition and answered questions about their symptoms while in the waiting room, they were better prepared to answer and discuss questions at the consultation.

However, a few interviewees noted a potential risk to patient safety in using the symptom forms. Both the CEO and the manager of the PHCC explained that scanning the symptom forms made it difficult to search for information in *TakeCare*. The physician with the medical responsibility commented that the symptom forms sometimes were not completely filled out, which also made the documentation process less reliable.

Process performance

In health care, productivity is defined as the total number of patients seen by a physician. After February 6, 2014, when operations were extended to all weekdays, an increase in productivity was observed (Exhibit 10a). This result was achieved despite a reduction in physicians from 4.7 FTEs in March 2014 compared with the 5.3 FTEs during the same month in 2013. During the same period, there was an increase by one FTE RN.

According to staff, the increase in productivity was the result of a more smooth care process. With an average of about seven patients per hour, the Average Length of Stay (ALOS) for patients at *Lättakuten* was about 30 minutes. About 35-40 patients were seen at *Lättakuten* per day, which corresponds to about double the productivity of the previous more traditional acute care process.

Flow efficiency is defined as the total length of stay divided by value-adding time. Value-adding time is defined as all activities that contribute to move patients closer to diagnosis and treatment.

The Value Stream Analysis presented in Exhibit 5 indicates a flow efficiency rate (i.e. value adding time/total length of stay) of about 52.48% (data calculated based on 110 patient visits observed during 4 days).

Revenue

Data from the 2013 Annual Report for Åkermyntan PHCC (excluding the paediatric and the maternal health care centres) is summarized in Exhibit 11. A revenue increase of 25% can be seen in March. However, it note that the PHHC must pay 45,000 SEK to the Stockholm County Council to compensate for an overproduction, i.e. number of patients seen is higher than the predicted number presented in the budget.

The Future

Given the recent and fast-paced nature of the development of *Lättakuten* at Åkermyntan PHCC, various aspects of the change need to be further analysed and new emerging challenges addressed. The challenges which emerged from this new way of working are related to handling of data, the workload of the medical secretary, and managing growth.

Currently, the symptom forms are scanned into TakeCare. To replace the need for scanning, discussions have been initiated with TakeCare to explore the option of designing digital symptom forms. Until then, other options are being explored, such as using assigning commonly used phrases to different keyboard combinations.

Due to the significant increase in the workload of the medical secretary, an investigation is in progress to find out if it would be economically feasible to hire another medical secretary with specific responsibility for *Lättakuten*.

Given that *Lättakuten* has continuously grown in number of patient visits and has been reported to contribute to more listed patients, a future challenge will be around managing this growth. The management of Legevisitten AB is interested in introducing the *Lättakuten* concept into its other PHCCs. Thus, managing growth is not only tied to patient flows in Åkermyntan PHCC, but also a questions of the development of a more overarching dissemination strategy.

Last, but not least, some aspects of *Lättakuten* have not lead to the intended consequences. For example, there are still many incoming calls during morning hours which was expected to decrease after introducing *Lättakuten*. That and other aspects need to be further analysed to be able to develop a more nuanced understanding of what about *Lättakuten* works, how and why.

Exhibit 1

Floor plan of the *Lättakuten* See-and-Treat facility

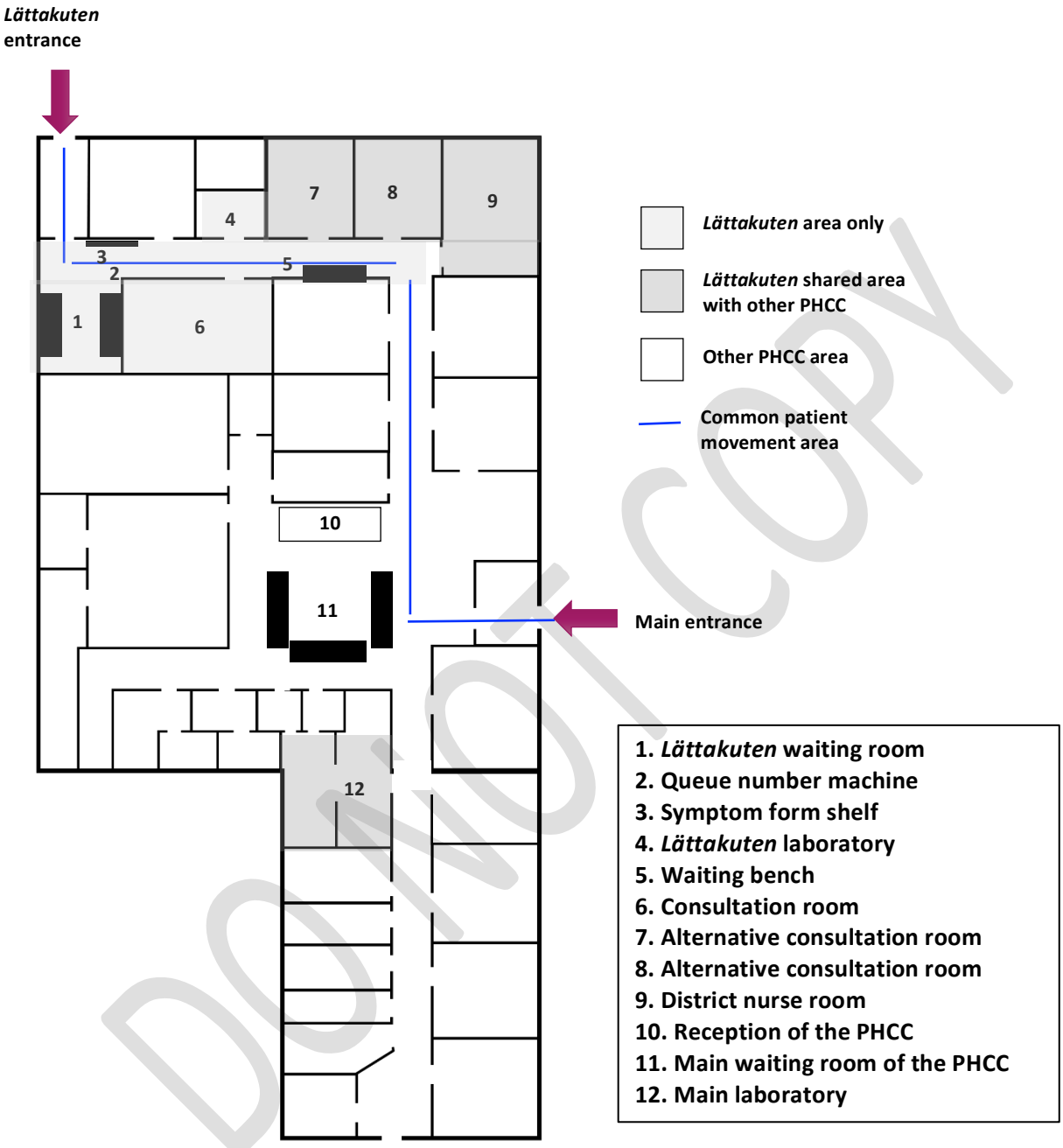


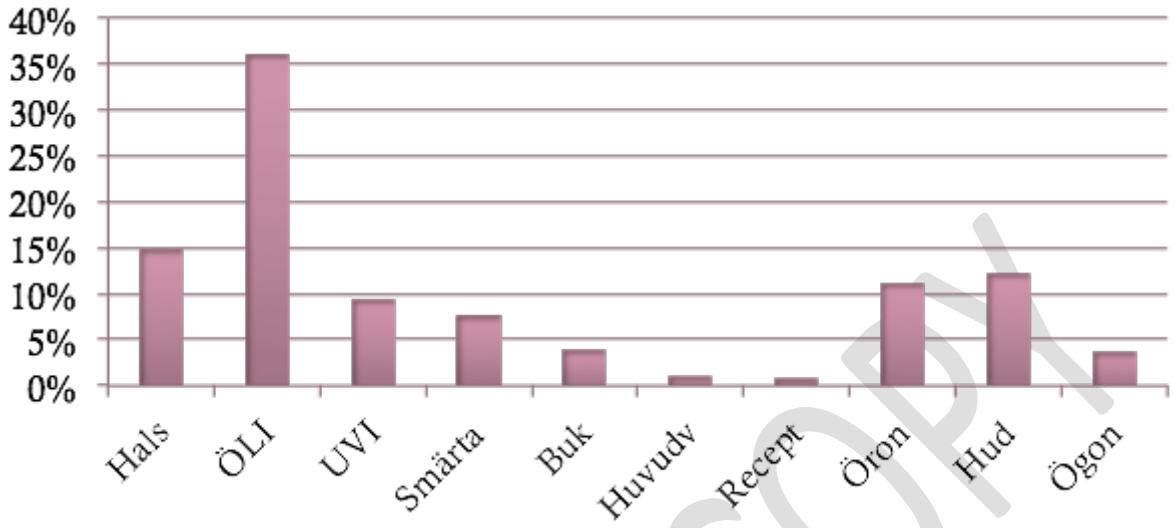
Exhibit 2

2a. Entrance to the Åkermyntan Primary Health Care Center

2b. Entrance to the *Lättakuten* See-and-Treat facility

Exhibit 3

Overview over the categories of the main presenting conditions of the patients seeking care at the *Lättakuten* See-and-Treat facility



Hals = Throat
ÖLI = Upper respiratory tract infection
ULI = Urinary tract infection
Smärta = Pain
Buk = Stomach
Huvudvärk = Headache
Recept = Prescription
Öron = Ear
Hud = Skin
Ögon = Eyes

Exhibit 4

The intended care process

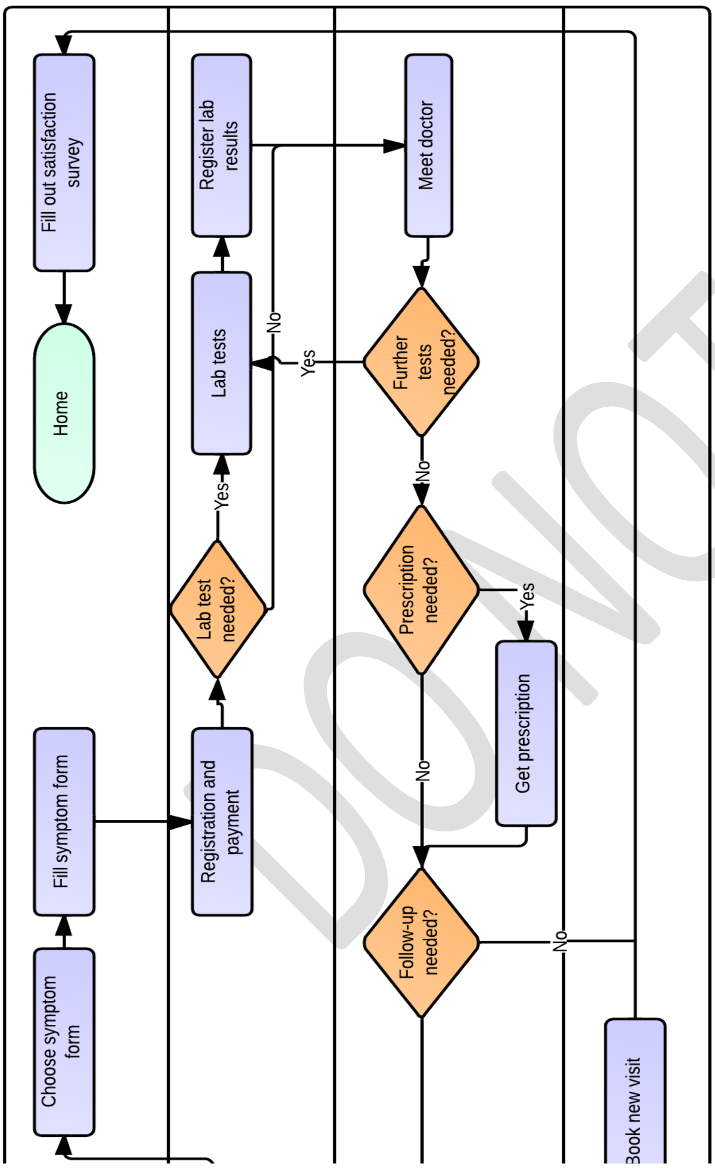


Exhibit 5

Value-stream map of the care process

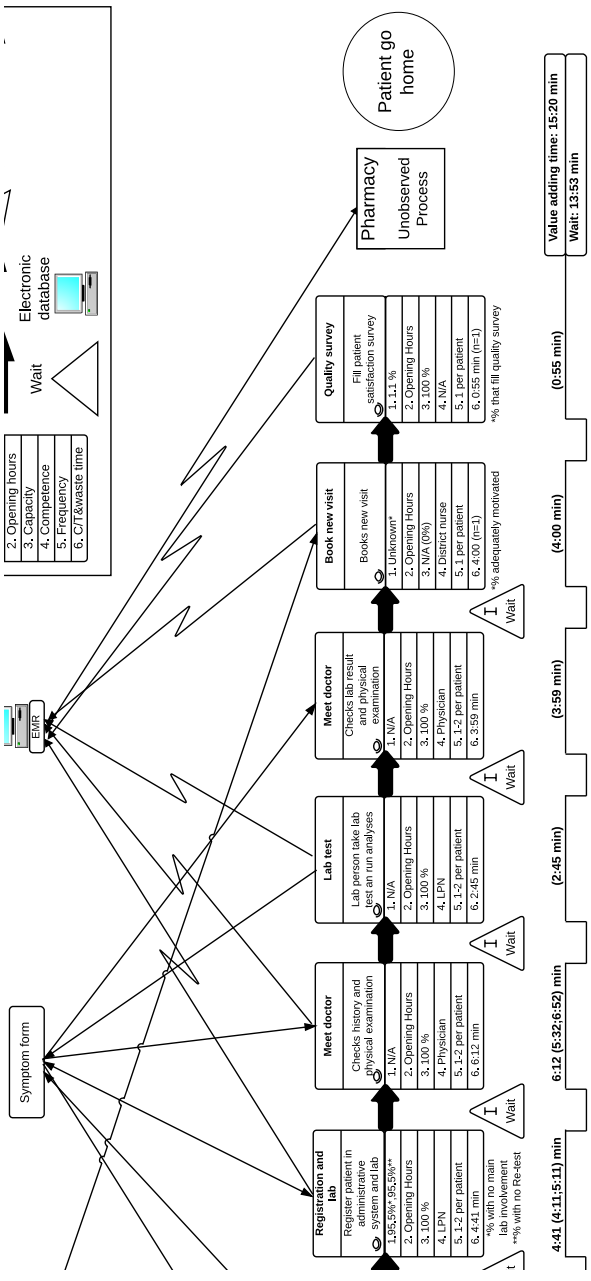
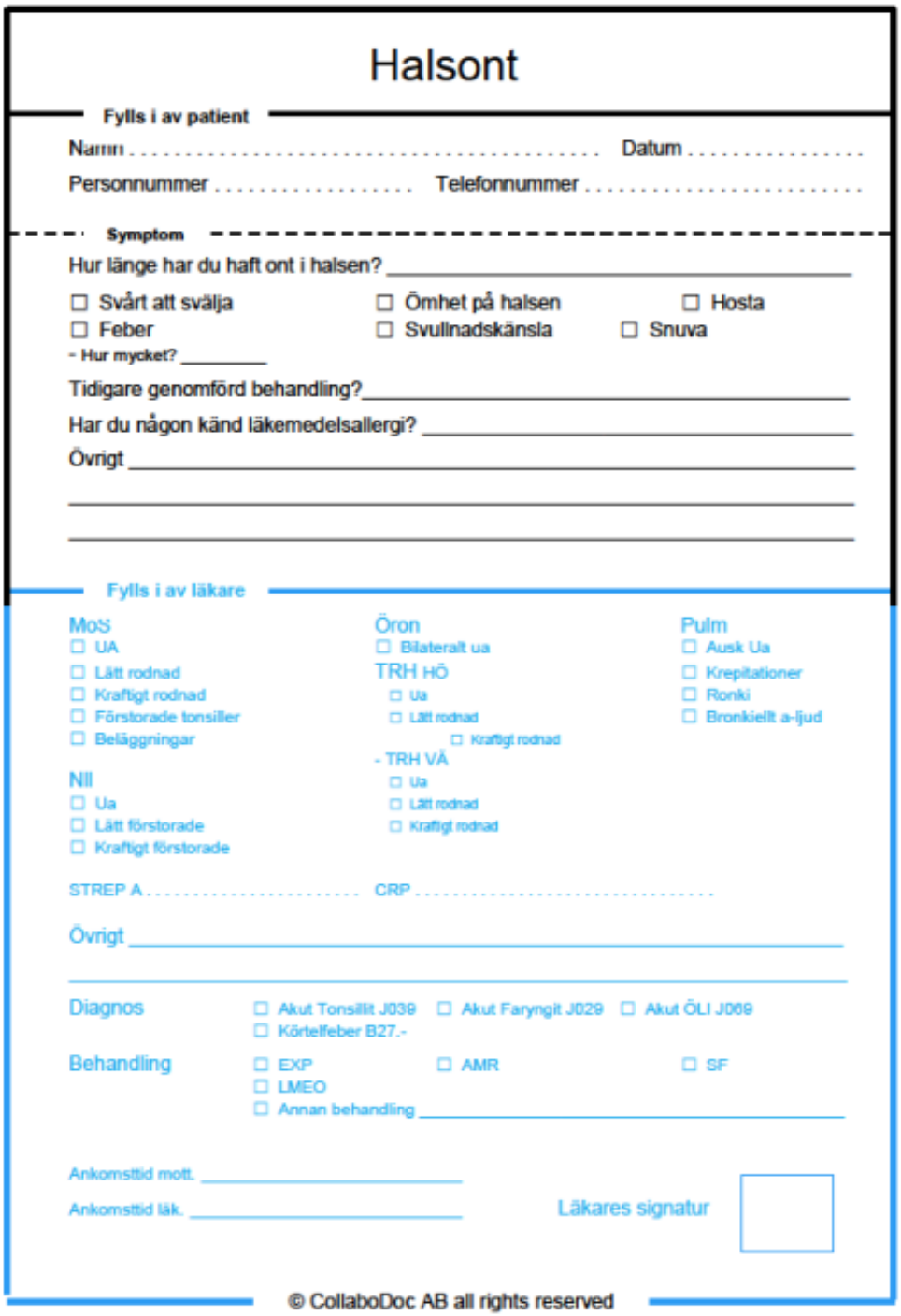


Exhibit 6

Example of a standardized patient form.



Halsont

Fylls i av patient

Namn ..... Datum .....

Personnummer ..... Telefonnummer .....

Symptom

Hur länge har du haft ont i halsen? _____

☐ Svårt att svälja ☐ Ömhet på halsen ☐ Hosta

☐ Feber ☐ Svullnadskänsla ☐ Snuva

- Hur mycket? _____

Tidigare genomförd behandling? _____

Har du någon känd läkemedelsallergi? _____

Övrigt _____

Fylls i av läkare

MoS
☐ UA
☐ Lätt rodnad
☐ Kraftigt rodnad
☐ Förstorade tonsiller
☐ Beläggningar

Nll
☐ Ua
☐ Lätt förstorade
☐ Kraftigt förstorade

Öron
☐ Bilateralt ua

TRH HÖ
☐ Ua
☐ Lätt rodnad
☐ Kraftigt rodnad

- TRH VÄ
☐ Ua
☐ Lätt rodnad
☐ Kraftigt rodnad

Pulm
☐ Ausk Ua
☐ Krepitationer
☐ Ronki
☐ Bronkiellt a-ljud

STREP A ..... CRP .....

Övrigt _____

Diagnos ☐ Akut Tonsillit J039 ☐ Akut Faryngit J029 ☐ Akut ÖLI J069
☐ Körtelfeber B27.-

Behandling ☐ EXP ☐ AMR ☐ SF
☐ LMEO
☐ Annan behandling _____

Ankomsttid mott. _____

Ankomsttid läk. _____

Läkares signatur

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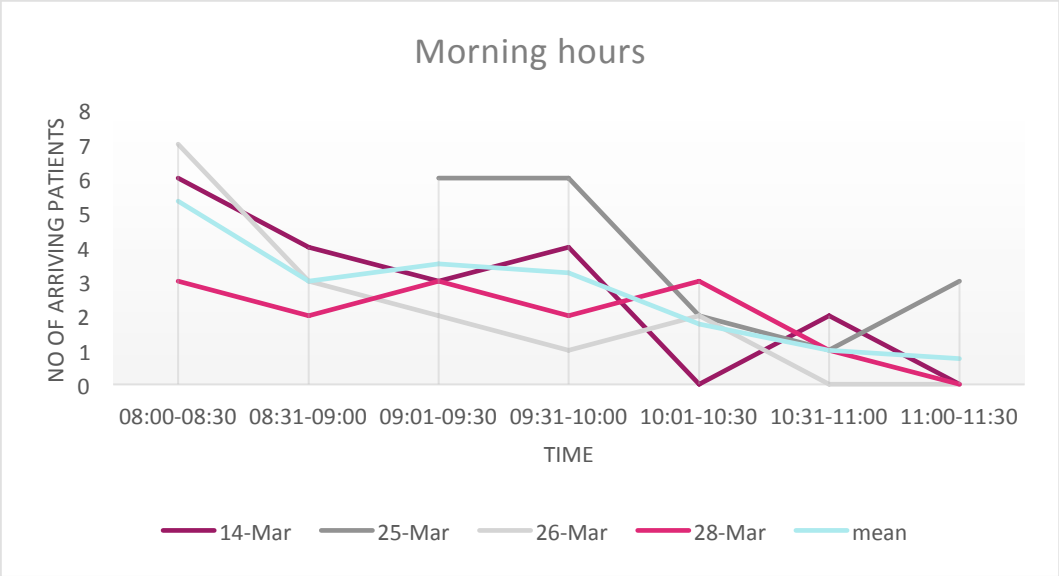
Exhibit 7

Overview of the tests used in the *Lättakuten* See-and-Treat facility.

Test name	What test shows	Analysis Time (excluding the time needed to take the sample)	Symptom forms that include the test
StrepA (QuickVue In-line Strep A test, QuickVue)	If Group A β-hemolytic streptococcus (GAS) bacteria are present in the throat	5 minutes (in practice often faster)	Cough-cold-sore throat, sore throat
CRP (i-Chroma Reader, Sycomed)	The level of C-reactive protein in capillary blood (elevated in infections).	2 minutes	Cough-cold-sore throat, sore throat
Hb (HemoCue Hb 201+, HemoCue)	Blood haemoglobin levels	30 seconds	-
Capillary glucose (HemoCue Glucose 201+, HemoCue)	Glucose level in capillary blood	8 seconds	-
Urinary dipstick (Clintek Status, Bayer Healthcare)	Leukocyte, nitrite, urobilinogen, protein, haemoglobin, ketone, bilirubin, glucose levels in the urine (parameters change in infectious states)	1 minute	Urinary tract
Clinical ear thermometer	Body temperature (fever can be indicative of infection)	A few seconds	Optional for: urinary tract, pain in knee or foot, sore throat, cough-cold-sore throat, acute abdominal pain, headache, ear-eye

Exhibit 8

Patient inflow to the *Lättakuten* See-and-Treat facility during morning and afternoon hours



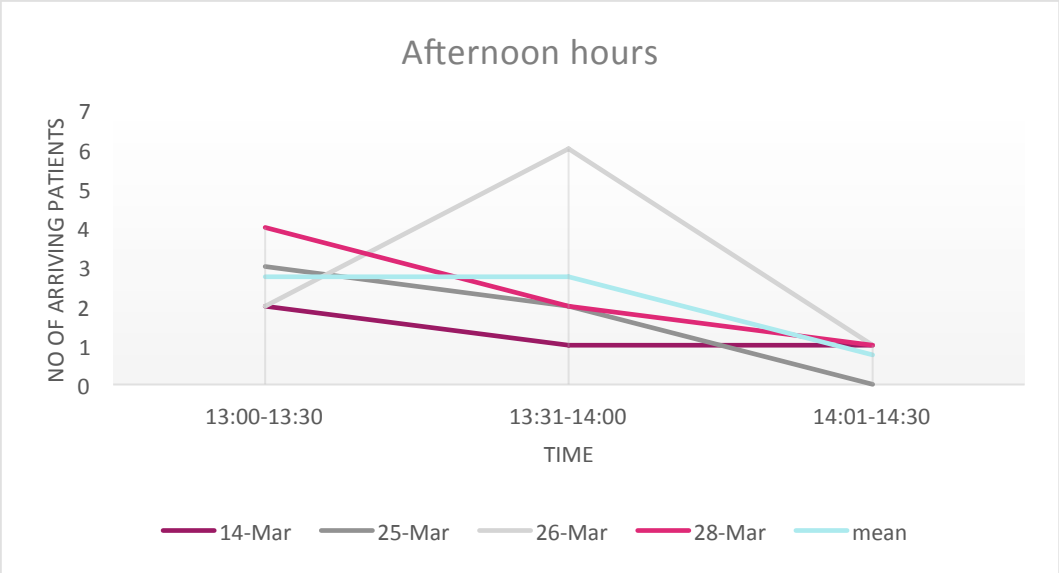
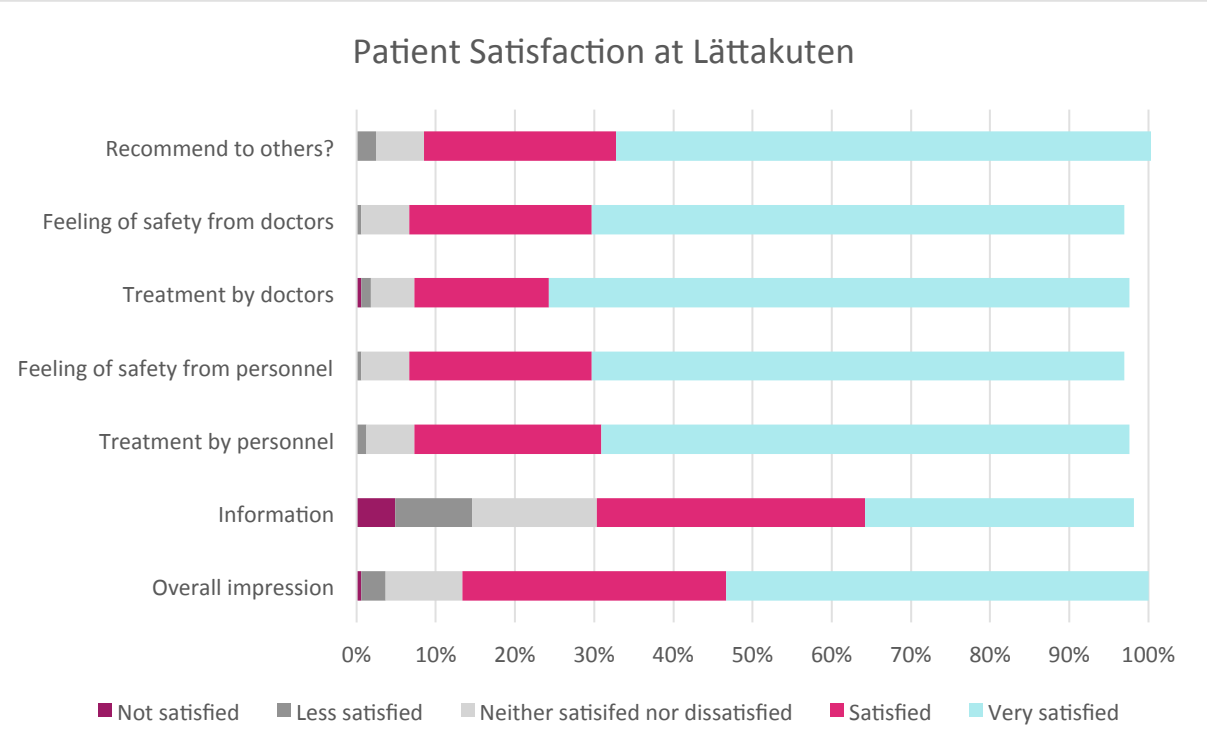


Exhibit 9

Patient satisfaction survey results from the *Lättakuten* See-and-Treat facility



	Not satisfied	Less satisfied	Neither satisifed nor dissatisfied	Satisfied	Very satisfied
Overall impression	1%	3%	10%	33%	53%
Information	5%	10%	16%	34%	34%
Treatment by personnel	0%	1%	6%	24%	67%
Feeling of safety from personnel	0%	1%	6%	23%	67%
Treatment by doctors	1%	1%	5%	17%	73%
Feeling of safety from doctors	0%	1%	6%	23%	67%
Recommend to others?	0%	2%	6%	24%	68%

Exhibit 10

10a. Productivity at Åkermyntan PHCC

	January 2013	January 2014	February 2013	February 2014	March 2013	March 2014
Expected physician visits in the budget	1493	1560	1419	1601	1345	1601
Actual physician visits carried out	1626	1635	1647	1838	1601	2080

10b. Data from the Åkermyntan PHCC Annual Report

	January 2014	February 2014	March 2014
Revenue	+ 49 000 SEK	+143 000 SEK	+ 333 000 SEK
Personell costs	+ 93 000 SEK	- 44 000 SEK	+145 000 SEK
Other costs (e.g. lab costs)	- 52 000 SEK	– 4 000 SEK	-44 000 SEK
Result	+ 90 000 SEK	+ 95 000 SEK	+ 434 000 SEK