Guest Editorial: E-consultations

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Introduction

The British and Swedish systems for primary care share features such as public funding based on capitation and persistent problems with long waiting times. Another more recent similarity is that traditional GP practices are being challenged by companies offering e-consultations via chats or video calls around the clock. In the UK, Babylon *GP at hand* (https://www.gpathand.nhs.uk/gp-clinics) is the most well-known example. In Sweden several companies compete fiercely on the market for e-consultations. Since the market emerged in 2016, it has grown remarkably: in 2018, e-consultations accounted for almost five per cent of all GP consultations in Sweden and around one per cent of total public expenses on primary care.[1] Unlike Babylon *GP at hand*, which has secured NHS funding by registering patients at their practice,[2] the Swedish companies have been working outside the regular capitation system, instead being reimbursed on a fee-for-service basis.

In this editorial, I provide a brief overview of how the e-consultation market emerged in Sweden and how policy-makers have responded. I also take the opportunity to share some results from a study, previously published in Swedish, on the degree of substitution between e-consultations and traditional primary care (Ellegård & Kjellsson, 2019).

The background: primary care in Sweden

The responsibility for Swedish health care is delegated to 21 independent regions, each deciding on how to organise and finance their health care system. In all regions, primary care is organised in group practices – primary care centres (PCCs) – staffed by a handful of employed GPs, nurses and other professional categories, e.g., physiotherapists and cognitive therapists. Public and private PCCs contract with the regions on equal terms (Anell, 2015).

Capitation, i.e. a fixed amount per listed patient, is the fundamental form of reimbursement of PCCs in all regions except Stockholm, where the reimbursement is approximately equally divided between capitation and fee-for-service based on the number of consultations provided.[3] Since 2010, all patients in Sweden have the right to register at any PCC in their region of residence (providers may not close their lists) and they may switch whenever they like. Notably, being listed at a PCC does not restrict patients from consulting other providers (Dietrichson, Ellegård, & Kjellsson, 2020; Anell et al., 2017). Despite this strong empowerment of patients, Swedish primary care is characterised by low accessibility and long waiting times (Blix & Jeansson,2019). Primary care centres often have limited telephone hours, and patients may have to wait for weeks to get an appointment for non-acute problems. Primary care centres are typically only open during office hours, although there are some practices open on evenings and weekends in urban areas.

E-consultations: the force awakens – and the empire strikes back

The emergence of the market for e-consultations was an unintended consequence of the Patient Right Law, enacted by the Swedish government in 2015, which gave patients the right to consult care providers outside their region of residence. Entrepreneurs realised that they could establish a company in one region, offer e-consultations to patients in other regions, and then bill their patients' home regions. Notably, this construction implies that e-consultation companies operate completely outside the regional patient choice and reimbursement systems. Instead, the payment is governed by the regulation of inter-regional reimbursements negotiated by the Swedish Association of Local Governments and Regions (SALAR). This implies that e-consultation companies are reimbursed on a fee-for-service basis for each consultation. Patients also pay a

[1] https://skr.se/halsasjukvard/ehalsa/digitalavardtjansteriprimarvarden.28301.html Last accessed May 7, 2020
[2] https://www.england.nhs.uk/london/our-work/gp-at-hand-fact-sheet/ , accessed June 8, 2020.
[3] Pay-for-performance (P4P) and other reimbursement types account for up to a few percentages of reimbursement, depending on region.

consultation fee according to the rules of the region where the company is located ranging from 0-250 SEK (Blix & Jeansson, 2019).

The three pioneering companies together serve 90 per cent of the market; the largest company handles almost half of all e-consultations. The number of e-consultations rose from 20,000 in 2016 to 1,159,000 in 2019. The billed amount rose from 37 million SEK to 0.5 billion SEK during the same period (data from SALAR (The Swedish Association of Local Authorities and Regions)).

When expenditures on interregional care started to rise in 2017, SALAR responded by developing new recommendations for the level of reimbursement for e-consultations. The recommendations were based on estimates of unit cost per consultation using assumptions on, e.g. wage levels, time spent per consultation and costs for laboratory services. The pre-2016 reimbursement level, which was based on the average cost for office-based GP consultations, was reduced by more than 50 per cent to SEK 650 for e-consultations with a GP, 600 for e-consultations with psychologists and behavioural therapists, and SEK 300 for e-consultations with nurses and other staff. In 2019, SALAR again reduced the reimbursement levels downwards slightly, after having revised their assumptions on wage levels, other costs, laboratory costs and productivity (SALAR 2019).

Interestingly, although the market for e-consultations operates in parallel to the ordinary primary care system, SALAR has not questioned the principle of fully covering the companies' costs (personal communication with Lars Kolmodin at SALAR). Notably, this principle does not only contrast with the capitation-based reimbursement ideal dominating Swedish primary care. It also assumes that the value created by e-consultation companies exceeds the value that would otherwise have been created by the same funds. In this regard, it is notable that health care system, by law, ought to give priority to patients according to their care need – i.e. policy-makers value more the treatment of sicker patients than the treatment of relatively healthy patients. The e-consultation companies, who are paid a fixed price per consultation (with no volume cap), have no financial incentive to serve patients with complex health problems. Indeed, as many have pointed out in the policy debate, many complex issues cannot be handled without a physical examination (Ellegård & Hoffmann, 2020).

Patient behaviour

Patients attending e-consultations have different characteristics compared to patients attending regular GP practices. Residents in metropolitan areas, in particular Stockholm, are over-represented among patients at e-consultation companies (Blix & Jeansson, 2019). The most striking difference is the age profile. Infants and adolescents account for a very large share of e-consultations, whereas the age profile of PCC patients is more skewed toward the 50+ age group (Blix & Jeansson, 2019; Ekman et al., 2019). An analysis of register data from Kronoberg Region showed that infections and skin conditions were the most common reasons for contacts with e-consultation providers in all age groups, whereas depression and hypertension were the most common reasons for contacts with regular PCCs (Ekman et al., 2019).

Given the financial incentives to avoid patients with complex health problems and the demographic differences, one might worry that the e-consultation market grows at the expense of patients with greater care needs. However, it is also possible that e-consultation companies relieve the public purse by replacing office-based visits with e-consultations. While it is not fully documented that the direct unit cost of an e-consultations is lower (Ekman 2018), there are reasons to believe that this might be the case. Representatives from SALAR point out that e-consultations shift some administrative costs from the public sector to the patient, and that it frees up time that the PCC staff would have spent on other things than the actual consultation (for example, showing the patient the way from the waiting room to the office, waiting for the patient to take on and off outerwear).

On the other hand, as the straightforward access to e-consultations effectively lowers the price patients face for contacting health care, the availability of e-consultations might induce contacts that would not have taken place if these services were not available. Patients may thus demand both e-consultations *and* PCC consultations

(Licurse 7 Mehrotra, 2018). E-consultations with GPs may also replace contacts with nurses, whose wage is considerably lower.

A first step towards an understanding of how e-consultations affect costs is to examine how patients substitute between self-care, traditional primary care and e-consultations. An analysis of care register data from Jönköping Region showed that 90 per cent of e-consultation patients did not consult any other provider in the surrounding period (Gabrielsson-Järhult, Areskoug-Josefsson & Kammerlind, 2019). While this figure suggests that patients were satisfied after the e-consultations, it does not indicate to which extent the e-consultations replaced physical consultations. It might reflect a 1:1 substitution – if all patients would otherwise have contacted traditional care, but it might also reflect a complete absence of substitution – if all these patients would have chosen self-care unless e-consultations had been available. In the absence of information on the share of these patients that would have contacted health care under all circumstances, it is impossible to determine the degree of substitution.

In a study published in the journal of the Swedish Medical Association, a colleague and I made an initial attempt to estimate the degree to which e-consultations replace office-based consultations in Sweden (Ellegård & Kjellsson, 2019). We studied a representative sample of residents in Region Skåne and their household members. Three percent of the sample had been in touch with e-consultation companies at least once in 2016-2018. Their average age was lower than that of the rest of the sample, but they had consulted PCCs more often (on average) in 2013-15. Their morbidity history – diagnoses registered at previous visits – also differed from that of the population at large. For instance, they were less likely to have a hypertension or diabetes diagnosis, but more likely to have been diagnosed with an infection, depression, anxiety or asthma.

We examined the association between the number of e-consultations and the number of consultations with PCCs and hospital emergency departments in 2016-2018. We adjusted as far as possible for differences between e-consultation patients and other individuals. First, we estimated regression models adjusting for previous diagnoses, age, sex, socioeconomic status etc. Second, we used data for 2013-15 to make before-after comparisons for each individual, thus removing the influence of unobserved time-invariant heterogeneity in, for instance, the propensity to seek care. In these regressions, we also gave higher weight to individuals with no experience of e-consultations who resembled e-consultation patients with respect to previous morbidity etc.

We found that the e-consultation patients contacted regular PCCs more than other individuals in 2016-2018. For every three e-consultations, the number of contacts with a GP at a PCC increased by two. The increase mainly affected the number of telephone consultations. We found nothing to indicate that e-consultations replaced visits at the emergency department. Thus, some individuals seem to have a relatively high propensity to seek care; this group already consulted traditional care more than other individuals before the emergence of the e-consultation market, they have not reduced their utilisation of PCCs services since the emergence of the market – but they now also attend e-consultations.

The positive association between e-consultations and traditional consultations may reflect that e-consultation providers refer patients to their PCC. However, it might also reflect omitted variables that correlate with both the propensity to contact e-consultation companies and PCCs. Our research design did not fully account for new and temporary health problems – which are the most common causes for e-consultations. Notably though, while the estimates might underestimate the potential of e-consultations to replace office-based consultations, they are very far from indicating a 1:1 substitution. From a more positive angle, the fact that e-consultation patients are frequent visitors in PCCs as well suggests that a first prerequisite for substitution may be fulfilled: e-consultations can only replace consultations that would have taken place anyway.

Concluding remarks

In the past few years, Sweden has witnessed an unforeseen growth of new primary care providers using new technologies to provide GP consultations. Although the rules of the game in this market differ widely from

those facing traditional primary care providers, policy-makers have not made any efforts to level the playing field. The only policy response so far has been to reduce the reimbursement level for e-consultation companies. Speculatively, policy-makers are not uncomfortable with the fact that these companies increase the access to primary care and adopt new technologies.

There are nonetheless signs of convergence. As of today, the regular PCCs also either have access to, or plan to implement, e-consultation systems. The COVID-19 pandemic has intensified the adoption of such systems in traditional care. In parallel, e-consultation companies have established subsidiary units – PCCs – in a few regions. Hence, they are now able register patients and receive capitation, just like Babylon *GP at hand*, while still also taking advantage of the inter-regional reimbursement system for the e-consultations made by non-listed patients. Speculatively, the e-consultation companies will defend their market share as long as the inter-regional reimbursement system persists and aim at full cost reimbursement.

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