



# Interpreting technology: Use and non-use of doctor-patient video consultations in Danish general practice

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## ABSTRACT

This study uses socio-cognitive theory on technological frames to understand how and why general practitioners in Denmark use or choose not to use video consultations. Video consultations play a vital role in the digitalisation of the Danish healthcare system. Whilst political decision-makers continuously push for increased use of video consultations, uptake accounts for less than 2% of all consultations. Research is needed that explores the actual circumstances and conditions of video consultation use. Our data corpus consists of 30 semi-structured interviews conducted from August 2021 to August 2022 with 27 Danish general practitioners. Interviews were analysed following reflexive thematic analysis. Our findings show that video consultations are interpreted as 1) compromising occupational values, 2) a crisis tool, 3) the future, and 4) a tool to improve work conditions. Video consultations are differently adopted across clinics due to different interpretations of the technology and its relative advantage in specific clinical contexts. We argue that the concept of technological frames offers a useful analytic perspective for elucidating and anticipating attitudes and actions towards a technology. It increases our understanding of the uptake and rejection of video consultations. This knowledge is valuable for clinicians and politicians working with technological innovation in general practice.

## 1. Introduction

Many societies have great hopes and plans for digitalising their healthcare systems. However, in healthcare organisations, technological innovations are often characterised by failed attempts and challenges to sustain and scale up new digital health technologies (Greenhalgh et al., 2017). According to organisational theorists Orlikowski and Gash (1994), people are not neutral when approaching a new technology but rely on their interpretations. Our interpretations of technologies are based on our knowledge, assumptions and prior experiences while also being shared among members within a relevant social group. These interpretations are essential in understanding how technology is used (or not used) because they serve as frames through which we perceive and use the technology (Orlikowski and Gash, 1994). However, digital health technology adoption processes are rarely exposed and discussed through a theoretical lens (Orlikowski and Gash, 1994), making it

difficult to explain and anticipate technological change and development.

This is also the case concerning video consultations, in this paper, referring to a two-way audio-visual consultation form used by healthcare professionals and patients to consult at a distance (Osman et al., 2018). Video consultations have been introduced in a wide range of specialities, including general practice settings which this article focuses on. In Denmark, there is a strong political push towards using video consultations based on expectations of increased efficiency, optimised use of healthcare resources and increased flexibility for and geographical equality among patients (Finansministeriet [Ministry of Finance] and Regeringen [The Danish Government], 2022; Regeringen [The Danish Government] and KL [Local Government Denmark] and Danske Regioner [Danish Regions], 2022). Video consultations were made freely available to all general practitioners (GPs) and patients in 2020 through the application *My Doctor*. According to the GPs' collective

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agreement, GPs must offer video consultations by the end of 2024 (Praktiserende Lægers Organisation [PLO; The and Danish Organisation of General Practitioners], 2022a). Yet, whilst adoption increased in 2020, due to Covid, as of August 2022, video consultations make up only 1,2% of all consultations in general practice (in comparison, e-mail-consultations make up 25%, and telephone consultations make up 26%) (Praktiserende Lægers Organisation [PLO; The and Danish Organisation of General Practitioners], 2022b). The level of uptake differs significantly between clinics, with some clinics using video consultations daily and others not using them at all. In other European countries, we see the same tendency of low video consultation adoption rates in general practice after Covid (i.e., less than 1% in the UK (Greenhalgh et al., 2022)).

As emphasised by other scholars (Greenhalgh et al., 2017; James et al., 2021), much research has focused on the initial adoption of digital technologies, including video consultations. Since the uptake of video consultations has been low and use was not routinised before the Covid-pandemic, exploring the transition from initial to sustained use has not been possible. Reviewing the literature, scholars found limited coverage of the challenges to scale up and spread of video consultations and a lack of theorisation of the processes required for widespread use of video consultations (James et al., 2021). A British study by Hughes et al. (2022) shows that GPs' video consultation use depends on their professional motivation, and their perceived advantages of the technology vary. Similarly, another British study by Greenhalgh et al. (2022) concludes, based on an amalgamation of three mixed-method case studies, that many GPs do not see a relative advantage in video consultation use compared to existing consultation forms. A Danish study by Nordtug et al. (2022) shows that GPs experience different uncertainties regarding video consultation use. These uncertainties are products of how the individual GP relate to the technology, thus underlining the importance of understanding how GPs interpret video consultations. Not least, researchers examining video consultation across five European countries have described structural, financial and technological challenges in adopting video consultations and consequently stressed the importance of reflecting on GPs' technological attitudes and assumptions to understand this (Assing Hvidt et al., 2023). These studies align with the OECD telemedicine report from 2023, describing that GPs have more mixed views towards remote care services, such as video consultations, than patients who generally hold a more positive attitude (The Organisation for Economic Co-operation and Development [OECD], 2023). Consequently, we argue that paying closer attention to GPs' interpretations of video consultations is essential, as these interpretations can motivate use and non-use.

In Denmark, almost all healthcare services are financed by taxes. About 98% of Danish citizens are listed with a GP, making general practice a cornerstone of the healthcare system. Danish General practice is based on the ideal of a strong doctor-patient relationship and the concept of continuity of care, with most patients attending a permanent GP (Nexoe, 2013; Frederiksen et al., 2010). GPs work as private contractors and are remunerated by the public health authorities through a mixed capitation and fee-for-service system (Rose Olsen et al., 2016). GPs settle their services based on a fee schedule in which each specific service is remunerated with a rate. For example, a standard, in-clinic consultation is remunerated with DKK 153,61 (EUR 20,64). In comparison, video consultation is remunerated with DKK 172,36 (EUR 23,16) (per January 2023) (Praktiserende Lægers Organisation [PLO; The and Danish Organisation of General Practitioners], 2023). On a practical level, patients access video consultation using their smartphone (through the My Doctor app), while GPs access it through a website on their computer. While the underlying technology is the same across all clinics, clinics structure video consultation use differently. Some clinics allow patients to book video consultations through their online booking system; others make the secretary offer patients video consultations when judged suitable. Similarly, clinics differ in how they integrate video consultations in their schedule, with some offering video

consultations on specific weekdays or time intervals and others offering video consultations at all times within their opening hours (typically 8 a. m.-4 pm) (Lüchau et al., 2023).

Denmark repeatedly takes the lead in digital transformation efforts (see for example the United Nations E-Government Survey, 2022) (United Nations, 2022). This makes Denmark a particularly interesting case to explore. Consequently, this study investigates GPs' interpretations of video consultations and how these impact use and non-use. This study is highly relevant and could contribute important insights to support the ongoing efforts to qualify the use of video consultations in general practice in Denmark and beyond.

### 1.1. Theoretical framework

This article considers video consultations from a socio-cognitive perspective. Contrasting more positivist and deterministic assumptions of an objective reality and predictable and stable technology use, our socio-cognitive perspective relies on the ontological standpoint that people act based on how they interpret, construct and add meaning to their reality (Orlikowski and Gash, 1994; Frennert et al., 2021; Berger and Luckmann, 1966). In a seminal paper from 1994, organisational theorists Orlikowski and Gash developed the analytical concept of *technological frames*, which is used to understand the role of technologies in organisations from a socio-cognitive perspective, and which we apply in our analysis. A technological frame is a cognitive structure. It refers to the idea that when people are introduced to a new technology, in our case, a video consultation, it causes uncertainty and ambiguity. Therefore, people interpret the technology by drawing on their cultural resources: assumptions, expectations and existing knowledge. These resources constitute a *frame* that creates structure and meaning around their interaction with the technology (Orlikowski and Gash, 1994). Technological frames are held individually and reflect individual variation. However, individuals within relevant social groups often develop shared frames. Thus, frames can be based on existing knowledge stemming from, e.g., occupational training as well as socialisation processes within workplace settings (e.g., a clinic or The Danish Organisation of General Practitioners; PLO, representing all clinics). While Orlikowski and Gash focused on organisational settings, other organisational researchers have later emphasised how broader societal factors and external events (e.g., the Covid-crisis) can also influence people's technological frames (Davidson, 2006).

Technological frames have both facilitating and constraining effects when it comes to implementing new technologies. For instance, a study on implementing electronic prescribing in physician practices demonstrated how technological frames either facilitate or impede effective use of the technology and steer how effectively it is incorporated into clinic workflows (Agarwal et al., 2010). According to Orlikowski, a specific technology produces divergent opinions and thus demonstrates *interpretive flexibility* (Orlikowski, 1992). Various groups will construct various technological frames based on their interactions with the technology. Consequently, there might be so-called *incongruences* between groups of people, that is, a lack of alignment regarding how the same technology is framed and used (Orlikowski and Gash, 1994). In line with this, technological frames should be understood as dynamic and processual, as frames change over time when people adapt to new circumstances and gain new knowledge and experiences, leading to a so-called *reframing* of the technology in question (Orlikowski and Gash, 1994). As frames can be shared within social groups, such as amongst GP colleagues, interaction and ongoing negotiation between group members can support exchange of new perspectives and lead to reframing processes. However, not all people change their interpretations. When people stick to an existing frame, organisational change and implementation processes can be complicated (Orlikowski and Gash, 1994).

In this article, we identify the technological frames and reframing processes that guide the GPs' perceived value proposition and use of video consultations. In this regard, we do not perceive a GP

dichotomously as a user or non-user of video consultations. Instead, inspired by Wyatt (Wyatt et al., 2003), we understand both use and non-use as a continuum with various ways and reasons to use or non-use, relying on different technological frames. When we address and include non-use, we also wish to contribute to a more nuanced understanding of user-technology relations and to avoid the conviction that all GPs should adopt video consultations without any alterations, also known as the pro-innovation bias (Rogers, 2003; Oudshoorn, 2012).

In one aspect, we deviate from Orlikowski and Gash's approach to the social dimension of technological frames. Where they categorise user groups before their analysis, based on the users' function in the organisation (i.e., consultant or technologist) (Orlikowski and Gash, 1994), we do the opposite. Our informants are people with the same functional role – being GPs. However, Danish general practice is very diverse, with GPs working differently (see, for example, Yordanov et al., 2022; Hansen et al., 2003; Kristensen et al., 2022; Le et al., 2016). Individual GPs are part of collaborations within and across clinics, making it difficult or irrelevant to pre-determine the demarcation of relevant social groups. Instead, different technological frames that we identify serve as the basis for categorising different video consultation user groups.

While Orlikowski and Gash originally applied the concept of technological frames in a field study on implementing information technology in a consultancy corporation (Orlikowski and Gash, 1994), it has proven useful in various fields, including healthcare organisations. For instance, the concept has been used to examine the implementation of electronic prescribing (Agarwal et al., 2010), electronic health records (Huvila et al., 2021), care robots in eldercare (Frennert et al., 2021) and patient portals in general practice (Grunloh et al., 2016). These studies showed that the technological frames concept was unique in its ability to explain why and how interpretations and use of technologies vary among people (Agarwal et al., 2010; Grunloh et al., 2016). Moreover, it proved useful in identifying frame incongruences and elucidating aspects where interpretive alignment should be strived for to support future use of the technology (Frennert et al., 2021). In this way, the theory of technological frames is useful for facilitating and supporting implementation processes. However, except for one British, pandemic-situated study by Hughes et al. (2022) drawing on the concept of interpretive flexibility, the concept of technological frames has not, to our knowledge, been used to examine the use of video consultations within a general practice (nor any other clinical) setting, in Denmark or elsewhere. Based on the existing literature, we argue that the concept of technological frames can serve as a valuable analytical tool to understand GPs' interpretations of video consultations and thus explain how and why GPs use (or choose not to use) the technology.

## 2. Methods

### 2.1. Procedure

This study is part of a larger research project exploring GPs and clinic staff's use/non-use of video consultations. While fieldwork data is part of the overall project, this study includes only interviews in line with our aim of understanding GPs' technological frames relating to video consultations. The data corpus in this study consists of 30 semi-structured interviews with 27 GPs (See Table 1). GPs were recruited through our professional networks and social media. Data was generated between August 2021 and August 2022 (see Table 2), and the sample size was guided by the ambition to achieve information power (Malterud et al., 2015). When designing the study, we wanted to include a diverse range of GPs to secure variation in the data material. Thus, we used a purposive sampling method to obtain variation in sex, age, geographical location, size of the clinic and video consultation use. In line with our argument above, we explicitly mentioned in our recruitment material that we were interested in talking to both users and non-users of video consultations, and we had no specific requirement to the extent of their video consultation use.

**Table 1**  
GP characteristics.

Variable	Our participant sample
Age	39–71 years
Sex	14 women and 13 men
Clinic size	3 single-handed GPs; 10 small partnership clinics (2–3 GPs); 11 large partnership clinics (4–6 GPs); 3 GP locums with alternate work locations
Geographical dispersion	4 out of 5 Danish regions
Size of the city where the clinic is located	<9999 inhabitants = 8 10.000–50.000 inhabitants = 8 >50.000 = 8 GP locums with alternate work locations = 3

**Table 2**  
Data generation timeline.

June '21	Observation Day 1 – clinic 1 Observation Day 2 – clinic 1
August '21	Observation Day 1 – clinic 2 Observation Day 2 – clinic 2 <b>6 GP interviews</b>
September '21	Observation Day 1 – clinic 3 Observation Day 2 – clinic 3 Observation Day 1 – clinic 4 Observation Day 1 – clinic 5 <b>9 GP interviews</b>
October '21	Observation Day 2 – clinic 4 Observation Day 1 – clinic 6 Observation Day 1 – clinic 7 <b>4 GP interviews</b>
November '21	Observation Day 2 – clinic 5 <b>3 GP interviews</b>
December '21	Observation Day 2 – clinic 7
January '22	<b>4 GP interviews</b>
May '22	Observation Day 3 – clinic 2 Observation Day 3 – clinic 5 Observation Day 4 – clinic 5 Observation Day 2 – clinic 6 <b>1 GP interview</b>
June '22	Observation Day 4 – clinic 2 Observation Day 5 – clinic 2
July '22	Observation Day 3 – clinic 3
August '22	<b>3 GP follow-up interviews</b>

The GP interviews were conducted by ECL either face-to-face ( $n = 3$ ), telephone ( $n = 6$ ) or video ( $n = 21$ ). The video interviews provided an opportunity to relate to the setting of the video consultation and most GPs were at the same location where they would also conduct video consultations. This helped to support a mutual, embodied understanding of the interview topic. Interviews lasted between 32 and 74 min. Using a semi-structured interview guide, we followed Timmermans and Tavory's "principle of engagement" by allowing room for the individual GP's opinions and experiences, trying to understand how they order their world (Timmermans and Tavory, 2022). Adjustments to the interview guide were made during data generation, with interviewees serving as inspiration for generating new interview questions. Moreover, the new collective agreement between the health authorities and The PLO, which stipulated GPs' working conditions, quality targets, reimbursement schemes etc. and was commenced in January 2022, also raised new questions. Follow-up interviews were done with three GPs because they were using video consultations in a way that the new collective agreement would not support, forcing them to change their style of video consulting after the first interview. The same interview guide was used in the follow-up interviews, but with minor changes such as "How has your video consultation use changed since the last time we spoke and why?" and "Have you changed your opinion towards video consultations, and if so, how?" While there were no lockdowns during the data generation period, the period was somewhat unstable because most GPs were reconfiguring their work routines, either returning to pre-Covid

practice or working towards a “new normal” that included video consultations. Some GPs experienced that some patients wished to see them physically after a long period of only consulting remotely which might have influenced their use of video consultations. Interviews were audio- or video-recorded and transcribed verbatim by ECL (n = 6) and a student assistant (n = 24) concurrent with the data generation.

## 2.2. Ethical approval and considerations

The research aim and procedure were introduced to the interviewees before each interview. All participants gave written consent and were informed that participation in the study was voluntary. The study was approved (approval number 11.401) by the institutional board of the University of Southern Denmark, the Research and Innovation Organisation.

## 2.3. Data analysis

Our analytical process followed abductive reasoning, starting with data-driven coding. We then searched for likely explanations of our material by going back and forth between data and theory until we settled on our final themes and theoretical structure (Timmermans and Tavory, 2022). In this abductive process, we were inspired by Braun and Clarke’s reflexive thematic analysis (RTA) (Braun and Clarke, 2006, 2020), which we argue aligns well with our socio-cognitive approach and focus on interpretation. We followed the guiding principle in RTA in which analysis is a situated, interpretive and reflexive process, with coding and theme development being an organic and iterative process (Braun and Clarke, 2020).

In accordance with RTA, the transcripts were initially read by ECL and EAH. ECL took notes using the “annotations” function in the CAS-DAQ software NVivo 12 and by hand. In the next step, still using NVIVO, ECL performed a preliminary coding grounded in the data. As an outcome of this initial coding and with iterative readings of the data, different potential themes were discussed with EAH, such as occupational identity, professional values, technology attitudes and change of habits. To sharpen our analytical focus and understand the reasons for the variances in the GPs’ video consultation use also identified in the data, we searched for theoretical frameworks that could guide our analytical work and turned to Orlikowski and Gash’s concepts of technological frames and interpretive flexibility (Orlikowski and Gash, 1994). Thinking with theory, we searched for “patterns of shared meaning” (Braun and Clarke, 2020) in our material and identified different technological frames, representing specific interpretations of the video consultation. We structured our codes according to these frames. Our final frames, corresponding to the term “themes” used by Braun and Clarke (2006, 2020), are listed in Table 3.

In line with RTA, the authors acknowledge that the knowledge we produce is situated and contextual and that our subjectivity and

previous work might have impacted our analytical work. In this regard, we consider our diverse backgrounds (media studies, sociology, anthropology, philosophy of technology and family medicine) as a strength that serves as a basis for discussions and reflections in the author group, challenging our assumptions and sensemaking throughout the analytical process.

## 3. Results

The results are divided into four frames, as shown in Table 3 at the end of the results section. GPs might refer to multiple frames because they have been through a reframing process or express sympathy with more frames. However, GPs have been categorised according to the frame which we identified as primarily guiding their thoughts and actions regarding the use/non-use of video consultations at the time of the interview (see Table 3). In line with the concept of reframing, the distinction between the four frames should be understood as soft transitions rather than solid demarcations. Some frames are similar in structure. For instance, frames 1 and 2 are oriented towards the past/a status quo, while frames 3 and 4 are oriented towards the future. Thus, some interpretive elements might be similar in different frames. Finally, the frames represent the most significant interpretive patterns, but there are differences and nuances amongst the GPs in all frames.

### 3.1. Frame 1: video consultation as compromising occupational values

For GPs who share this frame, we identify a conflict between their identity and occupational values and the introduction of video consultation, leading to non-use or limited use of the technology. These GPs express strong feelings towards the video consultation, especially when explaining the motivations behind their non-use and how the technology compromises their occupational values. Interpreting the video consultation independently of what might or might not be possible to do with it represents a rather rigid understanding of the technology. For example, in the following quote, a GP attributes a fixed role and associated consequences to the video consultation:

I would say that it is what I would call a double-edged sword [the use of video consultation]. Understood in the sense that it is rational and functional and fulfils some needs. But the price is that it gets colder and colder, so you will end up with ‘cold hands’ if you must translate it. We lose the warm hands. We lose care, presence and the ambience [of the clinic] nationwide. Our contact will be different. GP10

The GP in the above quote is approaching retirement, has never used video consultation and does not plan to try it as he does not find the video consultation to offer any relative advantage to existing ways of working, but quite the contrary. The GP refers to the broader discourse of technologies as being “cold machines” - the antithesis to care and intimacy represented by “warm hands”. While using video-based

**Table 3**  
The interpretive flexibility of video consultations.

Interpretation of video consultation	The perceived relative advantage of video consultation	Resulting in video consultation use that is	Number of GPs adhering to this frame at the time of the interview	Reframing
Frame 1: Video consultation as compromising occupational values	No relative advantage to existing ways of working	Very low or no use	5	No articulation of any reframing from this to any other frame
Frame 2: Video consultation as a crisis tool	Only during Covid	Low or no use	3	Many GPs started out with this frame, but then reframed the video consultation technology to frames 3 or 4
Frame 3: Video consultation as the future	Advantageous but unclear precisely how	No or occasional but fluctuating and yet not routinised use	9	Some GPs reframed from frame 2 to this
Frame 4: Video consultation as a tool to improve work conditions	High	High	10	Some GPs reframed from frame 2 to this

communication in other situations, for instance, with family members, a key feature of being a GP is, in his opinion, to be able to physically “sense the room” and create a safe space which requires being physically present with the patient. The GPs sharing this frame value the interpersonal, in-clinic meeting with their patients, and they believe they are better GPs when they can physically examine the patients, secure eye contact and use body language. The video consultation evokes frustration, and they interpret it as a reduction of their senses which, to them, will lower the quality of patient treatments. As one GP describes: “After all, we were created in a physical world where we have a sensory apparatus that consists of many things. More things than can fit on a screen” (GP02). Similarly another GP refers to “the human need” of being seen and touched by a GP (GP03). In this way, their interpretation of video consultation and, even more, their interpretation of their roles as GPs largely relies on existing beliefs of what is “natural”. Thus, this group of GPs heavily emphasise the physical and bodily aspects of their job, based on the traditional cultural practice of GPs seeing their patients in-clinic. Hence, they do not offer their patients a video consultation nor do they experience any patient demand. These GPs, however, acknowledge the functional potential of the technology (i.e., saving time). Still, they wish to refrain from using the technology due to its, in their opinion, inherent limitations. In this way, these GPs are reflexive regarding their interpretations yet not open to a reframing of the video consultation.

Furthermore, several GPs sharing this frame had little or no experience with using video consultations. The lack of experience might explain the inaccurate information about video consultations that resided amongst some GPs, leading to assumptions about what the video consultation could or could not be used for (i.e., if it could be used for therapy sessions or to see a rash on the skin). These interpretations were compared to in-clinic consultations used as the key measurement for a good consultation. The widespread comparisons we identify in our data between video consultations and in-clinic consultations show how the video consultations are not (yet) interpreted in their own right but framed in the light of an existing consultation form. According to Orlikowski and Gash (1994), this is typical when sufficient information about a new technology does not yet exist, while it also emphasises the dominance of the traditional “physical” GP culture.

### 3.2. Frame 2: video consultation as crisis tool

For GPs sharing this frame, we identify an interpretation of the video consultation as a “crisis tool” due to its introduction in times of Covid, making it a need-to-have technology. However, while some GPs reframed the video consultation in the aftermath of Covid, as we shall see in frames 3 and 4, others continued to tie the video consultation strongly to the pandemic situation. Consequently, they struggled to find a place for video consultations after the Covid-crisis.

The change in societal conditions in the aftermath of Covid, with a reopening of society, left a strategic vacuum concerning how and why video consultations should be used for a large group of GPs. In their initial appropriation of video consultations in the spring of 2020, almost all GPs perceived the video consultation as having a clear value. The GPs expressed what Orlikowski (Orlikowski and Scott, 2021) labels a “tactical tension” in that their usual way of doing things was suddenly interrupted and no longer feasible: “Suddenly, we were not allowed to invite our patients to the clinic” (GP22). Due to the reimbursement scheme according to which the physical consultation pays the highest fee, the GP’s business model was financially threatened: “We could easily call the patients, but since we were not allowed to charge more than DKK 32 [EUR 4,29] for one telephone consultation, it was evident to us that we could not make a living of that” (GP06). Due to this tactical threat, the GPs had no choice but to rethink how to work. This created a “window of opportunity” (Tyre and Orlikowski, 1994) to introduce video consultations. The GPs had a very strong sense of the purpose of their video consultation use, and they were highly motivated to use video consultations as a solution to the tactical tension. On an

organisational (PLO) level, this strategy was explicitly supported when video consultations were advertised on a nationally broadcasted press conference while also being financially supported through temporary agreements on reimbursements and rules on how to use video consultations, allowing GPs to use them whenever they found it relevant and with a fee slightly higher than the physical consultation fee (Regionernes Lønnings-og and Takstnævner [The Regions’ Salary and Tariff Board], 2020).

During Covid, the GPs showed great flexibility in changing their way of working, making room for video consultations. However, while society gradually reopened, video consultations were no longer necessary for running the clinic as the GPs could resume their usual routines. For some, their motivation to use video consultation was weakened at this point, resulting in declining use of the technology. One GP, who is very keen on using video consultations herself, explains the difficulty of getting her colleagues to continue offering video consultations in a post Covid time:

... well, there was a lengthy period where it was more of a must-do thing. Because we simply didn’t have room for all those patients in the waiting room [due to distance requirements] (...) And now that it is no longer a must-do, well, then I can imagine that when an appointment is given by the secretary and the nurse, one might slip back into old habits. GP08.

In this case, there seems to be a frame incongruence within the clinic with one GP wishing to use video consultations but others not prioritising it. In similar cases, some GPs expressed how the lack of purpose, or the struggle to “get everybody on board” in the clinic, or a combination of both, meant that their use of video consultation decreased significantly while other GPs completely stopped using the technology. Furthermore, different potentially motivational factors were considered by this group of GPs, such as patient demand and financial incentives. Still, none of these factors were deemed significant enough to secure a continued and routinised use of video consultation. One GP stopped using video consultation after the Covid-lockdowns, and explained the discontinuity: “So we have a somewhat effortless patient flow, we don’t have a long wait, we never have a long wait. And I think it is time-consuming compared to telephone consultations and it doesn’t offer enough benefits” (GP16). In line with this, many GPs expressed how they did not experience a patient demand post Covid and therefore assume their patients prefer physical consultations.

Moreover, the GPs were asked about their thoughts on why their organisation had decided to integrate video consultation as a permanent part of the new collective agreement, commenced in January 2022. Several GPs referred to political agendas such as increased efficiency, time-saving, financial incentives and societal trends about technology being “smart” and “hyped”. However, though many political reasons were mentioned, they did not seem to affect the GPs’ motivation for using video consultations post Covid. In this way, for the GPs who framed the video consultation as a “crisis tool”, an incongruence between political agendas on video consultation use and their everyday work perspective seems to exist. Some of these GPs did not experience an increase in efficiency and time-saving while others did, but they still did not see the relative advantage in using video consultations compared to existing ways of working, especially compared to telephone consultations. Consequently, video consultations matched work routines during the pandemic when these were flexible. However, when the GPs resumed their usual routines, the video consultation no longer had a clear place. Holding on to the framing of the video consultation as a “crisis tool” and thus with the absence of a reframing of the technology, video consultation use decreased or discontinued.

### 3.3. Frame 3: video consultation as the future

For GPs who share this frame, video consultation is interpreted optimistically as a technology leading to more time efficiency, freedom

and improved access to healthcare. For instance, one diligent video consultation user frames digitalisation, including the use of video consultations, enthusiastically:

It is the future. We will be able to serve more patients. And that's what it's all about. After all, we need medical coverage in Denmark for all. And we will be able to secure that with digitalisation. And we would be able to hire more employees. We may set up some home offices by using video. We can harness some potential if we want to. Thus, many future problems can be solved with digitisation. If you dare use it. GP09.

The video consultation is described by GPs sharing this frame, but who use the technology to varying degrees as “the way forward”, “gaining more ground”, and “is 100% here to stay”. In this regard, some GPs had reframed the video consultation from being inconvenient or unimportant when they first heard of it to interpret it as a key element in the development of general practice. For instance, the GP above also describes how “I have gone all digital while growing older” (GP09). In this regard, many GPs mentioned their use of GP Facebook groups as helpful when seeking information on video consultations. In these groups, video consultation experiences were exchanged, and new ideas for video consultation use were shared amongst GPs. For instance, a GP explains how he can “see in these [Facebook] groups how some of my colleagues enjoy using video consultation” (GP14), although he is still somewhat sceptical towards using video consultations and has not yet started using them. This has made him reflect on his interpretation of video consultations. He concluded that they might not have prioritised video consultations enough in his clinic, unlike other GPs. Therefore, they had not realised the benefits of using them. Apart from Facebook, several GPs also mentioned how they discussed video consultation within the clinic and at PLO meetings, PLO courses and with people in their professional network. Thus, we see how different social forums among GP peers contribute to knowledge exchange and how this can shape individual GPs' interpretations of video consultations and lead to reframing processes. Interestingly, the group of GPs sharing this frame all express a positive view of video consultations, yet their use varies. For some, the reframing has led to increased, but still occasional, video consultation use, while others are still in a reflexive process of accustoming to the technology. As in Frame 2, several GPs expressed how they – to their surprise – do not experience a patient demand for video consultations. While the GPs perceive video consultations as advantageous for themselves and their patients, the perceived absence in patient demand leaves them in a “vacuum”, not knowing how to move forward with the implementation process.

Moreover, in line with several political agendas concerning digitalisation, as described in the introduction of this paper, many GPs who do not yet use video consultations on a routine basis speak about political discourses and interpret video consultation as having a huge future potential to solve structural problems in the healthcare sector. This construal illustrates how their interpretations of video consultations are influenced by assumptions of future technological development and optimisation of society. In this regard, some GPs expressed a strong hope that video consultations could be used to improve communication and cooperation between sectors and professionals. They saw more significant potential for this type of video consultation use than in use for communication with patients. Furthermore, a large group of GPs holding the interpretation that video consultations are “the future” expressed an awareness of the processual nature of technology implementation. This foregrounded how they believed their future video consultation use will look different than their current use due to adaptation and familiarisation with the technology over time. However, whether the GPs' positive words on future video consultation use translate into increased use of the technology remains to be seen.

#### 3.4. Frame 4: video consultation as a tool to improve work conditions

For the GPs identified as sharing this frame, video consultations align well with their existing ambitions towards securing good work conditions and job satisfaction for themselves and their staff. While other GPs lacked a clear strategy for using video consultations when Covid would no longer be the driving force, these GPs were inspired by the Covid-period to reconfigure their work routines, including a routinised use of video consultations to create more variation in their workdays. One GP, who is especially occupied with the issue of securing job satisfaction and avoiding burnout, explains:

We have changed the variation in our workdays quite a bit [incl. with the use of video consultations]. And I get completely exhausted thinking if we had to return to pre-pandemic workdays where you had to see 20 patients. In the clinic. An entire day where you just have to collect patients all the time. Then surely, I would get tired in the long run, that I can feel. So, I hope we don't have to return to that again. (GP27).

The risk of burnout is a significant concern for several GPs. In this regard, the group of regular video consultation users explain how a video consultation is more “pleasant” and “comfortable” while also being less “intense” and “energy draining”. One GP accounts for how the introduction of video consultations changed her work life this way: “It was nicer. It was noticeable that it was less of a hamster wheel. It just was.” (GP25). Existing work routines are questioned and video consultations give rise to new ways of scheduling the day, ranging from simple things such as allowing oneself a cup of coffee during a video consultation (because the patient cannot see the cup on the table through the screen), to larger changes in the work routines such as converting the clinic into a “hybrid” with a mix of working in the clinic and from home, owing to video consultations. In this way, the video consultation is interpreted as part of a broader effort to improve work-life with changes concerning the entire structure of the GP's work schedule, something traditionally determined within an 8-to-4-time frame and located in the clinic. The video consultation has a clear relative advantage and is part of a bigger puzzle to optimise workflows.

Even though some of these GPs struggled to get their colleagues and staff to keep using video consultations when Covid no longer necessitated it, their motivation to develop their profession towards a more digital future served as a vision that supported their video consultation use. For instance, a GP explained how she, in their weekly clinic meetings, is the one to continuously remind everybody else: “Remember, we can still offer our patients video consultations” (GP08). While describing herself as completely average concerning overall use of technology, she believes the video consultation to be a beneficial tool in the work lives of GPs. She thus wants to support the use and spread of it. Not least, she believes video consultations benefit her patients, and she emphasises how it is possible to create “a safe space” even though it is digital. In line with this, and as opposed to the other frames, these GPs explain how they experience an increasing patient demand for video consultations. While teaching patients, colleagues and staff how to use video consultations is time-consuming, we find that these GPs are strongly motivated to innovate and improve their work lives. This motivation outweighs the extra resources needed until things are running smoothly. As one GP states: “I believe that if you are not able to conduct a video consultation, then you are not able to be a doctor” (GP21). Thus, in line with frame 1, but with the opposite interpretation of what it means to be a GP, this quote emphasises the important connection between video consultation use and occupational identity and values.

## 4. Discussion

As Table 3 depicts, GPs express diverse interpretations of the video consultation technology. Based on their specific contexts, including their professional values and occupational identity, the GPs interpret the

relative advantage of video consultation use differently. This influences how they approach video consultations. In line with existing literature (Greenhalgh et al., 2022; Hughes et al., 2022) a large group of GPs do not see the relative advantage of using video consultations compared to existing consultation forms. In this regard, our study aligns with existing literature reporting how GPs experience equally good functionality of telephone and video consultations regarding content, duration and quality (Hammersley et al., 2019). However, for other GPs in our study, represented in frames 3 and 4, the video consultation was interpreted as having significant advantages over telephone consultations, also identified by other scholars (Donaghy et al., 2019). The video consultation also brings new opportunities that exceed the comparative focus of telephone and video. These opportunities relate to rearranging workflows and routines which supports increased job satisfaction, as described in Frame 4. This new aspect of video consultation use brings new insights to the field. Moreover, this finding supports the argument made by other scholars that how a technology will be used is difficult to predict as the use is often adjusted to the needs of the specific user (Timmermans and Berg, 2003; Pols, 2017). Due to shortages of staff and increased demand, the Danish healthcare system is currently under significant strain. As a result, healthcare professionals are placing a greater emphasis on preventing burnout and compassion fatigue. This emphasis is likely to be reflected in the ways that some GPs interpret and use video consultations.

Furthermore, since Danish GPs work as private contractors, coherence and alignment (i.e., frame congruence) across clinics is already complex. In this regard, we identified how GPs use their peers as resources for exchanging information and experiences with video consultation use, within and across clinics. While the collective agreement dictates the overall structure of GPs' video consultation use, this peer-to-peer exchange offers a different kind of "bottom-up" knowledge from equals. In line with this, whilst the GPs' interpretations of video consultations are influenced by political agendas and assumptions of future technological development, these aspects do not seem to significantly impact the GPs' video consultation use at the current time. Moreover, incongruences across clinics might be challenging when wanting to upscale and streamline video consultation use according to a political strategy. Nevertheless, these incongruences also seem to initiate constructive discussions of video consultation use. Incongruences within clinics, on the opposite, seem to be inhibiting for handling the technology on a daily basis as there is no shared use/non-use strategy to guide the clinic team.

Generally, our theoretical approach, drawing on Orlikowski and Gash (1994), contributes to the video consultation literature by demonstrating how frames and reframings of video consultation significantly influence the scope of adoption of the technology in general practice. For GPs, their staff and stakeholders such as politicians, it would be a useful first step to consider how not only a technology's functionality but also its symbolic value influence implementation processes. We argue that the widespread understanding, often found in the media and policy papers, of technologies simply being "tools" is misunderstood as it does not represent the intertwining of users and technologies in specific settings and with specific frames influencing the implementation process. As demonstrated in our findings, although several of our GP informants also use the term "tool", our results demonstrate that implementing the video consultation is not a "plug-and-play" process. A continued interpretive focus on video consultations will help capture frame incongruences between stakeholders. These incongruences can hinder as well as inspire new roles for video consultation, and they can help explain and validate reasons for low or no use of video consultation technology. This knowledge is valuable in clinicians' and politicians' continuous juristic and strategic adjustments of video consultation use in Danish general practice.

#### 4.1. Strengths and limitations

Our study provided novel insights into how Danish GPs interpret (i.e., frame) and use video consultations in their specific clinical contexts. A strength of the study is our inclusion of a diverse range of video consultation users and non-users which helps to avoid the pro-innovation bias (Rogers, 2003; Oudshoorn, 2012). Moreover, our results provide insight into the use of video consultations in a country known as pioneering in healthcare digitalisation, making it a good test case to examine the impact and utility of such technologies. Furthermore, since technological frames are not stable but change over time in response to new experiences, knowledge and situations, new developments in interpretations and use of video consultations beyond our study period are to be expected. However, since use rates have not changed remarkably, it seems unlikely that interpretations have. Furthermore, basing our findings on interview data, we might have missed some of the important social aspects inherent in the GPs' interpretations that other types of data, such as focus group interviews or observations, could have brought to our attention. Not least, our study does not take patients' opinions or experiences into account. While other studies show that patients, generally, hold a positive attitude towards the use of video consultations as supplementary to other consultation forms (Donaghy et al., 2019; Thiyagarajan et al., 2020; Assing Hvidt et al., 2022; Lüchau et al., 2021), we do not know of patients' technological frames and the possible interrelatedness between GPs' and patients' perspectives on video consultation use other than what the GPs express in the interviews.

#### 4.2. Future research and implications for practice

To gain more knowledge about possible reframing processes and the development of video consultations, follow-up studies should be conducted. In particular, knowledge of teamwork and collaborative processes between GPs and clinic staff would be valuable in understanding the influence of peers on the daily choices behind use/non-use. Furthermore, our study demonstrates how video consultations are strongly intertwined with organisational contexts and GPs' identities and values. This has implications for how we understand and initiate implementation processes, on a political and clinic-based level. Implementing video consultations is not simply a process of starting to use a predefined "tool", but rather a process of organisational change. Consequently, from a practical perspective, an increased focus on formal training for GPs and room for discussing interpretations, and thus implications, of video consultation use could be beneficial if the (political) goal is increased use, spread and scale-up of the technology. However, it might also be that political goals should be modified to fit with the hands-on experiences and work conditions of GPs, to find the most sustainable ways to use video consultations. In this regard, we suggest strengthening communication between politicians and GPs. Both research (like this) and improved communication between stakeholders could provide new information for the design and content of future policy documents and collective agreements. Furthermore, considering different incentives concerning video consultation use are needed, some of these being, as our study shows, those that support occupational values and mental well-being among GPs.

#### 5. Conclusion

In this study, we have mapped the relationship between GPs' interpretations of video consultations in their specific clinical contexts and their use/non-use of the technology. Interpretations of the video consultation are related to broader technological development in society, while the introduction of the technology also gives rise to fundamental reflections of what it means to be a GP and how GPs' work conditions should be. We conclude that, despite political goals for increased video consultation use, the future of video consultations still

seems unpredictable, and the relative advantage of the technology is unclear for several GPs. However, there might be an undisclosed potential for using video consultations related to GPs' work conditions. Hence, the relationship between occupational identity, values and the perceived advantage of video consultation use deserves more political and scientific attention.

### Author contributions

ECL generated all data material. ECL and EAH researched literature and conceived the manuscript design. ECL wrote the first draft of the manuscript with help from EAH. All authors contributed iteratively with adjustments and supplements to the manuscript, discussed the theoretical approach and the findings, and reviewed and approved the final version.

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### Data availability

There is no public availability of the interview transcripts outside of the research team due to reasons of confidentiality. Interview guide available upon request.

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