Paradox persistence and transformation through drawing distinctions - exploring decision-making during the COVID-19 pandemic

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Abstract: This paper offers an explanation for the persistence and the transformation of paradox, a central element to paradox theory and a topic of current debate in paradox literature. Using the theory of distinction by Spencer-Brown we analyse qualitative longitudinal data of the decision-making of a hospital taskforce during the COVID-19 pandemic. The analysis leads to a process model of paradox persistence and transformation with the following argument: organizations operate in a complex world encounter events that confront them with undecidabilities which manifest as paradox. To address these events, organizations translate undecidabilities into decidable choices through distinctions. Distinctions create alternatives by foregrounding some aspects of the event while background others. From this view paradox persistence arises with drawing distinctions. Paradox transformation becomes possible when backgrounded aspects re-enter decision-making in the future. Such a re-entry induces further undecidabilities which an organization can respond to by maintaining past distinctions that stabilize a particular paradox. Alternatively, organizations can adapt or change the distinctions of their decision-making which lead to transforming the paradox. These insights complement and expand existing explanations of paradox persistence and contributes to the emerging understanding of transforming paradox.

Keywords: paradox persistence, paradox transformation, distinction, hospital

Introduction

Paradox research has significantly advanced the understanding of paradox (Putnam, Fairhurst, & Banghart, 2016) which are persistent, contradictory and interdependent elements (Smith & Lewis, 2011: 382) that pervade organizations. For example, studies explored exploration versus exploitation (Luescher & Lewis, 2008) (Andriopoulos & Lewis, 2009), whole versus part (Jarzabkowski, Lê, & van de Ven, 2013), social mission versus profit orientation (Smith & Besharov, 2019). These and other paradoxes do not have a definite solution but require continuous navigating (Jay, 2013) for which paradox literature advanced our understanding significantly over the past decades.

Prior research—shaped by differing ontological assumptions—suggests that paradox persistence – defined as the enduring quality of a phenomenon (Cunha & Clegg, 2018: 15) –is enabled by systemic characteristics or the continual (re)creation of paradoxes (Berti & Cunha, 2023; Cunha & Clegg, 2018; Fairhurst & Putnam, 2024; Hahn & Knight, 2020; Lewis & Smith, 2022; Putnam et al., 2016; Seidemann, 2024). However, we still know relatively little about the specific system features or organizational activities that sustain paradox over time or reproduce the underlying systemic conditions that enable its endurance. Instead, it appears that persistence has rather been assumed than theorized (Seidemann, 2024) while studies also argue the dynamic nature of paradox (Cunha & Putnam, 2017; Kilminster, Jarzabkowski, & Giudici, 2024; Knudsen, 2005; Tuckermann, 2019), emphasizing how paradoxical tensions can transform as actors engage with them. Yet, the relationship between paradox persistence and transformation remains theoretically underdeveloped. We lack an in-depth understanding of paradox persistence and transformation, and how these opposing processes might unfold over time. We ask: How do paradoxes persist and transform simultaneously within organizations?

Following Cunha and Clegg (2018), we adopt a process perspective on organizing (Langley, 1999; Langley & Tsoukas, 2010) which assumes a world of becoming in which stability -or, in this paper, persistence- are exceptions worth explaining rather than an assumed norm. In addition, process research problematizes transformation or change by highlighting the complex interplay between ongoing becoming and intended change attempts (Weick & Quinn, 1999). Social systems theory, that has fruitfully been leveraged in paradox studies (Berti & Cunha, 2023; Krautzberger & Tuckermann, 2024; Seidl et al., 2021) speaks to this assumption by emphasizing that organizations occur in the moment and persist over

time (Nassehi, 2005). Highlighting the momentary and enduring nature of organizations, social systems theory suits well to address the question of why paradox persists and transform. Our empirical analysis adopts a longitudinal approach to adhere to specific instances in time as well as events unfolding over time (Langley, 1999).

The empirical setting is a hospital's management of the COVID-19 pandemic which the first author accompanied from March 2020 to February 2022. With open access to several data sources that provide the peripheral data, the observations of the central decision-making for managing the pandemic – the hospital taskforce – over the two-year period provide the core data set. Within and throughout the taskforce meetings, we traced the central decision, namely whether to maintain, extend or reduce the hospital's treatment capacities for COVID-19 patients in light of an uncertain and dynamically unfolding pandemic. This decision indicated the paradox due to its rational undecidability at each moment of time (Berti & Cunha, 2023) exemplifies the organizing paradox of part-whole tensions. It required the allocation of resources between different and equally valid demands –treating either group of patients– while medical professionalism and the hospital's public task required to treat all patients. The resource scarcity surfaced the paradoxical situation of aiming to treat all patients and not treating all patients. Exacerbated by a dynamically unfolding pandemic, this paradox required continued attention and decision-making.

The analysis reveals that the above decision of expanding, maintaining, or reducing treatment capacities is a decision in which neither alternative is superior to the other, given the uncertainty of the situation at the point in time. These decisions are so-called "real" decisions (von Foerster, 1994) because they are rationally undecidable (Berti & Cunha, 2023) but require to be decided. Second and regarding the latter, the analysis reveals the multi-dimensionality of decision-making (Andersen, 2003). Besides the above-mentioned factual dimension of choosing between alternative courses of action, there are a social and a temporal dimension. The social dimension points to the involvement of actors as decision-makers in particular points in time and changing participation over time. The temporal dimension speaks both to consequences of present decisions for the future as well as choosing to postpone decisions.

The analysis lends to a model to understand the persistence of paradox and reaches out to understanding the transformation of paradox. The central explanatory mechanism for paradox persistence is that organizations operating in a complex world are confronted with

rationally undecidabilities but having to decide in order to continue operating. Organizations manage this paradoxical situation by translating undecidabilities into decidable choices using factual, social and temporal references. These references clarify the alternatives, the decision-maker and the timeframe and translate the undecidability into decidable choices. Because reference serve as distinctions, they background aspects of the event. These backgrounded aspects do not disappear but return to be decided and create further moments of undecidability that require decision. Thereby, paradox persists on the level decision-making. The return of the backgrounded aspects also give rise to the transformation of paradox, when bringing in alternative factual references, decision-makers and timeframes. In sum, we argue that the persistence and transformation of paradox is related to decision-making that requires distinctions to foreground some aspects over others. Doing so, translates undecidabilities into decidable choices, while simultaneously reproducing undecidabilities.

Explanations of paradox persistence and transformation

Some works in recent organization literature address the question of persistence explicitly. Cunha and Clegg (2018) remarks that paradox persistence tends to be assumed rather than theorized. According to Hahn and Knight (2020) the so-called inherent view (Schad, Lewis, Raisch, & Smith, 2016) assumes that paradoxes are inherent to the world awaiting discovery. Such inherence can result because complex systems are known to produce inconsistencies, in the real world (Schad & Bansal, 2018) and the artificial world like that of mathematics (Ortmann, 2004). With paradoxes inherent to the world, persistence becomes an assumption. Then, as Seidemann (2024: 6) concludes the question of persistence becomes redundant.

The constitutive view assumes the social construction of paradox through social interactions (Fairhurst & Putnam, 2024) which leads Knight & Hahn (2021: 365) to argue that persistence is not an inherent feature of paradox, but results of "dynamic responses to paradoxes that shift between amplifying and mitigating paradoxical tensions." In more detail the constitutive argues for paradox persistence as a result of different social constructions that are equally valid but contradictory. The related practice approach similarly locates paradox in between the doings and sayings of actors (Le & Bednarek, 2017), which explains why paradox become but illumines little of why they persist.

Alternatively, Cunha and Clegg (2018: 26) argue that paradoxes persist "because they interact with other paradoxes", and may change over time as their social construction is embedded in particular circumstances and situations. This view strengthens recent research on the relation between paradoxes (see alsoJarzabkowski, Bednarek, Chalkias, & Cacciatori, 2022), but appears to argue that paradoxes persist if related but without explaining how they emerge.

The above authors, and the recent development of the constitutive view (Fairhurst & Putnam, 2024) leverage dialectics for paradox theory that adds bring in conflict and to strengthen a dynamic view on paradox (Fairhurst & Putnam, 2024; Farjoun, 2017; Hargrave & Van de Ven, 2016). A dialectical explanation of paradox persistence replaces the prior assumption that paradoxes persist by assuming opposing forces that underlie paradoxes. Thereby, it shifts the explanation of paradox persistence without explanation of the underlying forces.

A similar critique of exchanging one assumption for another with regards to paradox persistence applies to the quantum approach (Hahn & Knight, 2020). To preserve the paradox definition and to bridge the inherent and the constitutive view, Knight & Hahn (2021:363) conceive of persistence as "recurring enactments of salient paradoxes in a similar sociomaterial context". As with dialectics, the quantum approach appears to imply that paradox persistence is not a definitional feature of paradox but conditional on the socio-material context as well as the so-called "observational apparatus", that is the situational observation and (social) construction of potential paradoxes to turn into salient paradoxes (Seidemann, 2024: 7).

To summarizes, and echoing Seidemann (2024: 6 emphasis added), the current theorizing in paradox research seems to experience a lack of clear "guidance on how to account for … persistence." To overcome this shortcoming, we explore the question of how and why paradoxes persist and transform within organizations.

A system theoretical approach

Following Cunha & Clegg (2018), we adopt a process view on organizing in general. It assumes a world of becoming that questions stability and related issues like persistence be worth of exploration (Tsoukas & Chia, 2002). More specifically, we leverage social systems theory which is considered fruitful to paradox theory (Krautzberger & Tuckermann, 2024;

Seidl et al., forthcoming; Tuckermann, 2019). Like social constructionism (Gergen, 2002), social systems theory is an ontologically silent theory (Luhmann, 1990) because "everything that is said is said by an observer" (Maturana & Varela, 1980). Instead, the focus of social systems theory is on communications to explain the emergence, reproduction, change and decline of social systems.

With regards to paradox and the question of persistence, social systems theory argues that a social system consists of communication events and can endure over time (Nassehi, 2005). In the case of organizations, these events are decision communications, which are situations that require a choice between alternatives. Drawing on von Foerster (1994), Luhmann (2000) and others (Ortmann, 2004) consider decisions as paradoxical: "The decision has to inform about itself, but also about the alternative, thus about the paradox that the alternative is an alternative (for otherwise the decision would not be a decision) and at the same time not an alternative (for otherwise the decision would not be a decision). (Luhmann, 2018, p. 111). In other words, a decision requires alternatives to be a decision but declines the unchosen alternative because of the decision. In this way the condition for decisions (alternatives) is also the condition for the impossibility of decision (namely, alternatives). In the words of von Foerster, 1994:352, own translation): We can only decide what we cannot decide. For example, choosing between two paths at a crossroad is a real decision if both options are equally valid. Choosing one, excludes the other at this moment in time as it is impossible of choosing both and choosing neither one (e.g., sitting down) stops moving.

Organizations manage such real decisions through deparadoxification (Andersen, 2003), which means that during the communication events of deciding participants contribute communication utterances for one or the other option. Such utterances include factual, social or temporal references. Factual references are associations with facts, like affordances to the organization's environment, or the internal status of resources or capabilities. Such factual references serve to distinguish between the alternatives and clarify which is considered better than the other. Social references bring in actors into the communication, as stakeholders who hold legitimate concerns, or as decision-makers to whom the decision is transferred, like committees, leaders or others. Temporal references induce or relax the points in time, when decisions must be taken, therefore either bringing in urgency or allowing postponing decision. Factual, social and temporal references transform the undecidable decision into a decidable one for the time being. For these reasons, Berti and Cunha (2023) have recently argued to include

undecidability as a core element to the nature of paradox, while Krautzberger and Tuckermann (2024) have theorized how organizations can manage the paradox of decision-making. However, neither of these works explicitly address the question of paradox persistence or its transformation. Empirical studies within this realm provide indications and imply that paradoxes transform while they endure (Kilminster et al., 2024; Knudsen, 2005; Tuckermann, 2019).

Over time, and either explicitly chosen (i.e., decided) or emerging through recurrent references, structures emerge, which are mutually held expectations. For example, an organization can manage the choice of choosing between the above roads through differentiation (Ford & Backoff, 1988) and creating two departments each of which pursues one patch, like exploration and exploitation, social and economic mission. In this way, the organization can enact both options (or a third, if another department is most probably to remain at the crossroad etc.). As subsequent decisions refer to the previous one – like adopting a department head in each – the initial decision serves as a premise and turns into a structure, because of the mutually held expectation of having introduced two (or more) departments. Since these departments specialize in their field of expertise, they develop own jargon, decisions and structures over time, which is why these can become contradictory when they adjoin (Lewis, 2000). This is the case for example, if each department turns to the third at the crossroad requiring resources. As each of them is important for overall success and necessarily different from one another to pursue its respective task, and with its own historic development they come into juxtaposition as they adjoin surfacing paradox in such moments in time.

A concept of social systems theory that is central to the understanding the persistence and transformation of paradox is that decision are distinctions (Luhmann, 2013). An observation indicates (i.e., observes) something (empirically or not) and distinguishes itself from everything else. In deciding, organizational members view an event in terms of alternatives (Luhmann, 1992, 1995; von Foerster, 2003), reflect on (i.e., observe) observed alternatives and choose between these alternatives. Subsequently, organizational members can decide to remain committed to their choices or decide to change them. In this way of deciding, an organization continues operating. However, drawing distinctions through decisions – first, by framing an event as alternatives, and second by choosing an alternative – produces “blind spots” (Luhmann, 1992; von Foerster, 2003), a phrase that refers to the aspects of the event that become hidden through a distinction. The distinction foregrounds something and

backgrounds everything else. In a complex world that defies complete overview and understanding of a situation that requires responding, i.e., decisions, foregrounding some and backgrounding other aspects is both necessary to enable a response and artificial. Decisions necessarily simplify an event of a complex world with effects that cannot be entirely known (only expected). Because of the artificiality of the simplification, backgrounded aspects of the event reappear and induce further decision-making. The empirically important question then is not only which aspects are fore- or backgrounded, but also what happens over time. Due to the double quality of distinction of fore- and backgrounding aspects of a complex event, we use to gain a better understanding of paradox persistence and transformation.

Using this background and the framework of references, our empirical analysis aims to improve our understanding of how paradoxes persist and transform within organizations.

Methods

Research setting

The pandemic is an event of a complex world. It commenced in early 2020 in China and spread around the globe affecting Switzerland since March 20202 until the federal government declared the pandemic's end in February, 2022. The below figure provides the ex-post occurrence of infections in Switzerland (blue line) which were impossible to predict for many reasons, like the virus' dynamics including mutations, the efforts of public authorities to influence the pandemic's trajectory with differences among regions and nations, or the behavior of citizens as well as organizations in response to the pandemic.

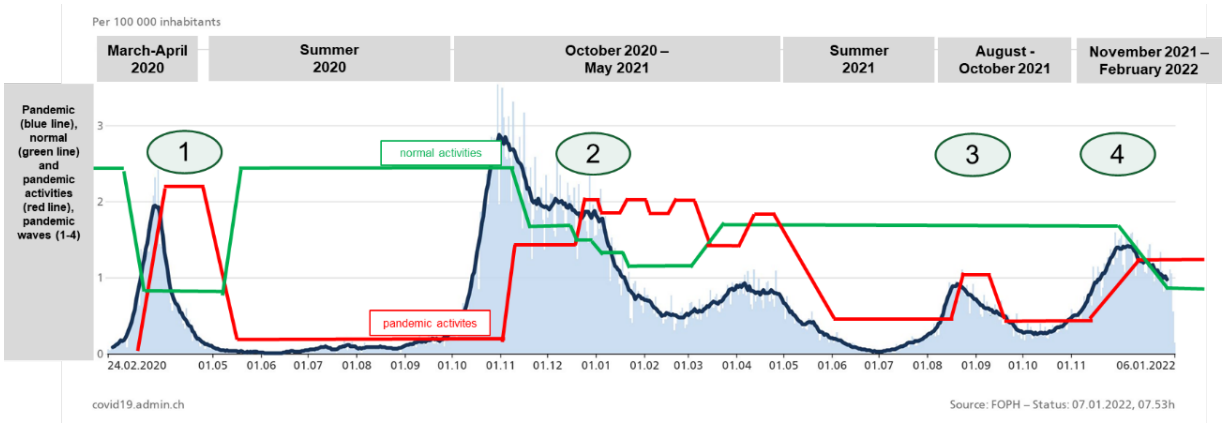


Figure 1. Overview of the pandemic and the resource allocation decisions

Due to its task as a regional provider and the ethics of its healthcare workers, the pandemic produced the need to respond to the pandemic, which involved intense decision-making. The data collection, analysis, findings section and the resulting model focus on this decision-making.

The COVID-19 pandemic posed a situation rive with paradox (Carmine et al., 2021) with resource scarcity, plurality and change (Smith & Lewis, 2011): The uncertain volatility of the pandemic gave rise to multiple meanings surrounding the need for deciding on how to address the pandemic in hospitals. Besides this plurality, a core decision emerged with resource scarcity because the hospital studied aimed for treating all its patients, pandemic and the other – normal – patients. In addition, the disruption of daily activities by the pandemic ignited a period of change, marked as crisis management and the installation of new decision-making bodies like task forces. With all three salience conditions, the COVID-19 pandemic is an extreme event during which organizational actors were in need of intense decision-making facing numerous tensions and paradox.

The hospital is a medium-sized public one with about 2500 employees located in northeastern Switzerland. According to the task set by the public owner, the hospital provides acute healthcare services and selected special treatment services to the regional population. During the pandemic, the hospital was additionally handling the regional COVID-19 patients, and was tasked with consulting the cantonal government, other healthcare organizations (e.g., local hospitals, nursing homes, rehabilitation centers, medical practices), and to participate in national guidelines for coping with the pandemic.

Data collection

The 23-month field phase spanned the first wave of the pandemic in March 2020 to the fourth wave in February 2022. The first author gained access at short notice due to prior research projects offering to document how the hospital managed the pandemic and to facilitate a workshop to generate lessons learned.

Access enabled close immersion during the field phase for the first author to closely follow how the hospital managed the COVID-19 Pandemic (Langley, 1999). Data gathering included semi-structured interviews, observations, and documentary materials to collect diverse data and allow for triangulation.

Interviews. We conducted two rounds of interviews with task force and other organizational members during the summers of 2020 and 2021 (i.e., after the respective pandemic waves had subsided). These interviews revealed respondents' individual experiences of and reflections on the pandemic and its handling as well as their future expectations. The interviews were semi-structured, lasted between one and two hours each, were recorded and transcribed verbatim. In addition, we took extensive field notes and considered the emerging insights and further questions immediately after each interview.

Oral research diary: To accommodate the fast-paced dynamic of the pandemic, the first author conducted repeated short interviews with two staff members as an equivalent of a research diary (Balogun & Johnson, 2005). These interviews were held at 9 pm, lasted 30–60 minutes each, were recorded and documented in detail in my research journal. After daily conversations until April 2020, we conversed once a week until April 2022. The interviews generated in-depth personal data over the field phase. These data helped to track ongoing developments (e.g., staff shortages and shifting modes of interaction).

Observations. Direct observation of the hospital-wide decision-making body ("Hospital Task Force") and COVID-related meetings at the Department of Infectious Diseases ("Corona Daily") gave in-depth access to how the hospital managed the pandemic. Every encounter was documented in detailed field notes. The note accumulated into longitudinal real-time data on navigating the pandemic. Informal coffee conversations with task force members after the 7am "Hospital Task Force" meetings provided insights into participants' immediate reflections and further contextual information on hospital events. I entered these data in my research journal before returning home.

Documentation. Direct access included the hospital intranet, which enabled my co-researcher (a PhD student) and me to extract official internal documents (e.g., COVID-19 staff regulations and emerging concepts for treating and testing patients), and meeting agendas and minutes. Email correspondence with hospital members provided insights into everyday hospital routines and incidents around the pandemic.

Data Analysis

Analyzing the process data (Langley, 1999) began by developing a rich case study of the unfolding events, decisions, the internal hospital context, and the unfolding regional and federal regulations and events (Pettigrew et al., 2001). Second, we traced the central decision

regarding treatment capacity over time based on the meeting minutes. This step provided a focused overview that indicates that the hospital initially switched from normal to pandemic activities and back during the first wave. From the second wave onwards, it adapted more-fine grained the expected demands of treating pandemic patients, as depicted by the green and red lines in figure 1.

The third step of the analysis meant to engage in the moments of decision-making for which we analyzed the detailed field notes and minutes of the task force meetings. We focused on those during wave 2 due to the rapid adaptations in treatment capacities. These became necessary because the hospital was hit fiercest by the pandemic nation-wide while increasingly experiencing restricted resources.

After reading each manuscript several times, we started by carving out the initial structure of the task force meetings. The meetings followed a similar sequence of the CEO as meeting leader setting the overall context by referring to the international, Swiss and local situation. Follows the reports of the different clinics and departments that handle COVID-patients who describe the patient load, the staff situation and at times imply their outlook. Then, the group considered the pandemic's development in the near future before the CEO declared or suggests to either maintain, reduce or enhance treatment capacities for COVID. Either before or after this part participants addressed numerous further issues to decide, ranging from staff regulations, over testing, and vaccination, up to handling media requests or visitor restrictions.

The meetings revealed several structural elements that provided guidance. On a factual dimension, there were the pre-minutes displayed on a big screen that guided the order of topics during the meeting. When it came to the central decision of allocating resources, the so-called "escalation steps" A-B-C, which are several stages of increasing treatment capacities for pandemic patients defined by number of COVID-beds for intensive care units and wards. Correspondingly, normal treatment capacities were left untouched within step A, and increasingly asked to reduce planned treatments as well as light emergencies in levels B and C. Within the social dimension, the taskforce allowed for broad participation of actors involved in COVID-treatment as well as those affected by the capacity decision (see Appendix). Also, most of the hospital board members were present, leading to a total number of over 30 participants. While broad participation was meant to enhance the acceptability of taskforce decisions, decision speed and flexibility was ensured by a small taskforce of

selected members that decided during the week and proposed their decision for approval by the taskforce in the next meeting. With respect to the temporal dimension, we observed that given the unpredictability of the pandemic, the taskforce focused on the present situation (as for instance displayed in figure 1, appendix). From prior experience during wave 1, it was clear that an increase in infections today would leave enough days to adapt capacities until hospitalizations rose.

After the structural analysis across taskforce meetings, we bracketed out the meetings sections that concerned the decision of treatment capacity. We coded each utterance in terms of social, temporal and factual references to better understand the enactment of the decision. This step also revealed that participants brought in several issues on different occasions thereby relating them with the decision of allocating resources. Therefore, and next, we traced these issues across the task force meetings. This step illumined the increasing importance of staff resources (or the lack thereof), but also other issues like fairness of externals and their collaboration, or internal solidarity.

The final step involved bringing together the insights of factual, social, and temporal references, of issues introduced, as well as of considering the actual pandemic situation to depict the decision-making to manage the pandemic (empirically), while focusing on our research interest of better understanding paradox persistence and transformation (theoretically). The following finding section starts with displaying the complex event of the pandemic as experienced by the task force before engaging in detail into taskforce meetings to understand the enactment of decision-making.

We developed the model through interaction of data with theory. Once the model stabilized we re-analyzed meetings again to check the empirical expression of model components.

Findings: the pandemic, decisions and re-entry of backgrounded aspects

The findings section follows the model: First, we elaborate on the complex event of the pandemic. The complexity of the event meant that the organization faced continued uncertainty, regarding the development of the pandemic. This complexity promoted continued decisions by the hospital because it was clear for the hospital to respond to the pandemic.

Second, the hospital approached this need for decision-making by establishing structures: on a factual level through the so-called escalation steps, on a social level by installing the taskforce and on a temporal level by focusing on what the pandemic looked like in the present moment. With these structures, the taskforce used the distinction of allocating treatment capacities between pandemic patients and its other (normal) patients in light of available capacities at the time. The distinction translated the pandemic for the hospital into decidable alternatives, namely whether to reduce, enlarge or maintain the level of pandemic treatment capacities. Selected examples

Third, the findings sections elaborate on the re-entry of backgrounded aspects. We trace their emergence in the taskforce meetings and provide illustrations of how the taskforce dealt with these issues. These illustrations exemplify a renewed backgrounding of the issue in order to maintain the main distinction, but which keep returning. Second, the examples show further issues that enter the decision-making thereby complicating the initial distinction. As noted, we did not observe a fundamental shift of the initial distinction.

In sum, the findings illustrate the persistence of paradox in terms of returning undecidabilities as well as a transformation within the distinction that translates the pandemic into a decision of allocating treatment capacities. Also, our findings indicate a transformation of paradox within this distinction.

Complex event of the pandemic that required the hospital to respond

This section shows that the pandemic was an event the complexity of which was present to hospital members in terms of uncertainty and the volatile nature of the pandemic. At the same time, it was clear for the hospital to respond to the pandemic. Therefore, the hospital perceived the continued need for decision-making.

As part of a complex world, the pandemic was an event that posed uncertainty and volatility for the hospital that was tasked with decisions to respond to the pandemic.

For the hospital, wave 2 began at a low-level during September followed by steeply rising infections during October. In the second half of November the pandemic appeared to peak according to taskforce members. In December hospitalizations increased again, before slowly retreating during January. The taskforce members were acutely aware of this uncertainty and volatility in their meetings, summarized by exemplary quotes in Table 1:

Meeting	Pandemic	Quote	Name, Function	Source
09.11.20	Unclear situation, rising infections, but stable hospitali-zations	Der Anstieg vom Dienstag und Mittwoch hat sich abgeflacht. Da hatten wir Sorge, aber jetzt ist es ok.	Mio, Head of ICU of surgery	Notes
		Ich habe die Tage vom WE noch nicht gesehen, meine aber, dass wir vielleicht ein Plateau haben. Aber das ist eine schwierige Interpretation	Daniel, CEO	Notes
		Die Graphiken sind ja schwer zu interpretieren, aber man hat das Gefühl, es nimmt nicht weiter zu. Aber das ist nur ein Gefühl.	Daniel, CEO	Notes
07.12.20	Rising hospitali-zations	Jetzt sieht es heikler aus. Ist es der 2. Buckel oder eine neue Welle? Am WE war es schwierig	Daniel, CEO	Notes, line 1
		Also, jetzt nimmt es eher wieder zu. Auch letzte Woche hat das schon angefangen. Auch bei den hospitalisierten sieht man das, mit dem leichten Rückgang und dem Anstieg. Aber ob das eine 3. Welle ist, ist noch schwer zu sagen …. Ich glaube aber nicht, dass sich das in den 2 Wochen entspannt	Mathias, Head of hospital hygiene (in charge of pandemic-related regulations)	Notes, line 34
		Also, wenn das eine 3. Welle kommt, dann wird es uns verblasen. Da reichen die Stufen mit B, C nicht mehr. Da brauchen wir eine Stufe X. Und ist das der Regierung klar? Also, wenn es eine 3. Welle ist, dann wird es eine Katastrophe	Mio, Head of ICU of surgery	Notes, line 36
18.01.21	Lowering hospitali-zations	Es nimmt ab, aber die [Patienten], die wir haben sind übel, ich glaube die schaffen es nicht.	Mio, Head of ICU of surgery	Notes, line 8
		Also, bis Sportwoche geht es schon nicht [zu reduzieren]. Das ist mir zu riskant, Aber für danach können wir jetzt schon planen. Also, wenn die Entwicklung so bleibt, dann ginge das vielleicht. Aber das Niveau ist schon noch hoch	Daniel, CEO	Notes, line 34
		Das ist eine blöde Situation	Daniel, CEO	Notes

Table 1: Complex event of the pandemic that induces uncertainty for the task force

For the hospital and its taskforce, the pandemic called for allocating treatment resources between pandemic patients as well as its other patients. The allocation of scarce resources turned into paradox because the hospital aimed to treat all patients in its catchment area, complying with the demands of the public as well as its clinics. Tom, head of anesthesiology summarized this goal as follows: "Our premise was to continue our normal activities as much as possible and simultaneously have resources available for the COVID-patients" (interview, Summer 2021). At the same time, treatment capacities were insufficient because of the additional needs for the pandemic. In addition, staff resources diminished over time during wave 2 which lowered available beds on wards or ICUs, This gradual decline resulted from sick leave, quitting and public rules on quarantine for infected healthcare workers. The following table provides data that also highlights the volatile intensity felt by task force members towards available treatment resources: These appeared relatively scarce in September 2020, despite the low pandemic level. Although the hospitalizations rose

steeply during October 2020, experienced resources scarcity appeared lower during this month before it rose towards the end of that year:

Meeting	Pandemic	Quote on resource scarcity during meetings	Name, Function	Source
09.09.20	Infection rates increase, while hospitalization remains low	Darf ich noch was sagen? Es limitiert einen extrem, wenn man Patienten aufnehmen soll und dann heisst es die halbe Station ist zu. Das ging nach einem Tag. Aber das ist schon limitierend.	Michael, head of inner medicine	Notes
19.10.20	Infections are steeply rising, hospitalizations increase	Also, Personalmässig sollten wir schon was machen. Da waren wir am WE schon an der Grenze	GianReto, head of medical ICU	Notes
09.11.20	Unclear situation, rising infections, but stable hospitalizations	Wir sind kompensiert	Thomas, Head ECU	Notes
		Also, das Personal ist schon etwas. Der Hotspot hat sich stabilisiert, sind nicht mehr mehr geworden. …. Im Moment haben wir 52 in Isolation	Nicole, Nursing director	Notes
		Wir sind kompensiert	Mio, head of ICU	Notes
07.12.20	Rising hospitalizations	Beim Pflegepersonal sind es knapp und 2 Doktor ausgefallsen, wegen Qurantäne	GianReto, head of ICU	Notes, line 2
		Das (ärztliche Personal) ist etwa für 3 Wochen bereit	Michael, head of inner medicine	Notes, line 18
		Da auf der MIPS ist es immer knapp. Da können wir nur für 2-3 Tage schauen. Da haben wir Ausfälle, auch weil Leute wieder gehen. Das ist wirklich ein Thema	Rita, head of nursing inner medicine	Notes, line 23
18.01.21	Lowering hospitalizations	das personal ist schon das knappe	Christoph, head of neurosurgery	Notes, line 29
		Das eine ist die Unterstützung mit dem Personal. Und das andere ist dass wir mit dem COVID 36 Opsbetten weniger haben. Beim Hochfahren dann bringen wir die nicht rein.	Maggi, head of nursing surgery	Notes, line 31
		Also die sind beansprucht auch mit komplizierten NON-COVID, das würde schwierig. Die sind respiratorisch anspruchsvoll, auch die Kardio-Patienten, die Mischung ist schwierig.	Rita, head of nursing inner medicine	Notes, line 38

Table 2: Decision need across taskforce meetings

Overall, the event of the pandemic and the resource scarcity triggered the need to decide what was rationally undecidable. On the one hand, the pandemic volatility and the felt uncertainty triggered decision-making on treatment allocation. On the other hand, the pandemic introduced the additional demand of treating COVID-patients, that added to the existing demands expressed by the various clinics to treat the patients of their specialties (normal patients). Resource scarcity and the pandemic contradicted the hospital's aim of treating all patients in its catchment area. The taskforce faced the paradox of having to decide

the rationally undecidable decision of allocating resources while complying with the demands of all clinics as well as those charged with COVID-treatment.

Established structures for decision-making

This part of the findings section elaborates on the structures the hospital established for decision-making in response to the pandemic. On a factual level, the central structure were the so-called escalation steps that framed the pandemic as a matter of allocating treatment capacities between normal and pandemic patients. On a social level, the hospital installed the taskforce as a central decision-maker. On a temporal level, the taskforce focused on the present situation of the pandemic, given the impossibility of future projections.

The central instrument to translate the undecidable decision to allocate resources between normal and pandemic patients was the so-called "escalation scheme" (see table X), that defined numbers of beds designated to the two ICUs (M-ICU of inner medicine, S-ICU of surgery) and several wards.

Stufe	Notfall	Abteilung	Intensiv	Massnahmen
A: Ressourcen DIM reichen aus	Alle Fälle	Dept. Innere Medizin (DIM)	MIPS, evtl. CHIPS	K/T-Isolation*
B: zusätzliche Kapazitäten notwendig, Reduktion elektiver Eintritte	Schwere Fälle	Dept. Innere Medizin (DIM)	MIPS/CHIPS	K/T-Isolation*, Kapazität erhöhen durch Reduktion elektiver Eintritte
C: Höchste Eskalationsstufe	Schwere Fälle	DIM, plus weitere Kliniken/Stationen	MIPS/CHIPS, NIPS plus OP-Säle H03, Aufwachraum H03, …)	K/T-Isolation*, auch bereits geplante elektive Eintritte stoppen

** K/T: Kontakt-/Tröpfchenisolation (Aerosol bei Intubation, nach Bronchoskopie, …), Kohortierung von bestätigten Fällen*

Das KSSG unterscheidet im Covid-19-Stufenplan zwischen den Bettenstationen und den Intensivstationen. Für die Intensivplätze wird die Stufe C in 2 Ausbauetappen unterteilt – C1 und C2.
Seit heute 16.11.2020 befindet sich das KSSG für die **Intensivplätze in der Stufe C1, für die Bettenstationen weiterhin in der Stufe B**.

Übersicht über die Betten- und Beatmungskapazitäten

Betten-stationen	**Stufe A**, 50-75 Betten auf 5-6 Stationen	**Stufe B**, ca. 200 Betten auf 8 Stationen	**Stufe C**, ca. 350 Betten auf ca. 13 Stationen	
0202	15	25		
0204	-	5		
0410	15	15		
0306	10	30		
0309	-	26		
Rorschach	25 A31 mit 10 Betten bis 23.12.2020 A22 mit 15 Betten bis 15.01.2021	30 A31 mit 7 Betten bis 23.12.2020 A22 mit 23 Betten bis 15.01.2021		
Flawil	20 B0 mit 5 Betten B3 mit 15 Betten	53 B0 mit 16 Betten B2 mit 9 Betten B3 mit 28 Betten		
Total Betten auf Stationen	85	184		
Intensivplätze	**Stufe A** 36 reguläre Plätze	**Stufe B** Ausbau auf 44 Plätze	**Stufe C1** Ausbau auf 48 Plätze	**Stufe C2** Ausbau auf 58 Plätze
Intensivplätze MIPS	12	12	16 +4 in Tele-metrie	18 +2 in NIPS
Intensivplätze CHIPS	24	32 +8 auf 0418	32	40 +4 im Aufwach-raum +4 in CHIPS-Bibliothek
Total Intensivplätze	36	44	48	58

Figure 1: Escalation Scheme (meeting minutes, November 16, 2020, p.4)

Practically, the Taskforce had to define, whether or not the hospital should enter from one stage (A, B, C1) to another. Such a shift implied increasing number of beds (as well as required staff) on wards and the ICUs designated for COVID-patients, as shown by the escalation scheme. Unspecified and thereby left to the different clinics were the decision of reducing their treatment activities of normal patients in return. This meant that the clinics decided among each other about allocating the remaining treatment resources between their respective (normal) patients. Overall, the escalation scheme provided guidance to position the hospital within the unfolding pandemic in terms of the required treatment resources. The different stages (A, B, C1) enabled alternatives that could be decided, namely whether to maintain, reduce or increase capacities, i.e. move from one stage to another or not.

The central decision-maker (social dimension) during the pandemic was the so-called large Taskforce. Presided by the CEO and besides most executive board members present its members were both of clinics and department that directly dealt with the pandemic as well as representatives of clinics affected by task force decisions, like orthopedics or HNO (see Table 3). The Taskforce met Monday mornings at 7 am for an hour to ensure presence before daily activities commenced. It was run according to an agenda that was continually updated with the decisions during the meeting and distributed to relevant stakeholders shortly thereafter. Dan, CEO of the hospital, led the taskforce meetings, while his assistant Hans documented the decisions visible to all on the screen, so that the meeting followed a similar sequence: At

the beginning Dan shared his overall impression of the current situation, followed by the reports of the various units that dealt with the pandemic, including the ICUs, wards, ECU, infectiology, logistics and the unit in charge of collaboration with other healthcare providers. These reports mainly focused on the workload with COVID-patients and the staff situation. After these reports, the discussion turned to establishing an understanding of the expected pandemic development to arrive at deciding whether or not the taskforce should change the hospital's positioning within the escalation scheme. Further topics, like testing, vaccinating, visitor restrictions, employee regulations etc. followed before the meeting ended or preceded it depending on urgency.

Besides the large Taskforce, the so-called small Taskforce consisted of 7 members (CEO, Deputy CEO, Director of Nursing, Head of Infectiology and Hospital Hygiene, heads of the ICUs, and head of internal medicine) who updated each other via WhatsApp on a daily basis and met on demand during the week. Its decisions were proposed for approval to the large taskforce in its Monday meetings.

With this structure of Taskforces, the hospital aimed to ensure quality in decision-making, speed and flexibility as well as enhance acceptance of its decisions through participation. On occasions, other decision-makers became part of the process, either in bilateral meetings or when reductions in normal treatment had to be reassured. For the matter of continued normal treatment, the so-called Surgery-Commission (SG, German: Ops-Kommission) became involved, particularly when larger reductions had to take place.

	Wave 1		Wave 2		Wave 3	
	Large Taskforce	Small Taskforce	Large Taskforce (changes)	Small Taskforce (changes)	Large Taskforce (changes)	Small Taskforce (changes)
Executive Board	▪ CEO (leads), and vice-CEO ▪ all but 2 executive board members	Members		Only CEO	As in wave 2	
Medical depart-ments	▪ Heads of both ICUs (inner medicine, surgery ▪ Head of inner medicine department ▪ Clinic heads of pneumology, emergency care (all inner medicine department) ▪ Head of surgery department ▪ Clinic head of infectiology and hospital hygiene	Members Members Member	▪ Clinic head of cardiology ▪ Clinic head of anesthesiology ▪ Clinic head of Nose, Ears, Throat ▪ Clinic head of transplantation surgery ▪ Clinic head of radio-oncology ▪ Clinic head of oncology ▪ Clinic head of eyes	Member	As in wave 2	Member (cardio) Member (anaest.) Member Member (pneumo) Member (transplation) Member (emergency)
Nursing	▪ Head of nursing department ▪ Nursing director of inner medicine ▪ Nursing director of surgery ▪ Nursing director of emergency care	Member	▪ Nursing director of both ICUs	 As guest As guest	As in wave 2	 Member Member
Para-medical	▪ Head of pharmacy ▪ Head of cooperations with nursing homes		▪ Head of laboratory		As in wave 2	
Admi-nistration	▪ Head of Communication ▪ Head of Logistics, gastronomy ▪ Head of Human Resources ▪ Head of corporate development	Member	▪ Head of finance		As in wave 2	Member Member
Size	22	6	32	8	32	16
Rhythm	3 times a week for 3 hours each	daily, 30 Min. (whatsapp)	1 per week for 1 hour	3-5 times a week, 1 hour	3 meetings overall for 1 hour	1 a week, 1 hour (physical), daily monitoring (whatsapp)
Role	Decision-making body that monitors situation, discusses proposal for pandemic activities by clinics, and issues the binding minutes	Monitoring, fast decisions to be proposed to large Taskforce	Decisions on escalation level, hygiene, visitors and protection, approval of decisions by the small task force, issues minutes	Monitoring and deciding on capacities as triggered by ICUs	Being informed, and broad decisions on hygiene and visitor restrictions	Decision-making body that issues the minutes

Table 3: Taskforce members (meeting minutes 2020-2022)

In terms of time (temporal dimension), the Taskforce had learned from the initial first wave of the pandemic. There, it had tried to project the pandemic development through simulations the estimates of which had never materialized. In addition, the Taskforce had observed that changes in hospitalizations lagged roughly ten days behind a change in infection rates. Since reductions in normal treatment could occur quicker, the Taskforce opted to consider the present development at each point in time frequently acknowledging the uncertainty in temporal developments of the pandemic. The following figure provides a visual example of tracked hospitalizations at the hospital that was displayed during the meetings (in this example from the meeting of October 26, 2020):

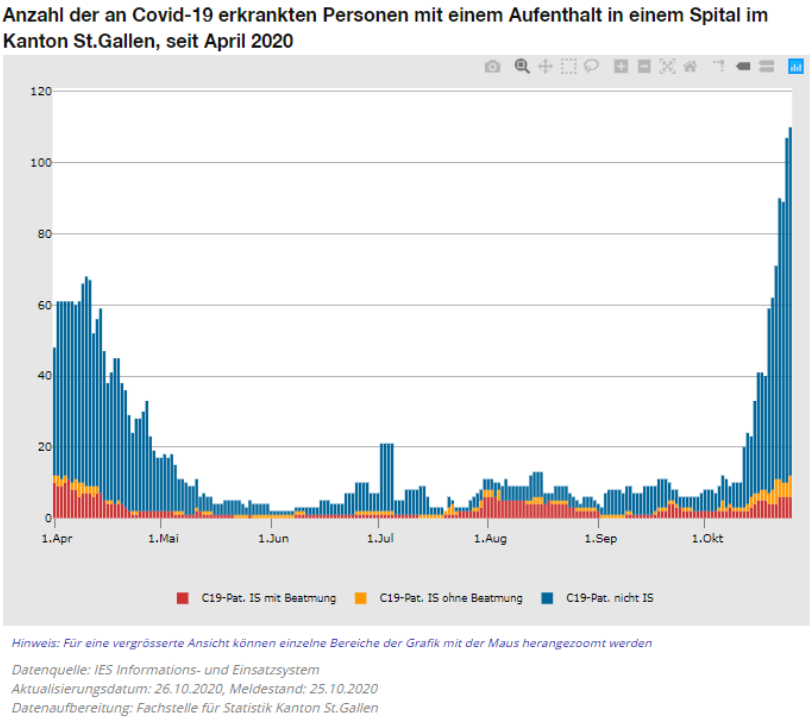


Figure 2: Infected Patients in the Canton, since April 2020 (up to October 26)

Overall, the escalation scheme (factual dimension) generated the alternatives through which the hospital translated the event into decidable choices. This factual structure was accompanied by the social one of designating these decisions to the Taskforce (social dimension) and its focus on the presence (temporal dimension). These structures enabled decision-making in the complex situation of the pandemic with its volatile uncertainty. The temporal dimension provided the urgency, while the taskforce served as the decision-maker, and the escalation scheme helped to translate the complex event of the pandemic into choices regarding the allocation of treatment resources for COVID- and normal patients, while the hospital pursued the aim to treat possibly all its patients.

Backgrounded aspect of the decision

The third section of the findings displays aspects that the main distinction of allocating capacities between pandemic and normal treatment backgrounded. These aspects are specific to the organizational setting, but emerged and re-emerged in the taskforce over time, demonstrating their re-entry into the decision-making. The excerpts of taskforce discussions illustrate how the taskforce dealt with these issues, mainly by renewed backgrounding (and later return), by shifting the issue to other decision-makers, and into the future. In these ways, the taskforce maintained its main distinction, whereas the return of the

aspects indicates the persistence of paradox. Over time, these returns led to transforming the paradox within the main distinction.

Backgrounded aspects of the event

The specific translation of the pandemic into decidable choices through the above structure backgrounded other aspects. These aspects are specific to the organization and how it operates within the local region and the proximity of other cantons. The following figure places those backgrounded aspects that re-entered the taskforce discussions in this organizational context (see Appendix for a detailed definition and the tracing of these aspects):

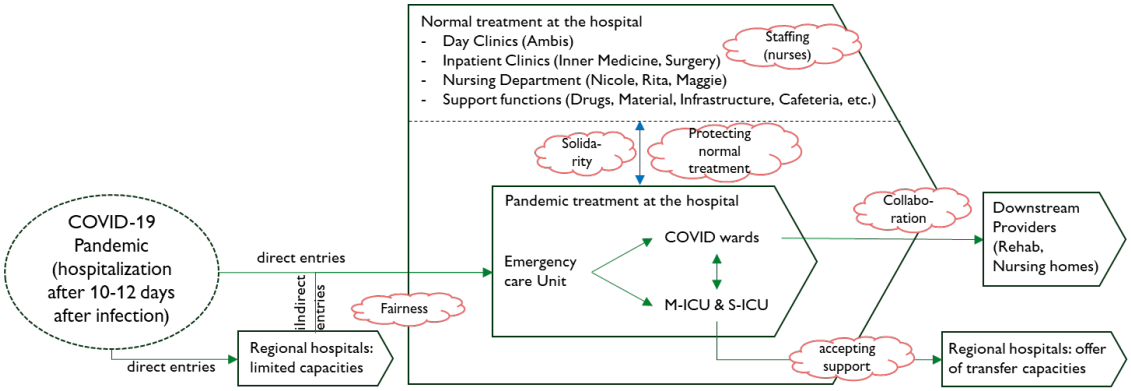


Figure 3: Situating backgrounds in organizational setting

The pandemic led to increased patient entries in the hospital studied as well as others in the region, both inside and outside the canton. In addition, the hospital received COVID-patients from these other hospitals, which raised the aspect of "fairness", namely the question among taskforce members if the other hospitals had also reduced normal treatment or not. The entry of COVID-patients triggered the need to respond to the pandemic, which the hospital translated into the decision of allocating capacity between pandemic and normal treatment. This distinction led to the issue of "solidarity", which means that taskforce members observed that some of their clinics or departments did not comply with taskforce decisions and continued treating normal patients, on levels higher than agreed. The aspect of protecting normal treatment resulted from the priority the escalation scheme gave to pandemic treatment through its structure. Protection meant that clinicians in charge of COVID-treatment – the ICU heads and the clinic head of internal medicine – allowed for continued treatment of normal patients. As a results, intensified also by governmental regulation about isolating infected staff, the aspect of staff shortage became prevalent particularly in nursing. As this aspect returned and became more intense, medical doctors

brought in staffing of nurses. In addition, and to ease the decision-making pressure, the aspect of collaboration entered the taskforce. It involved ensuring patient transfer to other institutions, like nursing homes or rehabilitation clinics, in order to free up capacities. For the same reason, collaboration or accepting support also entered the taskforce. Given the uncertainty of the COVID as an illness and of treating patients, the hospital's medical doctors were reluctant to accept offers of other hospitals to transfer COVID-patients. The following table provides a summary that defines the aspect, and traces their entry into taskforce decision-making during wave 2 with quotes and exchanges within these meetings:

Handling backgrounded aspects in the task-force meetings

We observed the several patterns that backgrounded these backgrounded issues to enter the decision-making on treatment capacity: A first pattern was to re-instate the distinction. The following excerpt concerns the meeting of December 7, 2020, when the hospital faces intense challenges with increasing hospitalizations, restricted staff and the upcoming Christmas holidays. In the early part of the meeting, each clinic or department involved in treating COVID-patients reports their situation as usual. After the ICUs und internal medicine reported that they operate at their limits and that normal treatment should reduce activities further, it is Nicole's turn to report on the situation in nursing:

No.	Utterance in task force	Interpretation
22	NM: …. Personal sind wir immer so knapp dran. Bei der MIPS ist es schon knapp. Und die Situation ist knapp.	Fact ref to staff shortage in general
23	RA: Da auf der MIPS ist es immer knapp. Da können wir nur für 2-3 Tage schauen. Da haben wir Ausfälle, auch weil Leute wieder gehen. Das ist wirklich ein Thema	Fact ref. to staff shortage ICU in particular
24	DG: Gibt es da Lösungen, dass mittelfristiger zu lösen	Changes time frame towards the wider future (temporal reference)
25	NM: Also, wir haben das versucht und versuchen, dass das mit Januar geht.	
26	DG: Aber mit 2-3 Tage ist nicht spatzig. Und da sind die Prioritäten sicher die MIPS und nicht die Stationen.	Suggests shifting staff from wards to MIPS, reinstates the escalation scheme
27	RA.: Die Stationen haben sehr viele komplexe Patienten, in der Pneumo, der Gastro oder im NIPH-Team. Da geht auch nicht mehr viel und wir sind knapp in der Planung.	Counters because of complex patients on wards and dire situation there
28	DG: Also, Prioriäten hat die MIPS, nicht die Stationen	Brings in external context of possible transfer

Table 4: Excerpt, Taskforce meeting, December 7, 2020

While it appears accepted that the hospital operates at its limits and the situation is tense. Rita points out that staffing is only secured for the next days (line 23). Daniel first aims

to enlarge the temporal perspective (line 24) which does not seem to help (line 25), and then reinforces the distinction on focusing on ICUs instead of wards (line 26, 28) despite the attempt by Rita (line 27) to widen the scope towards wards, which could enter the issue of staff shortage more prominently into the decision-making.

A second pattern was to shift the aspect outside the taskforce to those involved. An example of this pattern regards the issue of accepting support and transfer COVID-patients from the hospital to other hospitals nearby that had offered to admit patients. The following exchange on November 12, 2020 (lines 51-58) unfolded between SS -head of HNO and interested in treating his normal patients- and Dani and his deputy CEO who aimed to ensure pandemic treatment:

Line	Exchange between taskforce members (lines 51-58) on how to make use of this offer:
51	SS: Wie viele Plätze haben die?
52	DG 6, daher haben sie gesagt, 3 könnten sie nehmen. Das haben sie auch für Grabs angeboten
53	SS: Da könnten wir dies auch in unsere Planung übernehmen
54	DG: Ja, schon…
55	SS: Das wäre aber auch noch wichtig, wenn wir Entscheidungen treffen…
56	SW: Das haben wir schon immer eingeplant. Das ist auch etwas symbolisch mit 2 Plätzen
57	SS: Ja, klar. Aber immerhin 2, aber die kann man ja nutzen.
58	SW: Ja, genau. Und der Austausch ist immer da.

Table 5: Excerpt Taskforce Meeting November 12, 2020

In this exchange, SS tries to reach a formalization of using the offered places, which Dani and Simon oppose. They rather aim to keep the aspect outside the taskforce and up for the heads of the ICUs to decide. Thereby, it remains unclear if and to what extent offers are taken up, even though Dani had introduced the topic to ease the pressure on November 12, 2020.

A third pattern was to shift the aspect to another decision-maker, as in the example of the issue of fairness. During the meeting of November 9, 2020, Jost, clinic head of orthopedics that is affected by the pandemic with significant reductions of their treatment activities, raises this topic after it had first emerged during the meeting of October 26:

No.	Utterance in task force	Interpretation
30	Jost: Gibt es da Abstimmung, dass die bei der Ortho ausserhalb des Kantons so weiter machen?	Backgrounded aspect «fairness» through social reference (Abstimmung)

No.	Utterance in task force	Interpretation
31	DG: Da haben wir keinen Einfluss, nur im Kanton. Wir können uns nur sagen, dass wir keine nehmen, wenn die nicht runterfachen	Factual reference (cantonal borders): issue is only resolvable with either/or
…	(deviation from the aspect, omitted here)	
34	GianReto Noch ein Beispiel vom WE. Eine Patienten aus dem Kanton Zèrich, die wurde in Glarus abgelehnt, auch in Zürich und im Thurgau. Und am Schluss ist die bei uns gelandet. Und wir können kaum sehen, wie welcher Kanton runtergefahren ist. Wie erfahren wir das?	Factual Reference to single example that reinforces uncertainty and asks how to resolve uncertainty
35	DG: Das ist gut, die Frage nehme ich mit. Das ist die Aufgabe des Kantonsarztes. Und wir kriegen die Antwort aus den Spitalleitungen, dass sie runterfahren. Aber die Ärzte sagen dann, dass sie so weitermachen. Das ist gut	Social dimension: Shifting the issue to Kantonsarzt
…	(deviation from the aspect, omitted here)	
38	LP: Vielleicht hilft es ja, genau zu fragen, wie genau sie das machen, mit welchen Kapazitäten sie das machen? Das könnte ja helfen.	Suggests CEO (social reference) could ask for transparency
39	DG: Das ist beim Appenzell ist das schwer, die haben ja nur 2, 3 Betten. Und im Thurgau bekommen wir keine normale Aussage, da müssen wir was anderes machen	Denial with factual references (going into details)

Table 6: Excerpt Taskforce Meeting, November 12, 2020

In this pattern, the CEO aims to shift the backgrounded aspect to another decision-maker (the canton) because these hospitals lie outside the area of their own canton. Avoiding the suggestion (line 38) to inquire himself, he acknowledges the un-resolvability of the issue (lines 39) and thereby backgrounds the issue for the time being from the taskforce meeting.

A fourth pattern, which we observed when the aspect of "solidarity" re-entered, involves shifting the decision into the future and enlarging the decision-makers. The shift in time is argued necessary to substantiate the needs for staff and beds. The enlargement of decision-makers concerns the OP-Kommission, the committee responsible for significant parts of normal treatment. The following excerpt occurred during the meeting of December 7. 2020, the same meeting as in the pattern above:

No.	Utterance in task force	Interpretation
36	Vilip: Also, wenn das eine 3. Welle kommt, dann wird es uns verblasen. Da reichen die Stufen mit B, C nicht mehr. Da brauchen wir eine Stufe X. Und ist das der Regierung klar? Also, wenn es eine 3. Welle ist, dann wird es eine Katastrophe	Temp Ref. to the urgent need to decide (verblasen)
37	DG: Ja, und wir müssen dann bei der Regierung tätig werden mit Massnahmen.	Social reference to shift decision to external decision-maker

No.	Utterance in task force	Interpretation
38	MB: Noch etwas, wir dürfen keine elektiven Patienten mehr aufnehmen, die nicht absolut notwendig sind. Das war für die Equipe mühsame am Wochenende. Also, das sollte man sich überlegen. Jetzt am Montag sind wieder 24 elektive geplant. Das ist wirklich knapp, soll keine Kritik sein, aber das wird schwer.	Factual reference (elective Patienten) emphasizes taskforce as decision-maker; urgency argued with social reference (Equipe); Implicit critique of cardiology that admitted 24 (normal) patients
39	NM: Also, wir haben viele Patienten, 206 auf der DIM und den chrirurgische Kliniken mit den elektiven. Also, mein Haus ist voll, da haben wir nicht viel spatzig.	Factual reference (nursing at the limits) to substantiate urgent decision within taskforce
40	DG: Das heisst, Stefan und Nicole. Das ist Thema für morgen!	Atempting shift of decision to bilateral (social reference) and tomorrow (temporal reference)
41	TS: Also, wir haben im OPS 25% Reduktion gesehen und wir haben jetzt nur 10% und wir machen das mit weniger Personal. Also, da gab es jetzt Stimmen. Und das ist wirklich knapp … Also, die Eingriffe, die verschoben werden können, die müssten wirklich verschoben werden. Bis jetzt die kleinen Eingriffe, sind noch aufgeboten worden	Factual References to substantiate decision need, and social reference (Stimmen), plea to further reduce as agreed (solidarity while protecting normal treatment)
42	DG: Also, das ist jetzt nicht nur im DIM. Das ist eine ernsthafte Aufforderung an alle, damit es uns nicht an Weihnachten verblast. Im DiM und in den OPs. Das ist ernsthaft. Jetzt sollten alle rapportieren, was sie planen. Wann müssen wir wirklich reagieren?	Social Reference (alle), and temporal reference (Wann)?
43	TS: Wir sollten sofort das greifen lassen, sonst gehen wir wieder in den Lockdwon. Im Moment können wir die Spuren betreiben, aber dann darf nicht noch was zusätzlich kommen.	Temporal Reference (sofort) while repeating achieved protection of normal treatment
44	DG: Das heisst, die operativen sollten kurzfristig mit Euch zsuammen sitzen und das klären.	Enlarging decision-maker (Social Reference): OP-Kommission, thereby shifting decision
45	TS: Das sind ja eigentlich die Abmachungen, die wir haben.	Temporal Reference to the past to urge decision now, pointing out lack of compliance (eigentlich)
46	DG: Das sehe ich schon. Aber so hat das Appellcharakter und jeder denkt, der andere soll es reduzieren. Da muss man zusammen sitzen	Social reference (jeder denkt) to question compliance, asking for deciding again
47	TS: Das ist dann die OP-Kommission.	Soc.Ref: OP-Kommission to help get a decision
48	DG: Gut, dann machen wir eine. Und laden Euch an, jetzt in den nächsten 2 Tage. Und wir brauchen eine verbindliche Abmachungn, sonst laufen wir schief. Sonst noch Fragen?	Need for committed decision

Table 7: Excerpt Taskforce meeting, December 7, 2020

In sum, the findings demonstrate the complexity of the pandemic as an event that hospital members experienced in terms of uncertainty and volatility. As responding to the event is out of question, the hospital established the factual structure of the escalation scheme to translate the event into the decision of maintaining, reducing or enlarging treatment

capacities for pandemic patients. The social structure was the taskforce as the central decision-maker, that also focused on the immediate situation as a temporal orientation of its decision-making. These structures enabled the hospital to decide and thereby handle the pandemic. At the same time, these structures backgrounded aspects of the event and its relation to the organization. These aspects reentered the taskforce from time to time and were dealt with patterns like the ones mentioned above. Most of these patterns involve shifting the aspect, to the future and to other decision-makers, internal ones like the OP-Kommission or external actors, like the canton. These patterns allowed addressing the aspects in some way within the present meeting, but did not resolve them, so they returned over the course of the pandemic.

Distinctions of decision-making reproduce and alter paradox - a process model

The model below abstracts the empirical analysis to a level of abstraction in order to better understand the persistence and transformation of paradox. The core explanatory mechanism lies in the translation of an undecidable situation into decidable choices and their decision. As distinction, translation and the subsequent choice of an alternative foreground certain aspects of a complex event while backgrounding others (see Appendix for a summary of foregrounded and backgrounded aspects). For the moment of this decision, the organization continues operating. At the same time, the backgrounded aspects re-emerge in the future. This re-entry of backgrounded aspects produces future moments of decision-making which is rationally undecidable like the initial decision because of the complexity of the event. Paradox persists and the organization oscillates between the alternatives of its decision (here: normal and pandemic treatment capacity). The decision-maker cannot escape the (rational) undecidability when it comes to responding to an event which is entangled in a complex world.

Also, the re-entry of backgrounded aspects of a complex event speaks to the transformation of paradox. As backgrounded aspects re-emerge in a future moment of decision-making, they can either reproduce the distinction of the initial decision or lead to changing this distinction. In the case of the former – we call it transformation within the distinction – the initial alternatives are maintained but become more differentiated by including important pre-requisites that cannot be assumed (anymore) because of the effects of previous decisions on these conditions. In the case above, such aspects were the shortage of staff, the solidarity among clinics and departments and the collaboration with other providers to speed up patient transfer after their treatment.

In the case of the latter – we call it transformation of the distinction – re-entered aspects might lead the organization to question their initial distinction and replace it with another. We did not observe the latter in our case but saw attempts in this direction when nursing attempted to broaden the focus on ICU capacities towards the wards (see excerpt 1). In addition, other empirical examples seem to point into this direction, for example the changed self-understanding of the organization to reframe the paradox (Jay, 2013), or when a changing organizational environments triggers an organization to shift its focus (Kilminster et al., 2024). Figure 4 summarizes the process model for paradox persistence and transformation:

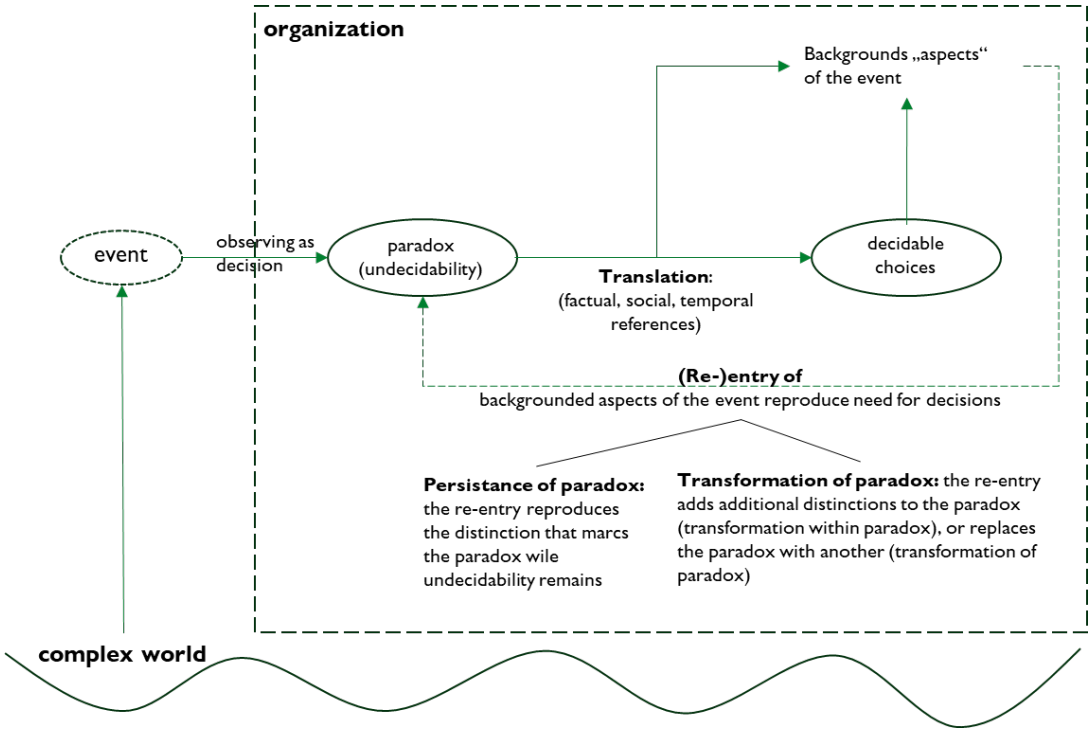


Figure 4: Model of paradox persistence and transformation

In sum, we argue that the persistence and transformation of paradox result from decision-making. Decision-making means to use distinctions that foreground some aspects of an event and organization has to address, while backgrounding others. Their re-entry can either induce the organization to maintain the distinction it has used which reproduces the contradictory elements the organization has used to frame the paradoxicality of the event that involves a rationally undecidable decision. This means that the organization backgrounds the re-entered aspects again to continue operating with the previously adopted distinction. Or the re-entry can trigger the organization to add backgrounded aspects of the event in its decision-making, thereby further differentiating the previous distinction. Alternatively, the re-entry can lead the organization to alter the previously used distinction, which leads to the

transformation of paradox. In either situation, the undecidability remains because it results from simplifying otherwise complex events through distinctions and leaves the organization with what von Foerster (1994) calls real decisions – we can only decide what we cannot decide. Paradoxes are unresolvable and require continued managing or navigating.

Discussion: Paradox persistence and transformation

This insight relates to and expands existing insights of paradox persistence. Paradox persists neither due to the complexity of the world alone, as the systemic perspective of Schad & Bansal (2018) argues. Paradox is not an inherent feature of the world as such, not even in terms of a potentiality (Knight & Hahn, 2021). Nor does paradox solely emerge from the actors as results of their paradoxical thinking or mindsets (Miron-Spektor et al., 2017) or from the interaction between actors (Jarzabkowski & Lê, 2017; Luescher & Lewis, 2008). Rather, paradox persistence results from the interaction between a complex world and an organization. The complex world provides events to which the organization responds with decisions the undecidability of which it translates into decidable choices.

In other words, we argue that paradox and its persistence lie in the relation between actors and the complex world in which they are embedded. This relationship is marked by two conditions, a complex world and an actor who needs to decide. For the actor, this relationship is paradoxical: The complex world provides the actor with events which the actor experiences as undecidable but in need for being decided. Without a complex world, there would be no need for decision and no paradox. Vice versa, without a decision need, there would not be a paradox for the actor. In combination, an actor operating in a complex world encounters paradox. The actor employs distinctions to translate the (rational) undecidability the event poses into decidable choices through factual, social and temporal references. This translation foregrounds certain aspects the selection of which enables the actor to continue operating. Backgrounded aspects do not disappear and therefore lead to future moments of decision-making that lead the organization to reproduce or alter the distinctions, and hence the persistence or transformation of paradox.

Locating paradox and its persistence has several important implications that speak to paradox theory: First, early scholars like Lawrence and Lorsch (1967) and Ford and Backoff (1988) located paradox within organizational structures. These scholars argued that paradoxes in organizations emerge because of differentiation. Whenever, a system creates

sub-systems like different departments that enable the whole organization to pursue two different or more goals, these create tensions that can become paradoxical – i.e., mutually exclusive – yet necessary for overall success. Along these lines, Lewis (2000) highlighted that subsystems might be rational by themselves but create absurdity as they adjoin, for example, when scarce resources are to be allocated, multiple meaning to be reconciled, or organizations chance. For these reasons, the dynamic equilibrium model argues (Smith & Lewis, 2011) that paradox is both inherent in complex systems as well as integral to the individual or social construction by actors.

Our study advances this insight by highlighting that paradox persists because of the relationship between a complex world and the actors who need to decide. From such a view, the creation subsystems not only creates paradox as the above scholars argue, but also presents a (transforming) response to paradox, i.e. a workable solution. Different subsystems enable the organizations to pursue two (or more) alternatives simultaneously that would be rationally undecidable for an individual who would face a dilemma of choosing either of the two. The possible absurdity of differentiated subsystems expresses and responds to the need to decide in a complex world, when the actor cannot rationally determine the better choice. Differentiation in this respect allows an organization to avoid a choice between either one or the other option. Instead, it can decide for both options on the level of the overall organization, while allowing for a consistent pursuit of either option within its subsystems. As for the organization, differentiation requires integration (Jarzabkowski et al., 2013; Lawrence & Lorsch, 1967) – or allow for the separation of the subsystems into different organizations. Integration means that each subsystem is not entirely autonomous from the organization but depends on it to some degree. While the degree is an empirical question and context-specific, it points out the need for decisions, just like the decisions on differentiation. In other words, by organizing itself – creating specific differentiations and integrations – an organization continuously produces and re-produces decisions. While many of such decisions can be rationally decidable (those that can be organized for the time and space being), these decisions will also include undecidable decisions. These allow for and require ongoing decision-making, which keeps the organization going. In other words, the organization (Simon, 2013: 29) shifts the paradox of deciding in a complex world towards the issue of integrating differentiated subsystems thereby transforming the paradox and reproducing it.

More recently, Hahn and Knight (2020) proposed a quantum view. It argues that paradox exists as potentialities but manifests for actors in specific socio-material contexts. While these authors bring in the two sides of a complex world and the actor, their explanation of paradox and its persistence still resides in the former, albeit as potentiality, while its manifestation depends on the capacity of the actor – the so-called measurement apparatus – to identify or construct a paradox as such. Our model advances this line of thought by emphasizing the need for decision in a complex world that creates and reproduces paradox. This difference is important in two respects: First, decision need in a complex world does not require referring to potentialities that might work in the physical world but has not yet been empirically shown in the social world. Second, decision need in a complex world does not require the actor's awareness of paradox (Luescher & Lewis, 2008) nor his or her capacity – what Hahn and Knight (2020) call measurement apparatus – to explain paradox persistence. Such capacities – be they individual (Miron-Spektor, Ingram, Keller, Smith, & Lewis, 2017), social (Jarzabkowski & Lê, 2017), or organizational (Simon, 2013) - are important empirically to understand how specific actors respond to paradox, but do not explain the persistence of paradox. The same is the case for conditions like technological limitations (Gaim, Clegg, & Cunha, 2021) or power asymmetries(Berti & Simpson, 2021). These help to understand how actors respond to paradox when the involved actors need to decide in their complex world. They do not help to explain paradox persistence. In contrast, our explanation allows including these important empirical conditions, while also enabling paradox research when actors are unaware of paradox and exploring how such unawareness can emerge and sustain when actors need to decide in a complex world.

For our model, Berti and Cunha (2023) provides the valuable insight of including the distinction of decidable and undecidable decisions of social systems theory (Luhmann, 2000). Our model helps to advance their argument that assumes paradox in that we argue that paradox persistence results from decision-making in a complex world. Specifically, this argument avoids the logical inconsistency in Berti and Cunha (2023) that distinguishing between decidable and undecidable decisions is an undecidable decision itself. This decision does only depend on the actor's capacities, resources etc. (what the authors call the management apparatus). But also, it is undecidable whether a specific management apparatus allows the actor to continue operating in a complex world when the actor decides whether a particular issue is decidable or undecidable (Krautzberger & Tuckermann, 2024). Our model highlights that translating an event into decidable choices can create dilemmas, trade-offs,

both/and and other responses for the moment. However, all these responses are part of real decisions because the complexity of the event does not disappear and returns with the re-entry of backgrounded aspects.

Besides undecidability, locating paradox and its persistence in the relation between a complex world and the need for decision, our model complements a constitutive approach (Fairhurst & Putnam, 2024). In accordance with a dialectical view (Farjoun, 2017; Hargrave & Van de Ven, 2016), Fairhurst and Putnam (2024: 5) locates paradox in "performances that bring multiple sociomaterial properties into tensional relationships" (ibid., 19). With regards to explaining paradox persistence, the constitutive view leverages dialectics, thereby starting with the assumption of a complex world continuously becoming with various conflicting forces that can manifest in contradictory demands, perspective, interests or practices. Our model does not exclude such an assumption, but also does not require it to understand the persistence and transformation of paradox. Instead, we argue that paradox emerges when an organization has the need to act on events of complex world. Our model does not require the assumption of opposing forces of dialect and remains ontologically silent in this respect. From this perspective opposing forces are empirical questions for specific studies, as the empirical examples by Fairhurst and Putnam (2024) illustrate.

In addition, our model adds an alternative to the view of the dynamic equilibrium model (Smith & Lewis, 2011). These authors convincingly argue that paradoxes are both inherent in complex systems resonating the above argument of Ford and Backoff (1988) as well as socially constructed as a way in which actors make sense of messy situations (Jarzabkowski & Lê, 2017; Watzlawick, Jackson, & Bavelas, 1967). Adding to this both/and perspective with regards to paradox, our model offers a neither/nor perspective. It locates the paradox in the relationship between the complex world and the decision-need of an actor. We believe that this location remains implicit in the dynamic equilibrium model, which assumes the need to respond, which is nothing but a decision. Instead favoring both/and approaches with the dynamic equilibrium model, our argument allows to include options such as avoiding or ignoring paradox. This depends on the distinctions the organization uses to translate the undecidability posed by an event into decidable choices. The effects of these choices are an empirical question that induce further real decisions the organization cannot escape. The impossibility of escaping decisions (or actions) in light of paradox, is what

Watzlawick et al. (1967) call pragmatic paradox in difference to a logical paradox. The former imply a response, whereas logical paradoxes can be left untouched.

Concluding remarks and limitations

This study aims to advance understanding of the persistence and transformation of paradox. Analyzing how a hospital managing the COVID-19 pandemic, the system theory concept of decision that involves distinctions led to the argument that distinctions enable an organization to translate rationally undecidable decisions into decidable choices. As this translation involves backgrounding aspects of the event to be addressed, it reproduces rationally undecidability which leads to both persistence and transformation of paradox.

Besides limitations like limited generalizability of a single case study, an important limitation of the empirical study is that it revealed transformation within, but not of paradox. Future studies could explore more in detail, why and how organizations alter the distinctions they employ for translating undecidability into decidable choices over time. Recently, studies taking a historical perspective (Jay, 2013; Kilminster et al., 2024) but we still know little on such transformation of paradox. Building on these works and our study, future research could carve out different approaches, trajectories or patterns of transforming paradox.

Organizations cannot escape paradox because it is integral to decision-making, which is why paradox persists. Organizations can transform paradox as part of managing paradoxes. In other words: Organizations cannot escape decisions, but they can decide on what they decide, thereby transforming paradoxical demands or elements.

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Appendix

Appendix: Decision of the Taskforce on escalation steps during wave 2

Date	Level	Implication	Source
26.10.2020	A	But ICUs adjust capacity needs daily. All clinics prepare for reductions	D-TF2-18
29.10.2020 02.11.2020	B	In effect by Nov 2, 2020, increasing ICU capacity, and re-assigning a non-COVID ward to one for COVID-patients	D-TF2-19
09.11.2020	B	All clinics and ICUs prepare for level C by Nov 16, 2020 (further relabeling of wards for pandemic activities, increasing ICU beds	D-TF2-21
12.11.2020 16.11.2020	B (wards) B (ICUs)	On wards, decision to further differentiate C into C1 and C2 decided (C2 implies larger reductions of normal activities than C1).	D-TF2-22
30.11.2020	B (wards) C1 (ICUs)	Reduction of 2 ICU beds due to lack of staff	D-TF2-24
07.12.2020 14.12.2020	B (wards) C1 (ICUs)	L-TF calls on all clinics to comply with escalation steps, also announcing bilateral conversations (“nachdoppeln”)	D-TF2-25
21.12.2020	B (wards) C1 (ICUs)	Further reduction of 2 ICU beds due to staff shortages over Christmas	D-TF2-27
11.01.2021	B (wards) C1 (ICUs)	ICU beds increased by two	D-TF2-28
18.01.2021	B (wards) C1 (ICUs)	Announcement: Reductions of normal activities are in effect until beginning of February	D-TF2-29
25.01.2021	B (wards) C1 (ICUs)	Reduction of 2 ICU beds due to staff shortage	D-TF2-30
01.02.2021	B (wards) C1 (ICUs)	Announcement: Reductions of normal activities in effect until mid-February	D-TF2-31
15.02.2021	B (wards) C1 (ICUs)	Preparation for increasing normal activities and reduction of pandemic activities (COVID wards returned to their prior area of operations)	D-TF2-32
22.02.2021 01.03.2020	A	Normal activities can return to pre-pandemic level, pandemic activities reduced	D-TF2-33
29.03.2021	A	Warning: Prepare for level B with several clinics reducing normal treatment capacity within two days, and increase beds on COVID-wards	D-TF2-36
03.05.2021	A	Normal activities can return to pre-pandemic level, pandemic activities reduced	D-TF2-38

Appendix: Backgrounded aspects and their emergence in the taskforce

Issue	Description	Entry	Quote or exchange
Protecting normal treatment	The aim is to treat both normal and pandemic patients, thus only increasing the latter as little as possible while maintaining other treatment activities as long as possible.	**September 09, 2020**	Our premise was to continue our normal activities as much as possible and simultaneously have resources available for COVID-patients (Tom, head of anesthesiology, Interview, summer 2021)
		November 12, 2020	Noch wegen dem Ops Betrieb, wir haben den aufrecht erhalten können mit den kleineren Einschränkungen. Das ging, wir haben da keinem absagen müssen für die Ops wegen ihrer Ips plätze (Mio, head of surgical ICU, meeting line 45)
		December 7, 2020	Noch etwas, wir dürfen keine elektiven Patienten mehr aufnehmen, die nicht absolut notwendig sind. Das war für die Equipe mühsame am Wochenende. Also, das sollte

Issue	Description	Entry	Quote or exchange
			man sich überlegen. Jetzt am Montag sind wieder 24 elektive geplant. Das ist wirklich knapp, soll keine Kritik sein, aber das wird schwer (Michael, head of internal medicine, meeting line 38)
Staffing (nurses)	Lack of staff and therefore of beds for treatment is a central issue during wave 2. The issue shifts towards discussing staffing activities of nurses.	November 09, 2020	SS: Also, beim Personal. Wenn wir das suchen, suchen wir das primär intern. Oder schauen wir das auch extern? Andere machen das. Hat man das schon durchgedacht? (Sandro, head of HNO, meeting, line 25-28) DG: Bei den IPSen ist das gemacht mit Stephanshorn. Wie ist das sonst? NM: Wir tauschen uns da aus, aber das Personal ist überall knapp. Und das findet man kaum DG: Also, wir spielen ja Personal frei für spezielle Aufgaben. Und das kriegt man kaum extern …. Wichtig sind die spezielle Fähigkeiten. Der Austausch im Kanton funktioniert gut, Thurgau ist mässig und Appenzell so lala.
Fairness when other hospitals that transfer patients	When other hospitals transfer patients, taskforce members expect that these hospitals also have reduced their actitivities	**October 26, 2020**	Und das 2. Problem, das konnten wir nur zum Teil abfangen. Die anderen Spitäler rufen an und machen Druck die Patienten zu übernehmen. In 2 Fällen konnten wir die peripher belassen. Und die wollten die gar nicht auf der Intensiv. Aber die wollten die abklären (GianReto, head of medical ICU)
		November 09, 2020	Noch ein Beispiel vom WE. Eine Patienten aus dem Kanton Zürich, die wurde in Glarus abgelehnt, auch in Zürich und im Thurgau. Und am Schluss ist die bei uns gelandet. Und wir können kaum sehen, wie welcher Kanton runtergefahren ist. Wie erfahren wir das? (GianReto, head of medical ICU, line 42)
		November 12, 2020	Dann die interkantonale Gleichstellung, das ist kein Gender Problem (lachen), also dass alle gleichartig die Reduktionen vornehmen. Das ist leicht gesagt, die Kantonsärzte müssen das noch diskutieren und wir sollten da Bescheid kriegen. Aber da haben wir noch keinen Entscheid. (Dan, CEO, meeting, line 46)
Collaboration with others for patient exit	To ensure treatment capacities the hospital intensifies relations with nursing homes, rehabilitation clinics and geriatric clinics. At the beginning, they experience long waiting times to transfer patients and later install a weekly meeting that enhances collaboration.	**November 02, 2020**	SD: Das sind immer die neue Patienten. Das füllt sich wieder auf. Und das sind vor allem geriatrische Patienten. SW: Also, da frage ich mich auch. Die sagen dass sie keinen Platz haben. Und dann habe ich mit Alther telefoniert. Und der sagt, die haben freie Plätze. Der ist dort im Stiftungsrat und der Münzer hätte keine Ahnung. Also, habe ich den Meter angerufen, der war aber nicht da. SD: Und die sagen auch, sie haben Plätze. Auch der Münzer sagt, es hätte nicht genug Personal. Und der Ether blendet das einfach aus, auch wenn der Münzer auf das Problem hinweist. Das ist schon schräg. SW: Das ist ja wirklich schräg, weil ich höre es anders rum SD….

Issue	Description	Entry	Quote or exchange
			MB: Aber das löst das Problem nicht. Was wir forcieren, dass wir Ferienbetten in den Pflegeheime nutzen oder die Patienten stärker mit Spitex heim schicken. Da sage ich meinen Leuten, dass wir uns die die eigenen Abflussmöglichkeiten verstopfen.
		November 12, 2020	Geriatrie hatte Sitzung am Dienstag, mit Thomas Münzer und Pflegeleuten. Die haben den Austritts angeschaut, auch mit Ärzten von uns, AIM Markus Diethelm. Es ging darum zu sehen, was die Geriatrie kann und was nicht. Die Grenzen liegen klar in den limitierten Pflegekapazitäten. Sie haben Ausfälle und können nicht genügend rekrutieren, auch wegen dem Neubau. Das muss man zur Kenntnis nehmen und aufpassen, dass der Druck nicht von oben nach unten geht. Und Entschluss ist, dass wir wöchentlich eine Skype-Sitzung haben um uns auszutauschen, damit man das bereden kann. Also, den Alltag mit dem Bedarf und Möglcheiten von ihnen auszutauschen und dass dann auch für die Entwicklung. (Susanne, head of collaborations, meeting line -62)
Accepting support to transfer patients	A private hospital with a capacity of 6 places offered to accept COVID-patients into its ICU, but the GianReto and Daniel hesitate to plan in this extra capacity	**November 12, 2020**	Und bei den Verlegungen sind wir schon fortgeschritten. (GianReto, meeting, line 36)
		November 12, 2020	Wir ihr mögt, ihr könnt auch einen von Euch verlegen. Das sollten wir machen. Das macht für alle einen guten Eindruck, für uns, für Stephanshorn und für die Ostschweiz. (Dan, CEO, meeting line 48)
Solidarity	Among the clinics, actors expect that others also reduce their normal activities; whether or not others reduce their normal treatment is keenly observed and critizised. The issue of solidarity remains until the pandemic's end	**December 7, 2020**	Vorletzte Woche hate ich das Gefühl, dass die Kollegen an die Vorgaben halten. Aber letzte Woche war das nicht mehr so. An 2 Tagen hatten wir 7 aus dem OPS aus dem geplanten Programm. …. Und das war eng. Das geht nicht. Das ist dann einfach zu viel. (Mio, head of ICU, line 7)
			Also, wir haben im OPS 25% Reduktion gesehen und wir haben jetzt nur 10% und wir machen das mit weniger Personal. Also, da gab es jetzt Stimmen. Und das ist wirklich knapp … Also, die Eingriffe, die verschoben werden können, die müssten wirklich verschoben werden. Bis jetzt die kleinen Eingriffe, sind noch aufgeboten worden (Tom, head of anesthesiology, meeting line 41)
		December 15, 2021,	The order, that all clinics must reduce their patient intake by 25%, is mandatory! Anyone who asks again how much 25% is, I will tell: zero admissions! (Dan, CEO, Email, December 2021 to all clinics due to a lack of complying with reductions)
Fair Distribution	Actors expect an equal distribution of work with COVID, and their normal patients	January 18, 2021	Also ich finde wir sollten eine faire Verteilung auch haben, da sollte man parallel rückbauen. Damit die auch das machen (Maggie, nursing head of surgery, line 40)