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Cone Health: Deploying and Repairing Telemedicine through Internal Communications in COVID-19

Though telemedicine had crested this century's technological advances and increased both the quantity and quality of virtual care options, viable telemedicine adoption required the drastic context of the COVID-19 pandemic to occur. Generally, patients (rather than providers) showed lacking adoption. This underutilization has been attributed to the slow diffusion expected of any innovation, but its scholars have also argued that the low adoption levels also come from an overall healthcare system which didn't lend itself to telemedicine's spread. To name one such systemic obstacle, the minimal reimbursement for patients' telemedicine use discouraged virtual visits. But the immediate disruption of COVID-19's health crisis upended these entrenched practices and jump-started telemedicine use almost by sheer necessity. For large healthcare systems like Cone Health, these changes required rapid strategic adjustments to help their providers implement virtual medical care almost on the fly.

Prior to pandemic, the Cone Health system already housed several telemedicine options for its patients to use. The system's main obstacle to telemedicine use was lack of user adoption, rather than lacking options. The onset of COVID-19 and its attendant social distancing policies hurdled that restraint, however, as Cone patients turned in droves to the health system's virtual options. Telemedicine adoption itself wasn't the high-priority challenge of Cone's transition; instead, *optimal* telemedicine use by its doctors demanded new symmetrical internal communications from the system's medical information and communications teams.

From the theoretical bases of stakeholder relations as an internal communications objective and technological adoption informing telemedicine use, I will examine how Cone Health accounted for the disparate groups of stakeholders (especially doctors) during COVID-19. How did its communicators prioritize the system's internal stakeholder publics? Which communication tactics did they use to reach them, and which ones proved effective? To answer these questions, I will interview Cone Health communicators and analyze their explanations against the healthcare system's digital communications content which its providers received.

This case study, the review of one healthcare system's rapid telemedicine response during COVID-19, could have relevant application to future telemedicine expansion which healthcare systems' internal communications plan for the post-pandemic context.

Theoretical Bases

Examination of how Cone Health reached its publics to prioritize telemedicine should first draw from two foundational bases: stakeholder relations and technology acceptance. After all, telemedicine during COVID-19 required optimal adoption from Cone Health physicians (one public) as directed by Cone Health (their organization), to best use an innovative technology for the benefit of Cone Health patients.

Stakeholder Relations

Cone Health's dilemma dealt with how its telemedicine objectives should weigh the stakeholders of the healthcare system: specifically, patients, providers, and staff. All groups were impacted by changes due to COVID-19, and all groups were also impacted by expanded telemedicine use. The existing literature on stakeholder relations (within relationship management) recommends identifying all stakeholders to then prioritize them for any organizational changes (Rawlins, 2006). Not only do the different publics need identification and prioritization, but they also need deliberative action to engage them, meaning both problem recognition and engagement recognition (Grunig, 1997). Researchers Jeong-Nam Kim and James Grunig, in later development of that original situational theory of publics, introduced "communicative action in problem solving," as a dependent outcome of situation handling of publics (Kim and Grunig, 2011). Together, these studies (and their subsequent revisions) cement the basis of multiple stakeholders groups, to better ground the strategies that communicators use to engage them in strategic problem-solving.

To specify these healthcare stakeholders' interplay for the context of telemedicine, the literature shows some cohesion of publics around digital innovation but remaining tensions for optimal adoption. One 2019 article analyzed the qualitative insights from a workshop of representatives from healthcare players: providers, insurers, patients, doctors, and other groups affected by telemedicine adoption (Velthoven, Helena, and Cordon, 2019). By gathering these representatives to better understand how stakeholders' support can either help or hinder

telemedicine adoption, the researchers found that these groups' shared interests were job protections, patient satisfaction, and patient involvement during telemedicine design. However, attendees reported that adoption was seemingly hampered due to fear of systemic change and unwillingness to share data between the stakeholders. Innovation for patients' improved care and experience was shared as a higher concept, but the logistical realities (sweeping change and data uses) appeared as limitations. Backing this finding of minimal-change adoption was the conclusion of earlier research — providers valued telemedicine according to how well it suited existing clinical routines (Lehoux et al., 2002).

These findings follow but don't fully replicate other research into healthcare stakeholders' views of digital innovation. For instance, one study suggested that stakeholders differed in innovation support according to their respective groups' perceived benefits (Lambooji and Hummel, 2013). Across nine possible innovations (including telemedicine), the study investigated stakeholders' views in a cost-benefit paradigm which helped respondents rank the innovations. Physicians, when compared to other stakeholders, most valued patients' health gains from telemedicine. And before that 2013 study, one case study of rural telemedicine adoption explored both internal and external collaborations across an array of involved stakeholders (Rajendra et al, 2010). That study's specific collaborations included tailoring telemedicine design, partnering with local telehealth experts, and asking local government for funds that would sustain the telemedicine's practice. Though Cone Health wields more resources that the rural clinic in question here, the lesson of collaboration through integrated telemedicine cooperation remains relevant to its internal dynamics.

Indeed, stakeholder relations at Cone Health grew more difficult because of the system's size, which made internal communications difficult to coordinate and target. Though internal communications often lend themselves to stakeholder-based systems of theory (Welch and Jackson, 2007), Cone Health's stakeholder publics may not have benefited from a uniform application of internal alerts to telemedicine expansions. Not only did Cone Health have to prioritize its stakeholders in communicating telemedicine changes, it also had to coordinate its communications to each disparate group.

Technology Acceptance

Because telemedicine was first created to streamline medical care, its appearance in medical practices posed an innovative technology in need of adoption. Telemedicine adoption by patients had remained low for years after its introduction, but the onset of COVID-19 upset that established underutilization. While Cone Health had to respond to the unforeseen context of the pandemic, the technology acceptance model (TAM) and its specific progeny, the *telemedicine acceptance model*, had already proved instructive for understanding doctors' relationship to telemedicine (Rho, Choi, and Lee, 2014). That 2014 study, while validating the TAM in the specific relationship between telemedicine and healthcare providers, centered the perceived usefulness of telemedicine along with its perceived ease of use. Additionally, doctors were found to join the digital innovation of virtual communities for greater professional connection and effective information-sharing (Rolls, Hansen, Jackson, and Elliott, 2019).

However, scholars have argued that the basis of telemedicine acceptance requires greater, more integrated foundational strength before adoption happens. Take the technological logistics of using telemedicine: one overview of 5G infrastructure recommended doctors' input for creation of the technologies, to optimize their use and integration potential for both doctors and patients (Anwar and Prasad, 2018). Add in the evolving landscape of medical care, insurance, and policies, which before COVID-19 hadn't shifted to allow cost-effective telemedicine use. (LeRouge and Garfield, 2013). However, another survey-based study had already recommended that our understanding of telemedicine use demands reviewing the patient-provider service relationship (LeRouge et al, 2012). The nature of technological care complicates the established relationships between providers, patients, payers, and technology and introduced what researchers called an "advanced encounter," one new enough to need new infrastructure and protocols around it. This view of telemedicine acceptance, where its adoption requires larger social, technical, and conceptual structures for its optimal use, corresponds with the social-network findings of technology — one of the underpinning realities of telemedicine (Arslan, 2016). This context of telemedicine adoption — viability for provider audiences through certain mediators, but an uncertain system of best uses — was the same context which Cone Health entered when telemedicine became its best method of serving patients during COVID-19.

Research Interests

With these two theoretical bases informing telemedicine expansion at Cone Health, I will examine how Cone Health communicators accounted for the disparate groups of stakeholders (especially doctors) invested in telemedicine acceptance during COVID-19. But not only will this case study explore Cone Health's prioritization of publics; it will also study how Cone Health communicators reached them with available internal communications channels. This exploratory study will answer the following research questions:

1. How did the Cone Health medical information and communications teams prioritize the stakeholders impacted by COVID-19 telemedicine expansion?

2. How did the Cone Health medical information and communications teams engage those prioritized stakeholders through internal communication and telemedicine acceptance tactics?

3. Which elements of Cone Health's communications for telemedicine expansion failed to integrate prioritized stakeholders to create optimal telemedicine use?

Though this case study will not review all Cone Health internal communications strategies exhaustively, its relevant findings could add to the fuller research which explores how healthcare systems responded to the pandemic. That body of ongoing research covers how elective surgeries, frontline providers' burnout, and cost-saving sacrifices each interacted with the upheaval of COVID-19. However, this case study itself could also link COVID-19 healthcare strategies to the existing literature concerning telemedicine adoption and even offer evaluation of an applied, strategic internal communications plan. Whatever Cone Health tried to select and engage its stakeholders, its successes and shortcomings could present teachable actions for healthcare systems who implement telemedicine expansion long after COVID-19.

The Cone Health System and Its Existing Telemedicine Options

Cone Health already possessed virtual telemedicine options for its patients prior to COVID-19. Its [Virtual Care webpage](#) lists three groups of digital options: e-visits, phone or video visits, and additional virtual care options (video or phone visits for primary, connected, urgent, emergency, and behavioral health care specialties). According to Dr. Rachel Leschber, who serves as chief medical information officer at Cone Health, the system has long been "well established in [its] foundation" of virtual care. Cone Health practitioners have been "doing virtual care from a remote location for well over a decade," she said. More specifically, those virtual care options have included the asynchronous e-visit (in its fourth year) and video visits (in their third year) through a partnership with MDLive, a telemedicine provider.

In addition, Doug Allred, Cone Health's External Communications Manager, and Dr. Kay Kossari, its Area Medical Director, also explained that Cone Health telemedicine predated COVID-19. Thanks to this infrastructure of virtual care options, Cone Health providers had previous experience with digital medical care. The changes of COVID-19 didn't introduce telemedicine to Cone Health providers for the first time. Instead, the pandemic forced them to emphasize virtual care as the default option, in a way that departed from their existing practices. To equip their providers (and their fellow stakeholders such as patients and staff), the Cone Health medical information and communications teams had to rapidly strategize new messages which would hopefully lead to optimal telemedicine use.

The Internal Communications that Expanded Telemedicine during COVID-19

To address the imminent and sweeping changes which COVID-19 caused for Cone Health providers, the system's leadership didn't create wholly new communications avenues. Under Dr. Leschber, both the medical information team and the communications team strengthened the usual ways they reached their providers, adding a new and targeted urgency. The teams could use these existing channels partly because their essential status as a medical system didn't completely upend their providers' work availability. But they also chose to use every existing channel because they needed to reach their providers despite their packed schedule of continuing patient care.

Their internal communications tactics included both digital and in-person aspects. Digitally, Cone Health communicators send mass emails, personalized emails sent directly to regional leaders, directors, and providers, phone calls, video meetings, a newsletter from Chief Physician Executive Dr. Bruce Swords, and virtual webinars used to explain new telemedicine technologies. Often, those mass and personalized emails contained links to and descriptions of the virtual training which providers could receive to learn the expanded telemedicine platforms. The in-person tactics mostly included meetings between Cone Health communicators and directors of hospitals or regional practices. Through these representatives, communicators could reach directly to providers through their superiors.

When asked about these strategies, Dr. Leschber explained that Cone Health teams had to open "a variety of modalities" because "doctors understandably are busy." But though her team's strategy had simple reasons, its application was unresolved several months into the pandemic: "finding the right channel for communication with our physicians is a nail we have yet to find the right hammer for." However, Dr. Leschber claimed that meetings were "often the most effective" means of communications, because of their "preciousness of face-to-face time." Dr. Kossari similarly praised the direct access which in-person (and virtual) meetings gave to both providers and communicators. "[Meetings] gave the opportunity for participants to engage," she said. "Multiple forms of participation are really important."

However, the surface-level tactics which the Cone Health communicators used to reach their providers lay atop the strategies which they adopted to engage their stakeholders in telemedicine adoption. Both objectives—trusting stakeholder relations and optimal technology acceptance—dictated how these providers would be reached, and which messages they would hear. But they also reveal the objective strengths and structural shortcomings of Cone Health's telemedicine reach.

Analysis of Cone Health Communications

Stakeholder Relations: Careful Provider Reach Didn't Overcome Structural Limitations

Because stakeholder relations hinges on relationship management, we can evaluate Cone Health's stakeholder strategy by how diligently its medical information and communications teams managed its relationship to Cone providers. This aspect of the system's communications reflected a partial success: its strategy prioritized its providers as a public and engaged them with all available channels. However, those channels and their communicated content did not fully serve the needs which providers expressed — Cone Health's management of its most valued stakeholders didn't fully succeed, despite its commendable focus.

Doctors Comprised the Key Public and Received Primary Communication Engagement

From the beginning of the pandemic, Cone Health staff prioritized its providers as front-line staff who needed the greatest attention during the telemedicine implementation. Dr. Leschber explained that, while COVID-19 pressures also increased patients' demand for telemedicine, "my team was most interested in [reaching] the providers needing to fill their clinical hours and care for their patient population." Specific mention of the doctors' needs signals that the internal communications strategy shifted to suit doctors' needs and concerns as COVID-19 complicated their work schedules and patient care.

This priority held two facets for symmetrical communication between the Cone Health teams and their providers: communication channels suited doctors' needs and convenience, and the communicated messaging responded to doctors' concerns. To describe which communication media her team emphasized to reach doctors, Dr. Leschber said, "It is all over the board, email, fax, calls, however people can get ahold of someone." Though she mentioned the disadvantages of this broadened communications volume, her justification for her team's choice rested on doctors' comfort: "a lot of our providers [were] individually deciding for themselves what is the easiest path." This leniency extended to the telemedicine trainings which Cone Health hosted to improve doctors' efficiency with virtual care platforms — doctors weren't required to take the time to complete them. This choice, Dr. Leschber explained, matches how Cone Health values its physicians' time: "it's rare for us to mandate the time [for training]." Though mandated

telemedicine training would arguably spur more optimal telemedicine use for physicians, the relationship between that public and the health system required keeping the training available but optional.

So too did the stakeholder management of physicians require the Cone Health teams to choose messages that responded to physicians' concerns. Doug Allred, external communications manager, referenced the daily e-newsletter from Dr. Swords as both effective communication and effective prioritization of doctors' concerns. "Everybody, of course, wanted to know what was going on," he said. "We started...a huge data dump on what Cone Health is doing." Here, he connected Dr. Swords's message tactic to its doctor-centered effect and motivation: "It's very popular with physicians...you've got to tell them what they want to hear." Just they did through their broad use of communication channels, the Cone Health team kept physicians close by matching its communication messaging to their concerns.

Lastly, because Cone Health communications prioritized their physicians, they have developed an ongoing dialogue with that public to improve telemedicine use in the future. When asked about the healthcare system's plans for optimal telemedicine care, Dr. Leschber referenced current conversations with physicians: "We've begun those conversations...[physicians] talking with us about what we learned, what methods we have that we need to fix." Just as her team engaged physicians during COVID-19, so too does her team already involve physicians in conversations that envision work after the pandemic. As an organization that manages various stakeholders, Cone Health chose definitively to prioritize its physicians throughout its telemedicine expansion, and by involving them throughout that process with both specialized media and messages, they earned the engagement which the doctors needed to give patients optimal care.

Not only were physicians well-served through these communications; patients themselves received the downstream effects of the integrated telemedicine. "Patients were appreciative of their opportunity to get the care they needed [with telemedicine]," said Dr. Kossari. Because of its success in engaging the physicians as a public and maintaining patients' care, the Cone Health strategy succeeded in its choice to foremost manage its relationship with its physicians.

Physician-Facing Communication Channels Remained Ineffective Despite Their Primacy

However, because Cone Health allowed its physicians to have that total access to communication channels, its communications became ineffective across the widespread group of physicians. When describing communications with doctors, Dr. Leschber admitted that the wide-open access was "highly inefficient for all of us" and involved "a lot of trial and error." That inefficiency presented an obstacle to integrated telemedicine use early in the pandemic, but it also remained even through October 2020. Dr. Kossari, evaluating the efficacy of this communications outreach, suggested that the size of the Cone Health system posed a barrier: "we're a large organization and having everyone on board...is definitely something that's important, and it takes time." Together, these two structural barriers (too-varied communication channels and time-consuming cohesion) slowed the telemedicine expansion throughout the evolving COVID-19 landscape. As the Cone Health team explained, both the channels and the cohesion grew from their choice to primarily engage their physicians. But these outcomes rendered that choice of primary stakeholder less effective.

Cone Health Proved Unable to Ease Physicians' Stated Quality Concerns

Just as the speed of the pandemic and the size of Cone Health hindered their priority communications with doctors, they also prevented Cone Health communicators from meeting those doctors' stated concerns of virtual care quality. Dr. Leschber reported that physicians offering feedback to the medical information team often felt unclear about what constituted optimal telemedicine use. "We heard from our physicians who are concerned...that we have yet to define quality metrics," she said. Specifically, she added, doctors complained of a "lack of standardization" and "having too many [telemedicine options] to choose from." However, though the Cone Health communicators heard often that their physicians were concerned about virtual care's metrics, they still haven't formulated a clear answer in reply. "We're still now...trying to define that standard," Leschber admitted, "so we can utilize virtual service for the right conditions."

This shortcoming in prioritizing physicians as stakeholders is likely because of the logistical realities of a large, disparate healthcare system like Cone Health. The wealth of virtual care options was named as an obstacle to meeting this stated need for physicians, but the speed of COVID-19 changes also left Cone Health unprepared to meet that need. Because of what Dr. Leschber called "the scramble" of early COVID-19 responses, her team of communicators

already had too many priorities to complete before they could specifically determine and outline how doctors could complete an optimal virtual appointment with their patients. But even when physicians repeatedly raised the issue, Cone Health's structure of disparate telemedicine options further slowed that quality-metric creation.

In summary, the Cone Health communication strategy wisely prioritized its physicians as their primary stakeholder in telemedicine expansion and tailored both their communication channels and messages to their physicians' needs. But the size of Cone Health and its virtual care system, combined with the speed of COVID-19 changes, prevented those communicators from optimally managing its relationship to Cone physicians as a public. Though its all-out reach to physicians earned engagement and somewhat enabled better telemedicine use, the communications strategy couldn't overcome both the internal Cone and external pandemic environments to fully serve its primary stakeholders.

Technology Acceptance: The Wealth of Virtual Options Nearly Counteracted the Reduced Barriers

Though its stakeholder relations aspect proved only partially effective, the Cone Health internal communications plan did gain more ground in greater technology acceptance among its physicians. The Cone Health team, despite the overwhelming number of virtual options that entangled physicians, eased their technical concerns and carefully explained that as barriers to telemedicine were removed, greater virtual care was possible. This success, compared to the shortcoming of the system's stakeholder relations, could carry more weight: improved telemedicine acceptance in 2020 could likely lend itself to optimal telemedicine use in the new and following years.

The Wealth of Virtual Options for Telemedicine Slowed Physicians' Adoption

As mentioned in the introduction to Cone Health's Virtual Care center, the healthcare system has long offered telemedicine choices for patients. However, once COVID-19 required telemedicine to become the default medical care, that array of options hindered the physicians who had to use it. Dr. Leschber explicitly stated that Cone Health needed to streamline its virtual care options during the pandemic, and that it still needs simplification in future planning. "We

need to simplify...that accessibility of the digital front door," she said. Because Cone physicians had to both understand the virtual care options and direct their patients to use it effectively, the number of platforms, sign-ups, and portals were cumbersome for them.

It's worth pointing out that the Virtual Care Center remained inefficient for use even though Cone Health's IT team had already prepared solutions for its adoption among physicians. Dr. Kossari said, "The IT department was on top of [telemedicine use]...helping us with the communication of what's needed." A portion of Cone Health's online training resources came from that IT department, and though they seemingly eased the process for some providers, Cone's management itself (according to Dr. Leschber) can still point to the weaknesses of virtual care: its complicated inefficacy. "We think about really accelerating our touchless intake, the check-in forms, the registration...ahead of the visit," Dr. Leschber said. She added, "This should be more efficient and easy and on-demand." I'll explain later how the internal communications fielded the technical complaints which Cone Health physicians raised, but those complaints first arose because of the convoluted virtual care options. In the early days of the pandemic, the tangled virtual care system slowed physicians' technological adoption of expanded telemedicine.

Cone Physicians Reported Technical Issues Which Cone Communicators Fielded

During the feedback which the communications team solicited from physicians, Cone Health often received technical complaints. Both Dr. Leschber and Dr. Kossari referenced this element when reviewing the telemedicine communications outreach to doctors. Dr. Leschber recalled "technology infrastructure issues" like "simple tech feedback, *my video stream freezes*, *I can't get my audio to consistently connect.*" Meanwhile, Dr. Kossari named the specific technological platforms which doctors dealt with: "a lot of feedback was...with scheduling. The Webex [video calls] was just a cumbersome process...FaceTime, that's just a lot easier." These complaints about technical issues suit the literature's findings that medical providers prefer usefulness and ease of use in their technological innovations. It was fortunate, then, that Cone Health's technical training (the existing IT resources and COVID-specific training webinars) was readily accessible through those expansive communication channels which reached physicians. Cone Health resources anticipated providers' technical concerns, while its communications fielded and facilitated them.

However, this handling of doctors' technical concerns also used an incremental shift as those concerns subsided over time. Dr. Kossari specifically pointed out that daily virtual meetings with physicians became less frequent as the pandemic progressed. "We had communication with the frontline staff, that was initially daily," she explained. "We went from daily [meetings] to twice a week." Her team members still hold those informative meetings with doctors, but as those doctors' telemedicine use improved, those meetings happened less often. This decreased frequency, in accordance with physicians' growing technical comfort with virtual care, likely intended to de-clutter their experience of adopting the technology. Both as a flexible strategy and a courtesy to physicians' progress, this choice demonstrates one conscientious choice that the Cone Health communication plan took to ease the technology acceptance process.

Cone Communications Retold the Changed Telemedicine Barriers as Benefits to Providers' Use

Though this case study has mostly evaluated the internal communication dynamics in the Cone Health system during COVID-19, it should now swivel to examine how external circumstances of telemedicine regulations also affected communicators' strategy. In particular, decreased regulation of virtual medical visits removed a substantial barrier to telemedicine. Conversely, state and federal recommendations introduced new barriers to in-person care, to the benefit of those virtual care options. The Cone Health medical information and communications teams made sure that their physicians knew the significance of each change.

The specific external circumstances (according to Dr. Leschber and Dr. Kossari) were insurance parity for virtual visits and the CDC's recommendation to avoid non-essential, in-person medical visits. For reference, insurance parity is the practice where a medical insurance company will reimburse a patient for her telemedicine visit at the same rate as it would an in-person medical visit. "Prior to the pandemic," said Dr. Leschber, "parity was not available for virtual care in North Carolina." However, by August 2020, that regulation had been removed in the state, to incentivize telemedicine use by patients. In response to the changed parity policy, Cone Health prioritized "helping [physicians] understand that...whatever platform is available, you can use [with fewer restrictions]." As technology acceptance literature indicates, perceived barriers will often slow publics' adoption of an innovation like telemedicine. In that light, internal communications that explained how telemedicine faced one less regulatory barrier supported greater adoption well for Cone physicians.

The second change to telemedicine's barriers — the CDC's recommendation — eased the expansion of telemedicine by erecting barriers to in-person medical care, its preferred alternative. In North Carolina, the governor's first stay-at-home order occurred March 27, while the CDC's recommendation came that same month. Together, these governmental policies removed the most persistent barriers to telemedicine adoption — in-person care, which most patients already expected for their medical care before the pandemic. However, Dr. Kossari explained that communications responded to "the abrupt disruption in office visits," and presented those sweeping changes as an opportunity. After all, telemedicine's expansion responded directly to those new governmental changes, which made in-person visits untenable for Cone physicians' "need to continue to take care of these patients." "That's when telehealth was implemented," Dr. Kossari added. Through these regulation-dependent changes, Cone Health's internal communications framed the perceived barriers to telemedicine as opportunities, just as they were swept away. Given the important roles those barriers had played in telemedicine's lacking adoption overall, the strategic adaptation of their removal demonstrates savvy adoption practice from Cone Health's internal communicators.

Conclusion: A Promising but Flawed Telemedicine Expansion for Healthcare System Stakeholders

The decisions, strategies, and adjustments which the Cone Health medical information and communications teams used to expand telemedicine during COVID-19 could enable improved, widespread virtual care from its physicians in the future, thanks to the healthcare system's progress toward acceptance of this new technology. However, its stakeholder-based approach of prioritizing physicians didn't fully engage them to their specific satisfaction, however carefully Cone communicators reached them on their own terms. Because the analyzed internal communications yielded these conclusions, we can now weigh them against the study's original research interests.

Cone Health communicators chose to prioritize their providers over patients during the strategic expansion of telemedicine-first care, because of Cone Health's concern for their employees' continuing work, their capability to reach that group with internal channels, and their understanding that physicians well-equipped for giving virtual care would benefit patients (the other concerned public). Both their stakeholder relations and technology acceptance objectives

balanced on engagement of this primary public of physicians. In turn, that engagement required that Cone Health communication channels and messaging attune their capabilities to the needs, concerns, and schedules of Cone Health physicians. This wide-ranging outreach enabled physicians' attention and response, and it strengthened their relationship to the larger organization, though the outreach also created inefficiency that stymied doctors' need for telemedicine quality metrics and slowed their overall telemedicine adoption. Lastly, that slowed adoption reflects the shortcomings that grew from Cone Health's communications: inefficient outreach, cumbersome virtual care options, and imperfect adoption, which affected both communicators and physicians. Though Cone Health's relationship to its primary stakeholders and those stakeholders' telemedicine adoption were hindered by these obstacles, that organization-to-public relationship proved more incomplete than providers' adoption. Therefore, while future telemedicine use at Cone Health may benefit from this rapid season of mostly successful adoption, the underlying relationship between Cone and its physicians could remain strained.

Only time will tell if that friction beneath optimal telemedicine can counteract the virtual care which patients receive from Cone Health. It could be that future internal communications efforts remedy this frantic, unprecedented season, when COVID-19 prevented the healthcare system from fully serving its physician public.

To look to the larger context beyond Cone Health, this case study could hold (preliminary) insight into how increased telemedicine would impact internal system-to-provider communication plans. In particular, the most actionable lesson from Cone Health's example of imperfect success is that no strategic plan should discount the healthcare system's overall structure as a potential barrier to engagement and adoption. While a medical information team may carefully engage any internal public, its healthcare system's virtual options could prove unwieldy during physicians' telemedicine adoption efforts. In the case of Cone Health during COVID-19, those virtual options proved significant but not impassable barriers to telemedicine adoption. For other healthcare systems who introduce telemedicine after the pandemic, those existing options might also become significant obstacles to their plan for optimal, equitable telemedicine care for patients.

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Appendix

Research Interview Questions

1. Did your healthcare system have any existing telemedicine options before March 2020? If so, what do they include, and when were they created and instituted?

2. How did telemedicine use change with the onset of COVID-19 and the subsequent social distancing measures?

3. Who were the primary stakeholders and audiences you considered when preparing COVID-19 changes to telemedicine?

4. What (if any) research did you or other staff conduct to gain insights into those stakeholders?

5. What were the major findings about the attitudes of doctors towards telemedicine adoption?

6. What were the major findings about the attitudes of nurses towards telemedicine adoption?

7. How was telemedicine adoption/use/expansion communicated to those healthcare practitioners?

8. Which avenues of communication received the most emphasis?

9. What feedback (if any) did communicators receive from healthcare practitioners? Were there major patterns or repeated points in that feedback?

10. What is the healthcare system's plan for upcoming telemedicine use? To the best of your knowledge, how did its leaders reach that decision?

11. Have you noticed or studied the telemedicine implementation strategies of any competing healthcare systems? Which ones, and why?