Crisis Leadership Canvas for COVID-19

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Summary - Leaders in small crises typically use a simple top-down command-and-control hierarchical structure. However, in extreme events this type of strategy is inadequate and may even hinder inter-organizational response. This effect has been illustrated by leadership difficulties faced during the COVID-19 pandemic. To counteract this, a template was created to facilitate leadership enacting an effective inter-organizational response to crises. Ideally, this would allow multiple agencies each with their own top-down structure to cooperate effectively.

Background - This template was produced using "Design Thinking", a process requiring empathy with the user, accurately defining the right problems, generating ideas for solutions, quickly prototyping those ideas to determine utility, and testing them for refinement.

Methods - The efficacy of the template was assessed via survey. The survey was distributed to trained healthcare leaders, both physician and administrators, working at Oschner Health System or who were associated with the Care Collaboratory. Responders were asked to provide feedback regarding the utility and ease of using the template. In order to better empathize with the user, questions were also asked about perceptions of leadership during the pandemic.

Results - Results showed that healthcare leaders had positive impressions regarding their home institution for pandemic response, with negative impressions regarding the U.S. response overall. Results were largely positive for template efficacy with most suggestions for improvement relating to making the template more comprehensible.

Discussion – Results from the survey were positive enough to justify submitting the template to a wider audience for further testing and general use. The template was submitted as a seed idea to Design for Emergency.

Introduction

The COVID-19 pandemic has led to unprecedented stress on worldwide healthcare systems and tested our leaders and institutions. This is not the first time we have faced global health crises; the Spanish Flu of 1918, the initial outbreak of HIV/AIDS, and many other global health crises both modern and historical are often brought up due to similarities in human cost or cultural impact. Unlike many of the previous, this pandemic is fundamentally unique both due to the scale of the problem combined with the nature of how modern information is organized. In theory, data can be collected rapidly and transferred around the world instantaneously. Information is cheap, fast, and basically accessible to everyone with a router. With all of these advantages, why does it seem like there are unnecessary struggles? The answer is that while this pandemic is unique, it is much the same in that behind each healthcare decision is a human being serving in a leadership role; someone who is likely susceptible to all of the biases and failures of communication that occur as part of being human. History has taught us time and time again that leaders are often unprepared for catastrophic events, and COVID-19 is no different.

Within an organization, crisis response often operates in a top-down "command and control" hierarchical manner. Generally, this even works for large, unpredictable problems where "silo-ing" is not a factor (Paquin et al.2018) Unfortunately, this may not work for catastrophic events. For the purposes of this, a catastrophic event is an event which requires the collaboration of multiple agencies or parties, each being required to operate outside internal mechanisms for managing crises. As such, while

responding effectively to a smaller crisis relies on the communication frameworks already in place and the ability for organizations to rapidly deploy them, a catastrophic event relies on rapidly developing new lines of communication between separate agencies with little guiding structure. Like all forms of communication, the deployment of this necessary strategy can be hindered by issues varying from differing leadership styles to internal or external politics.

This problem, faced by healthcare leaders frequently during this pandemic, sets the scene and provides an opportunity for intervention and hopefully, improvement. To achieve this, research was conducted into how crises are handled outside the strictly healthcare domain as illustrated by Pfeifer (2013) and Deitchman (2013), and a template was designed which should aid leaders in approaching catastrophic events and help to streamline inter-organizational interactions. The Template was developed through a process known as “design thinking”.

Design Thinking; Our Problem Solving Method

Design thinking is a framework that has found success in the private sector and focuses on developing empathy for the user, radical collaboration involving the input of multiple and diverse teams, and rapid prototyping (Roberts, Fisher, Trowbridge, & Bent, 2016). From this, a product is generated. This is contrasted with the more traditional approach of a top-down design-and-test model. For the purposes of developing the template, it may be useful to conceptualize Design Thinking consisting of these five iterative phases described by Deitte & Omary (2019): empathizing, defining, ideating, prototyping, and testing.

Empathize – To design a product or service, it is necessary to understand the emotions and attitudes of the user when it comes to their interactions with that product or service. In this case, the “user” is any leader involved in healthcare who has some role in coordinating COVID-19 treatment and relief efforts, and the product or service can be broadly defined as their organizational structure regarding crisis management.

Define – This stage requires defining the right problems so that the right solutions may be developed. Here, the problem is that while healthcare organizations and leaders often have models for dealing with smaller or internal crises, there is less guidance and training with respect to larger crises.

Ideate – This involves first generating a plethora of ideas quickly and without explicit refinement. Then, ideas are narrowed to specific ones which best fit the problems that were previously defined. This template is one such idea.

Prototype – This is the phase where specific plans are developed, tested, refined, or discarded. This is meant to be a quick, inexpensive phase to see which ideas are plausible solutions to the problem.

Test – The last phase solicits feedback from the user to refine our product. This again requires empathy, asking the right questions, and digging deep into what the user is experiencing, rather than what you designed the product to do.

While the goals of this project is more focused on Prototyping and Testing this template, it is also beneficial to ask questions which continue to empathize with the original user, as well as continuing to help define what problems are being faced.

The Template

The template is linked below. Credit for the design of the template goes to Rachel Oftedahl and the Care Collaboratory. The template works as follows;

Once a crisis is identified (Step 1), a leader needs to figure out who should be in the critical networks to solve it (Step 2). Once these groups are decided, command needs to be flattened to allow a representative from each group to provide input (Step 3). These inputs should reflect the unique core abilities of each group which should be identified (Step 4) and deployed to manage the incident (Step 5). The second and third pages break down the process by which smaller incidents are managed in the context of the larger crisis (Steps 5A and 5B).

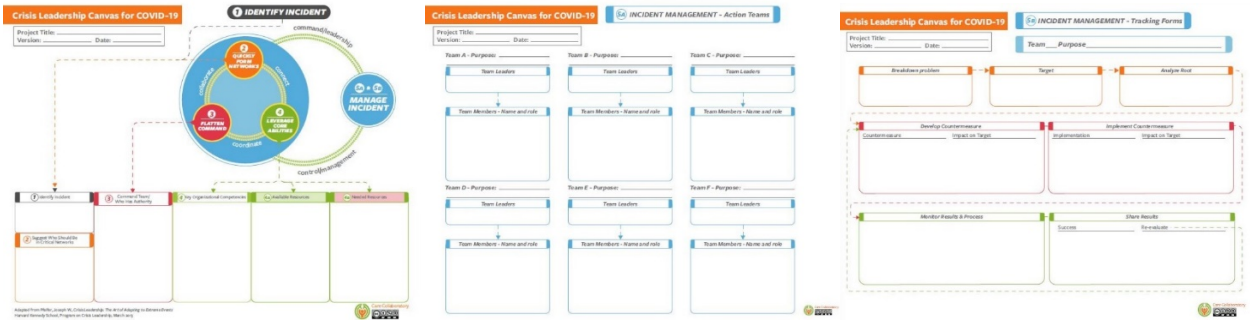

Figure 1 – The Crisis Leadership Canvas for COVID-19

LINK TO TEMPLATE

Method of Assessment

In order to assess the design and potential efficacy of the template, a survey was designed which asked about design opinions as well as opinions on leadership efficacy. This serves two purposes;

1) It allows for prototyping the leadership template. This is the first time that the finished template has been exposed to a group of healthcare leaders with real-world experience in order to determine viability and refine it.

2) It allows us to empathize with the user. It continues to be necessary to gather information about individuals' perceptions of the coronavirus pandemic as this is the emotional environment from which the users are approaching the template. This also allows us to ensure that our assumptions regarding user emotions and experiences while developing this template are accurate and beneficial to the user.

In order to target healthcare leaders specifically, the survey was distributed to Oschner physicians and administrators who were graduates of executive leadership courses as well as associates of the Care Collaboratory. This survey was itself designed with help from public health students in the Health Policy track and executive leadership alumni. This required a "test run" with explicit instructions regarding improving the survey. While many of these testers also commented on the template itself and these comments will be taken into account when further refining the template, for the purposes of this report only the responses received from the formal, finished survey will be presented.

Results

There were 24 responders to the quiz. Of these 9 were physicians, 14 worked in administration, and 1 was classified as "other". It must be noted that this was likely not a medical student or nurse, as these options were also available.

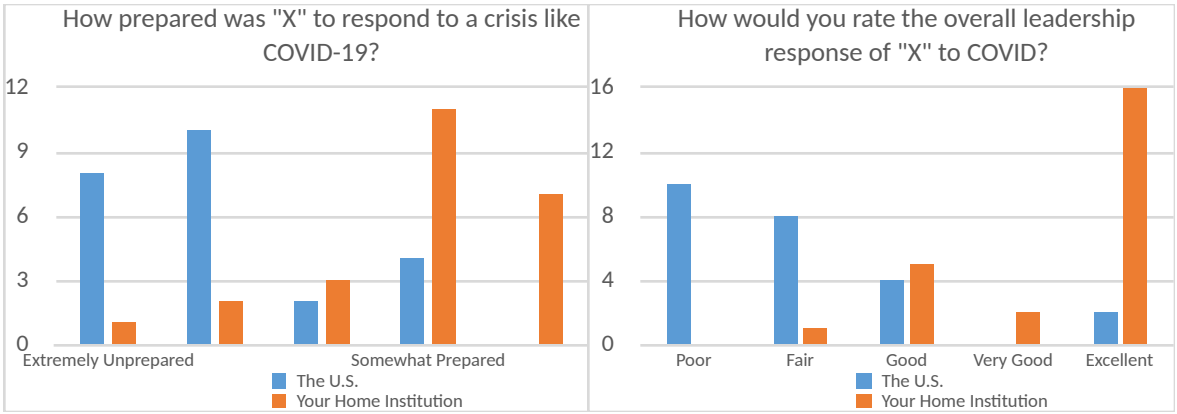

Figure 2 – Feelings about Leadership during Pandemic

Pandemic response results can be seen here (Figure 2). In general, the response was positive towards one's home institution with 18 out of 24 responses describing them as "somewhat" or "extremely prepared" to respond to a crisis like COVID-19. Overall leadership was described as "excellent" in 16 out of 24 cases, with no responses rating it as "poor".

Attitudes towards the overall U.S. response were much more negative, with 18 out of 24 describing the U.S. as "somewhat" or "extremely unprepared" to respond to a crisis like COVID-19. Two

responders ranked the U.S. leadership response as “excellent”, four rated it as “good”, eight as “fair” and ten as “poor”.

Another survey question, asked without a national comparison, was “How satisfied are you with leadership training at your home institution?” Responses were again positive in that 14 were extremely satisfied, 7 were somewhat satisfied, 1 was neither satisfied nor dissatisfied, and 2 were somewhat dissatisfied.

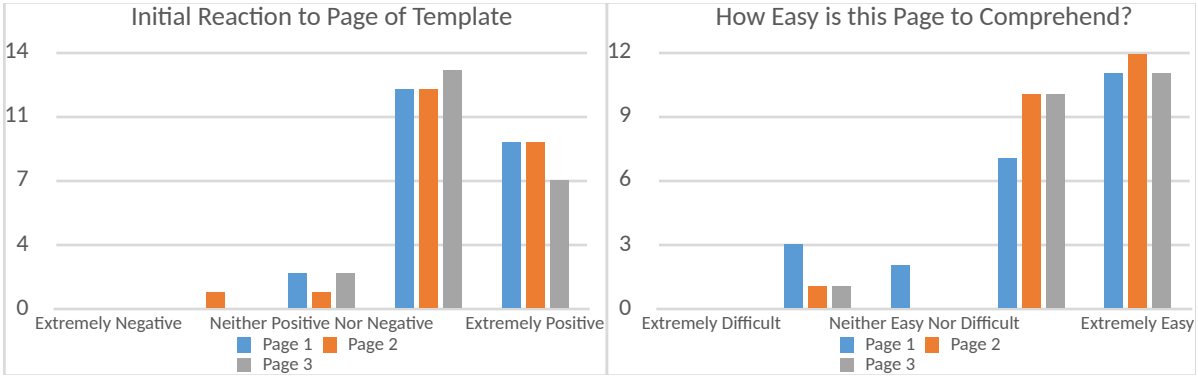

Figure 3 – Reactions to Specific Pages of Template

Next, these are the results for questions regarding each page of the template (Figure 3). Initial reactions to specific pages of the template followed a specific pattern; they were generally positive, with the majority describing their reactions as “Somewhat Positive” with “Extremely Positive” being the second most selected reaction. Page 2 did get one response of “Somewhat Negative”.

Comprehension of each page also followed that pattern, though it is noticeable that page 1 did get 3 responses of “Somewhat Difficult” to comprehend while pages 2 and 3 only received 1 response each in this category, as well as 2 “Neither Easy Nor Difficult”.

How useful is this template?	Not at all useful	Slightly useful	Moderately useful	Very useful	Extremely useful
Responses (%)	0 (0%)	0 (0%)	5 (22.7%)	14 (63.6%)	3 (13.6%)
How easy is this template to comprehend?	Extremely difficult	Somewhat difficult	Neither easy nor difficult	Somewhat easy	Extremely easy
Responses (%)	0 (0%)	1 (4.5%)	1 (4.5%)	11 (50%)	9 (40.9%)

How effective would this template be if used by leadership at your home institution or on your unit?	Not effective at all	Slightly effective	Moderately effective	Very effective	Extremely effective
Responses (%)	0 (0%)	0 (0%)	6 (27.3%)	12 (54.6%)	4 (18.2%)
Which best describes your thinking about the template as a whole?	I don't see any reason to use this	What is currently in use is better than this	This is essentially the same as what is currently in use	This would be slightly better than what is currently in use	It is essential because nothing else solves this problem
Responses (%)	0 (0%)	0 (0%)	3 (13.64%)	14 (63.6%)	5 (22.7%)

Figure 4 – Response to the Template as a Whole

Responses the overall template are generally positive (Figure 4). All respondents selected that the template was at least "moderately useful", with the majority (14, 63.6%) saying that it is "very useful". The template was fairly easy to comprehend, with 20 respondents (91%) stating that it was "somewhat easy" or "extremely easy" to comprehend. One respondent stated that it was "somewhat difficult" to comprehend, while one said that it was "neither easy nor difficult" to comprehend. When asked how effective it would be if used at one's home institution, all responders stated that it would be at least moderately effective, with the majority stating that it would be "very effective". Lastly, the majority (14, 63.6%) said that this template would be slightly better than what is currently in use, with 3 stating that it is essentially the same as what is currently in use and 5 stating that the template is essential because nothing else solves the problem.

Specific comments were solicited regarding the template asking for what was most liked and disliked about the template. Common comment/themes for what was liked include being "easy to use/ understand", that "everyone would know purpose/role", that it "focuses on specific purposes and solutions", and that it helps "foster development of plans". When asked what was liked least, responses included there was "no mention of barriers", several thought that the layout was "a little busy", and it was suggested that it may be beneficial to "add metrics".

Discussion

There are two major questions that were approached in the development of this template. The first is "How have we empathized with the user through the process creating and prototyping this template?" The second is "would this template actually be useful according to the needs of the user?" Through the use of the survey, the first question was approached through questioning users' impressions regarding leadership in the pandemic, and the second was approached through asking about the template itself. If the answers to these questions is generally "yes", I believe it would be appropriate to move on to test the template with a wider audience.

A) Regarding Empathy

After questioning the user's perceptions about the pandemic, what stands out the most is that their impression of preparedness and response were vastly different when asking about their own institution vs the U.S. as a whole. To explain why this is the case, there are several factors that may have contributed:

- The fact that the respondents are themselves professionals who are trained in healthcare leadership means that they are able to form an accurate representation of reality. I.E. crisis preparedness and leadership response was objectively better at the home institutions in question than at the level of the national government.

- The fact that these are healthcare leaders being asked about issues regarding healthcare leadership at their own institution may bias towards a more favorable reaction.

- There are many political dimensions to the national response to COVID-19, and the federal administration at the time of this survey was itself often considered divisive with several unorthodox ways of managing the crisis, including increased delegation to the states (Altman, 2020). This may make it easier to shift blame I.E. internalize success and externalize failure.

- As the organizations increase in size and scope, they are dealing with greater complexity and more moving parts, thus increasing the difficulty of crisis management. This perspective could validate the necessity of this template as it deemphasizes the "command-and-control" model on a national level and illustrates how important it is to have standard ways to interact inter-organizationally to crises that are anything but standard.

It is possible that each of these factors may have played a role, and it would be interesting to conduct wider surveys of healthcare leaders outside the scope of this template to gain further understanding of how they view the COVID-19 response. It would also be interesting to see if the results differ between those that see themselves as primarily filling the roles of physician versus those primarily serving as an administrator. Another avenue of enlightenment may be to ask similar questions to non-healthcare leaders, possibly targeting public health students specifically. They would be removed enough from the crisis itself and less likely to be biased by home institutions/job, but less knowledgeable about the subject and therefore in theory be more subject to professor's bias, media bias, etc.

B) Regarding Utility

A goal of prototyping a product is to determine whether something is useful and actually serves a useful purpose in the eyes of the user. Here, healthcare leadership overwhelmingly indicated that the template was at least slightly better than what was currently in use, with a significant amount (22.7%) stating that it is essential to help solve the issue of coordinating crisis leadership efforts during catastrophic events.

While feedback is positive for template, a few common dislikes involved the business of certain sections, particularly the first page. Based on the feedback from this survey, I have developed a few recommendations to increase utility. This list is not meant to be final, exhaustive, and some:

1) Poster Paper, the template (especially the first page) can be seen as busy and may benefit if displayed in a larger format. This may add to utility when used in a group or team setting. This recommendation was made both explicitly in comments and implicitly in the responses regarding the comprehensibility of the first page.

2) It may be beneficial to split the first page into two pages, again supported by comments and responses.

3) The addition of metrics in regards to solving incidents or a more explicitly designated space for metrics may provide some utility. I believe it would be difficult to add specific metrics as this may reduce the generalizability of the template. This suggestion could apply particularly on the third page on “Monitor Results and Progress”.

An area of advancement which would be highly beneficial on multiple fonts is in the technological realm; the utility of this template could be drastically improved with concurrent improvement in EMR interoperability. Lehne et al. (2018) states that “interoperability is a prerequisite for the digital innovations envisioned in future medicine.” These innovations include the areas of AI and big data, medical communication, research, and international cooperation. All of these have significant implications in regards to inter-organizational communication during the COVID-19 pandemic. It may even be possible to one day have built-in structures, similar to the design of the template, within hospitals and public health agencies information systems that assist with the leadership process directly or indirectly.

The significant positive response suggests that it may be beneficial to get more feedback before making significant changes to the current template, so it would be beneficial to move it on towards a more open testing phase to help determine its use. The fact that the feedback was positive also leads me to believe that it may already find utility outside the theoretical realm. In order to distribute the template, it was submitted to a collaborative network for design called Design for Emergency.

Design for Emergency

The responses were clearly sufficiently positive to move on towards further testing, and in order to further the goals of this project it would be beneficial to distribute this template for wider engagement. This can be achieved using the Design for Emergency website.

Design for Emergency is an open design platform which challenges people to build solutions that address the needs of individuals during the COVID-19 pandemic. Each idea is submitted as a “seed” (Our

seed submission is seen in Figure 5) which can be accessed and developed by anyone else around the world.

This would be beneficial as it would allow others to generalize this template to other catastrophic emergencies. This helps our final stage of design and allows for real-world testing and feedback which could further refine the template. It also serves as a supercharger for obtaining diverse perspectives on the issues as the Design for Emergency website is accessed by people from around the world. Thus, one limitation on our template is the fact that it is only available in English.

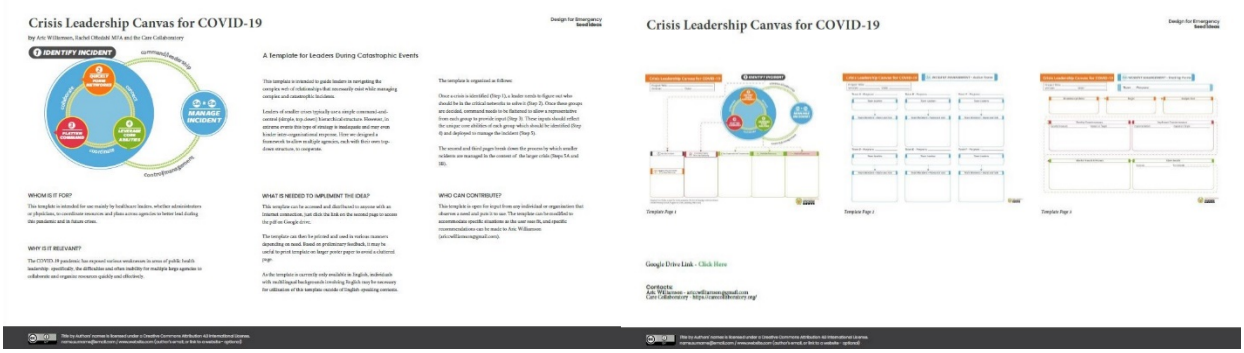

Figure 5 – Design for Emergency Submission

LINK TO DESIGN FOR EMERGENCY

Moving Forward and Conclusion

It has been sufficiently demonstrated that the template appears to have utility in the current context, and I hope it will be accepted by Design for Emergency and see some use. More feedback may prompt an official redesign, where this process can be repeated as the environment and the users' needs change. This project is ongoing and open-source by design, and as such allows for flexibility in "ownership" of this model of communication. This is necessary as we continue to face COVID-19, and are actively building better structures to assist with our public health response.

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