

Multi-Agency Approach to Suicide Prevention: An Analysis of the Tompkins County Suicide Prevention Framework

Vimbai Mudangwe^{a,b,@}

^aCornell University

^bJeb E. Brooks School of Public Policy

[@]email: vcm22@cornell.edu

ABSTRACT: The COVID 19 health pandemic resulted in lasting negative economic and social effects on communities globally and within the United States. The ripple effects of a traumatic social crisis of this magnitude are undeniable and visible in our day to day lives within our local communities. As policy makers within the United States scramble to pick up the pieces on the economic front; the psychological effects of this crisis tend to be overlooked by federal and state governments. The World Health Organization reported an increase of 25% in prevalence of anxiety and depression worldwide within the first year of the COVID 19 crisis. Existing healthcare structures are overwhelmed by a surge in mental health cases, and governments are forced to reconsider their strategies for mental health services. This case study evaluates the efficacy of the existing Tompkins County Mental Health strategies with a focus on suicide prevention frameworks and methodologies. A systems thinking approach is used to expand our lens on this complex system.

Keywords: Suicide | Suicide Prevention | DSRP | ABA | ABA Approach | CAS | POSIWID

Introduction: Why Systems Thinking?

SUICIDE PREVENTION has become a frequent topic of discussion among organizations and policymakers as they face increasing societal pressures to prioritize mental health service provision. Tompkins County is home to Cornell University and Ithaca College, and college environments have been known to increase mental health risk factors for many students. According to the Sophie Fund, a local non profit established to support mental health initiatives in greater Ithaca and Tompkins County, Tompkins County has averaged 12 suicide deaths per year since 2016. Creating awareness and safe spaces for discussion of this sensitive topic is only one piece of the puzzle. Stigma surrounding suicide both promotes a shame culture and perpetuates a cycle of misinformation on the topic. Therefore, when people discuss suicide the term is often used without a full understanding of its meaning or the realities behind this social problem. Before data can be used to inform discussions or initiative efforts; a clear distinction must be made among suicide ideation,

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attempted suicide, and death by suicide. Death by suicide often occurs as an emergent property of individual and joint interactions of a variety of changing environmental and personal factors. This makes it difficult for policy makers to evaluate the appropriateness of their interventions in relation to the emergent behaviors of these complex and volatile systems. Thus, it doesn't come as a surprise that metacognitive tools continue to be more popular in recent years, as change makers on both the political and social scene explore the predictive nature of the problems they face. "One size fits all" methodologies to problem solving have grown redundant as these simple methodologies fail to match the increasing complexity of the real-world problems we face.. Unique social problems call for unique problem-solving techniques.

Methods

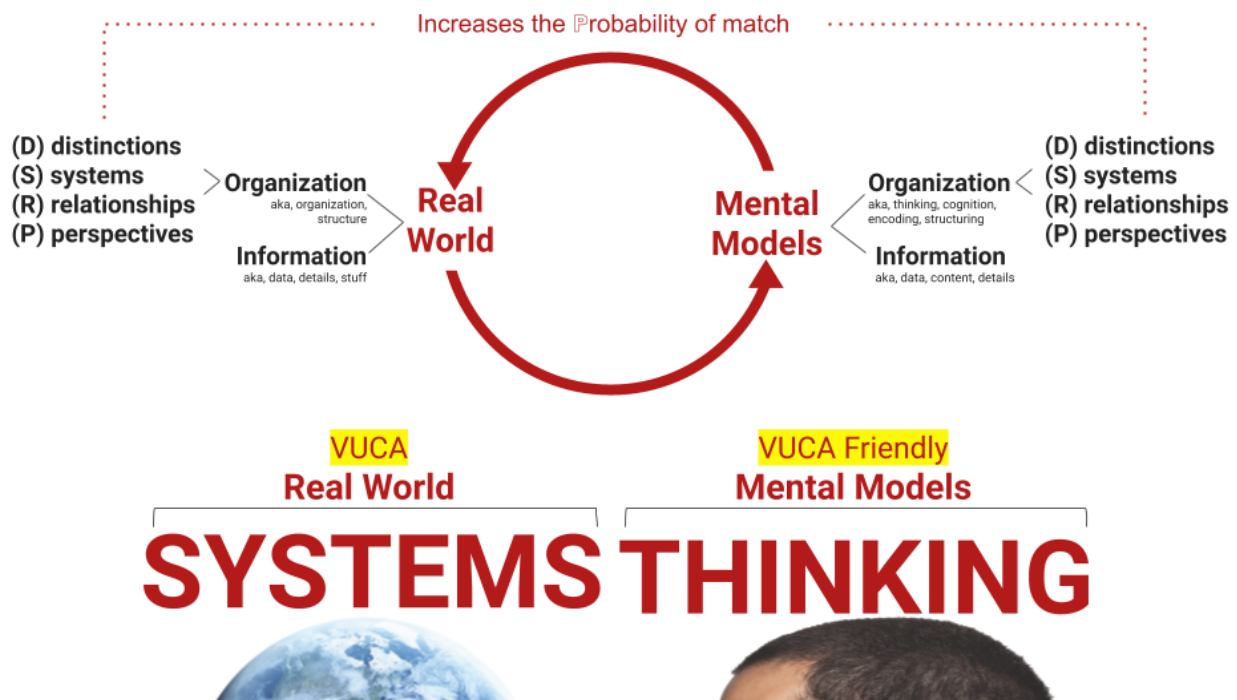
THE SYSTEMS THINKING v2.0 model provides a unique opportunity to perform a deep analysis on the robust systems and problems we care about. According to Cabrera and Cabrera¹, "in the term systems thinking, systems is an adjective describing the noun, thinking;" simply put systems thinking is about thinking. Before we can fully understand systems thinking we must first understand how our brain processes information to create meaning. We often struggle to come up with solutions to complex real world problems because we are unaware of the disparities between our view of the world and the real world. Without an accurate understanding of the real world scenario it becomes difficult to come up with solutions that can accurately address the problems we face. The way you view the world is referred to as your mental model. Cabrera and Cabrera² refers to a mental model as "the way you think about a real situation or environment in which you are working." Mental models are an important part of our daily lives, because we move through the world and filter our life experiences and problems through these lenses. Mental models come as a result of our individual life experiences and beliefs. For this reason mental models represent an approximation of the real world rather than a true depiction of it. We aim to understand the role that mental models play because they have the ability to alter how we behave and react to different scenarios. Systems thinking builds an awareness of our own mental models and helps us get as close as possible to a match between our mental models and the real world. This is illustrated in Figure 1.

We seek to correct mismatches between our mental models and the real world as a pathway to understanding the complex systems that

¹ D Cabrera and L Cabrera, *Systems Thinking Made Simple: New Hope for Solving Wicked Problems in a Complex World*. Odyssean Press, Odyssean Press, Ithaca, 2015

² 1

Figure 1: Systems Thinking Loop



are a part or whole of the “wicked problems” we face. Only then; can true problem solving begin.

Mental Models

MENTAL MODELS can be best described through the following equation taken from page 72 of Cabrera and Cabrera³.

³ 1

MENTAL MODEL (M) = INFORMATION (I) + STRUCTURE (S)

The equation above shows us that our mental models are a product of information and structure. Information includes information or data of any sort, this can include written or spoken words that contribute to meaning⁴. Structure includes the hidden contextual information that contributes to meaning⁵. There is a human tendency to over rely on information with little to no consideration for the structure of the information. Examining the structure of what we read or speak can be a difficult task however structure has the ability to shift the meaning of information. The following example taken from Cabrera and Cabrera⁶ highlights the importance of structure:

⁴ 1

⁵ 1

⁶ 1

“I LIKE TO EAT GRANDMA.” OR “I LIKE TO EAT , GRANDMA.”

Although the information is consistent between these two phrases the comma is used in the second phrase to change the structure of the information and we can see that this immediately causes a shift in the meaning of the information we read⁷. Systems thinking methodology challenges the mind to examine both the structure and information before coming to a conclusion on a particular problem or scenario. Systems thinking results in a product; this product is mental models⁸. With mental models that are a strong match to the real world we can increase our understanding of the systems we encounter and put forward more effective solutions. One of the ways systems thinking helps us understand systems is through DSRP mapping. DSRP mapping is a visualization tool that balances the cognitive structure and information for more accurate meaning of the information that is presented⁹. In this project it will be used to understand the existing Tompkins County Suicide Prevention Framework. In order to understand the reasons behind the suicide numbers we see in Tompkins County we must gain an understanding of the different systems that contribute to the problem¹⁰. Using a systems thinking lens to examine the system will allow us to eliminate the unconscious biases embedded in our own mental models and gain a better understanding of the real world system¹¹. This project will use metacognitive mapping (DSRP mapping) as a tool to examine the efficacy of the Tompkins County Suicide Prevention Framework and make recommendations for improvements.

7 1

8 1

9 1

10 2

11 1

Steps to an Agent Based Approach (ABA)

A MAJORITY of the systems and problems we encounter in the real world around us today are unpredictable, interconnected and difficult to understand. Systems thinking identifies these complex systems as “complex adaptive systems¹²”. To better understand complex adaptive systems the following equation is borrowed from Mulyono et. al’s article¹³ on “Hard” and “Soft” Methods in Complex Adaptive Systems (CAS):

12 1

13 3

CAS= AGENTS X LOCAL INTERACTION RULES → SELF-ORGANIZATION/ COLLECTIVE DYNAMICS → EMERGENT PROPERTIES

Complex adaptive systems are a result of agents following simple rules which result in collective dynamics that are the drivers of the emergent properties of a system we see¹⁴. Emergent properties are what we typically hear non systems thinkers describe as the “problems” they have identified with their systems. For example

14 3



taking a company as the CAS, management may say that there is a decline in sales. The decline in sales is the emergent property identified. Through systems thinking we can uncover the different areas of the system that drive the emergent properties we see. To better illustrate the features of the CAS formula the example below examines the behaviors of a school of fish. This is a simple example of a complex adaptive system. The following example is borrowed from Mulyono et. al's article¹⁵ on "Hard" and "Soft" Methods in Complex Adaptive Systems (CAS):

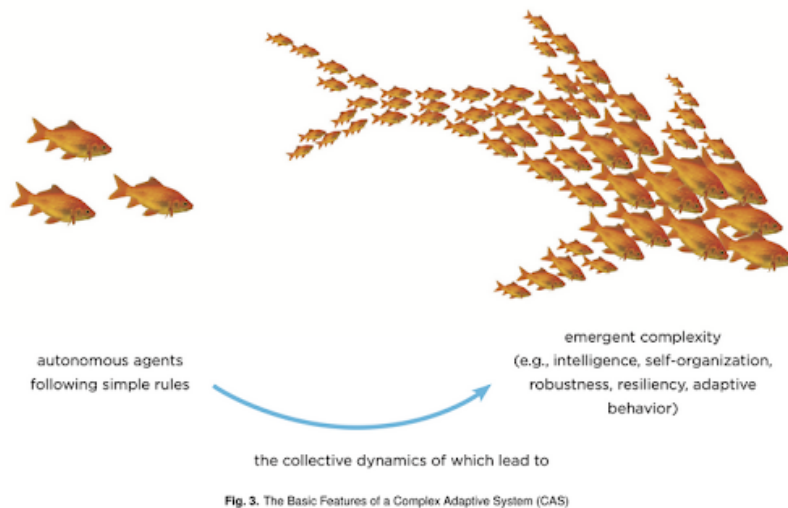
¹⁵ 3

Figure 2: CAS Example

A complex adaptive system consists of parts simultaneously interacting with each other. These are referred to as agents, the word "agents" can be used to describe humans, inanimate objects etc.¹⁶. Agents are associated with aggregate behavior and evolution¹⁷. The simple rules these agents follow are ingrained into the way their minds work thus driving their behaviors. The systems to which they belong are considered adaptive because the rules these agents follow tend to evolve and adapt to changes in their environment. The product of these interactions and changes is a complex system that isn't easy to understand; this comes as a result of new relationships and links are continually developing within the system. The Tompkins County Suicide Prevention Framework is another example of a complex adaptive system (CAS).

¹⁶ 3¹⁷ 3

How to effect change within the system?

WITH ADEQUATE understanding of all the moving parts that make up your CAS, you can begin to identify strategies that you can implement to alter emergent properties or behaviors of your system. The diagram below breaks down the formula for a complex adaptive system and analyses where in the system interventions can yield the best results. The diagram below was borrowed from Mulyono et. al's article¹⁸ on "Hard" and "Soft" Methods in Complex Adaptive Systems (CAS):

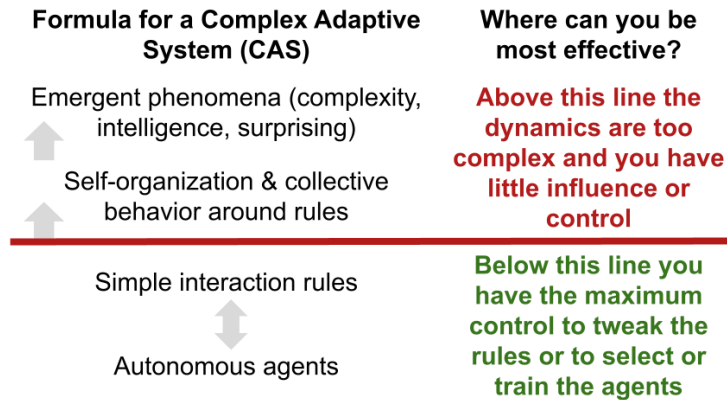
¹⁸ 3

Figure 3: Effecting CASs

To effect a CAS sustainably we can alter the simple rules the agents of the CAS follow or you can select or train the agents¹⁹. This methodology yields the most effective results because of this is the portion of the CAS formula where we have the maximum amount of control over the changes we can make. As we progress into more complex areas of a system the dynamics become far too complex to control. These areas of complexity are areas above the red line in the diagram above. To better understand a complex adaptive system like the Tompkins County Suicide Prevention Framework this paper uses a methodology called "Agent Based Approach"(ABA)²⁰. Agent based approach (ABA) is a useful systems thinking tool that is used to understand and tackle complex adaptive systems. This unique method of understanding systems is a step by step approach with the end goal of providing recommendations that will help change and move the system from its current undesirable state to a future desired state²¹.

¹⁹ 3²⁰ 3²¹ 3

Step 1: DSRP Analysis of the System

IN ORDER to fully understand ABA we must understand the DSRP concepts. DSRP is among the grounding principles of systems thinking. The ideology behind these concepts offers that analyzing a system involves the ability to make clear distinctions between the identity and other. This involves understanding what something is (identity) and acknowledging what it is not (other). One must also be able to understand the concepts of a system, through understanding that something can be a part or whole and that a whole can itself be a part of another whole system. Grouping the identities you have into parts and wholes begins to give more meaning to your system. Emphasis is also put on relationships understanding what is related and the nature and direction of those relationships because every action triggers a reaction. This is important in understanding the interconnectedness of your system. These relationships bring your identities, parts and wholes together in a meaningful manner that depicts a real world version of your system. Lastly you must also understand perspectives. This is driven by understanding that every perspective has both a point and a view from which it is being looked at. DSRP concepts are applied in this paper through the DSRP mapping conducted on the Tompkins County Suicide Prevention Framework. Further information on DSRP concepts can be found in the book “Systems thinking made simple” written by Derek and Laura Cabrera. The diagram below further explains the basic structures of DSRP concepts. This diagram is borrowed from Mulyono et. al’s article²² on “Hard” and “Soft” Methods in Complex Adaptive Systems (CAS).

²² 3

Patterns	Elements
Distinctions (<i>D</i>)	identity ↔ other (<i>i</i>) ↔ (<i>o</i>)
Systems (<i>S</i>)	part ↔ whole (<i>p</i>) ↔ (<i>w</i>)
Relationships (<i>R</i>)	action ↔ reaction (<i>a</i>) ↔ (<i>r</i>)
Perspectives (<i>P</i>)	point ↔ view (<i>ρ</i>) ↔ (<i>v</i>)

Table 1: Components of the DSRP Theory and Their Elements

Step 1 of ABA is focused on understanding the system. At this stage you are not looking to solve any problems, but rather you are looking to understand the mechanics of the system and identify the distinctions, systems, relationships and perspectives that make up the system. This step is extremely important because this is the step that you need to focus on challenging your mental models and getting as close as possible to understanding the real world

system. At this stage you can use the DSRP concepts to manually create a map of the system you are examining. This paper uses a software called “Plectica” to map the Tompkins County Suicide Prevention Framework. In order to get close to the real world version of the system you are examining you must test your mental model against reality (get information through feedback). We do this by making use of the ST/DSRP loop. This step is repeated throughout different stages of the ABA process, making use of feedback and continually applying DSRP concepts as a means of improving your understanding of the system. Feedback can be obtained through consulting with experts and other area specific knowledge resources. The aim here is to continually test your resultant map after each ST Loop to ensure that it is in fact getting closer to the real world depiction of your system. For greater understanding a ST Loop diagram was previously included above on page 4.

Step 2: POSIWID and CAS Analysis

THE ACRONYM POSIWID stands for “Purpose of the system is what it does.” Systems and management scientist Stafford Beer developed this important and popular systems thinking acronym. It is important to note that at this stage you are simply looking at what the system does. At this stage you are not tainting your view of the system by introducing your own ideas of what you think the system ought to be doing. A distinction should be made between the current system POSIWID and the future system POSIWID (desired system). Your current POSIWID will depict the current state of your system and future POSIWID will depict how you want your system to work. The difference between these two POSIWIDs is identified as the root difference²³. The complex adaptive system (CAS) analysis is rooted in the CAS equation previously stated as:

²³ 3

CAS= AGENTS X LOCAL INTERACTION RULES → SELF-ORGANIZATION / COLLECTIVE DYNAMICS → EMERGENT PROPERTIES

This stage requires you to identify the agents of your system, establish the simple rules they follow as well as identify the resultant collective dynamics and emergent properties. Identifying these components will help you to start to think of recommendations to improve your system when the time is right. Recommendations are not to be considered at this stage.

Step 3: Rubric and Recommendations



THE TIME HAS finally come for you to start thinking about recommendations to improve your system; however before we can do that we need to establish some boundaries for the recommendations we intend to make. We refer to these boundaries as a “recommendations rubric.” Like most rubrics this rubric will serve as a test that you will continually use to evaluate the recommendations you put forward. Keep in mind that the recommendations you make should look to address the root differences and act as a vehicle between your current POSIWID and future POSIWID. As an emerging systems thinker I believe that this is one of the most important steps of the ABA process because it creates an adaptable framework for future use. Due to the continual evolution of complex adaptive systems; as your system evolves you will have to come up with more recommendations in the future in order to keep up with the changes of your system. The recommendation rubric allows you to have a framework in place that will allow for anyone to come up with recommendations for the system and test them against this rubric to ensure that these recommendations don’t perpetuate existing system problems. The rubric allows you to do this without redoing the entire ABA process from scratch each time. After you have established this rubric you can make recommendations to improve your system. These recommendations should bridge the gap between your current POSIWID and future POSIWID²⁴. A simple visualization was created below to better understand how the recommendations rubric works:

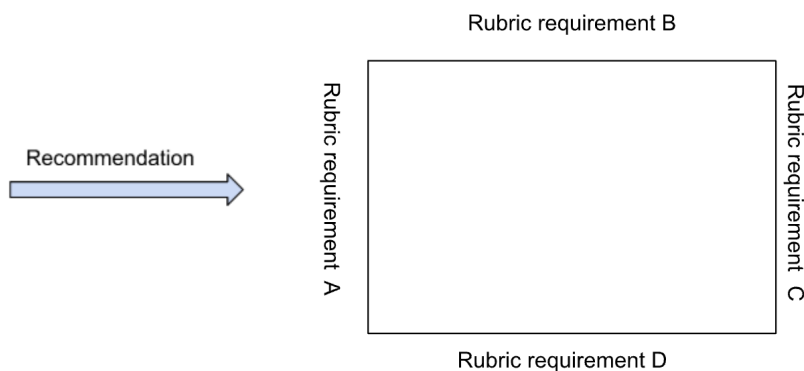
²⁴ 3

Figure 4: Rubric

Based on the diagram above before a recommendation can be put forward it must first gain entry by satisfying each of the requirements you have listed in your recommendations rubric; in this example that would be rubric requirement A,B,C and D. If a recommendation you have come up with fails to satisfy each one of your rubric requirements it does not qualify as a viable recommendation and for illustrative purposes it does not gain entry into the rectangle above.

Results

THE TOMPKINS COUNTY SUICIDE PREVENTION FRAMEWORK map created for this paper is based on research gathered through one on one interviews conducted with relevant senior mental health effort experts within Tompkins County. These interviews were conducted using a standardized interview protocol that was applied across all interviews. Further specialized meetings were conducted in order to complete the ST/DSRP loop to refine the systems map to depict the real world system. Due to the sensitive nature of this research IRB protocol training was completed before conducting these interviews. The final systems map is a result of 4 rounds of ST Loops.

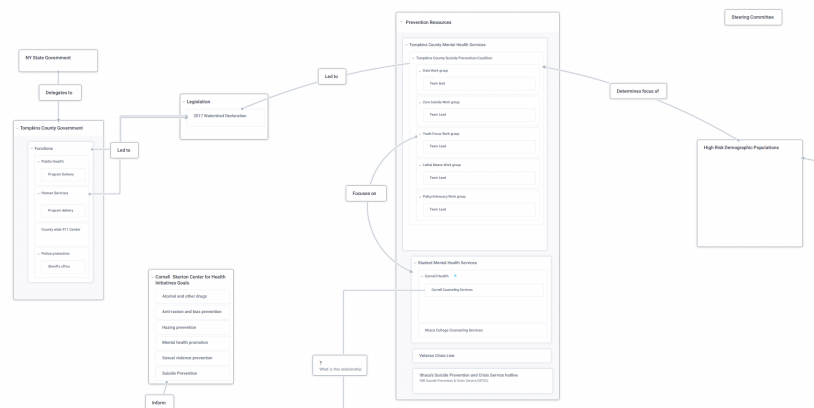


Figure 5: Map #1

Map #1

MAP 1 was completed using information readily available on the internet. I used this information to create my initial distinctions and the relationships I was able to identify through this information. I soon discovered they were some clear part whole systems that emerged within the system, these are also included in Map 1. Map 1 was created as a baseline map while waiting for availability to meet with experts within Tompkins County to get a better understanding of the existing suicide prevention system.

Map #2

MAP 2 came as a result of in depth interviews with the team leads of the subgroups within the Tompkins County Suicide Prevention

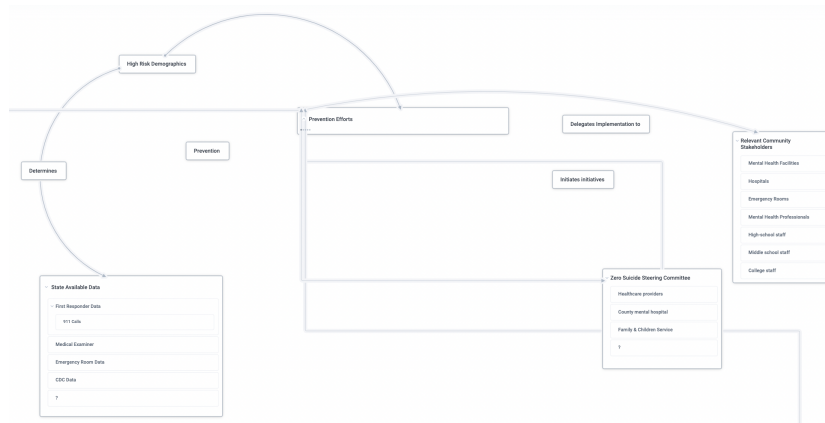


Figure 6: Map #2

Coalition. The team leads following subgroup team leads were interviewed.

- Data Workgroup
 - Team Lead: **Lynsay Ayer**
 - **Role of the subgroup:** To improve the quality and enhance the use of data sources and systems for suicide prevention in Tompkins County.
- Zero Suicide Workgroup
 - Team Lead: **Scott McLeod**
 - **Role of the subgroup:** To advance quality improvement for suicide care in all Tompkins County healthcare and behavioral health settings.

An environmental scan of the suicide prevention efforts within Tompkins County in relation to New York State as a whole was also conducted through Zoe Lincoln. Zoe Lincoln is a Public Health/Mental Health Graduate Fellow working through the Tompkins County Health Department. Zoe has spent a lot of her time studying the Tompkins County Suicide Prevention Framework and was able to clarify the existence of the Zero Suicide Steering Committee and its relationship with the Tompkins County Prevention Coalition. She also provided guidance on how state available data is used to inform the current active suicide prevention efforts within Tompkins County.

Map #3

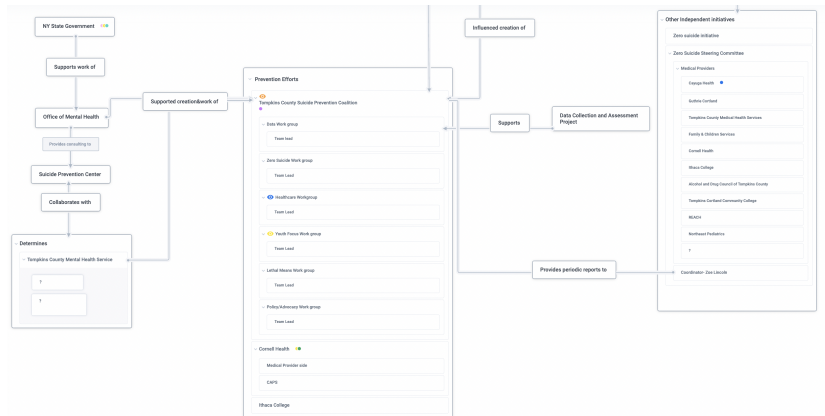


Figure 7: Map #3

MAP 3 was created as a result of further relevant stakeholder interviews. Team leads from the following Tompkins County Prevention Coalition subgroups were interviewed:

- Youth Focus Workgroup
 - Team Lead: **Sarah Tarrow**
 - **Role of the subgroup:** To reduce suicide attempts in the youth population, including students attending colleges in Tompkins County.
- Lethal Means Workgroup
 - Team Lead: **Kaitlynn Tredway**
 - **Role of the subgroup:** To reduce access to lethal means for suicide within high-risk demographic populations as determined by national, state, and local data.

For Map 3 systems thinking fropping rules were applied to narrow the scope of the research and reduce the previous wide focus on the Cornell Mental Health Services as an individual system. After further research with the above experts it came to my attention that the Cornell Mental Health Services were not a major component of the larger scope of the Tompkins County Suicide Prevention Framework; for this reason the scope on this portion of the previous was map was reduced.

The last and final map below is a result of extensive structural changes that I uncovered through the last ST Loop I performed. The final loop was completed through a repeat interview with Scott Macleod. Scott Macleod is the founder of Sophie Foundation, a leading suicide prevention foundation in Tompkins County. He was the driver behind the Watershed Declaration that was passed

In Tompkins County in 2017 in support of suicide prevention, this declaration helped push along the establishment of the Tompkins County Suicide Prevention Coalition which is a major driver of the prevention initiatives we see in the current POSIWID map below. This final map has some changes to the prevention efforts part whole systems due to new knowledge on distinctions previously made. There has also been new part-whole systems added to the map such as the social work based providers as well as other independent initiatives. Some relationships were modified between systems as a way of shifting the mental model closer to the real world system. New perspectives were also discovered and added to the map below.

Map #4

Figure 8: Map #4

POSIWID Analysis

THE POSIWID ANALYSIS below highlights the features of the current system POSIWID and the future system POSIWID. The differences between the two systems are identified as the root differences:

CAS Analysis

THE CAS ANALYSIS below outlines the agents and the current simple rules the agents in the Tompkins County Suicide Prevention Framework currently follow. The system behaviors have also been outlined as a basis of understanding the current system behaviors we

POSIWID ANALYSIS		
Current POSIWID	Future POSIWID	Root Difference
The Tompkins Country Suicide prevention is exceptionally well designed and good at its purpose of making use of available resources and incomplete data to provide short term support to high-risk suicide patients only.	Tompkins Country Suicide Prevention is exceptionally well designed and good at its purpose of centralizing and efficiently reporting reliable suicide related data as well as having sufficient resources to make consistent and continual care available to both high risk and low risk patients.	At its core, the POSIWID difference is: • Centralization and efficiency in reporting reliable suicide related data. • Consistent sharing of complete prevention data. • Insufficient resources to make consistent and continual care available to both high risk and low risk patients. (Authentic engagement vs compensation-based engagement). • Reactive vs Proactive.

Table 2: POSIWID Analysis

are seeking to alter using the recommendations rubric and recommendations that follow in the next section of this paper.

Rubric and Recommendations

THE RECOMMENDATION RUBRIC below takes into account the current system's deficient areas and guards against perpetuating these existing deficiencies. The recommendations included in this section bridge the gap between the existing system and the future system taking us from the current POSIWID to the future POSIWID.

Discussion

AFTER CONCLUDING an in depth analysis of the Tompkins County Suicide Framework through detailed interviews, relevant literatures on suicide prevention as well as interviews key relevant system stakeholders some deficiencies and areas of potential improvement were identified.

DSRP Analysis of the Tompkins County Suicide Framework

THE TOMPKINS COUNTY SUICIDE FRAMEWORK is robust framework that consists of part whole systems working together towards one common goal of suicide prevention. Although some of these part whole systems are connected and have similar goals there is a lack of effective relationships between the key systems making it difficult

List of Salient Agents	Current Simple Rules	Current System Level Behavior
NY State Government	1. Defer mental health provision to local governments 2. Limit support to county mental health initiatives to budgeted provision 3. Follow restrictive suicide death reporting privacy laws	1. Low level government engagement in local suicide prevention in Tompkins County 2. Limited funds available to support reliable suicide data collection 3. Limited funds to support staffing needs to cope with increasing mental health provision demands 4. Delayed and incomplete reporting of suicide deaths by local medical examiner
Social Work Based Providers	1. Independently provide suicide prevention care to patients and collect data accordingly 2. Limit suicide prevention care to match available resources	1. Inadequate data sharing between social work based providers with other medical (also results in inability to identify patients in need of continual care that have been seen by medical providers or treated at the ER) 2. Failure to provide continual care to both low risk and high risk suicide patients
Other independent initiatives (Zero suicide, Zero suicide Steering Committee)	1. Independently initiate and support suicide prevention initiatives	1. Inadequate data available to determine efficacy of current initiatives 2. Limited and unreliable data to determine high risk demographics in order to design effective targeted initiatives
Medical Providers	1. Independently provide suicide prevention care to patients and collect data accordingly 2. Limit suicide prevention care to match available resources 3. Limit suicide prevention training to match budgeted available resources for training	1. Inadequate data sharing between medical providers with social work based providers and other relevant stakeholders such as medical examiner 2. Slow conversion of medical providers to adoption of the Zero Suicide Model 3. Medical Providers are inadequately trained in recent early suicide identification and prevention techniques. (Insufficient comfort training to equip providers to deal with suicide risk patients)

Table 3: CAS Analysis

Recommendation Rubric	
No specific recommendation should violate these rules:	
1. Must be low and high-risk patient focused	
2. Must aim to connect existing organizations rather than promote silos	
3. Must promote authentic engagement rather than ritual/strategic compliance from organizations within the county	
4. Must aim to increase resources within the systems rather than further stretching an already stretched system	
5. Aim to promote efficient data reporting vs creating administrative constraints that lengthen data collection and reporting processes	
6. Proactive versus Reactive	
Specific Interventions/Recommendations	
Intervention/Recommendation #1: Engage and incentivize policy makers and government agencies to deploy additional funding for suicide prevention within Tompkins County by creating awareness surrounding high suicide death numbers. (This includes investing in improved data collection ,training for providers and support for hiring of permanent employees for the Tompkins County Suicide Prevention Coalition)	
Intervention/Recommendation #2: Redesign suicide patient intervention protocols to prioritize both low and high-risk profile patients	
Intervention/Recommendation #3: Introduce and mandate standardized intervention protocols by providing step by step manuals on the Zero Suicide Model	
Intervention/Recommendation #4: Introduce a centralized electronic data sharing platform that connects medical providers, medical examiner and social worker based providers	

Table 4: Rubric and Recommendations

to unify the various active suicide prevention efforts. This silo style multi-agency framework makes efficient data sharing difficult among the following key part whole systems:

1. Medical Providers
2. Social Work Based Providers
3. Medical Examiner (in the Available State Data system)
4. Tompkins County Suicide Prevention Coalition

The map outlines the distinctions mentioned above and assigns their identities within the system. The map also establishes a clear relationship between the state available data and the initiatives carried out by the Tompkins County Suicide Prevention Coalition. However there are currently no relationships that connect the Medical Providers, Social Work Based Providers and Medical Examiner. There are also no relationships present that indicate data flowing from these systems into some sort of an evaluation or oversight framework for any of the above mentioned part-whole systems.

POSIWID Analysis

THE OVERUSE of part whole systems that are working towards suicide prevention without solid relationships among them makes it difficult to efficiently share data ensures continual care for suicide



prevention as they move through the system. For example a patient who was seen in the ER for suicide related concerns fails to show up at their designated appointment at one of the social work based centers. Without a clear data flow between the ER and social work based centers this patient could easily fail to obtain the care they need. The proposed future POSIWID recommends an electronic data sharing system that houses suicide risk patient data and connects all of the key part- whole systems identified in the Tompkins County Suicide prevention Framework.

In addition to the barriers shared by the coalition subgroups significant red tapisms were observed surrounding procuring, and sharing of suicide-related data. These findings are based on interviews conducted with Zoe Lincoln. Zoe is a Public Health/ Mental Health Graduate Fellow working through the Tompkins County Health Department.

Other Significant Barriers Identified

COALITION AND SUBGROUP STRUCTURE

The coalition and subgroups are groups of volunteers. Some of these members belong to organizations that allow them access to the data that the coalition may desire to have. For example, a coalition volunteer who works for the Veterans Affairs might be a potential source. However, since the members are participating on a volunteer basis and often cannot share data without a formal agreement, their proximity to the required data is not beneficial to the Tompkins County Suicide Prevention Coalition. These barriers are most commonly identified in data sourcing with government organizations.

DATA VETTING PROCESSES

A large percentage of the data needed by the coalition and subgroups have a long and tedious vetting process. For example, when dealing with death or mortality data, there is often a police investigation if the death is deemed to be related to suicide. Alongside toxicology labs which must complete a cycle of being sent out and tested, the results will also need to be shared back with the toxicology labs in order for the process to be completed and the results to be finalized. Due to these delays, the data that is accessible is not actionable. Other than time-related issues, difficulties in obtaining actionable data are often downstream and at the surface level. For example, the available data often neglects influential factors such as socioeconomic status.

GAPS IN DATA

Small counties such as Tompkins County often have thresholds that data must meet before it is deemed “publicly reportable”. Thresholds can be 10, 15, 20+, etc. depending on the data point. If the data does not meet these thresholds it must be suppressed to maintain confidentiality. This creates gaps in the data and makes it difficult to determine areas for prevention focus. Additionally, the available data is not refined for a sub-county basis such as delineation through zip code. The available data, therefore, lacks specificity and does not paint a picture accurate enough to facilitate effective prevention or invention.

CONTINUITY OF REPORTING

Reporting around suicide fatalities and suicidality is appearing to be incomplete and inconsistency. For example, There is a check box on death certificates that asks if the decedent was hospitalized in the last 2 months. Ms. Zoe Linclon’s research uncovered that often this box is left blank, even though this information could be important for data reporting and analysis. Additionally on the certificate is a check box to indicate veteran status – sometimes the box is checked, sometimes a number is written in, and sometimes it’s left blank. These data inconsistencies negatively affect the quality of the data available, therefore compromising the possibility of using this data for decision making.

EVALUATION

Prevention and intervention initiatives must be consistently evaluated in order to determine their effectiveness and the proper allocation of time and resources. Sound evaluation methodologies rely heavily on quality data however the unavailability of timely data and incomplete and inconsistent data diminishes the quality of the data available. This makes it difficult to evaluate the effectiveness of the current programs and delays the Tompkins County Suicide Prevention Coalition’s ability to respond to evolving prevention and intervention needs within the county.

Rubric and Recommendations

EMPHASIS IS PLACED on the recommendations rubric to avoid recommendations that could potentially inflict additional stress on the existing system. The rubric can be used for any future recommendations needed to effectively intervene the system without perpetuating any existing deficiencies. In order to move the system from the



current POSIWID to the proposed future POSIWID the following two recommendations are to be prioritized.

1. Engage and incentivize policy makers and government agencies to deploy additional funding for suicide prevention within Tompkins County by creating awareness surrounding high suicide death numbers. (This includes investing in improved data collection ,training for providers and support for hiring of permanent employees for the Tompkins County Suicide Prevention Coalition)
2. Introduce a centralized electronic data sharing platform that connects medical providers, medical examiner and social worker based providers

Increasing government funding and involvement will better equip providers to deal with the increase in demand for mental health services as well as provide reliable and complete data to drive and evaluate existing and future prevention initiatives within Tompkins County.

Appendix

Interview Script

Preparation:

1. Email confirming participation (date, time, and duration), and consent to being recorded
2. Reminder email
3. Read on the works or area of work of the sub-group and refine questions

Interview:

1. Introduction: "Hello, I am —. I will be leading our interview today. I'd like to start by thanking you for making the time to speak with us. Just to confirm, we'd like to keep this interview to (duration) and it will be recorded. Does that still work for you? Great. Participating in this interview is voluntary. You can leave at any time or skip any question as you want. If you need a break or would like to stop at any time, please let me know. During this interview, I'll ask you a few questions about the Data Workgroup and your data requirements."
2. Question 1: "Please brief us on the role of the Zero Suicide Workgroup in the Coalition, your priorities, and your goals."



3. Question 2: "What is the role of the workgroup in contributing to the zero suicide model?"
4. Question 3: "What are your data requirements or needs, and please brief their priorities."
5. Question 4: "What are the setbacks you've faced in terms of acquiring the required data?"
6. Question 5: "How does your subgroup fund the work it does?"



References

- [1] D Cabrera and L Cabrera, *Systems Thinking Made Simple: New Hope for Solving Wicked Problems in a Complex World*. Odyssean Press, Odyssean Press, Ithaca, 2015.
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- [3] Mulyono, Y.O., Sukhbaatar, U., and Cabrera, D., "'Hard" and "Soft" Methods in Complex Adaptive Systems (CAS): Agent Based Modeling (ABM) and the Agent Based Approach (ABA)", in *Routledge Handbook of Systems Thinking*, edited by Laura Cabrera Midgley, Derek Cabrera, Routledge, vol. 20, 2021, p. 9.

