



Innovations in Addressing Mental Health Needs in Humanitarian Settings: A Complexity Informed Action Research Case Study

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Addressing mental health challenges in humanitarian settings, where needs are many and resources are scarce, requires innovative solutions. In this manuscript, we describe a quantum complexity informed intervention, Communication for Whole Health (CWH), developed at the request of a large Jordanian healthcare NGO to address mental health needs of patients and staff. In the humanitarian aid context, this health domain is referred to by the acronym MHPSS (mental health and psychosocial support). The focus of this participatory action research project, presented here as a case study, was the collaborative elaboration of an MHPSS intervention in an urban primary healthcare clinic serving mostly Syrian refugees. The intervention capitalizes on the synergistic effects generated from the systemic nature of communication where every interaction is an intervention, and the health implications of research demonstrating communication is bioactive. Rather than treating mental health as an add-on medical specialty targeting patients with “psychiatric disorders,” systemic MHPSS starts from the premise that everyone has mental health, which is inextricably linked to physical and social health. Emphasis is on integrating awareness of mental health as part of whole health and taking advantage of every interaction to facilitate well-being for patients and staff. The intervention facilitated the transformation of the communication ecology of the clinic from a culture of reactivity to a culture of receptivity by strengthening communication resources and practices. Staff reported feeling more empowered to help patients and displayed increased motivation to find innovative ways to use available resources. They felt better equipped to manage their own stress response and support coworkers. Patients learned basic stress management skills, helping them better manage chronic health conditions, and reported sharing this information with family members. Staff reported many examples of patients responding positively to interventions to reduce patient reactivity, leading to beneficial behavior change and improved health outcomes. Results suggest a systemic MHPSS approach can contribute to ameliorating health inequities by expanding resources for patients and staff, empowering them to act into their current circumstances to support whole health. The CWH approach has potential in similar contexts to address mental health needs in a cost-effective and impactful way.

Keywords: mental health, MHPSS, global health, humanitarian settings, refugee healthcare, communication ecology, complexity, quantum

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INTRODUCTION

One of the biggest challenges in global healthcare is addressing mental health needs in low-resource and humanitarian settings (Wainberg et al., 2017; Patel et al., 2018; Cosgrove et al., 2019). While the reality of inequities in this area of global health is widely acknowledged, limited financial and specialized human resources, as well as stigma around mental health generally, make it a difficult goal to achieve (Silove et al., 2017). People with severe and chronic mental illnesses are especially vulnerable in humanitarian crises and should have access to culturally informed care and support quickly and consistently. Not attending to mental health needs more broadly, however, can have serious short and long-term consequences, particularly during protracted crises. The systemic effects of chronic stress and unresolved trauma can reverberate throughout a community, contributing to physical, mental, and social problems that only exacerbate an already challenging situation for both patients and the frontline health workers who care for them. There is a serious need to address the distress that results from displacement, loss, violence, and ongoing stressors that many experience. Finding innovative ways to engage with this problem is essential given its consequences for overall health and the limited resources available in a given community to respond (Silove et al., 2017).

Organizing a response to a humanitarian crisis is an extraordinarily complicated undertaking, with healthcare being one of many needs that must be addressed. In recognition of the need for global agreement on coordinated action in such situations, the Inter-Agency Standing Committee (IASC) was established in 1992 in response to a United Nations General Assembly resolution. Its members are heads or representatives of the United Nations' operational agencies. It "develops humanitarian policies, agrees on a clear division of responsibility for the various aspects of humanitarian assistance, identifies and addresses gaps in response, and advocates for effective application of humanitarian principles" (Inter-Agency Standing Committee, 2020a). Policy guidelines for different domains, including healthcare, have been developed over the years by various agencies and organizations to respond to the essential needs of those impacted as well as aid workers during an emergency. Although necessary and well-intentioned, the execution of such guidelines in a given context often falls short of their goals due to a range of practical, economic, political and cultural reasons (Melville and Rakotomalala, 2008; Surya et al., 2017). While basic structures may be in place in a given situation, the quality may be unintentionally compromised such that some needs are minimally addressed or dealt with in fragmented ways and some go unmet altogether. This varies widely across different humanitarian contexts.

Within the global aid community, the broad area of mental health and well-being is widely known by the acronym MHPSS (Mental Health and Psychosocial Support). IASC guidelines for

this area launched in 2007 (Inter-Agency Standing Committee, 2020b). MHPSS "refers to any type of local or outside support that aims to protect or promote psychosocial well-being or prevent or treat mental disorders" (The UN Refugee Agency, 2020). This could include, for example, medication management and/or psychotherapy by a trained professional in a clinic or hospital for those with a diagnosable mental illness, as well as efforts intended to more broadly respond to the social and emotional well-being of all individuals affected by the crisis. The latter might include Psychological First Aid training for staff in the different sectors that serve those impacted, as well as community and school-based programs and projects. Many local and global actors, including governments, universities, and NGOs may be involved in providing both mental health and/or psychosocial support services.

Frontline healthcare workers in humanitarian settings are tasked with addressing patients' physical health issues, but they must do so within the context of whatever social and emotional struggles patients are experiencing. These workers, particularly in Low and Middle-Income Countries often have little if any formal training to effectively respond to such needs which is stressful for both patients and staff, impacting quality of care (Mendenhall et al., 2014; Mechili et al., 2018). Because there is a serious global shortage of trained mental health professionals (Patel et al., 2018; Mapanga et al., 2019), the few that might be available are typically allocated to those with the most extreme needs (i.e., those with serious diagnosable conditions). Patients dealing with grief and loss, as well as other ongoing stressors, might be referred to community resources if available, but they must be willing and able to participate (physically, culturally, etc.) and to make the necessary arrangements to access them (e.g., transportation and childcare). The practical reality is frontline healthcare staff are routinely required to deal with the mental health challenges of many patients who have been displaced from their home or country, are grieving the loss of friends and family, have experienced and/or witnessed unspeakable acts of violence, and are continuing to live with the stress of being a refugee or displaced person. The workers must engage with them whether or not they are prepared for the level of distress a given patient brings to the interaction, which takes a toll on the workers themselves (Ager et al., 2012; Cocker and Joss, 2016; Surya et al., 2017; Guskovict and Potocky, 2018; Chemali et al., 2019).

This is the problem that was brought to the Global Health Communication Center (GHCC) at Indiana University-Indianapolis by a large local non-governmental organization (NGO) in Jordan, providing healthcare to refugees from multiple countries. The organization wanted to address the mental health needs of both patients and staff, despite very limited financial and human resources. This manuscript offers a participatory action research case study that elaborates a novel approach to addressing this critically important problem. Grounded in a quantum complexity theoretical framework, the intervention encourages innovative thinking and action that capitalizes on systemic synergistic effects to create opportunities to improve health in low resource contexts. First, we offer a description and rationale for the framework. A brief overview of the case is then provided, followed by a more detailed description of our

Abbreviations: CC, Communication Complex; CWH, Communication for Whole Health; HE, Health Educator; IASC, Inter-Agency Standing Committee; MHPSS, Mental Health and Psychosocial Support; NGO, Non-Governmental Organization.

collaborative intervention efforts, illustrating how the framework was used to conceptualize the problem and inform both content and process throughout the project.

THEORETICAL FRAMEWORK

The GHCC has been involved in multiple projects around the world, including efforts focused on specific diseases such as influenza or malaria, and others dealing with healthcare processes such as risk communication or community engagement. These projects have been undertaken through various partnerships with others such as the World Health Organization (WHO), NGOs, and Ministries of Health. While these projects differ in content, their commonality is in the perspective that is used to frame the problem, that of Communication Complex (CC). This perspective is so-named because it emerged out of a growing awareness of the limitations of the simplistic foundationalist paradigm historically informing social scientific communication theory and research, to adequately explain human behavior and meaningfully respond to real world problems.

There is a developing recognition across the social sciences that the classical mechanistic model is simply lacking. For example, a growing number of scholars point to the inadequacy of research that is driven by one of the major theories frequently used in health communication research, the Theory of Planned Behavior/Reasoned Action. Sniehotta et al. (2014) go so far as to conclude “[t]he longer we delay the retirement of the TPB, the longer we put off the discovery of a better explanation of health behavior change” (p. 5). In a critique of the entirety of media effects research, Lang (2013) characterizes it as a paradigm in crisis:

So, how are we doing? I would argue that like other fields before us functioning under “wrong” paradigms, we have made remarkably little progress in answering our questions about how mass communication affects people and societies. We have identified a number of small effects, which we glorify with the name theories, and we have demonstrated that they occur over and over and over again, in various situations and with various groups. We have made very little progress in explaining how they occur and in developing interventions, which prevent their occurrence (suggesting that our understanding is at best inadequate and more likely wrong). Similarly, these midrange theories continually increase in complexity without increasing in explanatory power or adding much to generalizable knowledge. (p. 14)

Taken as a whole, such criticism is a realization that while theory and research in the social sciences has increased in volume and is more complicated in both structure and method, it does not move us closer to usable knowledge beyond what we can intuit without this body of work.

In addition to theoretical concerns with foundationalist social science, there are serious problems with the body of research as well. Fundamental to science is the ability to reliably produce the same findings, yet this is clearly not what we find when such research is examined. For example, when rigorously put to the test, only 36% of the findings from 100 psychological studies in top journals could be successfully replicated (Carey,

2015; Bartlett, 2018). This is especially concerning when we consider that the results of such research are used to justify so-called “evidenced-based” practices that are privileged because of their scientific basis. While it is possible to conclude that many social science researchers are simply inadequate, it is also the case they may be well-trained and diligent in their efforts, but their paradigmatic parameters at the meta level fail in their assumptions regarding how human action works. This is much the same situation that Planck faced when he famously posited the paradigmatic busting notions that set physics off in the direction of quantum mechanics (Kumar, 2008).

Some scholars have chosen to shift away from scientific theories toward those that are interpretive and/or critical in nature in an effort to avoid the limitations that beset social science. Scholars and practitioners still wanting to advance a scientific basis for social and behavioral action to improve healthcare are advocating new approaches that leave behind some of the problematic aspects of traditional theory and research. These efforts have been described with terms such as complexity, complexity science, systems, complex systems, and complex adaptive systems (Braithwaite et al., 2017, 2018; Greenhalgh and Papoutsi, 2018; Khan et al., 2018; Long et al., 2018; Churrua et al., 2019; Henderson et al., 2019; Orton et al., 2019; Sturmberg and Bircher, 2019; South et al., 2020; Younger, 2020). Understanding these approaches is challenging in large part due to substantial inconsistency or confusion regarding their underlying epistemological and ontological assumptions (Alhadeff-Jones, 2008; Poli, 2013; Long et al., 2018). In some cases, for example, the terms are used to describe a more complicated version of a traditional Newtonian understanding. These efforts are referred to by some as “classical approaches” to complexity and systems thinking (Long et al., 2018), and while they do add to the number of variables accounted for in research and practice, they ultimately do not escape the paradigmatic limitations detailed by those such as Lang (2013).

A broadening awareness of the inadequacy of a paradigm seeds the crisis that leads to change, but the shift is often slow and uneven. Although many physicists by the end of the nineteenth century accepted the limitations for scientific explanations of matter, people like Planck and Einstein were developing insights that moved the whole field into a new paradigm of quantum thinking to explain the basic structure and function of the universe (Kumar, 2008). While there are still some recognized incompatibilities between the theory of relativity (and special relativity) and quantum mechanics, collectively they marked a departure from the basic assumptions about how everything in the universe comes to be and how things work. While many satisfied themselves with the belief that quantum did not affect their work because they dealt with more macro level phenomena and quantum action seems to explain things only at the micro level, other scientific disciplines gradually began to explore the implications that quantum thinking holds for their domain of inquiry. For example, biologists initially thought that plants and animals exist on the macro level and therefore quantum mechanics, which focuses on the sub-atomic world, did not apply. This thinking eventually evolved and it is now widely accepted

that photosynthesis, a fundamental process for plants, is best explained as a quantum process (Marais et al., 2018).

The movement toward quantum thinking has been much slower in the social sciences. At the dawn of the twenty-first century however, more scholars began considering the possibilities for quantum thinking as a paradigmatic set of assumptions for understanding human action. Barad (2007), Wendt (2015), and others have well-developed arguments for the move to a quantum paradigm to explain social phenomena and human behavior. Such a seismic transformation in thinking has naturally produced a lot of confusion as well as some pushback from those whose careers are invested in classical social science. Much like the physicists of the early twenty-first century however, we should explore quantum thinking because we must attempt something new if we are to escape the ontological and epistemological limitations of classical social science. Continuing to theorize and conduct research within a framework that has not produced what we want does not seem to be a fruitful path forward. When we observe the practical developments that were enabled by quantum thinking in areas such as space travel and smart phones, we should at least try for similarly transformative advances in social studies.

Quantum thinking (assumptions that frame quantum theory and quantum mechanics) offers a radical departure from classical assumptions (Barad, 2007; Kumar, 2008; Rosenblum and Kuttner, 2011; Wendt, 2015; Chen and Chen, 2019). In classical thinking, developed by such scholars as Newton and Descartes, the universe is imagined as a mechanism built of matter (objective reality). We can “know” it by looking at each part (reductionism), finding the cause and effects of each part working on or with other parts (linear causality), until we have built a complete understanding of everything in the universe, including human behavior. Such thinking gives rise to the pursuit of media effects research as described by Lang (2013) and others, along with such theories as the Theory of Planned Behavior referred to above. Quantum thinking offers a different set of assumptions, including that there is no objective reality. The universe is a whole and not merely the sum of its parts, as reductionistic research assumes. Everything is systemically interconnected in a non-linear way. To model such thinking requires changing our theories and methodologies as well as a different mathematics. By engaging quantum, we can escape the foundationalist limitations noted above. As Cooper (2017) eloquently states:

All our classical social science is flawed precisely because it is laden with assumptions of classical (mechanical) analysis, which then imperfectly structures theories and policies down the line. Quantum physics gives a more complete account of reality because it describes all the possibilities within a system, which collapses (decoheres) into a classical outcome at the moment of measurement. This does not mean classical science will be obsolete, but just secondary to the quantum approach.

This has substantial implications for social and behavioral interventions across all areas of human activity.

There is a profound gap between a recognition of the inadequacy of a foundationalist paradigm, and clarity about

how to move toward a quantum ontology for the social sciences. As mentioned above, some like Barad (2007) and Wendt (2015) are directly engaging with quantum concepts as applied to human behavior. The efforts of others are more in reaction to a developing awareness of the limitations of foundationalism, particularly those concerned with addressing applied problems where the need to produce useable results is paramount. Scholars and practitioners in areas such as development (Ramalingam, 2013; Boulton et al., 2015; Burns and Worsley, 2015), business (Richardson, 2008), peacebuilding (Brusset et al., 2016), education (Martin et al., 2019), and healthcare (Cristancho, 2016; Braithwaite et al., 2017, 2018; Greenhalgh and Papoutsis, 2018; Khan et al., 2018; Long et al., 2018) have embraced complexity thinking as a way forward due to its emphasis on concepts like non-linearity, emergent properties, uncertainty, and unpredictability, which seem to better describe the applied contexts they study. While those in this latter group utilize the systems language of complexity science, they often do not directly comment on issues of ontology or epistemology. The result is an emergent literature reflective of what one might expect in the midst of a paradigm shift, new ways of talking about a problem with old (i.e., foundationalist) implicit assumptions still apparent to varying degrees. This is not a criticism *per se*, but rather a description of an intellectual enterprise in motion.

Communication Complex (CC) is an example of an emergent perspective arising from quantum-based complexity thinking (Parrish-Sprowl, 2013, 2014, 2015; Parrish-Sprowl and Parrish-Sprowl, 2014). Its intellectual roots draw from constitutive/social constructionist explications of human communication (Pearce and Cronen, 1980; Pearce, 1989, 2007), the systemic thinking of Ruesch and Bateson (1951) and Watzlawick et al. (1967), and developments in neuroscience elaborating the social nature of the brain (Porges, 2009, 2011; Cozolino, 2014; Siegel, 2016, 2018, 2020). CC focuses on the process, patterns, and perturbations that characterize the dynamic connection between humans and everything in their environment (Parrish-Sprowl, 2013, 2014).

Building on theory and research that emphasizes the primary role that connectivity has in creating and shaping people in all aspects, CC views communication as much more than the simple transfer of messages between people. When we think about communication within this foundationalist frame, we have a tendency to do what Pearce calls looking “through” communication, not “at” it (Pearce, 2009). The foundationalist assumption that individuals are akin to separate mechanistic building blocks that “do things” to other building blocks ignores the quantum nature of reality. Because we “see” things at a material level, linear explanations such as “things act on other things” or “this causes that” have a compelling face validity. This is in large part because foundational thinking is neurally and linguistically instantiated in most societies. It is the foundation, if you will, of how we have learned to view the world. In privileging the primacy of the individual (material) rather than that of the communication process that connects us (non-material), one ignores the synergistic flow of energy that is always happening within and between embodied selves. This

non-stop, simultaneous process operates like quarks, defying the rules of logic and connecting people across space and time (Buchanan, 2011; Parrish-Sprowl and Parrish-Sprowl, 2014). Analysis and subsequent notions about where and how we might perturb patterns is limited when we ignore this. Perturbations (interventions) can be viewed quite differently when we consider that, as Hasson et al. (2012) note, “cognition materializes in an interpersonal space” (p. 114).

By embracing the systemic process nature of communication, we can explore ways of thinking about perturbations that capitalize on this non-stop flow of energy within and between. This is the basis of a core assumption of a CC perspective, that communication is bioactive (Parrish-Sprowl, 2017). Just as quantum thinking enabled us to move from landlines to smartphones, CC enables us to consider how human interaction is inextricably intertwined with our biology and that of others, playing a vital role in systemically shaping our health and well-being. In turn, this enables us to consider modes of interaction that improve lives, from the level of our DNA to the whole of society, by recognizing that the dialogical and the biological are interconnected. Perturbations in one place have impact elsewhere in a continuously unfolding process of construction and reconstruction of humanity.

As Cozolino (2014) observes:

As human beings, we cherish our individuality, yet we know that we live in constant relationship to others, and that other people play a significant part in regulating our emotional and social behavior. Although this interdependence is a reality of our existence, we are just beginning to understand that we have evolved as social creatures with interwoven brains and biologies (book jacket).

A growing body of research provides insight into the bioactive nature of communication. This includes studies showing DNA repair from narrative exposure therapy (Morath et al., 2014), improvement in influenza vaccine effectiveness by putting people in a good frame of mind at the point of administration (Ayling et al., 2018), social influences on epigenetics (Notterman and Mitchell, 2015; Cunliffe, 2016), the shaping of neural firing from birth throughout the lifespan (Cozolino, 2014; Siegel, 2016; Siegel, 2018; Siegel, 2020), and the mutual activation of our sympathetic and parasympathetic nervous systems (Porges, 2009; Porges, 2011). Trzeciak and Mazzarelli (2020) conducted a systematic review of the literature on compassionate healthcare. They reviewed more than a thousand abstracts and over 250 research reports on healthcare provider behavior toward patients, and report overwhelming evidence supporting the physiological health benefits of engaging in compassionate interactions, and the harm caused when failing to do so.

In addition to providing support for the notion that communication is bioactive, Trzeciak and Mazzarelli’s (2020) research review also details additional benefits of compassionate healthcare, including improved psychological outcomes for patients, increased motivation for patient self-care, improved healthcare quality, increased patient treatment adherence, and positive impacts on healthcare worker burnout. Clearly, how

we communicate matters to our health on many levels, and it is critical that we capitalize on that if we want to optimize health and healthcare, particularly in resource scarce settings. As the case study presented below illustrates, improving communication ecologies in primary healthcare settings can address health inequities by providing people with communication resources to build better physical, mental, and social well-being. It is doable and can augment, or may even supplant, more expensive ways to improve the health of underserved and under-resourced populations.

CASE OVERVIEW

The healthcare NGO we worked with was established in 2005 as a humanitarian relief organization. At the time our project was undertaken (late 2015), they had static and mobile health clinics distributed around the kingdom of Jordan, and in three refugee camps. Services provided included primary healthcare, secondary and tertiary/life-saving referral services, health education, outbreak control/surveillance monitoring, community management of malnutrition, and reproductive healthcare. The Medical Director, at the behest of the NGO President, requested we work with them to create a new unit within the organization to address MHPSS needs of staff and patients. She described a high level of staff burnout due to workload demands associated with increasing numbers of migrants and refugees from multiple countries, including a surge of displaced Syrians fleeing their country’s civil war. Patients presented with a range of preexisting and emergent mental health challenges, often manifesting as somatic complaints without a physical basis. MHPSS services for patients, including infrastructure, guidelines, training, and capacity building plans were to be developed over a several year period.

Initial planning and coordination took place via email and teleconferencing over a four-month period in late 2015 and early 2016. Members of the GHCC team made a first visit to Jordan in April 2016. During that visit, the team met with the NGO President, headquarters (HQ) staff including the Medical Director, and conducted CC-informed preliminary needs assessment site visits to clinics in three cities and one refugee camp. In addition, the team and a member of the NGO staff met with representatives of WHO and the UN refugee agency (UNHCR). We also attended a monthly meeting of Jordan’s MHPSS Working Group to facilitate connecting the NGO with the larger MHPSS community. This group provides country-wide guidance and coordination of MHPSS services, activities and assessments in emergency and humanitarian crises. Informed by the IASC MHPSS guidelines as well as Jordanian MHPSS Inter-Agency guidelines, it holds monthly meetings with representatives of organizations that offer MHPSS services to refugees throughout Jordan. The GHCC team also conducted a half-day workshop with HQ staff and clinic managers. The purpose of the workshop was to share information about MHPSS services generally, and to convey our desire to work with them to develop plans to integrate such services in a way that was responsive to their unique needs, while consistent with

international guidelines such as Sphere (2018) and Inter-Agency Standing Committee (2020b).

The theoretical framework described above as well as contextual factors informed our decision-making process throughout the project. Based on the process dynamics of the first visit, including the initial needs assessments, we developed a phased step-wise plan that would have consistency across clinics in some areas, and be adapted to the differing cultures of each clinic in other areas. Due to the complexity of the context as well as the problem we were asked to address, we suggested initiating the project with one clinic, which we will refer to as “the Clinic” going forward. In coordination with the NGO medical director and the manager of the Clinic via email and teleconferencing, we developed a plan to return to Jordan in September and October 2016.

The primary goals of the September 2016 visit were to collaborate with the Clinic on a more in-depth needs assessment, and to work with HQ to do future planning for the other clinics. The GHCC team and the Medical Director also attended another monthly MHPSS working group meeting to continue integration with the larger local MHPSS community. At the end of the September visit, one team member stayed in Jordan for several weeks to work with the Clinic staff. The others returned to the U.S. to develop culture and context adapted interventions reflecting a CC approach to MHPSS, incorporating the work we had done with our Clinic partners. We returned to Jordan in October to collaborate with staff to integrate interventions into the Clinic. We also did site visits to clinics in two other cities. Finally, this visit included an assessment and planning meeting with the NGO President and the Director of the GHCC.

The GHCC continued to work with the Clinic via email and teleconferencing, with fourth and fifth visits to Jordan in May and October 2017. These visits included project orientation and trainings for several new Clinic staff members, including a new Clinic Manager, as well as more in-depth work with specific staff to implement low-intensity MHPSS interventions for targeted patients. On the last day of our October visit, the Clinic and the GHCC organized an informal working lunch to share reflections on our collective efforts thus far and discuss steps forward.

Less than 2 months after our last visit, we learned that the Clinic, as well as several other of the NGO’s clinics, were either closing or being taken over by another NGO and our project abruptly ended. As the literature describes and we observed firsthand while working on this project, the forces at play in the humanitarian aid world are many and varied. Things can change quickly and without explanation. It is the process nature of that business and anyone working in such settings must be prepared for that. At the same time, that does not mean that intervention efforts are futile, especially if you take a systemic complexity perspective. In the next sections, we illustrate this by elaborating on the work we did with our colleagues to transform the Clinic communication ecology¹ with the collaborative

implementation of a CC-informed “Communication for Whole Health” (CWH) intervention.

MAKING COLLABORATION

A CC approach to any intervention begins with the idea that building good relationships is key, as others have noted (Burns, 2018) The challenge, of course, is how to enter an existing system to facilitate that when there are so many unknown stories. Given that context can be part of the system, the system boundaries are fluid (Kitto, 2014). A “newcomer” is automatically a perturbation that opens up possibilities, but navigating that well requires presence, a willingness to hold somatic discomfort when system members play out some of those unknown stories, and the ability to act into a stance of open curiosity to learn more. This is the beginning of conveying “we want to do this *with* you” vs. “we are going to do this *to* you.”

This played out at the workshop we facilitated with HQ staff and clinic managers during our first visit. As we began explaining why we were asked to consult with the NGO, the dynamic in the room was polite, but we could feel a tension building as the morning progressed. During the mid-morning break, a GHCC team member, who was born and raised in Jordan, started casually talking with people and, as expected, found there was a sense of dissatisfaction on the part of some in the audience. The varied content contributing to their unease, while important, was not the main focus of our intervention here. We spent the next few hours relationally engaging with them such that they could express their thoughts and feelings about us being there and what was being asked of them. We listened and mirrored back their concerns, sharing specific information as appropriate. This enabled us to gain a glimpse into their lived experience, including some of the stories that were unknown to us, and to behaviorally and affectively demonstrate that we valued what they had to say. We learned that some felt frustration that they were being asked to take on new responsibilities (i.e., adding MHPSS services), when they already felt overwhelmed. Others were skeptical because they had experienced “people like us” before who just “used” them for research purposes and then left. We didn’t try to convince them otherwise but continued to listen and convey our desire to understand their perspective. We did explain that we believed the approach we wanted to take with the project could actually make their jobs easier in the long run, but we knew that was something they would have to judge for themselves. The opportunity to linguistically and affectively express themselves in a context of receptivity helped shift the tone of the workshop in a more positive direction, thus laying the groundwork for future encounters.

The NGO staff we had been working with thus far preferred to converse in English, so language differences had not been a problem. This became an issue at the workshop, however, as several of the attendees did not speak English and only one of our team members spoke Arabic. Our theoretical framework ultimately informed how we navigated this during the workshop

face-to-face and via media, this web of meaning-making shapes and is shaped by our physical sensations, thoughts, emotions, and actions.

¹Communication Ecology refers to the patterns, processes, and content/messages that constitute the environment within which people function in a particular context. From our physical surroundings, to how and what we say and do both

and throughout the remainder of the project. Rather than think about translational issues from a foundationalist goal of establishing fidelity, we took a more relational meaning-centered approach. We viewed it as an opportunity because it created a context for connection and discussion. We worked collaboratively, with those who spoke both Arabic and English going back and forth with one another, then with those that spoke only one of the languages, to arrive at a consensus on wording that reflected the intended meaning. This became a pattern in our collective interactions, with everyone participating in the enactment of this manifestation of “us.”

Following the workshop, the manager of the Clinic, whom we had met during our initial site visits earlier in the week, joined us at a NGO sponsored luncheon. She had many questions and expressed excitement about the project. We were already considering the Clinic for the first intervention site because relationship building had gone especially well there. We were impressed by her staff and pleased by their reaction to us. The Clinic was very busy the day we first visited, manifesting an organized chaos reflective of the reality of the patients’ lives and the staff’s desire to be responsive to their many needs. We talked with all staff who were available during our visit, asking them to help us understand their experience of working in the Clinic. They described the pressures of trying to do their jobs well with limited resources and high demands from patients who had been through so much and continued to struggle with many day-to-day stressors.

During our visit, you could viscerally feel the heaviness of what they were holding from the daily demands of their jobs. Throughout the project, we were monitoring our own biologies to attune to contextual energy by tracking our sympathetic arousal levels (e.g., breathing patterns) and self-regulating to stay in a state of parasympathetic receptivity. As we were saying goodbye that day, a member of the GHCC team, who is a psychotherapist and had been holding their heaviness, turned to the others and said, “we need to give them something before we leave.” We then asked if they were interested in learning something that might help calm their bodies, explaining that when we calm our bodies it helps calm the bodies of others because of the way we affect each other’s biology. They agreed, so we led them in a brief breath awareness exercise. We then taught them how to explain it to patients, and to adapt it so mothers could teach their children how to do it. Afterwards, one of the staff was tearful as she said, “we need more please.” They all shook their heads in agreement. The positive energy generated during our visit, as well as the clinic director’s enthusiasm at the workshop luncheon, were key factors in making the choice to work with this Clinic first. In an effort to capitalize on systemic energy to facilitate sustainability for the project, it was our hope that they might then be able to support other clinics as the project progressed.

Our approach to the workshop and the first visit to the Clinic reflects a CC mindset and highlights several aspects of the CWH intervention that we developed for this NGO and implemented at the Clinic. Reflecting our theoretical framework, the orienting concepts we come back to over and over again are process, patterns, and perturbations. We track systemic process, observe

patterns, and offer invitations for perturbations that might shift energy toward healthier functioning, based on science-informed understandings of how to best regulate our individual and collective biologies. It is always done in an emergent communication dance with the other that supports mutual health and well-being. This is the essence of the notion that communication is bioactive. Part of tracking process includes monitoring our own biologies since we are part of the system too. This is what led to the breath awareness intervention during our first Clinic visit and informed us throughout the project.

COMMUNICATION FOR WHOLE HEALTH INTERVENTION FRAMEWORK

There are many challenges to addressing the mental health needs of refugees worldwide. Silove et al. (2017) suggest that “the ineluctable reality is that most refugees with mental health problems will never receive appropriate services” (p. 130). Scarce human and financial resources are major drivers of this problem, and many have called for more effective use of the resources that are available. In the case of human resources, for example, the gap between the need and the number of trained professionals available is fueling a search for safe and effective ways to expand supervised task-shifting (Mendenhall et al., 2014). Financial resources, while certainly limited, are often not allocated in part because mental health is typically only talked about in terms of mental illness which is not treated as a priority. We *all* have mental health however, and the science is clear with regard to the inextricable link between mental, physical and social health for everyone (Cozolino, 2014; Siegel, 2020). Further, the evidence base for the link between chronic stress and many physical illnesses continues to grow (Radley et al., 2015). This suggests the need to prioritize mental health in primary healthcare, public health and community engagement as part of maintaining a resilient healthcare system. In addition to policy changes that make mental health a priority, there is a pressing need to search for creative solutions to address this issue (Silove et al., 2017).

The CWH intervention framework is an application of the CC perspective that seeks to systemically integrate MHPSS services throughout a primary healthcare setting. It embraces the World Health Organization’s definition of overall health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (World Health Organization., 1946, p. 1). It is a strengths-based approach that capitalizes on the profound interrelatedness of these three aspects of health. The emphasis on integrating MHPSS services into primary healthcare is in contrast to a more typical biomedical model approach that treats mental health as an add-on medical specialty only for those patients with diagnosable disorders, reflecting the siloed nature of foundationalist thinking.

The CWH framework calls for a phased, step-wise integration of services. In the first phase, ALL staff are introduced to the framework, which emphasizes the synergistic relationship between physical, mental, and social health. Based on the recognition that every interaction is an intervention, all staff

are introduced to evidence-supported, strengths-based, and trauma-informed ways of thinking and behaving with patients and each other to support whole health. Emphasis is placed on creating an overall clinic communication ecology of receptivity rather than reactivity, using compassionate accountability to educate, empower and behaviorally activate patients and staff to pursue better overall health. The operationalization and implementation of this process is done in collaboration with clinic staff. Curiosity and creativity is encouraged to facilitate empowerment and ownership, thus contributing to sustainability. Organizational support for this phase is essential because it provides a foundation for the overall health of everyone in the clinic in a non-stigmatizing and empowering way, including those patients with more serious mental health challenges. This can reduce that population's need for higher level services that must be provided by a smaller pool of more specialized, and therefore scarce, personnel.

In phase two, there is continued education and training for all staff in incorporating CWH-informed MHPSS principles and practices in one-on-one interactions with patients and one another. Designated clinical staff participate in the development and implementation of targeted educational interventions for patients on various health-related topics, emphasizing mental health as part of whole health across the lifespan. Coaching on how to engage in affirming behavior change conversations with patients is provided as well. MHPSS practices for staff self-care continue to be developed and encouraged as an essential part of the communication ecology of the clinic, reflecting the ethics of the organization. Again, these interventions expand resources for addressing mental health needs by thinking systemically about how to utilize and support existing personnel more intentionally.

Phase three focuses on integrating care for patients with more serious mental health conditions. This is the most specialized treatment level and would include culturally-informed mhGAP training for non-specialist healthcare providers in the assessment, treatment, and appropriate referral of priority mental, neurological and substance use disorders (World Health Organization., 2019). Training for designated staff in transdiagnostic and diagnosis-specific low-intensity MHPSS interventions could be offered as part of task-sharing to the extent that supervision with a trained mental health professional is available (Mendenhall et al., 2014). Some staff would receive additional training in integrating family and community support interventions for this patient population. Finally, there should be general education for all staff in understanding and interacting with patients with serious mental health conditions that reflects a compassionate care orientation emphasizing human dignity for all.

A STORY OF A COLLABORATIVE ELABORATION OF THE CWH FRAMEWORK

On a beautiful fall day in October 2017, the GHCC team entered the Clinic for what would be, unbeknownst to us at the time, our

final visit. It was the last day of the trip and we were looking forward to socializing with staff at a working lunch. By this time, we had developed good relationships with them. We had very friendly interactions and, if the clinic context at the time allowed, there was much humor and laughter. This was one of those days. The patient load was low, and staff wandered in and out of the office-turned-lunchroom to attend to patients as needed. We hung large sheets of paper on the wall of the room so staff could write some of their ideas about managing stress, advancing MHPSS in the clinic, and how HQ could support their MHPSS efforts. As we laughed and talked about a wide range of topics, someone would go up and write something and then there would be discussion about what had been written. We ate great food, and everyone took lots of photos. The communication ecology in that room mirrored a broader shift in the clinic that had been slowly occurring over the past year. As our work together had progressed, there was evidence of increasing ownership by more and more staff of the need to act with intentionality to create and sustain a culture of receptivity to support the health of everyone in the clinic. How did this happen? One interaction at a time... or as our partners would say in Arabic, “shway shway²”.

The Clinic was located in one of the largest cities in Jordan. The patient population was mostly Syrian refugees living in the community. Full-time clinical staff included the clinic manager, a dentist, two nurses, two general practitioners, a nutritionist, a health educator, and two pharmacists, all of whom worked 6 days per week. The clinic also had an internist and a pediatrician who each worked 2 days per week. Non-clinical staff included two people for data entry, a cleaner, two receptionists, an organizer who managed patient flow, and one security person. The clinic processed roughly 100–150 patients per day, with Mondays and Wednesdays as the busiest. Appointments were set only for the internist because he had to spend more time with each patient. Everyone else had to wait to be seen based on need and order of arrival, as facilitated by the organizer. Waits were sometimes quite long and the small clinic waiting room was often filled with patients of all ages.

The physical environment of the clinic was clean and functional, with a stark and barren look and feel. Posters and pamphlets providing various kinds of medical information were taped to the walls, alongside jarring posters depicting sad child refugees with captions like “USING CHILDREN UNDER THE AGE OF 18 IN ARMED CONFLICT IS PROHIBITED.” When the clinic was busy, the intense activity and the den of noise in the small waiting area could be an assault on the senses, from crying children and the raised voices of their exhausted parents, to angry tirades from patients when staff had to say no to a request because resources just weren't available or bureaucratic hurdles made it all but impossible. While not as loud in terms of decibels, the pervasive sadness of the situation was often palpable. This was the communication ecology that staff lived in 6 days a week and patients experienced when seeking healthcare in the clinic.

During the early needs assessment visits, our goal was to listen deeply to the implicit and explicit manifestations of the system dynamics, continuously checking in with our partners

²Little by little.

about our observations. A CC approach views needs assessment as an inherently relational activity rather than an evaluation the interventionist “does on” the organization. The curiosity-driven collaborative emergent storying process we engaged in with staff facilitated trust-building that would become an energizing force throughout the project.

As a whole, the staff were caring, intelligent and motivated people who were often frustrated and exhausted by the demands placed on them in the context of very limited resources. Terms used in the foundationalist literature to describe the potential impact of prolonged exposure to such stress include burnout, compassion fatigue, vicarious traumatization, and secondary stress (Ager et al., 2012; Cocker and Joss, 2016; Surya et al., 2017; Guskovict and Potocky, 2018; Chemali et al., 2019). Discussions around the distinctions between these terms often reflect the essentializing nature of that epistemological perspective. The importance of any distinction here is one of the degree of impact of the context on an individual’s ability to function. In other words, staff members were affected to varying degrees by the demands of the context, no doubt related to other systemic influences in their lives. For the purposes of this system level intervention, we observed, and staff described, many day-to-day challenges and their feelings of powerlessness in not knowing how to respond effectively at times. The abiding question was how could we collectively perturb this pattern to facilitate a healthier environment for patients and staff alike. As a foundation for the phased CWH approach to integrating MHPSS services into the clinic, we started building on the work we did in our very first visit, collaboratively shifting from a sympathetic nervous system-driven culture of reactivity to a parasympathetic nervous system-driven culture of receptivity.

This process required a mutual recognition of the multiple domains of expertise we all brought to the table. At the most basic level, the GHCC brought expertise in MHPSS and experience using a CC way of thinking to address applied problems, while the clinic staff had expertise in their applied problem. Interestingly, the applied problem that the NGO HQ presented to us was adding an MHPSS unit to the organization. As we mentioned earlier in the discussion of the workshop we did on our initial visit to Jordan, that clearly had not been identified as an applied problem for the clinics themselves, but instead was seen as “just more work.” During our first visit to the Clinic, however, their experience of the breath awareness exercise we facilitated allowed them to actually *feel* how our approach could directly address an applied problem they lived with every day, and they wanted more.

A critical part of our honoring their expertise was the way we engaged with them from the beginning and throughout the project. We consistently conveyed our desire to understand their world. The general tone of our conversations was one of wanting to learn from them because we needed to understand their lived experience as best we could, so that we could be most helpful in sharing our expertise. Initially, we were particularly interested in “what matters most to you in your work here?” and “what would you need to do your job better?” These orienting questions were intended to discern what was most meaningful to them and what could empower them in their work. The first time we asked the clinic manager the latter question, she responded with a look

of sadness on her face and said, “I want to know how to say ‘no’ to a patient so it doesn’t hurt them.” There is a wealth of information in that statement from a CC perspective. It reflects both her awareness of the systemic limitations of what she can realistically do (i.e., I know I have to say no) and the distress she experiences every time it happens. Eventually, we would teach staff CC practices to help them act into such situations as skillfully as possible.

Others shared more tangible desires that could help them do their jobs more effectively. For example, the health educator (HE) told us it would help improve workflow if she had a blood pressure cuff and a blood glucose meter, so that patients didn’t have to wait to see one of the nurses in triage. This was important because many of the patients seen in the clinic had high blood pressure and/or diabetes, conditions linked to high levels of stress. The clinic dentist, while initially skeptical of our ability to offer anything helpful given the severity of the circumstances, eventually said, “Well, I guess anything could help. Maybe some toothbrushes I could give to patients and maybe a stuffed animal to show children how to brush their teeth?” We had extensive discussions about the physical environment, particularly the waiting room. We suggested that a television and DVD player with context-appropriate DVDs might be a good distraction for the patients, and the staff agreed.

The television and DVD player were purchased with donated funds and installed during our October 2016 visit. The physical change in the clinic when the television was turned on for the first time was dramatic. The entire clinic population went quiet as those in the waiting room, adults and children alike, turned to watch it. This change, while variable depending on what was happening in the clinic at a given time, contributed to a physically calmer atmosphere. We brought additional supplies on this visit as well, some they had asked for and some we thought might be helpful in facilitating the staff’s efforts to create a culture of receptivity. We brought dental supplies (toothbrushes, toothpaste, and floss) donated by one of our local dentists. He also donated a stuffed animal with giant teeth and a giant toothbrush to use as a teaching aid. The clinic dentist was surprised and thrilled with the supplies. Equally thrilled was the HE when we provided her with a blood pressure cuff and supplies needed to measure patient blood glucose levels. Her response upon seeing them was “You really listened to us!” We also brought a variety of other items including play medical kits, coloring pages for children and adults along with crayons and colored pencils, stickers to give out to the children, and several items that could be used to decorate the walls of the clinic in a more uplifting way.

The good will generated by our responsiveness to their needs helped set the stage for the workshops we conducted during that visit. Every staff member participated in the workshops, which occurred in the clinic during normal business hours. The workshops were held on days that the caseload was typically low, and staff attendance was staggered to accommodate patients. Since most staff had never heard of the acronym MHPSS, we explained it and gave details about the phased CWH implementation plan during the first workshop. An effort was made to emphasize how this approach could be helpful to them in addressing some of the challenges they were already facing.

Given that we had been responsive to their needs thus far, they were generally receptive.

During the same visit, we also facilitated workshops on traumatic stress and patient health. We explained the effects of different kinds of stress on all aspects of health, particularly elaborating the impact for their patient population. Both clinical and non-clinical staff fully engaged with the material because it helped them understand what they were experiencing with their patients. They became increasingly interested as we explained the CWH approach to dealing with the consequences of traumatic stress in a non-pathologizing way, and how shifting the clinic culture from one of reactivity to receptivity could empower them to engage with patients more productively. Building on the idea that communication is bioactive, staff were taught how to recognize reactivity in their own bodies and how to down-regulate by shifting their breathing to help facilitate down-regulation in their patients. They also learned how to have conversations that invite others into a state of receptivity. This proved empowering because it gave them a productive way to act into tense situations, which they encountered often. This kind of shift in a clinic culture can have a profound impact on patient care for a population that is often in a state of reactivity in the context of serious health inequities, as some of the examples below will illustrate.

As our work together progressed, we became more interested in learning about how the interventions were working (or not working) and helping them problem solve situations. By this time, the trust level had grown and they freely shared feedback and easily questioned us. It made for some lively discussions. As they came to trust the collaborative process and their knowledge level grew, a synergistic partnership developed that led to greater ownership on their part for using this knowledge to improve clinic operations. They shared stories and photos, detailing their efforts to create a culture of receptivity to facilitate whole health. For example, the staff held a contest to see who could create the most “relaxing and inviting” office, using materials we had given them on our last visit as well as some they contributed themselves. The HE conducted a health clinic for adult patients using medical supplies we provided and a children’s health education group with the play medical kits. The dentist and HE used the dental supplies to do oral hygiene education groups for children and created colorful certificates to give the children who participated in the group. We had given the staff Certificates of Completion for the workshops they had attended, and they felt the children would appreciate getting them too. The HE was excited about telling us that “sometimes kids from the oral hygiene group come back to the clinic and shake my hand. One of them once was super excited to see me at the clinic and said, ‘I remember what you taught me!’ He had a big smile on his face!” She later commented on how much she liked having the ability to make decisions about how to use the supplies. “I can’t express how much this means... what it feels like. You’d have to be inside me!”

We received many photos of smiling children with stickers on their foreheads or holding their coloring papers. Staff used these items to create positive affect, but also to facilitate medical care. For example, one of the nurses described how she used the coloring papers and crayons to help one of her young patients.

This 5-years old boy with asthma needed treatment using a nebulizer. He did not want to put the mask on his face and was moving around and crying. The nurse offered him a coloring paper with a crayon, and told him when he finished coloring, she would remove the mask. When describing this to us, she said, “You will not believe it! He enjoyed the coloring so much that he forgot about the nebulizer. He finished his treatment and he was still coloring.” She told us it felt great to be able to do her work without her little patients struggling and crying.

When we returned to Jordan in the spring of 2017, the staff were especially happy to see us because they had been going through a particularly stressful period. In sharing the challenges they had been having, they said that it had been so bad at times that the patients were noticing their change in mood. They laughed as they told us about becoming aware of this when the patients started using some of the same CWH interventions with them that the staff had been using with the patients, illustrating the power of systemic effects. During this trip as well as our final visit, we continued to reinforce maintaining a clinic culture of receptivity. We also began moving into phase two work, providing guidance for all in CC-informed MHPSS practices and working with the nutritionist and HE on more targeted CWH behavior change interventions that could be done one-on-one or in groups. Interestingly, while we were doing this work with the nutritionist and HE, various other staff, both clinical and non-clinical, would drop in when their workload allowed to listen and ask questions about whatever we were discussing. This also happened when we provided the introductory trainings to new staff. For example, the organizer, who had attended the first round of workshops, chose to sit through them again. His job required him to assess patients’ needs with limited ways to take action beyond ranking them in the order they were to be seen, which could be quite stressful. Learning CWH enabled him to move beyond processing misery, to facilitating healing by interacting with patients differently and actively supporting his coworkers. The staff’s voluntary engagement was further validation of the usefulness of the CWH approach in this context and reflected a growing systemic ownership of the importance of MHPSS in the clinic.

Pearce (1989) argues that a “communication perspective sees all forms of human activity as a recurring, reflexive process in which resources are expressed in practices and in which practices (re)construct resources” (p. 23). Our resources, such as stories, vocabulary and other forms of knowledge are expressed in our behaviors (practices) which then reinforce or reconstruct our resources. In the current case, the action plan included capitalizing on relevant existing and emergent resources, as well as intentionally and systemically constructing new ones to facilitate the adoption of practices to support whole health for everyone in the clinic. Advocating for the adoption of new resources can put old ones at risk and, for a variety of reasons, there is often resistance. However, our relationally focused efforts to respectfully collaborate with staff to adopt new and adapt existing resources were met by most with curiosity and enthusiasm. This occurred even as they struggled at times with the uncertainty and confusion that is inevitable as we try to mindfully live in the tensions of complexity. The staff’s high

level of competence and desire to serve their patients well were crucial existing resources. In the following paragraphs, the GHCC team and our Clinic partners, through their stories, will share highlights from our time working together to transform the clinic's communication ecology to support whole health for all.

After learning that the physical environment is part of the communication ecology of the clinic, staff felt empowered to take action to improve it by painting and then "competitively" decorating to playfully motivate one another. One person excitedly remarked, "It's like we have a new clinic!" The addition of the television to the waiting room provided many advantages. At times, children had difficulty with the long waits and would get bored with nothing to do. Cartoons or fun educational programming playing on the television offered some distraction that, at the very least, could mitigate the effects of stress-related reactivity. One of our team observed a little girl, around 4 years-old, having difficulty calming while in the waiting room. She was pulling at her father's pants and trying to talk with him. He stayed quiet for a while, but his level of annoyance started escalating. Suddenly, his face turned red and he screamed "I can't take it anymore, you are making my life miserable. I am sick of you and your brothers." His voice was shaking as if he was about to cry. The little girl began crying. At that moment, a staff member turned on the television. The little girl turned to watch the Tom and Jerry cartoon while continuously rubbing her ear, likely self-soothing, and the situation deescalated. While not ideal, it at least facilitated a shift in the energy of the moment to allow the father to calm.

The television offered other useful opportunities as well. The job of a receptionist in this setting is difficult because you see every patient and hear story after story of needs and sorrows. One staff member had expressed how difficult this was for her, particularly with the children. She was often quite anxious and sad. One day we observed a little boy, about 3 years-old, staring at the television, which was behind the receptionist's desk. He was smiling, with a look of excitement on his face. The receptionist noticed this and smiled, saying, "Is the TV nice, do you like it? What can you see on the TV?" The boy became very excited and said, "I see a dog. Yes, it is a dog! And I see a sheep!" The receptionist said "yes, you are right! What a smart boy!" The child ran across the room as they both continued smiling. This same receptionist was also empowered by the stickers we brought to the clinic. We observed her giving them out to excited children who often put them on their foreheads, making her laugh. These are small moments of feeling empowered to take some positive, rewarding action in the midst of very difficult circumstances vs. experiencing constant feelings of helplessness.

We frequently emphasized to staff that "every interaction is an intervention," so they should look for opportunities to take advantage of that. For example, we shared information about the need for adults to help children regulate their emotional reactions because a child's brain is not sufficiently developed to do so. The capacity for self-regulation can only emerge over time as the child's brain develops and she has the quality of interactions with caretakers needed to nurture such skills. The prefrontal cortex which is necessary for executive functioning

isn't even fully developed until a person is well into their 20's. In the meantime, parents and other adults must help them in a positive way so they develop the resources needed to do it well as an adult. To support the healthy development of minds and brains, we encouraged all staff to look for opportunities, appropriate to culture and context, to positively engage with children in the clinic even if they were just walking through the waiting room. For example, we discussed looking at children in the eyes and smiling, waving to them, being playful or silly with them, and making positive comments about them to and in front of their parents. For staff to do this well, they must be in a state of receptivity themselves so they can use their own biology to positively participate in the biologies of the children and parents. Frequently enacting this pattern of interaction provides many opportunities for triggering the body's social engagement system for everyone, promoting healthy activation and calming at the same time (Porges, 2009, 2011). These kinds of interactions can help mitigate health inequities because they contribute to healthier biological functioning now and in the future. We modeled this behavior throughout the project, and we increasingly watched many staff members start to practice it as well. They also developed short-hand ways to encourage one another throughout the day to remember to breath so they stayed in a receptive physiological state more often. These kinds of peer-support interventions are an important component of sustaining a culture of receptivity.

The scientific evidence demonstrating the need to be intentional about how we interact with children to support healthy development has grown exponentially over the past several decades (Siegel, 2020). Just as the impact of early childhood neglect and maltreatment can last a lifetime, a childhood filled with interactions that make the child feel safe, seen, soothed and secure provide a foundation for a healthy resilient adult (Siegel, 2020; Siegel and Bryson, 2020). We incorporated some of the findings from this research in our trainings about CWH-informed MHPSS interventions in one-on-one interactions. The next day, one of the receptionists came in and excitedly shared what happened when she went home after the training:

I always felt that my oldest daughter was angry at me. I felt everything was a struggle with her. I even felt she does not like to be around me, and that hurt. After attending the training, I learned about healthy attachment and how kids need grownups to look them in the eyes and give them attention, listen to them and help them understand their feelings and control them. I thought about my previous interactions with my daughters and remembered how I am always running. If I am cooking and one of my daughters comes to talk to me, I just dismiss her quickly without even looking her in the eye. I just didn't know that eye contact is that important! So, I made an experiment the day I came back home from the training. I sat down with my girls and spent time with them, watched a movie, they cooked with me. The whole atmosphere in the house was very different, the girls were happy, they listened to me and I listened to them. My oldest daughter told me you are different today, and she gave me a hug! I can't remember the last time she hugged me. For the rest of the day she just wanted to stay close to me. I can't believe the impact

on them and me! I wish I knew about healthy attachment before. I can't thank you enough for the gift you gave me. Now I have big hopes! I want to work on building a healthy relationship with my daughters and you empowered me to do that! Thank you!

This story demonstrates the impact of empowering *all* staff through *systemic* MHPSS. The receptionist likely would have never been exposed to this in a more traditional siloed approach. Instead, she now embraces it which will positively influence her children and others as she shares her new learning, contributing to greater community health.

The receptionist in the previous story did not have the resources needed to change her behavior but was able to engage in healthier practices once she acquired them. Sometimes, however, simply giving more information is not the most effective intervention. From a CC perspective, trying for a "more and better" message is not always the best choice (Parrish-Sprowl, 2014; Parrish-Sprowl and Parrish-Sprowl, 2014). The clinic nutritionist, who was very caring and conscientious, talked with us about her struggles with a mother she was seeing on home visits. Child malnutrition is a serious issue in refugee populations and she had been giving the mother advice about her child's nutritional needs. The nutritionist was concerned about the child and frustrated with what seemed like the mother's unwillingness to change her behavior, even though she loved her child. One of our team members began asking about the woman's life. The family was very isolated with little social support, and the mother seemed overwhelmed by her life circumstances. We suggested the nutritionist try a different way of interacting on her next home visit. While there was clearly a need to convey the importance of adequate nutrition, we suggested a relational approach that would feel more like the nutritionist was talking *with* her rather than *at* her. The latter can sometimes make a person feel even worse. The phrase we use for this kind of "both/and" conversation is compassionate accountability. In this case, there seemed to be a need for the nutritionist to join with the mother to help her "feel felt" in order to strengthen her capacity to take action. We did some role-playing so that the nutritionist could experience the intervention. She was able to use the skills in a future visit and reported it went better. This does not mean that this mother will suddenly transform her behavior after one interaction. The intervention in this case was about empowering the nutritionist to act into an impossibly difficult situation. This use of CC skills can facilitate positive connection for future conversations that might increase the possibility for change that could help mother and child.

Compassionate accountability is a process concept that invites healthy behavior change while at the same time honoring the other. It can apply to how the healthcare provider talks with the patient and vice versa, such as when the patients started using CC interventions with the staff when the latter were exhibiting signs of stress. In the example below, the HE subtly used it to encourage a reluctant patient to take action. This was a middle age woman with underlying medical conditions that were exacerbated by high levels of chronic stress. Prolonged and excessive exposure to stress can result in loss of brain neuroplasticity, lowered

resilience, and a multitude of physiological risks (Radley et al., 2015). Reducing a person's allostatic load is an important part of medical treatment. We gave the HE coloring papers for adults with colored pencils and coached her in how to invite patients such as this to try coloring as a way to activate the more calming parasympathetic nervous system. The HE was happy to report the results:

At first, she felt uncomfortable with the idea. She said "What would my kids say? My kids will laugh at me!" So, I calmly said "how about if you just try it and see what happens?" The patient took the papers and a few colored pencils. The next visit, she brought the papers back to show me how she'd colored them and then asked for more! She comes in, gives me the finished papers and the pencils, then takes more papers and new pencils. The patient told me: "I can't have enough of these. I am happy I can color, sometimes I stay up late to 1:00 or 2:00 in the morning to finish coloring. It is a peaceful time for me. Now my kids want to do the same. We actually started competing to see who would do better coloring than the other."

This is yet another example of the ripple effects of systemic MHPSS. In this case, it was a patient empowering her family just as she had been empowered by the HE who had been empowered by our mutual collaboration. There is so much that feels out of control to people in these situations; the ability to exercise control when you can matters to them.

The final story illustrates how having knowledge about the bioactive nature of communication empowered the dentist to proactively change the trajectory of an ongoing conversation.

I had a patient who required a surgical extraction of a tooth, but he had an infection, so I gave him an antibiotic and told him to come back in a week. After a week he came back, but I told him he had to wait another week until the infection cleared out. He was so upset to hear that, especially because he was in pain, and he started yelling in my face. On the inside, I felt very aggravated, to say the least, and I wanted to defend myself because the patient was not respectful and was very rude, but then I remembered the training about trauma and how it affects patients' brains and I made a decision to calm myself. So, I took some deep breaths and sat down and asked the patient to sit down with me. After he started to calm down, I explained to him slowly why it is bad to do the surgery if the infection is still there, and how the side effects can be worse. He eventually agreed to come back after another week. He came back and I did the surgery and he left the clinic. Two weeks later, the patient came to the clinic and when he saw me, he grabbed my hand and bowed down to kiss it. I was shocked and asked him why? He said "you understood my pain and you were patient with me, you contained me and helped me even though I was rude. Thank you!!" If I had not calmed down and breathed, that poor guy would have left our clinic upset and in pain and would not have had the means to pay for a private dentist to do the surgery. I saw a smile on the patient's face when he left, and I had the same smile on my face. Happy I helped and grateful for the training that taught me how to deal with such a situation.

The dentist was able to use self-regulation skills to calm himself when interacting with this highly reactive patient. This enabled him to take a third person perspective and look "at

the communication” in this interaction, giving him additional resources to intentionally act into a more productive story. He was able to invite the patient into a healthier conversation through the social regulation of allostasis (McEwen and Stellar, 1993; Porges, 2009, 2011; Atzil and Barrett, 2017; Fotopoulou and Tsakiris, 2017). This positively impacted the patient and the dentist and is an example of the power of understanding that communication is bioactive. It was also meaningful for his colleagues, fueling a positive form of social contagion and reinforcing a clinic culture of receptivity.

FINAL THOUGHTS

Clinic staff and the GHCC team collaborated to develop systemic MHPSS as an integral part of the clinic culture. The staff’s ability to create a culture of receptivity resulted from their ownership of a CC-informed Communication for Whole Health mindset born out of its usefulness for responding more effectively to the complex demands of their existing situation. This suggests it has potential in similar contexts to address mental health needs in a cost-effective and impactful way as part of efforts to reduce health inequities. While we were not able to implement the full plan before the clinic closed, our collective efforts to transform the communication ecology of the clinic will continue to have systemic effects as the staff carry their knowledge into other contexts and we widely share our experience working with them. As with all quantum phenomena, systemic effects not only move through people, they move across space and time. Taking a quantum complexity approach to conceptualizing social problems offers synergistic possibilities for perturbations beyond what traditional approaches can generate. These are the kinds of advantages we need as we try to more adequately engage with the complexity of human experience. We look forward to continuing this paradigm-shifting conversation and are excited about the quantum complexity thought experiments, and the interventions

they inspire, that we and our social science colleagues will put forth in the coming years.

DATA AVAILABILITY STATEMENT

The datasets presented in this article are not readily available because, the original contributions presented in the study are included in the article. Further inquiries can be directed to the corresponding author. Requests to access the datasets should be directed to John Parrish-Sprowl, johparri@iupui.edu.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Institutional Review Board-IUPUI. Written informed consent for participation was not required for this study in accordance with the national legislation and the institutional requirements.

AUTHOR CONTRIBUTIONS

SP-S and JP-S developed the theoretical framework for the project, took primary responsibility for the data analysis, and writing of the manuscript, with SA reviewing and providing feedback. All authors fully participated in the logistical design, execution of the project, including data collection, contributed to the manuscript, and approved the submitted version.

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