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Interventional Systems Ethnography and Intersecting Injustices: A New Approach for Fostering Reciprocal Community Engagement

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Abstract

Effectively addressing wicked problems requires collaborative, embedded action. But, in many cases, scholarly commitments, social justice, privilege, and precarity collide in ways that make it difficult for community-engaged scholars to ethically navigate competing duties. This article presents our efforts to support reciprocal community engagement in addressing cancer-obesity comorbidity and risk coincidence in underserved communities. Partnering with community healthcare professionals, we conducted an adapted Systems Ethnography/Qualitative Modeling (SEQM) study. SEQM offers an alternative ethical framework for community-engaged research, one that supports reciprocity through enabling participant-centered community self-definition, goal setting, and solution identification.

Cancer and obesity are long-standing, intractable issues, each arising from interconnected biomedical, social, and environmental factors. They are what Rittel and Webber call wicked problems, that is complex issues "that def[y] complete definition, for which there can be no final solution, since any resolution generates further issues, and where solutions are not true or false or good or bad, but the best that can be done at the time. Such problems are not morally wicked, but diabolical in that they resist all the usual attempts to resolve them" (Brown et al. 4). As Rittel and Webber describe, the aim in addressing these irreducibly wicked cases is "not to find the truth, but to improve some characteristic of the world where people live" (167).

Wicked problems are often defined by their connections to other problems. This focus on the relationships between seemingly distinct problems is particularly important here. Although cancer and obesity have individual causes, signs, and symptoms, an increasing body of research has illuminated the startling risk coincidence and comorbidity of these two conditions. Growing evidence indicates that cancer and obesity significantly overlap and sometimes even cause each other (ACS; Renehan et al.). Take, for example, these statistics: 40% of all cancers diagnosed in 2014 were related to being overweight and obese, and at least thirteen different types of cancer have been linked to being overweight and obese. Given these findings, it's perhaps unsurprising that the Center for Disease Control and Prevention (CDC) advocates for maintaining healthy weight as among the "most important" cancer preventatives, alongside avoiding tobacco ("Cancer and obesity").

While biomedical researchers work to identify the physiological and biological connections between these conditions, researchers in fields ranging from public health and epidemiology to health policy and communication have identified pressing social and environmental disparities with respect to cancer, obesity, and their overlap. That is, the interconnectedness of cancer and obesity is not limited to the biological or physiological, making prevention and treatment for these conditions individually and concomitantly even more difficult. Specifically, intersecting food and environmental injustices have been identified as critical factors in the prevalence of both cancer and obesity. For instance, decreased access to parks and recreation facilities (Sallis and Glanz), increased consumption of fast foods (Reidpath et al), decreased access to healthy foods (Beaulac et al.), food insecurity (Drewnowski), and environmental exposures (Dubowsky et al.; Morello-Frosch and Jesdale) have all been identified as social and environmental contributors to *both* obesity and cancer.

Importantly too, cancer and obesity are disproportionately prevalent in underserved and minority communities (CDC, "Compared"). Those living in precarious positions with respect to healthcare access are more likely to develop both cancer and obesity. In fact, those living in the most poverty-dense counties across the United States are the most likely to be obese and seem to be at a greater risk for cancer, too (Levine; CDC, "Cancer and Obesity"). Furthermore, racial/ethnic minorities are also more likely to develop both cancer and obesity ("Obesity and Cancer Risk"; Wang and Beydoun). Across many types of cancer, these populations are at an increased incidence and mortality risk—that is, not only are minority and low-SES communities more likely to *develop* cancer, they are more like to *die* from it. Ultimately, there is no single cause for these disparities across cancer and obesity; a variety of factors are considered influential including lack of insurance, decreased access to screening, possible mistrust in medical professionals, and the aforementioned environmental factors like air toxins and food deserts.

Taken together, the myriad and diffuse causes of cancer and obesity, in addition to their comorbidity, highlight the pressing need for a wide range of expertises and collaboration to work toward treatment and prevention for both conditions. Bringing together research on the biomedical, social, and environmental variables at work in the risk, prevalence, and treatment of these conditions highlights the diversity in *who* develops these conditions, *what* their needs and concerns might be, and *how* to prevent and treat these conditions. Understanding and effectively addressing wicked problems like the interwoven issues of poverty, food deserts, decreased access to quality care, and environmental injustices in the obesocarcinogenic environment requires reciprocal, collaborative, and embedded action from a wide variety of stakeholders in medicine, public health, community health education, academia, and impacted communities. To generate this kind of action, scholars have often turned to participatory action research (PAR) methods. But, as we will show, a PAR-style approach often has limitations, particularly with supporting the reciprocal relationships necessary for addressing these kinds of problems. As colleges and universities move toward more intensive community collaborations and "as they redefine their role in community building and embrace the practice of mutuality and reciprocity, new ap-

proaches to collaboration will be needed—both within the academic community and within the infrastructure that supports campus-community interactions" (Ramaley). As rhetoricians of science and technical communication scholars, we see our role as a form of facilitation; our aim is to help create systems that support community self determination.

To help foster such relationships and action, we offer Systems Ethnography/ Qualitative Modeling (SEQM), an alternative framework for community-engaged research that supports reciprocity through enabling participant-centered community self definition, goal setting, and solution identification. As we explain in the following sections, the ideal outcome of SEQM is to initialize and support these activities in the community, making its logic of reciprocity strikingly different from PAR. We describe our partnering with community-affiliated and -embedded healthcare providers, health educators, and health advocates to conduct an adapted SEQM study. This systematic approach to fostering transdisciplinary inquiry and engagement features a mix of ethnographic observations, interviews, and participatory mapping designed to promote collaboration and identify promising—that is, effective and socially just—interventions across cancer and obesity care.

Ethically Navigating Wicked Problems

Community-engaged scholars subscribe to various frameworks and approaches to guide their participation in university-community interactions. Particularly when encountering precarious communities, the stakes are significant. In some cases, such as the hazard of informed consent documentation for undocumented immigrants, the hierarchy of ethical obligations is well codified. In other cases, research ethics harmonize with good community practice. For example, when ethnographers adequately present emic and etic accounts, they increase methodological rigor while safeguarding against epistemic injustice. However, in many cases, scholarly commitments, social justice, privilege, and precarity collide in ways that may make it difficult for community-engaged scholars to ethically navigate competing duties. To different degrees, these approaches support the reciprocity that the literature shows is key to successful and equitable partnerships. (Cushman et al; Grabill; Simmons and Grabill; Remley).

Participatory Action Research

Seeking to generate meaningful, ethical research, academics have often turned to participatory action research (PAR) or, more recently, participatory critical rhetoric (See Middleton et al.). PAR and related modes of inquiry are grounded in ethical commitments to foster change within research sites. In rhetoric, PAR has historically situated itself in a theoretical framework elucidated by Carl Herndl and Cynthia Nahrwold. Specifically, PAR scholars accept the suggestion that "a researcher's commitments to specific forms of social action shape theoretical and philosophical commitments" (Herndl and Nahrwold 260). Under PAR, their primary role is speaking truth to power and directly disrupting the structures of power and control that create and sustain precarity. Accepting this and the postmodern requirement to make research-

er perspectives explicit, PAR scholars outline their ethical goals and attempt to foster change accordingly in their research sites. Reflecting on his move to PAR, Brenton Faber describes his need to become more participatory: "In order to fully understand change, I needed to play a self-conscious, direct role in change and fully experience the consequences, successes, and risks associated with change" (13). Hopefully avoiding any paternalism or imperialism, PARers, armed with their ethical and practical commitments, negotiate access, attempt to initiate change, and record the fall-out.

While PAR can—and often does—provide researchers with an ethical foundation for participating in campus-community interaction, it is not appropriate in all cases. PAR prescribes a model of reciprocity that aligns research with the pre-identified goals of pre-identified communities, which are often presumed to be singular and hold relatively uniform political commitments in line with those of the researchers. But invariably, community-engaged researchers may be involved with communities who do not share their political sympathies. In "Minutemen and The Subject of Democracy," Bleeden et al. offer a careful analysis of ethnographic interviews with anti-immigration activists who subscribe to the Minuteman Project. PAR-style engagement with these communities would not only run directly contrary to the authors' ethical commitments, it might very well lead to violent outcomes. Yet, as the authors point out, fully understanding American democracy requires understanding the role anti-immigration groups play. "Minutemen" further demonstrates PAR's tendency to universalize communities. As the authors write, the academic and activist Left often "collapse all anti-illegal-immigration activist—the Minuteman Project, the Minuteman Civil Defense Corps, independent activists, the Ku Klux Clan, neo-Nazis, and so on—into one general category and to dismiss all of these groups as racist" (180). Preconceived notions of political commitments and community identities, whether supportive or critical, have real potential to limit the epistemic scope, the communities included, and the challenges and interventions identified. While in many cases, especially when researchers are members of the communities they study, it is possible to enact PAR-reciprocity seamlessly, PARers do run a very real risk of inadvertent paternalism. PAR doesn't necessarily provide researchers with the tools to enact true reciprocity in community-engaged research. Rather it is very possible to use PAR to deploy a saviorist mode of community engagement. Subsequently, it is critical that community-engaged researchers have multiple reciprocity frameworks available that can be flexibly applied to situations where PAR is inappropriate.

Critical Action Research

One such alternative comes from Blythe et al.'s critical action research (CAR). Fusing PAR and applied rhetoric, CAR was derived as part of the authors' work to support "the inventional activities of the people with whom [they] worked" around a proposed dredging project (294). Incubated partially in the culture of technical communication consulting but tinged with a drive toward fostering public good, CAR differs from PAR in that it supports reciprocity through enabling participant-centered goal setting and solution identification. Under CAR, a community may pose questions while researchers carry out the work on their behalf and "communicate the results

to the community rather than engaging in research with [them]" (276). Community members could then use the results when formulating their own responses to the problem at hand.

In helping communities develop and refine their communication, Blythe et al. identify the "variability of real audiences" as a barrier to effective communication for both communities and researchers (283). So, they construct a "community map" from their ethnographic work, with the understanding that a community is "a collection of organizations, institutions, and individuals...arrayed in relation to each other with respect to the dredging project" (286). As Grabill later notes, the community that emerges is shaped by the issue at hand, in this case, the dredging project: "So if we were following different work, then we would see different activity, alternative connections, and therefore new groups at the same time and in the same space. In other words, a different map, a different community" (197). CAR, then, rejects preconceived, universalized notions of community in favor of a more dynamic approach, though it falls short of supporting community self-definition. Furthermore, this approach, as noted above, is shaped by the issue at hand— the dredging project. But when the problem isn't an isolated event, what "community" do we support and toward what "solution"?

Systems Ethnography/Qualitative Modeling

This article explores an adapted SEQM approach that, like CAR, can provide an alternative ethical framework for community-engaged research. Distinct from PAR or CAR, SEQM supports social justice and reciprocity without subordinating inquiry and action to preconceived definitions of the problem, community identities, or political commitments.

SEQM, as we envision it, is operationalized by the wicked problems framework. This framework recognizes the unique, irreducible challenges definitive of any rhetorical situation while also attending to its ethical dimensions. Thinking about cases like cancer-obesity comorbidity as wicked emphasizes not just procedural problems but also "problems of responsiveness and dilemmas of judgment" (Marback pp. w400). Despite the buzzwordy hypeishness of the term, "wicked problems" provides a foundation that centers research on reciprocal community engagement while also reframing reciprocity. Traditional understandings of reciprocity require legibility and clearly defined mutual needs among the collaborating partners (Miller et al.). But under the purview of "wickedness," legibility is co-constructed among the participants, always changing and changeable, not something to be discovered.

Increasingly, the prescribed response to a wicked problem is transdisciplinary inquiry, "taken here to be the collective understanding of an issue…created by including the personal, the local and the strategic, as well as specialized contributions to knowledge" (Brown et al. 4). As Judith Ramaley further explains, transdisciplinary work diverges from traditional scholarship in methodology and argumentation:

> Transdisciplinarity sets problems in the context of application and insight, and methods of inquiry are drawn from many disciplines as well as

> from community participants. Those separate disciplinary and professional frameworks are gradually blending to create a different, more integrated approach to the study of complex problems.

Under this rubric, "transdisciplinarity" is distinguished from the more insular academic modes of engagement. That is, where multidisciplinarity engages participants from individual disciplines working more or less within their silos, and interdisciplinarity involves the development of new methodologies at the intersections among different disciplines, transdisciplinarity combines the efforts of participants from across and beyond academia in pursuit of more comprehensive approaches to complex problems. In the case of health and medicine, transdisciplinary practices integrate the efforts of researchers from multiple disciplines and subspecialties with healthcare providers, community health educators, advocacy organizations, and health-policy professionals. While such an approach to inquiry can foster reciprocity, this kind of integrated approach is often difficult to achieve because of the problems that arise from siloization, like the ability to engage and appreciate the value of alternative theories and practices, which are further compounded as the range of participants is extended (O'Cathain et al.).

But effectively addressing (note: not solving) wicked problems requires coordinated action both within and beyond academia. It requires catalyzing innovative lines of inquiry, political will to act, and resilient community engagement. Addressing wicked problems simply does not allow for the preconceived community definition, problem definition, or goal setting of PAR-style approaches. By attempting to catalyze and support these activities in the community, SEQM's logic of reciprocity is strikingly different from PAR's. In so doing, SEQM runs the very real risk that it will help communities implement solutions other than those endorsed by the researchers. But this risk, we would argue, provides the protection against benevolent paternalism and the ethically problematic version of reciprocity that supports it.

SEQM for Cancer-Obesity

In this spirit, our research team partnered with community-affiliated and -embedded health professionals to conduct an adapted SEQM study in order to help address cancer-obesity comorbidity in urban Milwaukee. The wicked nature of cancer-obesity sets the stage for transdisciplinary intervention, but coordinating such intervention is its own wicked problem. Scholars have spent considerable energy characterizing and developing strategies to overcome communication barriers associated with disciplinary, institutional, or epistemic difference (Graham; Harris; Wilson and Herndl). SEQM, a mixed methodology of ethnography, interviewing, and qualitative modeling, was originally developed by Greg Wilson and Carl Herndl during their embedded study of interdisciplinary collaboration at Los Alamos National Laboratory (LANL). The problem, as Wilson and Herndl describe, was how to respond to complex, emergent military threats that require communication and cooperation among experts with diverse specialties and organizational homes.

Similar to Blythe et al., mapping is a critical component of SEQM. As part of their applied work in the statistical sciences group at LANL, Wilson and Herndl developed a knowledge mapping methodology. Rooted in Kuhnian and paradigmatic theories, the approach assumes that different linguistic communities see the world differently, which creates certain incommensurabilities (See also Harris, 2005). The goal of a SEQM knowledge map is to make knowledge and experience from different communities visible, to make "discordant language and knowledge understandable by demonstrating how these ways of thinking and speaking fit within a common project and how they emerge from different contexts for action and different...purposes" (Wilson and Herndl 132). Although they resemble the products of social and/or actor-network analyses, knowledge maps respond to a different theoretical tradition. They are created through ethnographic data collection methods and thus do not attempt to support quantitative accounts of large-scale networks as one might expect in social network analyses.

A knowledge map is a boundary object— a rhetorical artifact that contextualizes relevant knowledges, establishes relationships, and constructs a common, overarching mission (Star and Greismer; Wilson and Herndl). A knowledge map can produce a trading zone, "a temporary space of cooperation and exchange" (Galison 132). As such, the map itself can mean different things to different audiences; what may simply be a black box to one participant could be a dense cultural object to another. While Wilson and Herndl focus on cross-disciplinary spaces, knowledge maps, as we will show, can also be used to foster reciprocity and create trading zones in transdisciplinary settings.

To be sure, there are important differences between responding to emergent military threats and understanding and intervening in the obesocarcinogenic environment, but the uncertain, complex, and ill-defined nature of each problem presents similar challenges. Given LANL's success with SEQM, we hoped the method could also be adapted to effectively respond to wicked problems like cancer-obesity. As we deployed it, SEQM combines ethnographic observations with structured collaboration facilitation to map intersecting knowledges and clarify opportunities for and obstacles to collaboration and enduring community engagement. With the overarching goal of catalyzing transdisciplinarity, a goal that positioned us as researchers to act in a manner both effective and socially just, the study proceeded in roughly three phases. We describe these phases below; following that, we discuss the reciprocal nature of these phases and how they help us to better understand the wicked problem of cancer-obesity.

Phase I: Recruitment, Observations, Interviews

In pursuit of a rich, expansive account of the problem, the research team developed a site-based recruitment grid of cancer and obesity care in Milwaukee. Our approach to participant recruitment combined purposive and snowball sampling. Initial participants were identified and recruited from each of the five resulting domains: 1) hospital/clinical cancer care, 2) hospital/clinical obesity care, 3) primary care, 4) cancer community health education and screening, and 5) obesity and healthy living com-

munity education (See Figure 1). We chose these anchor sites because we knew that different communities would be present, which helped us develop as wide a systemic understanding of the multiple intersecting communities involved in addressing cancer-obesity comorbidity as possible.

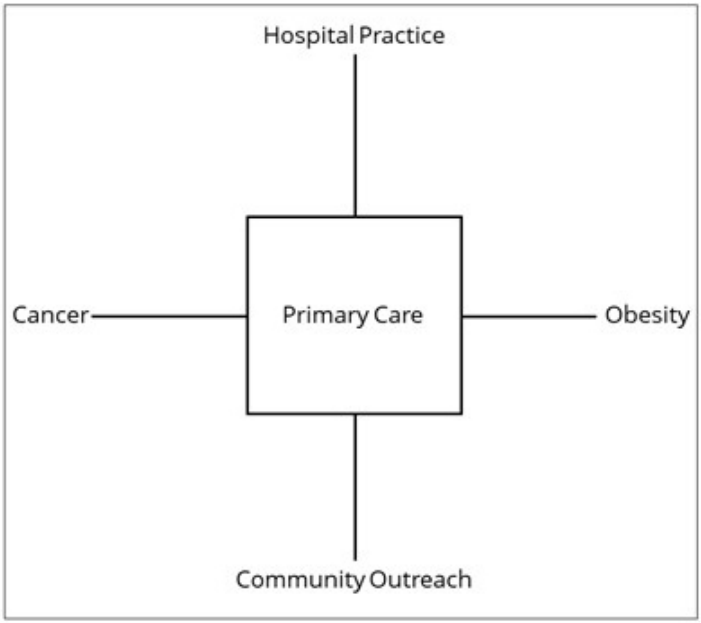

Figure 1: Site-based recruitment grid

The research team began recruitment by emailing a short list of contacts that the PIs collaboratively generated. At the same time, members of the research team searched for and invited members of Milwaukee-based medical institutions and community groups that fit into the selection criteria to participate in the study. These requests indicated that the study was about "healthy living and disease management/prevention," and the purpose of the study was to "document the manner in which patients and community members are counseled about healthy living choices in the contexts of cancer and/or obesity management and prevention." In addition, the requests stated that participation would involve a member of the research team observing and taking notes on "daily professional activities" for a total of ten to twenty hours as well as a one-hour recorded interview. Table 1 offers an overview of the observation sites.

Table 1: Total hours observed by domain with site and participant examples

Domain	Hours	Site Example	Participant Example
Hospital/clinical cancer care	40	Regional cancer center	Radiation oncologists
Hospital/clinical obesity care	15	Endocrinology special practice	Endocrinologist
Primary care	20	Primary care clinic in a low SES urban area	Primary care physician
Cancer community health education and screening	20	National advocacy organization focused on promoting cancer screening	Community screening educator
Obesity and healthy living community education	15	Education/outreach division of a low-income community clinic	Community health educators

As observations were completed, the research team scheduled and conducted semi-structured interviews to gather additional information about the sites and practices of each domain as well as possible collaboration barriers and opportunities. For example, the interviewer might ask about barriers to collaboration with practitioners in other domains as well as a specific practice or event they observed.

Phase II: Initial Mapping

Once the observations and interviews were completed, the research team analyzed observational notes and interview transcripts, looking for themes and relevant relationships. A few team members were asked to generate initial knowledge maps. As Figure 2 illustrates, the initial maps were complex and somewhat difficult to follow. Team members struggled to determine how best to represent practices, sites of practice, and the connections among them in the context of the larger goals of treatment and prevention. In particular, there was some disagreement as to whether the maps should be more person-based or site-based.

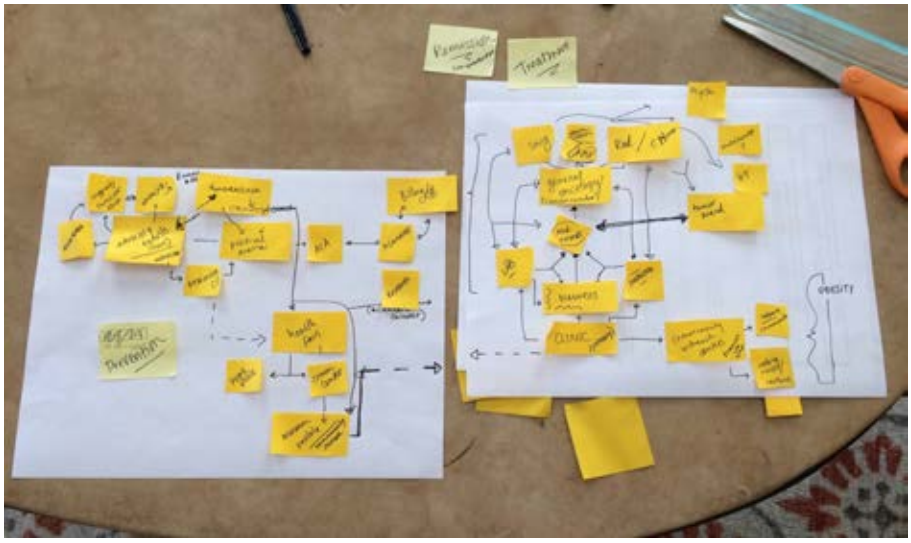

Figure 2: Initial knowledge maps

After a series of group discussion and mapping exercises, the team produced provisional knowledge maps. Much like Wilson and Herndl's, these maps focused on the primary mission and relevant stakeholders, sites, and activities. Figure 3 is an intermediary version. The map illustrates how the research team conceptualized cancer treatment and prevention after observations, interviews, and additional background research.

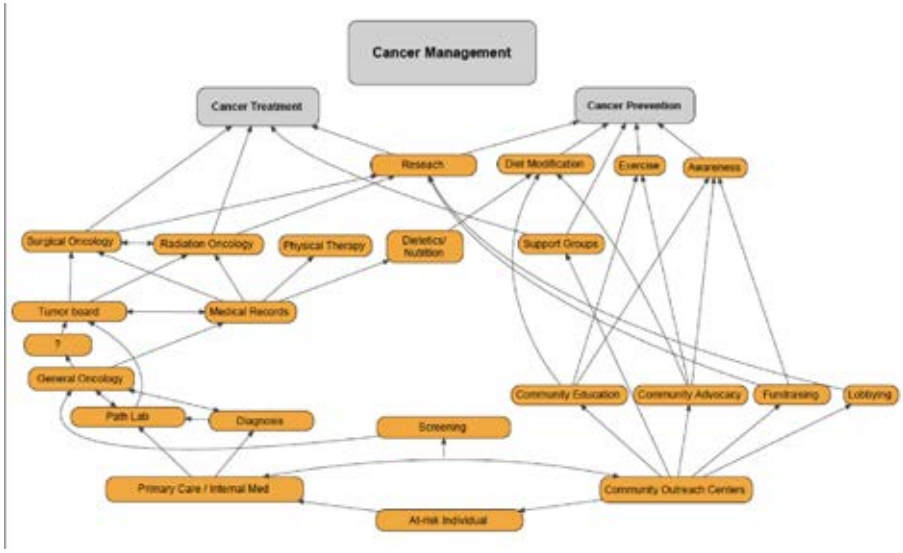

Figure 3: Intermediary knowledge map of cancer management

The research team chose to organize the map around treatment pathways, with an "at-risk individual" at the bottom and the possible paths through the treatment and prevention system illustrated above. For example, an individual may be diagnosed in primary care or they may be sent to a specialist for screening. In addition, they may or may not simultaneously be referred to an outreach center, depending on the practice of the individual practitioner. In this, the team attempted to map the observed relationships and promote the identification of new connections that could be made.

Phase III: Transdisciplinary Conference

As phases I and II concluded, the team began planning the transdisciplinary conference. As Ramaley notes, "University-community collaboration depends upon the ability of the participants to think together, to identify problems that are shaping life in the community, and to work together in new ways in order to develop strategies for addressing those problems." One way to facilitate this work is through a transdisciplinary conference, which aims to build working relationships with a variety of stakeholders in order to address shared and often complex problems. Rather than knowledge that is generated through the lens of a particular discipline, a transdisciplinary conference integrates disciplinary and professional approaches. And, as we will discuss, this approach to collaboration supports reciprocity.

In the case of our specific transdisciplinary conference, potential participants, recruited from the larger study pool, were sent formal invitations indicating that they would "engage in structured dialogue with other educators and providers" and "discuss presented findings from earlier parts of the study and discuss possible new approaches to simultaneously addressing cancer and obesity." In addition, potential participants were informed that they would receive a $400 stipend and lunch for their time. The research team successfully recruited twenty conference participants. Figure 4 provides an overview of the conference agenda.

The first breakout section was organized by disease. Providers, educators, and advocates involved primarily in obesity treatment and prevention were gathered in one room, while those involved primarily in cancer treatment and prevention went to another. Each room was assigned a facilitator as well as a cartographer, ethnographer, and audiographer to take notes about potential revisions to the map, document the conversation, and record the conversation, respectively. During the session, participants were given preliminary knowledge maps of their respective disease area and guided in discussion of three questions: 1) What strikes you as right about this map? 2) What makes you uncomfortable about this map? 3) What would you change? The research team designed these questions with the goal of eliciting feedback that could be used to revise the maps and might provide insight into potential barriers to and opportunities for collaboration.

9:30-10:00	Registration & Breakfast Valley Room
10:00-10:55	Welcome & Introductions Valley Room
11:00-11:55	Domain-Specific Breakout *See breakout assignment
12:00-1:00	Lunch Provided in the Valley Room
1:00-1:55	Barriers to Collaboration *See breakout assignment
2:00-2:15	Break
2:15-3:10	Intervention Opportunites *See breakout assignment
3:15-4:00	Integrated Group Discussion Valley Room

Figure 4: Transdisciplinary conference agenda

Research team members tasked specifically with updating the knowledge maps during the conference attempted to incorporate the feedback from the first session as they revised and combined the two domain maps into an integrated map of both cancer and obesity treatment and prevention over the lunch hour. This "transdomain" map was printed and distributed to participants at the beginning of the second breakout session. This session followed a similar format to the first, but this time participants were grouped by site, not disease, with the goal of fostering discussion about barriers to collaborating with practitioners outside their site, how collaboration could be improved, and previous experiences collaborating with members of the other domain. For example, practitioners from community settings involved in either cancer or obesity discussed barriers to collaborating with hospital practitioners. In this, the research team tried to identify existing collaborations as well as interventions that could promote new ones.

In the final breakout session, the research team asked participants from each of the four groups to discuss potentially fruitful collaborations in light of everything that had been discussed. Specifically, they asked: 1) What do you bring to possible collaborations that is uniquely valuable? 2) What do your counterparts bring to possible collaborations that is uniquely valuable? And 3) if there were no obstacles, who would you be working with that you aren't already and what would you do? After this session concluded, the research team gathered all participants together in a single room to recap some of the insights from the day, highlight discussion themes, and thank everyone for attending.

Supporting Reciprocal Community Engagement

While not originally developed with these goals, our research suggests that SEQM can effectively support the kinds of reciprocal community engagement that have led to success in addressing food and environmental justice issues. In particular, our adaptation of the SEQM method does so by fostering epistemic justice, community self-definition, community-centered problem definition, and community-identified intervention(s)—each of which are described in more detail below. A key component in fostering these elements of reciprocity was the design and facilitation of the transdisciplinary conference. The choice to hold this conference based on ethnographic insights, as opposed to disseminating findings via a report, signals an embrace of dialogue over deficit. While the conference did feature a presentation involving statistics about cancer and obesity, the core aim was to facilitate a productive conversation about the facts of the matter and the mangle of practice from which those facts emerge.

By partnering with community-affiliated and -embedded healthcare providers, health educators, and health advocates to discuss problem definition and identify possible interventions, our approach supports, rather than supplants or reinvents, the important work already being done in impacted communities to address the cancer-obesity intersection and encourage community initiatives. In what follows, we provide a handful of illustrative examples that showcase the potential of SEQM. We conclude by exploring the important expertise researchers in rhetoric, writing studies, and technical communication can offer in deploying SEQM, contributing to transdisciplinary teams, and addressing wicked problems.

Epistemic Justice

Epistemic injustice, which occurs when people are excluded from participating as epistemic agents, is antithetical to establishing reciprocal engagement. Thus, a core goal of SEQM is the comprehensive tracing of the various knowledges, practices, and systems that surround the target problem area(s). In other words, a concern with inclusivity and capturing what perhaps had been previously considered epistemically insignificant or unrecognized alongside other more visible ways of knowing is baked into the method. For example, our recruitment of participants during all phases of this project was deliberately expansive and iterative with multiple entry points into the study and various ways to participate. It was also site-based as opposed to education- or training-based. These aims and practices seek to support the epistemic justice necessary for reciprocity.

Additionally, Susan Dieleman suggests that a key part of working for epistemic justice is "becom[ing] better hearers" (795). Ethnographic methods, like the ones deployed in SEQM, ask the researcher to take on more receptive roles. While ethnographic methods undeniably involve a level of subjectivity, framing one's role as a listener and one's purpose as becoming better at hearing can help to further support epistemic justice and, thus, reciprocal community engagement. SEQM could also be

further adapted and extended beyond interventional sites to include patient daily lives as well as billing, administration, and broader community contexts.

Community Self-definition

Entwined with SEQM's core goal of inclusivity is the desire to reflect the involved communities as accurately as possible. Community self-definition and redefinition was supported throughout the project. For example, in the initial stages, SEQM was able to support community self-definition through the strategic use of snowball sampling. In this technique, initial participants are asked to nominate other individuals and sites of practice that might be relevant for addressing this wicked problem. As the process repeats, the sample builds, thus allowing the community to play a central role in identifying important voices and sites versus relying on preconceived notions of identity or only those voices to which the researcher can gain access. As a direct result of this snowball sampling, our observational activities were expanded to include advocacy settings beyond the initial anchor sites.

In later stages of the project, breakout sessions during the transdisciplinary conference offered additional opportunities for self-definition. The provisional knowledge maps that participants worked with at the conference were schematic representations, that is, visual constructions, of their communities. In breakout groups, participants were able to offer important confirmations. For example, one internist noted:

> We love the medical records sitting there because it's so essential with prevention and treatment that sometimes nobody, that missed piece of data can be so important and so much time needs to be spent on making sure all the pieces are there and communication is there…We love that the physical therapy, dietetics is right up there with the other important tasks that happen in oncology.

They were also able to provide important corrections:

> What makes me uncomfortable about this is that continuum of care...doesn't address everyone who comes up with a cancer diagnosis or needs cancer education or cancer prevention. This is great, but it kind of addresses people that look a certain way, they have a certain amount of money. When I look at dietetics and nutrition, I work with a lot of ladies that are diagnosed with breast cancer, that's what I do in the community and I'm willing to bet you a lot of them haven't had anybody talk to them about any diet, any nutrition anything. A lot of them have all the lymph nodes removed [but] they don't have the physical therapy side.

This community health worker/cancer survivor's comment specifically drew the group's attention to issues of identity and inclusion, to people with cancer diagnoses that perhaps experience the medical system differently. Drawing upon comments like this, the research team was able to revise the knowledge maps to better reflect how the communities defined themselves. In this way, SEQM can help counter any pre-

determined notions about community identities, as might occur with a PAR-style approach to reciprocal engagement.

Community-Centered Problem Definition

Breakout sessions at the conference also offered opportunities for community-centered problem definition. For example, as part of the overarching goal to catalyze greater collaboration among community-affiliated and -embedded health professionals, participants identified barriers to collaboration across diseases and sites of practice. These problems included conflicting technical language, differential training and expertise, conflicting scopes of practice, and lack of economic incentives. In reference to the first three barriers, participants seemed to agree that physicians' limited biomedically-grounded knowledge and skills were problematic.

Additionally, participants were able to use the knowledge maps to define problems that we had not anticipated. For example, one community health educator suggested that there was a problem with our approach to this particular wicked problem:

> Based on my, our experience actually, I see that this is more focused on the medical model of public health, and not in the social-ecological model. And that might be happening in the reality, actually we know that it happens in the reality. I mean we know that the medical model really doesn't work. And that's probably one of the reasons why obesity keeps growing and increasing. Because we keep focusing on the medical model. So if we would think about it, socioecological model, then this map could be different. [Reality] could be different.

Our participant was, of course, correct to point out that an artifact of our methodology was an excessive focus on sites of care and community intervention. Certainly, community lifeways beyond healthcare and education encounters are critically important components of the obesocarcinogenic environment, and a more comprehensive response to this wicked problem requires research to engage communities in those spaces as well. As both of these examples show, SEQM can support reciprocal engagement by facilitating conversation and community input about problem definition as opposed to leaning solely on the pre-identified problems of the researcher.

Community-Identified Interventions

Given the nature of wicked problems, the evolving knowledge maps generated by SEQM provide resources for transdisciplinary interventions. Not only did conference participants use the maps to craft a set of best practice recommendations for addressing cancer-obesity but they also used them to identify possible interventions. In one case, a surgical oncologist outlined how existing referral networks could be augmented to support better transdisciplinary care:

> We were talking in our last session how we're squeezed for time as clinicians to be able to discuss all of these things. Say NURSE goes out into her community...she does this screening event, and she diagnoses four women with

> breast cancer sending them to me. I make sure they get all their care, and then I send them back to NURSE. And NURSE still has all the names of all the first women who did the screening who didn't have anything…. Because as a nurse I think women would listen to her, plus she's in the community. She says I'm going to have a cooking class and teach healthy eating. I mean that's an effective collaboration. I send them to her. Oh, let me give you the name of NURSE, you should sign up for this class. It's awesome…You'll learn how to eat well, prevent cancer. You know I think that's the kind of collaboration we're trying to do here maybe.

Ultimately, participants recommended that through combined advocacy efforts, targeted physical education requirements, parent-teacher conferences, and in-school nutrition classes such initiatives could reach not only young children but also their parents and therefore the larger community:

> **Lobbyist**: If you start with schools, there are so many different ways that we can all approach it. Say for example, for us, we're trying to increase physical education, but then you're also going in and educating students and their parents. Maybe there's a component of educating teachers and what they can do in their classrooms.

> **Public Health Advocate**: One of the biggest things she said, we've all felt it today but we didn't say it, was that I don't know where to begin. It's too big… So I'll focus on the little thing I do. But I do think if we, if in this same group of people, systematically decided let's start with school aged children or even at birth, where are the challenges and opportunities, and then figure out where we align to coalition around. (TC, Breakout 3)

> **Community Health Educator:** We're working for a school right now, and there are more parents who want to stick around and learn how to make healthy foods because they are worried about the weight of their kids. More schools are asking us to go there, and we say no because we are only three... But then the community leaders, because we are training community leaders, they are the ones who are teaching now nutrition classes to the parents in schools and cooking classes.

As these examples show, the action to be taken is coming not from a researcher's predetermined agenda or assessment of the situation, as might occur with a PAR-style approach to reciprocal engagement. Rather, these comments show community members using the knowledge maps to formulate their own responses to the problem at hand. It is precisely this kind of reciprocal identification of productive expertises across areas of practice that SEQM can support. Along the way, these reciprocal engagements can lead participants to identify previously unrecognized opportunities to intervene.

Conclusion

SEQM represents a promising methodology for addressing wicked problems. Much like the problem of responding to an emergent military threat, effective intervention in the prevention and treatment of cancer-obesity risk coincidence and comorbidity involves a range of practices, expertises, and sites of activity. Targeted interviews and ethnographic observation are well suited to provide insight into such phenomena. The addition of a conference built upon the ethnographic data facilitates productive dialogue about both the matter at hand and the practices that call it into being. The practices of SEQM are designed to support academic inquiry and to allow community members opportunities for autonomous (sub)community formation and subsequent goal-oriented problem definition. Furthermore, SEQM provides an alternative model of ethical reciprocity, one that can be deployed more broadly than PAR and also work to avoid the casual paternalism of much community-engaged research.

Tame problems have correct and incorrect solutions; wicked problems resist solution altogether. Most research proceeds as though the problems to be addressed are tame. When a problem is construed as tame, dominant ethics of reciprocity in community-engaged research present themselves as appropriate. PAR and casual paternalism "work" because researchers believe they know already what the issues at stake are and what the solutions should be. Thus the interventional work itself risks becoming an exercise in Platonic rhetoric (à la Phaedrus)— that is, an exercise in persuading so-called common people to do what experts have predetermined is best for them. The question in the tame formulation of the cancer-obesity problem is simply: Can we identify and disrupt the biological mechanisms at play in the link between cancer and obesity coincidence? (See Figure 5). This is a mono-, or at best inter-, disciplinary problem. As such, the response will be academic inquiry followed by public health messaging. But when approached as a wicked problem, the questions of the project become: What systems and practices drive cancer-obesity risk coincidence? What changes can/should the community make? The important difference between the two is that the latter emphasizes the entire systems of practice involved and recognizes the value-laden nature of deciding among alternative solutions. In other words, technical solutions do not translate directly to ethical decisions.

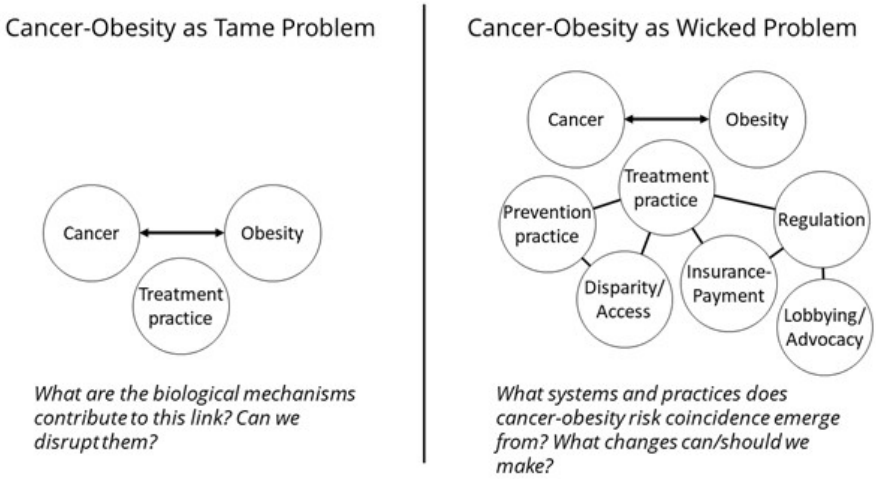

Figure 5: Tame vs. wicked formulations of the cancer-obesity problem

If problem understanding and problem resolution are inextricably linked, problem staging becomes a key contribution, a form of reciprocity. By staging the problem as "wicked," we expanded its scope such that community members seemingly working on distinct problems were now part of a larger system of interconnected practices. Doing so also draws attention to social, economic, and environmental factors in addition to the biomedical focus on characterizing and targeting biological mechanisms. In other words, intervening in cancer-obesity as a wicked problem foregrounds the necessity of community collaboration and coordination in addressing the problem. This approach, we argue, provides an effective foundation for (sub)community self-definition, community-derived problem formulation, and community-determined solutions.

As scholars trained in rhetoric, writing studies, and technical communication, we see problem staging as a critical contribution of SEQM and similar approaches. While our fields are often quite text-oriented, our implementation of SEQM highlights the performative nature of such work. To be sure, our efforts to catalyze transdisciplinary action were mediated by textual artifacts: the grant proposal that funded the project, requests for participation, conference agendas, knowledge maps. Our primary intervention, though, was the rhetorical performance those documents were designed to support—a transdisciplinary conference designed to address the wicked problem of cancer-obesity.

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