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CASE AND COMMENTARY

How Should We Respond to Spatial Injustice in Health Care Organizations?

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Abstract

Hostile design is a built environment strategy to discourage unwanted behaviors or limit use by unwanted users in a space. This commentary on a case identifies how hostile design choices perpetuate spatial injustice in both health care settings and the surrounding community and argues that health care organizations have duties to mitigate adverse health consequences of such spatial injustices. This commentary then describes strategies for identifying overt and covert hostile design of health care spaces and proposes future practices and translational research to make health care environments' designs accessible, approachable, and more just.

Case

AA has lived with chronic obstructive pulmonary disease (COPD) for over 10 years. During the past year, AA's symptoms became more severe, and AA is now being hospitalized for the third time in 2 months for an acute exacerbation of COPD.

Even with the door closed, AA's hospital room is noisy, with hallway bustle and television noise intrusion from a neighboring room. AA's room has a single chair but no suitable furnishing to accommodate a cousin, whom AA would prefer to stay overnight. When AA feels well enough to walk the hallway, they feel anxious about having no seating on which to rest.

Given AA's increased COPD exacerbations, a home nebulizer has been prescribed by their pulmonologist, Dr P. Before being discharged from the hospital, AA was given written instructions about how to assemble and use the nebulizer, but the nebulizer is still not working properly. "Why do they make it so hard to use this thing?" AA wonders aloud. "Medical equipment and hospital rooms are supposed to help!"

Commentary

Hostile architecture is a design strategy used to deter unintended use of space. While such strategies can be innocuous, such as pigeon spikes to prevent roosting, strategies to reduce the visibility of poverty and promote economic revitalization of urban centers can also intentionally aim to exclude and enact separation among social groups.[1] Overt

examples of such strategies include seat dividers on park benches or public transportation and—to decrease the presence of homelessness—placement of large boulders under overpasses and bright lighting in overhangs and alleyways.[2,3] Covert strategies such as the installation of public art projects or electronic bike docks have also been deployed to intentionally displace groups from public space[4] with plausible deniability.[5]

Hostile architecture has primarily been explored in urban public outdoor settings,[6] but health care institutions are not exempt from design choices that reduce accessibility, exacerbate symptoms, discourage future engagement, and contribute to exclusion. In AA's case, the built environment of the hospital offers overexposure to unwanted stimuli (eg, noise, lack of privacy) and, simultaneously, not enough desired contact with formal and informal caregivers. AA's case also reminds us of how spatial inequities are perpetuated in health care institutions—for example, how increased privacy is offered as a luxury for patients who can pay an extra cost.

Whether intentional or not, health care design strategies generally do not consider patient experiences or how these experiences fit into broader patterns of people's interactions with built environments in the community. As the primary health care access point for community members who have no or inadequate insurance, have low income, or have no immigration documentation,[7] safety net health care sites must self-examine their roles as both contributors and counterpoints to spatial representations of hostility. Accordingly, safety net health care sites must generate possible action steps to advocate for spatial justice—the resolution and transformation of place-based inequity[8]—within their walls and throughout the community.

Identifying Unjust Design

Place is neither static nor neutral. While architects and builders create the initial version, place is constantly reshaped by its use and the interactions occurring within it.[9] It follows that place can hold different—even competing and conflicting—meanings for different people or at various times. AA's walks along the chairless hallway aroused a sense of fear and anxiety, which are often pronounced emotional responses during COPD exacerbations.[10] Like other "invisible" impairments, shortness of breath and correlated anxiety symptoms are underattended to as medical needs warranting access to care.[11] To meet patient needs like AA's, hospitals could include accommodations such as increased seating and handrails, interventions to reduce noise and visual stimuli, and elements to promote calm and regular breathing (eg, plants, cool paint colors).

If individual experience gives meaning to health care places, larger sociopolitical and cultural forces inform how such places are made and the functions they serve. In the dawn of Fordism, health care planners adopted principles from factory and manufacturing design, placing a spatial focus on maximizing scale, efficiency, and profit.[12] Institutional aesthetics of health care places can also reproduce individual, intergenerational, and cultural harms, particularly for patient populations experiencing structural vulnerabilities.[13] While US hospitals have long served as sites of containment—guided in part by actual contagion prevention—the spatial realities of hospitals can also reflect moral contagion, whereby those with low income,[14] mental illness,[15] or medically stigmatized conditions[16,17] are exiled and contained to ensure perceived safety for society writ large. More contemporarily, stories emergent from the COVID-19 pandemic indicate that minoritized people experienced inequitable social

isolation, companionship, and care in nursing homes[18] and in hospitals and other health care facilities,[19] in part due to spatial arrangements by which care is distributed and performed. Design strategies like limited seating or unmovable or nonadaptive furniture discourage patient-patient interactions and the presence of loved ones. Such design decisions also limit possible engagement and health education of loved ones as care partners, as in the case of AA, who struggled to assemble the nebulizer alone.

In the wake of findings of acute and longitudinal health benefits of resident-centered and inclusive urban design,[20] the hospital is charged with being a sanctuary that ensures safety and health through its design. When decision-makers in health care acknowledge the historical, personal, and intergenerational trauma experienced by many patients, they can be attentive to human-environment interactions that could incite harm—for example, lighting, sound, extent of audiological and visual privacy, where security is positioned in and around the grounds, or ease of access to basics such as toilets, water, and food. Interfaces and transitions between public space and the hospital must be considered—including entrances, lobbies, atria, outdoor space, and walkways[21]—as patient dumping,[22] self-discharge,[23] and complex health care needs[24] can place vulnerable people in such interstitial spaces. Waiting rooms and intake spaces are the next spatial layer of the health care space. Physical barriers such as glass partitions produce feelings of segregation and othering for some; perceptible audiovisual information about someone's presence or health condition can increase both stigma and discrimination; and cramped seating areas discourage emotional regulation and sensory modulation.[25] Moreover, placing gender-binary restrooms within the sight line of a security desk might encourage exclusionary interactions. The final spatial layer of the health care space comprises patient rooms. On hospital units, "institutional feel"—stark white walls, uncomfortable furniture, lack of proximity between patient and staff-designated spaces—can reinforce hostile interactions between staff and patients that lead to restraint and seclusion.[26] More research is needed on how the atmosphere and meaning of an examination room is shaped by what is hanging on the wall, what seating is offered, how staff and patients interact in the space with instruments like a blood pressure cuff, and how much time patients spend alone in the space.

Toward Spatial Justice in Health Care

While security and exclusion have long been central features of architectural innovation, design of health care spaces and public urban landscapes has recently centered accessibility, joy, and well-being. Decreasing the institutional feel of medical settings is a common design goal, often enacted by altering one variable of the environment (eg, noise, paint color, lighting) to increase quality of care.[27] Natural elements such as gardens that are frequently incorporated in health care environments enhance privacy, facilitate personal reflection, aid in therapeutic modalities (eg, physical and occupational therapy and pastoral care), and increase patient visitation.[28] In addition, windows and sight lines have been considered as possible factors that affect patient interactions.[29]

Best practices suggest that comfort, community, and choice should guide design decisions.[30] For example, there has been a growing emphasis on barrier-free design and increased flexibility (eg, movable furniture) within health care institutions to increase patient and visitor sense of agency and comfort.[31] Other architectural elements that uphold these values include open, circular floor plans and wide hallways,[31] as well as design features like natural lighting and window access and proximity of nursing stations.[31,32] Exemplar inclusive design sites attempt to accommodate diverse needs for

and uses of public and semi-public space and to reduce barriers and increase convenience among the most disenfranchised.[33] For AA, such design features could reduce ambient noise, increase their perceived sense of safety, and enhance visitor comfort.

While the site planning, construction, and design of health care spaces may be far out of the reach of clinicians, health care workers can respond strategically to the impact of hostile architecture on and off site. Health care professionals already manipulate the built environment to enhance care provision[32] and can continue to do so by centering patients in how they choose to interact with spaces. Health care workers can hone their attention to hostile design's role in patient experience, symptoms, and care and promote consciousness-raising in training, consultation, and internal advocacy apparatuses. Public health workers are also responsible for advocating for environmental changes in the larger community that affect health and can speak out against hostile architecture in their community from a valuable vantage point, providing anecdotal evidence of the human consequences. Health care workers can also integrate spatial and geographic factors into their patient assessments to better ensure treatment adherence. Even in times of budget restrictions and resource scarcity, clinical-level interventions can offset patient discomfort in cases such as AA's—such as when clinicians provide a white noise machine or a chair outside the room. In discharge planning, AA's team could more deeply explore how a nebulizer could fit into AA's current daily rhythms in order to learn how and with whom to provide instructions on its use.

Medical ethicists and allied health professionals can align with community activists, architects and designers, and scholars who are actively responding to hostile architecture by taking a public stand against its installation, raising community awareness, and expressing concerns about its health care impacts in policy forums. Cities across the country now host hostile architecture tours to raise awareness of diverse sponsors from libraries, design firms, art museums, and tourism companies.[34,35] Nonprofit organizations have developed informational resources and advocacy tools.[36] The development of accessible, approachable health care environments also requires more translational research that engages with marginalized stakeholders at each step of the research process. Methods for this research could include archival analyses of health policy and news documents, ethnographic observation of health care spaces, walking interviews, focus groups, and participatory mapping.

Conclusion

Recognizing hostile design within health care spaces is one step toward addressing disparities in social determinants of health. As demonstrated in AA's case, spatially just hospitals could offer opportunities for enhanced patient care and satisfaction, treatment adherence, and community-hospital relations. Framing place as dynamic and historical can help reveal the duality of the hospital as a site for both respite from hostile design and replication of that hostility. Health workers are ethically obligated to become engaged in institutional consciousness-raising and collective community action that responds to hostile design deployed in health care spaces. True healing extends beyond medical intervention, encompassing an environment that welcomes, embraces, and empowers the most vulnerable. Through patient-centered and intentional design choices, all who seek care can experience trust, dignity, and belonging.

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