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Supplementary Data

Annotated Bibliography

Background: Health Inequities Exist, and Change Is Hard

Decades of evidence illustrate health injustices in prevention, treatment, and rehabilitation based on racialized identity. For instance, evidence demonstrates that Black patients are less likely to receive a physician's recommendation for colorectal cancer screening,[1] are more likely to find themselves restrained in psychiatric emergency treatment settings,[2] and are more likely to be transferred from medical and surgical hospital services to poorly performing rehabilitative skilled nursing facilities (SNF).[3] There are many more examples of racial inequities. For example, Swartz at al showed racial disparities in psychotic disorder diagnosis,[4] Mohottige et al discuss examples of how kidney health dispartities manifest interpersonal and structural racism,[5] and Schulman et al found that physicians recommend cardiac catherization less often to Black patients, particularly less often to Black women.[6]

References

1. Coleman Wallace DA, Baltrus PT, Wallace TC, Blumenthal DS, Rust GS. Black White disparities in receiving a physician recommendation for colorectal cancer screening and reasons for not undergoing screening. *J Health Care Poor Underserved*. 2013;24(3):1115-1124. doi:10.1353/hpu.2013.0132

"The age-adjusted logistic regression analysis revealed that Blacks were about a third less likely than Whites to receive a physician's recommendation for screening (O.R.=0.61 (0.53, 0.71)."

2.Smith CM, Turner NA, Thielman NM, Tweedy DS, Egger J, Gagliardi JP. Association of Black race with physical and chemical restraint use among patients undergoing emergency psychiatric evaluation. *Psychiatr Serv*. 2022;73(7):730-736. doi:10.1176/appi.ps.202100474

"Black patients were more likely to be physically (adjusted odds ratio [AOR]=1.35; 95% confidence interval [CI]=1.07-1.72) and chemically (AOR=1.33; 95% CI=1.15-1.55) restrained than White patients."

3. Rivera-Hernandez M, Rahman M, Mukamel DB, Mor V, Trivedi AN. Quality of post-acute care in skilled nursing facilities that disproportionately serve Black and Hispanic patients. *J Gerontol A Biol Sci Med Sci*. 2019;74(5):689-697. doi:10.1093/gerona/gly089

"We found that African American post-acute patients are highly concentrated in a small number of institutions, with 28% of facilities accounting for 80% of all post-acute admissions for African American patients. Similarly, just 20% of facilities accounted for 80% of all admissions for Hispanics. Skilled nursing facilities with higher fractions of African American patients had worse performance for three publicly reported quality measures: rehospitalization, successful discharge to the community, and the star rating indicator."

4. Schwartz RC, Blankenship DM. Racial disparities in psychotic disorder diagnosis: a review of empirical literature. *World J Psychiatry*. 2014;4(4):133-140. doi:10.5498/wjp.v4.i4.133

"This literature review provides an updated and comprehensive summary of empirical research on race and diagnosis of psychotic disorders spanning a 24-year period. Findings reveal a clear and pervasive pattern wherein African American/Black consumers show a rate of on average three to four higher than Euro-American/White consumers."

5. Mohottige D, Diamantidis CJ, Norris KC, Boulware LE. Racism and kidney health: turning equity into a reality. *Am J Kidney Dis*. 2021;77(6):951-962. doi:10.1053/j.ajkd.2021.01.010

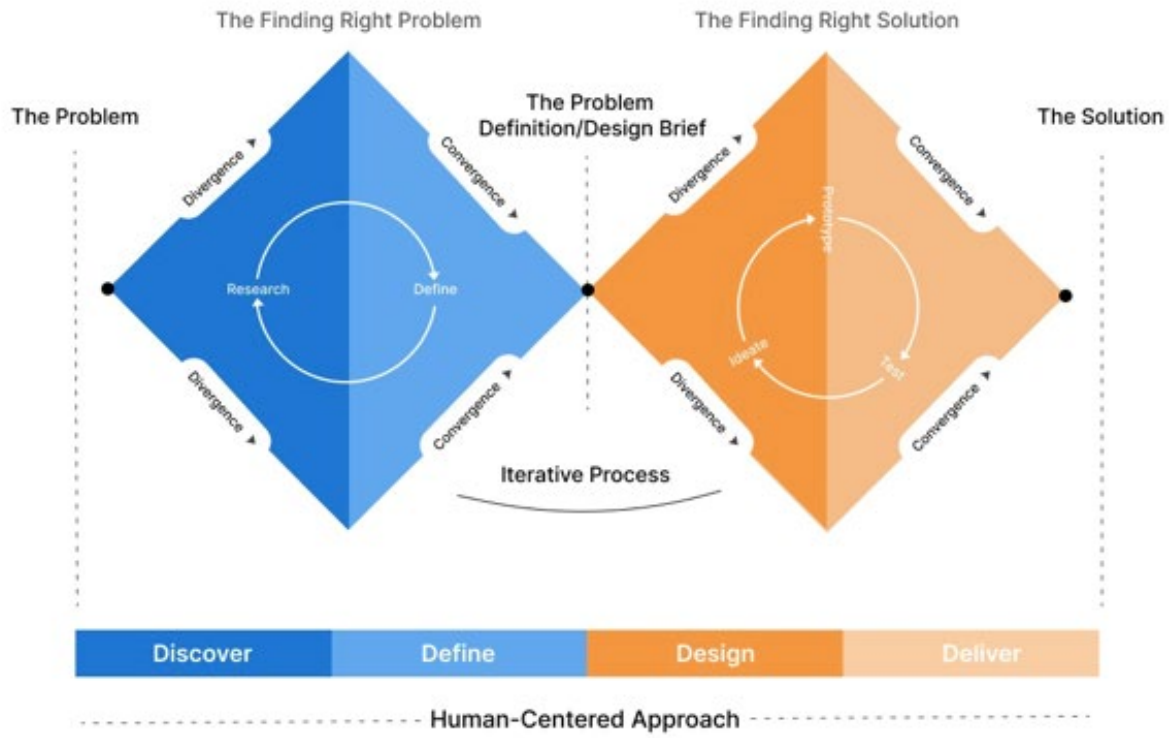
"In this perspective, we synthesize theory and evidence to describe why an understanding of race and racism is integral to kidney care, providing examples of how kidney health disparities manifest interpersonal and structural racism."

6. Schulman KA, Berlin JA, Harless W, et al. The effect of race and sex on physicians' recommendations for cardiac catheterization. *N Engl J Med*. 1999;340(8):618-626. doi:10.1056/NEJM199902253400806

"Logistic regression analysis indicated that women (odds ratio, 0.60; 95 percent confidence interval, 0.4 to 0.9; P=0.02) and blacks (odds ratio, 0.60; 95 percent con- fidence interval, 0.4 to 0.9; P=0.02) were less likely to be referred for cardiac catheterization than men and whites, respectively. Analysis of race–sex interactions showed that black women were significantly less likely to be referred for catheterization than white men (odds ratio, 0.4; 95 percent confidence interval, 0.2 to 0.7; P=0.004)."

Idea-Generating and -Selecting Tools

Divergence/Convergence in the "problem" and "solution" spaces:



Alvarez R. Divergent vs. convergent: finding the right balance. *Apexon.* Published Junbe 28, 2022. Accessed October 26, 2023.

https://www.apexon.com/blog/divergent-vs-convergent-finding-the-right-balance/

A power-interest-matrix groups potential stakeholders by their power and their interest (to make a difference):

- Stakeholders who have little interest in the work and little power to make a change: monitor them;
- Stakeholders who have an interest in the work but little power to make a change: keep them informed;
- Stakeholders who have little interest in the work and the power to make a change: keep them satisfied;
- Stakeholders who have an interest in the work and the power to make a change: manage them closely

The "Now-Wow-Ciao-How-Matrix" categorizes ideas based on their originality and ease of implementation, with possible next steps including:

a) the idea is not very innovative but is easy to implement: do it NOW

b) the idea is innovative and easy to implement: WOW (what stops you from implementing it?)

c) the idea is neither innovative nor easy to implement: forget about it (CIAO)

d) the idea is innovative but is not easy to implement: HOW can it be easier implemented (this may be an idea for the future)

Using HCD Tools to Champion Change

Implementation of the Broset Violence Checklist: In 2014, a group of GME trainees with a faculty mentor (JPG) underwent training and mentorship to learn to implement quality improvement tools and strategies. The first project they took on was intended to address the issue of violent behavior by patients placing staff and trainees at risk in the psychiatric ED. Assessment of the status at the time revealed that triage of patients to the locked area of the ED was done by a "leveling" system involving gestalt or nurse prediction of likely risk. The quality improvement team determined that the Broset Violence Checklist, a 6-item screening tool to predict risk of patient violence, would be an imperfect but more objective predictor than instinct or gut feeling for patient violence in the emergency psychiatric setting. Successful roll-out of the BVC involved an iterative, interactive process and clear guidance for physicians with a timeframe for action based on patient BVC score.

The Brøset Violence Checklist. Accessed October 26, 2023. https://www.risk-assessment.no/files/bvc-versions/BVC%20English.pdf

Associated publication: Woods P, Almvik R. The Brøset violence checklist (BVC). *Acta Psychiatr Scand Suppl*. 2002;(412):103-105. doi:10.1034/j.1600-0447.106.s412.22.x

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FIGURE
Journey Map Using a Restraint/Seclusion Event Example

Stages of journey	Pre-arrival to Emergency Department	Way to and arrival in ED	Medical Screening Evaluation	Restraint/ Seclusion event	Debriefing
Patient (PAT)/Provider (PRO) action/ behavior	• PAT: at their job, concerned about their functional level due to their mental health condition • PRO: late to work due to a traffic jam after dropping off their children	• PAT: picked up by policemen and transported under involuntary commitment with handcuffs and siren to ED • PRO: gets informed about incoming "handcuffed" patient	• PAT: pacing up and down the room • PRO: reads triage assessment ("angrily pacing the hallway"), gets labs and vital signs, focused on targeted medical and psychiatric history, pages psychiatry for "agitated patient," psychiatry provider currently unavailable	• PAT: does not receive answers and starts crying and yelling, not able to verbalize thoughts when security officers show up and not able to act on nursing staff's request to take medication • PRO: in different room, ordering medications, unclear on who leads the team in this moment	• PAT: Disoriented after medication administration, too tired to participate in debriefing after event • PRO: initially participates in debriefing but their mind focuses on needing to leave the hospital to pick up their children; half-way through debriefing, gets called for a Code Blue
Patient (PAT)/Provider (PRO) Thinking	PAT: "I hope I will be able to keep the job to support my family. They will fire me if I miss a single day. " PRO: "I am already running behind but need to finish on time tonight to pick up my children."	PAT: "What have I done wrong to be treated like a criminal?" PRO: "Gosh, another one of these patients. I will just call psych and they will manage him."	PAT: "I am so worried about my job… what are the next steps, when can I go home?" PRO: "The nurse was right, the patient is pacing up and down and looks angry, I better get some medications and the seclusion room ready."	PAT: "What is happening? I don't have any autonomy anymore." PRO: "How do I keep myself, the staff and the other patients safe? I want to leave the hospital alive to see my family tonight." / "I knew this was going to happen and I am always alone with managing it myself. Who is even in charge now?"	PAT: "I will never tell anyone about my mental health struggles again." PRO: "This happens all the time and nothing changes… I am not even sure why we do these debriefs."
Patient (PAT)/Provider (PRO) Feeling	PAT and PRO: worried but hopeful that things will work out in their favor	PAT: scared, horrified PRO: angry, denying	PAT/PRO: Uncertain, concerned about their safety	PAT: overwhelmed, paralyzed PRO: overwhelmed, scared, need for safety, uncertain	PAT: disoriented, vulnerable PRO: annoyed, preoccupied
Ideas/ Opportunities	Take steps to support mental health preventive activities and expand coverage of evidence-based outpatient-based mental health activities Establish on-site childcare facility	Legislation that allows transport of patient with ambulance (financially covered by insurance) Implicit bias training for providers towards patients with mental health conditions	Ensure consistent use of reliable and bias-free assessment tools, such as the Broset Violence Checklist; anticipate next events/discuss next steps in team	Documentation of every restraint and seclusion event like a Code Blue event and debrief on a system-wide level after	Create time and space for ED providers to talk about safety concerns, make change with input from all stakeholders (close the gap between those designing protocols/strategies, those being impacted by them and those implementing them)

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