Assessing for Implicit Racial Bias in the Use of Seclusion and Restraint: A Quality Improvement Project

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Abstract

Background: The role of implicit racial bias is an understudied phenomenon with significant risks to patients. The aim of this study was to assess for implicit racial bias in the utilization of seclusion and restraint using the Harvard IAT and SMART Tool. The study was set in a medium sized metropolitan psychiatric hospital emergency department. Respondents included nurses and providers in the emergency department.

Methods: The Plan Do Study Act methodology for quality improvement was utilized for this project. A 12-month retrospective review of seclusion and restraint demographic data was completed. Literature review was completed to identify implicit bias and institutional racism tools. Likert-scale survey questions selected from the SMART tool in conjunction with completion of the Harvard race IAT were utilized as qualitative measures.

Intervention: Participation in the Harvard race IAT and staff survey were conducted to evaluate perceptions of racial implicit bias in the setting and its role in seclusion and restraint utilization. The Harvard race IAT and SMART tool was selected by the authors as interventions.

Results: Statistical analysis of seclusion and restraint data indicates Black patients are 51% more likely to experience seclusion or restraint compared to White patients. Survey response data indicates that staff perceive implicit bias affects their clinical decision making. Responses indicated that staff positively perceive participation in the project to decrease future racial bias in seclusion and restraint utilization.

Conclusions: Implementation of the Harvard race IAT in conjunction with the SMART tool positively affected staff knowledge and perception of implicit racial bias and provided insight into organizational weaknesses and future improvement opportunities.

Keywords: seclusion, restraint, racial bias, implicit bias

Problem Description

The use of seclusion and restraint (S/R) as a psychiatric safety/behavioral intervention has been the subject of ethical and moral debate since its first use. S/R are proven to be physically and psychologically traumatic to both patients and staff. Multiple analyses have shown disparate application of S/R along racial and ethnic lines and that implicit bias affects this outcome. The purpose of this study is to assess for racial bias in the application of S/R at a large metropolitan psychiatric emergency department.

Implicit racial bias is defined as the association made by individuals in an unconscious state of mind that cause them to unknowingly act in discriminatory ways (Maryfield, 2018). Implicit racial bias does not indicate that a person is overtly racist, rather, that their experiences have resulted in perceptions that potentially lead to biased thoughts or actions (Maryfield, 2018).

To ensure consistency of data, definitions of events considered to be seclusion involve the implementation of a control measure that confines an individual to a specific location for a specific period and does not allow them to leave freely (Al-Maraira & Hayajneh, 2018). Restraint, as defined by the U.S Joint Commission on Accreditation of Healthcare Organizations, is any modality (often physical or chemical) that impinges on an individual's ability to move or participate in normal activities ad libitum. Several types of restraint are implemented in the studied clinical setting. Physical restraint entails utilization of manual or mechanical equipment that immobilizes or reduces the individual's ability to move freely; this includes locking soft Velcro restraints applied to the limbs or a chest strap, use of a restraint chair, or physical subdual by security personnel (Al-Maraira & Hayajneh, 2018).

Available Knowledge Section

S/R has been linked to serious adverse patient outcomes including psychological and physical trauma, and even patient deaths (Schnitzer et al., 2020). There is a paucity of data regarding the

relationship between racial bias in S/R despite the established complex history of race as an influential factor in psychiatry. Despite limited literature exploring this topic, several retrospective chart reviews support the hypothesis that racial disparities exist in the utilization of both S/R. A single site study of 12,977 patient encounters found that Black patients had an adjusted odds ratio of between 1.35 and 1.33 chance of being physically or chemically restrained compared to White patients (Smith et al., 2021). Another study found that Black and Asian patients displayed a risk ratio of application of physical restraint of 1.22 and 0.71 respectively compared to White individuals (Schnitzer et al., 2020). This racial disparity was present even after controlling for variables such as age, sex, insurance status, diagnosis, housing status, or history of violence (Schnitzer et al., 2020).

Race has also been implicated in the length and frequency of S/R utilization. The duration of S/R of Black patients was an average of 2.2 hours more compared to White patients (Smith et al., 2005). BIPOC patients were found to experience a higher frequency of S/R compared to White patients (Smith et al., 2005). The racial disparities in the implementation of S/R were present after accounting for multiple variables such as age, sex, gender identity, diagnosis, ethnicity, time of arrival, urine drug screen, and peak blood alcohol concentration (Smith et al., 2022). Reviewed literature indicates consistent findings that Black male individuals are more likely to experience S/R compared to White individuals.

Rationale

This project intends to determine if implicit biases play a role in S/R utilization at a psychiatric emergency services department in an inpatient behavioral health center. It will be guided by the IHI model for improvement (IHIMFI). This model has been shown to produce results in diverse settings (Langley et al., 2009). Use of Plan, Do Study, Act (PDSA) cycles in conjunction with IHIMFI have been widely used by healthcare organizations for quality improvement projects (Picarello, 2018). A root cause analysis and creation of a cause-and-effect

diagram identified that this organization does not have a standardized way of analyzing racial bias in the use of S/R; S/R audits include demographic features such as race, sex, and gender; however, there is no standardized procedure for utilizing this data to reduce racial disparities. The Harvard IAT and SMART tool are both validated tools that have been used as interventions to individual racial bias and organizational racial bias respectively.

All studies in the literature that were reviewed were retrospective chart reviews; this is most likely due to the ease of access to large amounts of data without the need for longitudinal study and its associated costs. No research methods were noted as being superior to others in the literature. Given the potential for racial bias during the utilization of S/R, a more in-depth study that includes a racial context may be beneficial for the facility, nurses, and providers to inform future practice changes and improve patient care. Education about the connection between racial bias and S/R utilization could enhance awareness, encourage equity, and mitigate harm from unnecessary S/R use.

Specific Aim

This study intends to assess whether implicit racial bias may be leading to racial disparities in the utilization of S/R, educate clinical staff about the role implicit racial bias could play in S/R utilization, and reduce racial disparities in future S/R events.

Context

The study took place in a public medium sized metropolitan psychiatric hospital emergency department licensed for 50 beds with a maximum patient census of 35. 27 providers and 57 nurses were employed in the ED during this study. Staffing ratios average 1:5 for nursing staff, and 1:9 for providers. In fiscal year (FY) 2023, emergency room visits averaged 28.6 per day, amounting to 10,437 patient visits annually with racial

demographics as follows; 69.78% White or Caucasian, 12.04% Black or African American, 8.13% Hispanic or Latino, 2.52% Asian, 2.11% Native American or Alaska Native, 0.7% Native Hawaiian or other Pacific Islander, 1.92% other, 0.58% unknown, and 0.91% declined to participate.

Restraint is utilized for patients who are at acute risk of harm to themselves or others. Seclusion is utilized for patients unable to maintain safety for themselves and others or maintain the behavioral control necessary to stay within the milieu, including exhibiting behaviors such as yelling, screaming, attempting to elope, banging on furniture or walls, or throwing items. During this period, there were 5,965 S/R orders written.

Interventions

Project Implicit developed the implicit association test (IAT) in association with Harvard University to assess the extent to which an individual displays implicit bias; the race IAT utilizes pictures of faces and respondents' response time to assess for implicit bias (Project Implicit, 2023). Results show possible preferential bias and do not indicate whether individuals are more likely to engage in racially biased actions (Project Implicit, 2023). The Self-Assessment for Modification of Antiracism Tool (SMART) was created to assess the extent to which an organization's clinical processes are affected by structural racism. The tool consists of Likert scale items assessing five organizational domains including clinical care, culture, advocacy, client outcomes, and promotional practices that provides a quality improvement framework for organizational antiracism.

In PDSA cycle 1 providers and nurses were asked to complete a survey utilizing Qualtrics survey software of select SMART tool questions as well as the Harvard race IAT. Questions related to bias, client outcomes, clinical care, and workplace culture were

selected (Appendix A). The survey was sent via email to all clinicians and nurses in the setting.

PDSA 2 consisted of gathering S/R order data for FY23 and statistical analysis using odds ratios was utilized to compare each racial group to White patients. A recorded presentation of the analyzed S/R data, recommendations for reducing implicit bias, as well as recommendations for reducing S/R utilization was sent to staff via email. A follow up survey was distributed to assess staff perception of the viability of the intervention on reducing individual implicit racial bias as well as S/R disparities. Self-report questions were included to assess viability of the intervention in increasing awareness of individual and organizational implicit racial bias.

Measures

The primary outcome measure for this project will be the percentage of S/R events that involve a person of color between April 1, 2023, to March 31, 2023. Process measures will include the number of completed surveys and number of staff who complete the implicit bias training. A link to surveys and the implicit bias training was be included with the initial survey announcement. Follow up email reminders were sent weekly, and the survey was open for two months. Balancing measures considered include additional cognitive burden on clinical staff as well as added work responsibility. To assess these additional variables, a cognitive burden and workload question was added to the survey utilized in PDSA cycle 2. Measures were recorded and presented as an annotated run chart to assist in the ease of visualization and to identify areas that would benefit from future changes.

Analysis

Qualtrics Survey software was utilized to compile and analyze survey data represented in graph form for PDSA 1 (Appendix B) and PDSA 2 (Appendix C). Quantitative data of R/S data was analyzed using odds ratio to compare individual racial groups to the White patient Group and presented in chart and graph form (Appendix D). SMART data, S/R order data, and IAT data was utilized to determine potential areas for improvement including managing implicit racial bias and reducing racial disparities in the use of R/S. Evidence based recommendations with supporting references were provided to the unit medical directors to guide future quality improvement (Appendix E).

Ethical Considerations

Subject matter included as a part of ethical consideration included protected health information of patients and anonymity of survey respondents for PDSA cycles I and II. Lack of compensation for staff participating in the study was offset by limiting required time investment for survey response by limiting quantity of survey questions as well as survey reminders. Staff participation in PDSA cycles was optional including the ability to not answer individual survey questions. The Oregon Health and Science University Institutional review board as well as the Legacy Health Institutional review board deemed the project to be research involving human subjects due to its quality improvement initiative. The principal investigator received financial compensation from Legacy Health System as a part of regular job duties befoer the completion of this project.

Results

Ten staff members completed the SMART tool survey from PDSA I. Survey responses indicate most respondents perceive that racial disparities are present within the

organization and the organization is doing little to reduce racial disparities, train staff, or track indicators of racial disparity at all. Outlier responses to questions from PDSA I indicate that there may exist either a knowledge gap in organizational policies and data tracking or a significant difference in individual perception. PDSA I survey results are included in Appendix B.

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Statistical analysis of S/R order data provided by the hospital indicates that there exists a disparity in S/R utilization of Black patients compared to White patients. Black individuals have an odds ratio of 1.51 compared to White patients. Interestingly, Alaska Native and American Indian patients were less likely to receive S/R orders with an odds ratio of 0.52. Black patient were 51% more likely and American Indian and Alaska Native patients were 48% less likely to receive S/R orders. There existed no statistically significant difference for Hispanic or Latino, Asian, or Native Hawaiian or Other Pacific Islander patients relative to White patients.

Five staff members completed the survey from PDSA II which was utilized to measure the effectiveness of the initial intervention. The survey included 8 questions. 100% of respondents somewhat or strongly agreed that participation in this quality improvement project would reduce racial bias and racial disparities in S/R.

Summary

The project intended to assess for implicit bias and racial disparity in S/R events. To accomplish this, SMART tool questions were utilized in conjunction with the Harvard Implicit Association Test to measure staff perceptions of racial disparities and individuals' implicit biases. Data analysis supported the hypothesis that racial disparities exist in the utilization of S/R and that racial bias exists.

Interpretation

The findings were consistent with the reviewed literature and supports the findings that disparities in the use of S/R is a systemic issue in psychiatric care. (Schnitzer et al., 2020; Smith et al., 2022). Participation in this study was small, with a low response rate to the initial survey and lower response rate to the post survey. 11.9% of staff participated in the initial survey and 5.9% participated in the follow up survey, indicating that patient-to-staff ratios, time pressure, ED overcrowding, and cognitive burden of the study were possible barriers to participation. Small sample size limits the generalizability of the study.

Role declaration was not included in the initial survey. Effectiveness of the intervention on different staff groups could not be elucidated. Survey results from PDSA I indicate a significant knowledge gap or differing perceptions of staff regarding requirements and trends in tracking racial data including S/R data. Responses indicate that results of the IAT were congruent with staff perception of individual racial bias and that staff are cognizant of how job pressures increase the use of cognitive shortcuts and making racially biased decisions. IAT results were not recorded in order to reduce perceived stigma and increase the response rate.

Staff perception of the intervention shows that this intervention has had a positive effect on reducing racial bias in the use of S/R. Implicit bias may not be changeable rather must be managed and highlights the necessity for formalized study of racial bias, as well as validated, structured, and intentional interventions to increase knowledge of racial bias, racial disparities, and alternative interventions in order to reduce implicit bias in S/R (Gill et al., 2022).

Limitations

Significant limitations in data gathering, statistical analysis exists and limit the generalizability of the study. Demographic variables apart from race were not considered. Additionally, the sample size for some racial groups were sm1all and limited the statistical validity of the findings. The survey response rate for PDSA 1 and 2 were small and limited by process factors. There was no built-in incentive for participation in this project, so staff were required to complete the survey and IAT either on shift or during unpaid time thereby limiting the response rate. The length of the initial survey at 17 questions, the time to complete the Harvard IAT, and the wording of the SMART tool questions were all barriers to participation and completion thus limiting qualitative data. Organization management structure changes created difficulty in all phases of project implementation and survey follow up. There was no nurse manager present for much of the project PDSA cycles.

Conclusions

This quality improvement project centers the ongoing effects of structural racism and racial bias in the medical system and highlights the importance for individual bias awareness and structural change to manage implicit bias and its associated health disparities. The AACP's SMART tool when utilized in conjunction with the Harvard Implicit Association Test provides a beneficial framework to assess racial bias and disparities at an individual and organizational level. To increase intervention effectiveness, full staff participation and buy-in must be pursued. Recommended next steps include structured, paid time for study participation, develop a comprehensive

education and action plan to address disparities identified by this project, quarterly publishing of s/r demographic data to staff and establishing measures to track changes.

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Appendix A

Selected SMART Tool Questions with instructions.

The SMART tool has specific recommended markers for scoring associated with each item. However, these items may not apply to every organization. Therefore, we are providing the following alternative scoring markers:

If your organization has looked at these issues and found that at baseline there are no disparities, give yourselves a round of applause and score a 5.

If you find that the markers provided do not fit you, rate yourselves from 1 to 5 using more general criteria, as follows: 1 – haven't started, 2 – a little progress, 3 – about midway in our journey, 4 – significant progress but not complete, 5 – complete or nearly complete success.

Clinical Care

This section reviews improvement metrics that relate to specific measures that may reflect racial disparities in access to care, engagement in care, and quality of diagnosis and treatment.

C2. Engagement of clients

To what extent does your organization track and address potential racial disparities in measures of engagement (examples include the percentage number of clients who attend their initial appointments and percentage of those who do not return after an initial visit OR percentage of no shows)?

1. We don't track this and have not addressed it

2. We do track this, at least somewhat, have identified disparities, but have not made progress addressing them

3. We do track this fairly well, have identified disparities, and have made a small amount of progress in addressing them

4. We do track this consistently, have identified disparities, and have made significant progress

5. We do track this consistently, and we have processes in place to ensure that no disparities exist

C3: Social Determinants and Engagement.

Disparities in engagement among racial minorities are often mediated by the impact of racism on social determinants. To what extent does your organization recognize that disparities in social determinants (such as housing, transportation, availability of childcare, employment in an essential capacity) are to some extent mediated by structural racism, and adjust treatment strategy/practices to facilitate access to care?

1. We have just begun to think about this but have not taken any action.

2. We have acknowledged that this would be an important goal for our organization, but we have not formalized that goal.

3. We have formalized the goal of better understanding social determinants and their impact on our population and adjusting our treatment/engagement process to accommodate impacted populations. However, we have not identified any accountable entities to coordinate action.

4. We have a formal goal, and an identified accountable individual or structure and have begun to take some steps to make progress.

5. We have a formal goal, and a well-established structure and process for making progress toward that goal.

C4. Involuntary treatment orders

To what extent does your organization track and address potential racial disparities in the imposition of involuntary commitment (either emergency commitments or assisted outpatient treatment, or both)?

1. We don't track this and have not addressed it
2. We do track this, at least somewhat, have identified disparities, but have not made progress addressing them
3. We do track this fairly well, have identified disparities, and have made a small amount of progress in addressing them
4. We do track this consistently, have identified disparities, and have made significant progress
5. We do track this consistently, and we have processes in place to ensure that no disparities exist

C6. Access to Care

To what extent does your organization track and address potential racial disparities in access to care, as measured by either penetration rates for various programs according to race and ethnicity, and/or ease of access (measured by wait lists, time to initial appointment, or transportation/telehealth barriers) for racially diverse populations?

1. We don't track this and have not addressed it
2. We do track this, at least somewhat, have identified disparities, but have not made progress addressing them
3. We do track this fairly well, have identified disparities, and have made a small amount of progress in addressing them
4. We do track this consistently, have identified disparities, and have made significant progress
5. We do track this consistently, and we have processes in place to ensure that no disparities exist

C7. Diagnostic Disparities for Adults

To what extent does your organization track and address potential racial disparities in diagnosis among adult patients (e.g., disproportionate diagnosis of Schizophrenia vs mood disorders among certain racial groups)?

1. We don’t track this and have not addressed it
2. We do track this, at least somewhat, have identified disparities, but have not made progress addressing them
3. We do track this fairly well, have identified disparities, and have made a small amount of progress in addressing them
4. We do track this consistently, have identified disparities, and have made significant progress
5. We do track this consistently, and we have made processes in place to ensure that no disparities exist

C8. Disparities in Treatment Approach

To what extent does your organization track and address potential racial disparities in treatment approach, including choice of medication, use of chemical/physical restraints, choice of psychotherapy intervention, etc.?

1. We don’t track this and have not addressed it
2. We do track this, at least somewhat, have identified disparities, but have not made progress addressing them
3. We do track this fairly well, have identified disparities, and have made a small amount of progress in addressing them
4. We do track this consistently, have identified disparities, and have made significant progress
5. We do track this consistently, and we have made processes in place to ensure that no disparities exist

C9. Client satisfaction

To what extent does your organization track and address potential racial disparities in client-reported satisfaction with treatment by clinicians and frontline staff?

1. We don't track this and have not addressed it

2. We do track this, at least somewhat, have identified disparities, but have not made progress addressing them

3. We do track this fairly well, have identified disparities, and have made a small amount of progress in addressing them

4. We do track this consistently, have identified disparities, and have made significant progress

5. We do track this consistently, and we have made processes in place to ensure that no disparities exist.

Workplace Culture

This section relates to improvement metrics that reflect the organization's ability to create a safe space inside the organization for staff at all levels, as well as clients and families, to identify racism and racial disparities as important issues, and to have open dialogue about how staff and clients are affected by those issues.

W1. Intentional anti-racism workplace culture

To what extent has your organization explicitly identified the goal of creating a "safe space" in the workplace for staff and clients to be able to identify and discuss racism and its effects, as well as establishing formal processes (accountable individuals, structures, processes, etc.) to achieve that goal.

1. We have just begun to think about this but have not taken any action.

2. We have acknowledged that this would be an important goal for our organization, but we have not formalized that goal.

3. We have formalized the goal of creating a safe space but have not identified any accountable entities to coordinate action.

4. We have a formal goal, and an identified accountable individual or structure and have begun to take some steps to make progress.

5. We have a formal goal, and a well-established structure and process for making progress toward that goal.

W2. Facilitating conversations about racism among staff

To what extent does your organization work regularly to create structured, protected opportunities for dialogue among staff regarding experiences of racism, including at the workplace, and how to address and improve safety and equity?

1. We have just begun to think about this but have not taken any action.

2. We have acknowledged formally that this would be an important activity for our organization, but we have not taken any steps to make it happen

3. We have taken steps to open dialogue and begun to have some conversations. We do not yet have a process in place to continue this regularly and to make progress.

4. We have regular opportunities for staff dialogue and have begun to experience some progress in the experience of safety for all staff.

5. We have a well-established structure and process for continuing safe dialogue about racism, and staff feel comfortable engaging in those discussions, reporting considerable progress.

W3. Facilitating conversations about racism between staff and clients/families

To what extent does your organization work regularly to create structured opportunities for dialogue between clients/families and staff regarding experiences of racism, including while receiving services at the agency, and how to address and improve safety and equity?

1. We have just begun to think about this but have not taken any action.

2. We have acknowledged formally that this would be an important activity for our organization, but we have not taken any steps to make it happen

3. We have taken steps to open dialogue with clients and begun to have some conversations. We do not yet have a process in place to continue this regularly and to make progress.

4. We have regular opportunities for clients to share their experiences and have begun to experience some progress in addressing and improving the disparities experienced by people in service.

5. We have a well-established structure and process for continuing safe dialogue about racism with all clients, and staff feel comfortable engaging in those discussions, and contributing to progress for both clients and for the organization.

W4. Implicit Bias self-assessment and other tools

To what extent does your organization utilize formal self-assessments for staff and/or teams/programs to identify, discuss, and subsequently measure improvement in implicit bias, ideally as a regular part of the agency's quality improvement activities.

1. We have just begun to think about this but have not taken any action.

2. We have acknowledged formally that this would be an important activity for our organization, but we have not taken any steps to make it happen

3. We have taken steps to identify an appropriate tool and piloted its use.

4. We have begun to use one or more tools regularly and have identified some improvement opportunities based on that activity.

5. We have a well-established structure and process for using individual and/or team self-assessments for routine quality improvement.

W5. Addressing racism within a trauma-informed culture

To what extent does your organization have a formal mechanism in place to develop a trauma-informed organizational culture for staff and clients, to empower staff to be safe participants in organizational change, and to explicitly identify racism and associated microaggressions as a form of trauma to be addressed?

1. We have just begun to think about this but have not taken any action.

2. We have acknowledged formally that should be explicitly addressed within our current trauma-informed efforts but have not made progress doing so.

3. We have taken steps to establish a trauma-informed organizational culture, and to include racism within that process

4. We have a well-organized approach to training and improvement for the whole organization to become trauma-informed, including addressing racism, and have made measurable progress.

5. We have a well-established structure and process for sustaining a trauma-informed anti-racist culture that is regularly measured and reinforced at all levels of the organization.

W6. Formal reporting of racism in the workplace

To what extent does your organization have a formal process by which staff can safely and anonymously report incidents of race or ethnicity-based discrimination in the workplace, and a subsequent formal process by which the organization responds to such reports?

1. We have just begun to think about this but have not taken any action.

2. We have acknowledged formally that this would be an important activity for our organization, but we have not taken any steps to make it happen

3. We have taken steps to identify an appropriate tool and piloted its use.

4. We have begun to use one or more tools regularly and have identified some improvement opportunities based on that activity.

5. We have a well-established structure and process for using individual and/or team self-assessments for routine quality improvement.

W7. Formal staff training in structural factors that promote systemic racism

To what extent does your organization utilize formal training for staff and/or teams/programs to understand and identify structural, society-level factors (e.g. housing inequality, educational disparities, income inequality, etc.) that contribute to racial disparities in mental health?

1. We have just begun to think about this but have not taken any action.

2. We have acknowledged formally that this would be important training content for our organization, but we have not taken any steps to make it happen

3. We have taken steps to identify or created appropriate trainings and piloted their use.

4. We have begun to use one or more trainings regularly and have identified some improvement opportunities based on that activity.

5. We have a well-established structure and process for high quality, continuing training in these topics for all staff/teams/programs.

Notes and Action Plan – Workplace

A4. Addressing disparities in serving individuals and families experiencing homelessness

To what extent does your organization work in partnership with housing agencies and homeless services providers to eliminate potential racial disparities in access to homeless services and to both temporary and permanent supported housing?

1. We don't participate in a collaboration that tracks this information and have not addressed it

2. We do work with community partners on this issue, and have begun to track this and recognize disparities, but have not made progress addressing them

3. We do have a collaboration that has identified this as an issue, and we have data indicating that we have made a small amount of progress in addressing this issue.

4. We participate in a partnership that tracks this consistently, has identified disparities, and has made significant progress

5. We work as a community to track this consistently, and we have processes in place to ensure that no disparities exist

A2. Addressing the "school-to-prison" pipeline

To what extent does your organization work in partnership with schools and juvenile justice to eliminate potential racial disparities in disciplinary practices that are associated with the school to prison pipeline?

1. We don't participate in a collaboration that tracks this information and have not addressed it

2. We do work with community partners on this issue, and have begun to track this and recognize disparities, but have not made progress addressing them

3. We do have a collaboration that has identified this as an issue, and we have data indicating that we have made a small amount of progress in addressing this issue.

4. We participate in a partnership that tracks this consistently, has identified disparities, and has made significant progress

5. We work as a community to track this consistently, and we have processes in place to ensure that no disparities exist

A1. Involvement with law enforcement and the criminal justice system

To what extent does your organization work in partnership with law enforcement and the local criminal justice system to eliminate potential racial disparities in arrest, incarceration and diversion of people of color who have mental health and/or substance use conditions?

1. We don't participate in a collaboration that tracks this information and have not addressed it

2. We do work with community partners on this issue, and have begun to track this and recognize disparities, but have not made progress addressing them

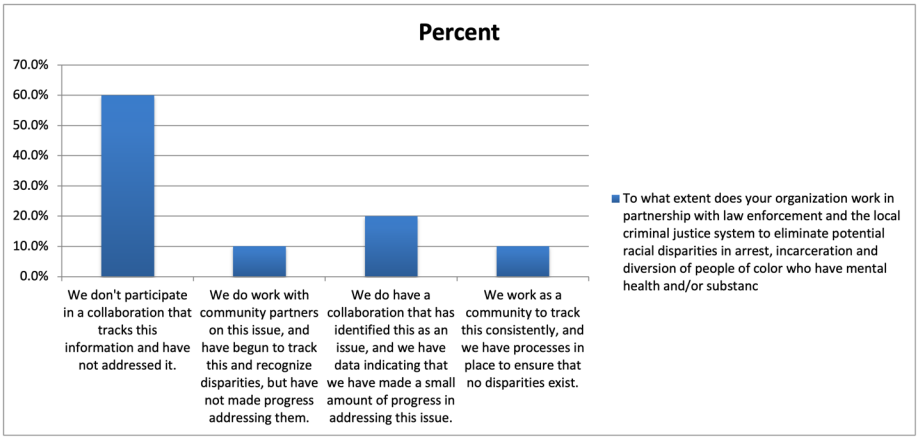
3. We do have a collaboration that has identified this as an issue, and we have data indicating that we have made a small amount of progress in addressing this issue.

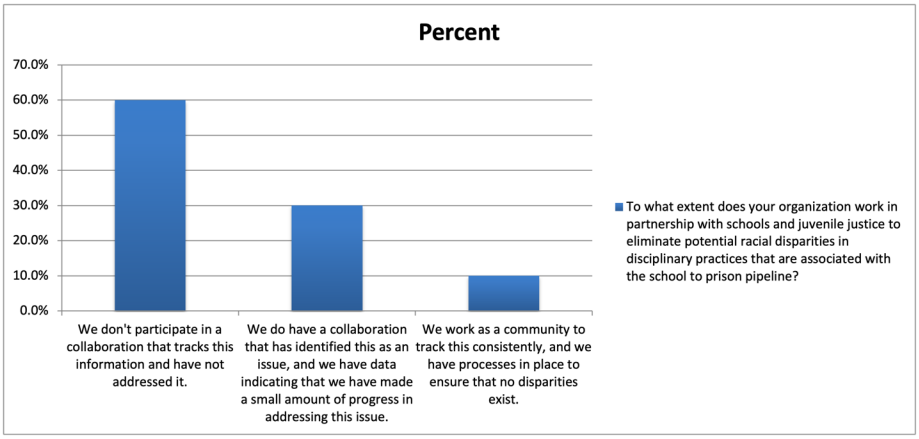
4. We participate in a partnership that tracks this consistently, has identified disparities, and has made significant progress

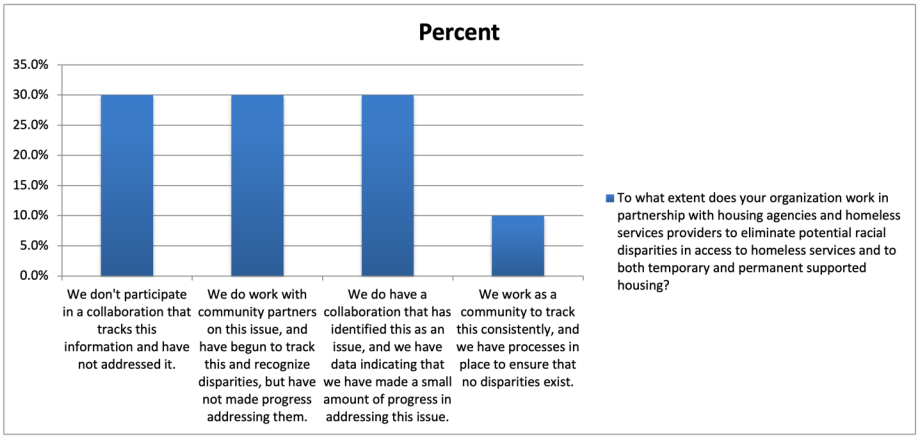
5. We work as a community to track this consistently, and we have processes in place to ensure that no disparities exist

Appendix B

PDSA 1 Survey Questions with Likert-Scale Results






Percent
35.0%
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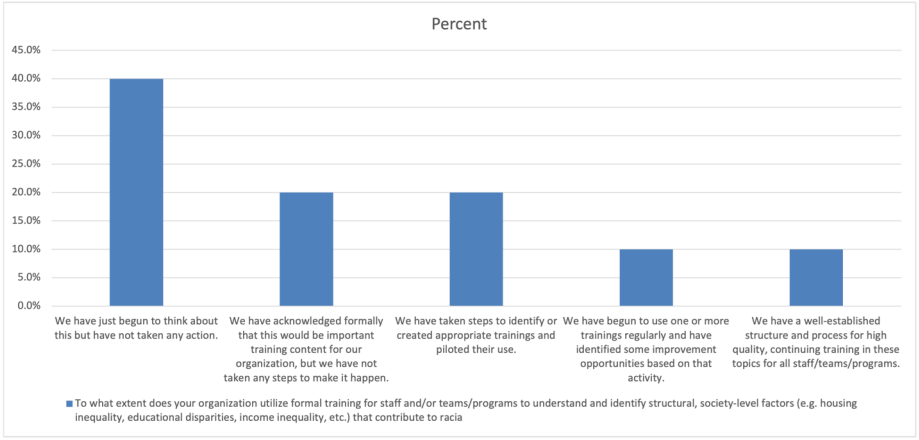
We don't participate in a collaboration that tracks this information and have not addressed it.
We do work with community partners on this issue, and have begun to track this and recognize disparities, but have not made progress addressing them.
We do have a collaboration that has identified this as an issue, and we have data indicating that we have made a small amount of progress in addressing this issue.
We work as a community to track this consistently, and we have processes in place to ensure that no disparities exist.
To what extent does your organization work in partnership with housing agencies and homeless services providers to eliminate potential racial disparities in access to homeless services and to both temporary and permanent supported housing?


Percent
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15.0%
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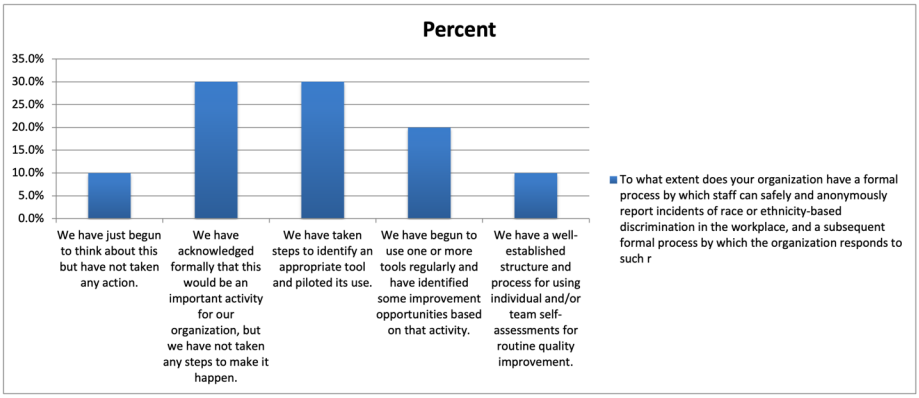
We have just begun to think about this but have not taken any action.
We have acknowledged formally that this would be important training content for our organization, but we have not taken any steps to make it happen.
We have taken steps to identify or created appropriate trainings and piloted their use.
We have begun to use one or more trainings regularly and have identified some improvement opportunities based on that activity.
We have a well-established structure and process for high quality, continuing training in these topics for all staff/teams/programs.
To what extent does your organization utilize formal training for staff and/or teams/programs to understand and identify structural, society-level factors (e.g. housing inequality, educational disparities, income inequality, etc.) that contribute to racia


Percent
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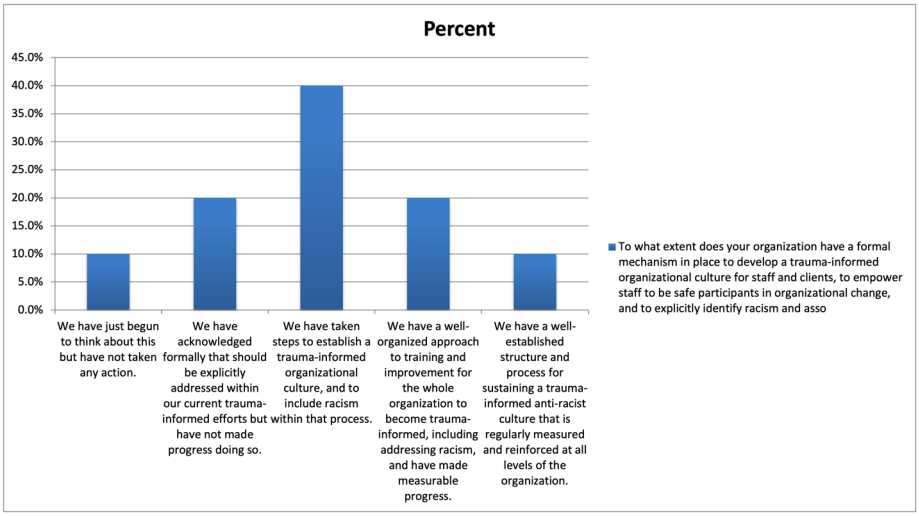
We have just begun to think about this but have not taken any action.
We have acknowledged formally that this would be an important activity for our organization, but we have not taken any steps to make it happen.
We have taken steps to identify an appropriate tool and piloted its use.
We have begun to use one or more tools regularly and have identified some improvement opportunities based on that activity.
We have a well-established structure and process for using individual and/or team self-assessments for routine quality improvement.
To what extent does your organization have a formal process by which staff can safely and anonymously report incidents of race or ethnicity-based discrimination in the workplace, and a subsequent formal process by which the organization responds to such r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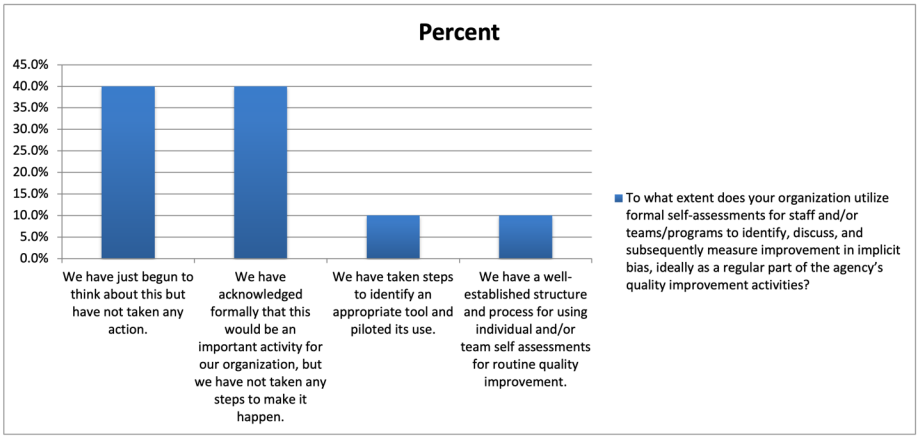
We have just begun to think about this but have not taken any action.
We have acknowledged formally that should be explicitly addressed within our current trauma-informed efforts but have not made progress doing so.
We have taken steps to establish a trauma-informed organizational culture, and to include racism within that process.
We have a well-organized approach to training and improvement for the whole organization to become trauma-informed, including addressing racism, and have made measurable progress.
We have a well-established structure and process for sustaining a trauma-informed anti-racist culture that is regularly measured and reinforced at all levels of the organization.
To what extent does your organization have a formal mechanism in place to develop a trauma-informed organizational culture for staff and clients, to empower staff to be safe participants in organizational change, and to explicitly identify racism and asso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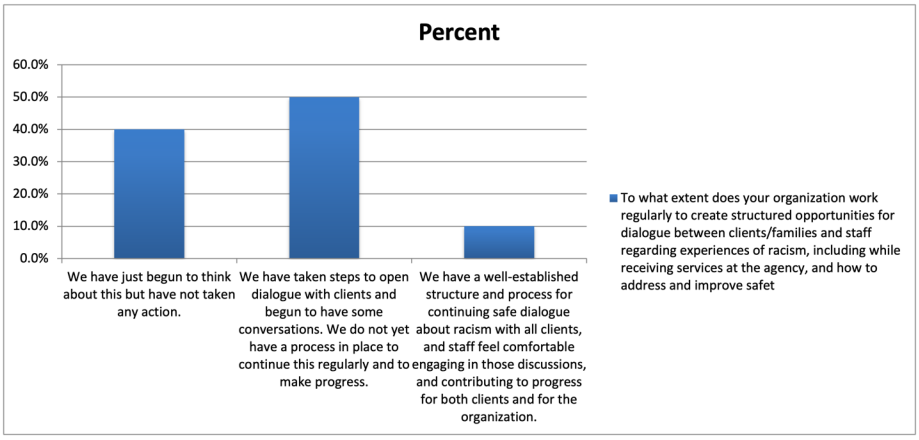
We have just begun to think about this but have not taken any action.
We have acknowledged formally that this would be an important activity for our organization, but we have not taken any steps to make it happen.
We have taken steps to identify an appropriate tool and piloted its use.
We have a well-established structure and process for using individual and/or team self assessments for routine quality improvement.
To what extent does your organization utilize formal self-assessments for staff and/or teams/programs to identify, discuss, and subsequently measure improvement in implicit bias, ideally as a regular part of the agency's quality improvement activities?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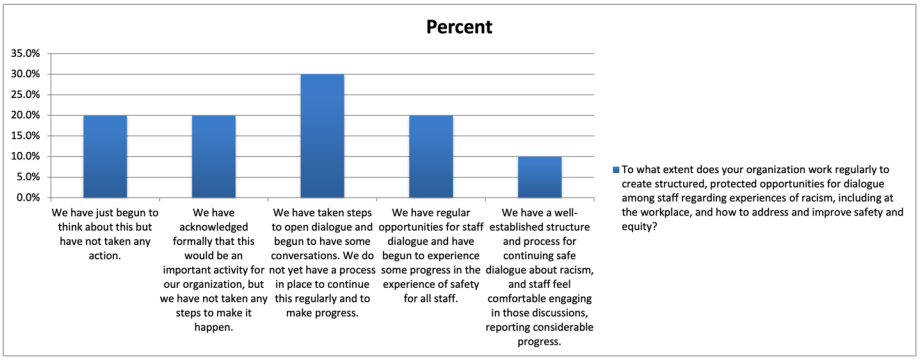
We have just begun to think about this but have not taken any action.
We have taken steps to open dialogue with clients and begun to have some conversations. We do not yet have a process in place to continue this regularly and to make progress.
We have a well-established structure and process for continuing safe dialogue about racism with all clients, and staff feel comfortable engaging in those discussions, and contributing to progress for both clients and for the organization.
To what extent does your organization work regularly to create structured opportunities for dialogue between clients/families and staff regarding experiences of racism, including while receiving services at the agency, and how to address and improve safet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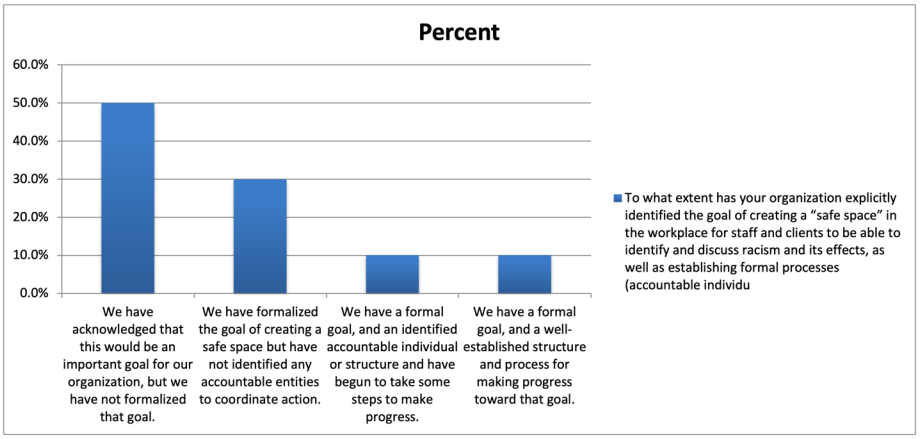
We have just begun to think about this but have not taken any action.
We have acknowledged formally that this would be an important activity for our organization, but we have not taken any steps to make it happen.
We have taken steps to open dialogue and begun to have some conversations. We do not yet have a process in place to continue this regularly and to make progress.
We have regular opportunities for staff dialogue and have begun to experience some progress in the experience of safety for all staff.
We have a well-established structure and process for continuing safe dialogue about racism, and staff feel comfortable engaging in those discussions, reporting considerable progress.
To what extent does your organization work regularly to create structured, protected opportunities for dialogue among staff regarding experiences of racism, including at the workplace, and how to address and improve safety and equity?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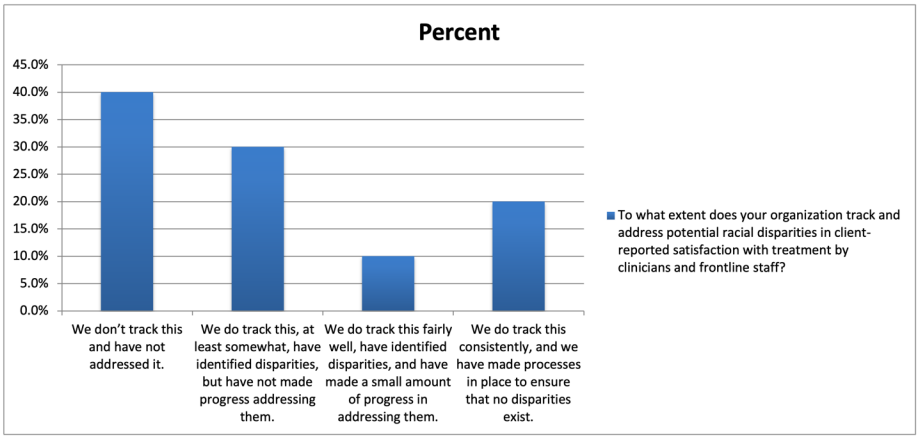
We have acknowledged that this would be an important goal for our organization, but we have not formalized that goal.
We have formalized the goal of creating a safe space but have not identified any accountable entities to coordinate action.
We have a formal goal, and an identified accountable individual or structure and have begun to take some steps to make progress.
We have a formal goal, and a well-established structure and process for making progress toward that goal.
To what extent has your organization explicitly identified the goal of creating a "safe space" in the workplace for staff and clients to be able to identify and discuss racism and its effects, as well as establishing formal processes (accountable individu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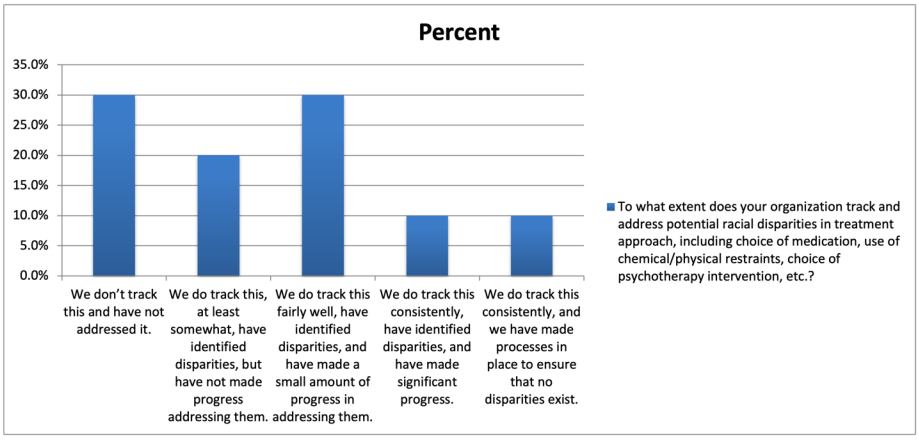
We don't track this and have not addressed it.
We do track this, at least somewhat, have identified disparities, but have not made progress addressing them.
We do track this fairly well, have identified disparities, and have made a small amount of progress in addressing them.
We do track this consistently, and we have made processes in place to ensure that no disparities exist.
To what extent does your organization track and address potential racial disparities in client-reported satisfaction with treatment by clinicians and frontline staff?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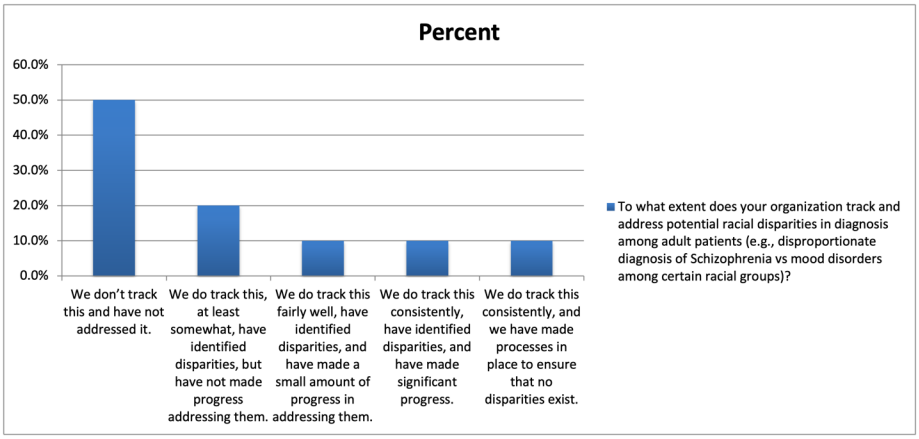
We don't track this and have not addressed it.
We do track this, at least somewhat, have identified disparities, but have not made progress addressing them.
We do track this fairly well, have identified disparities, and have made a small amount of progress in addressing them.
We do track this consistently, have identified disparities, and have made significant progress.
We do track this consistently, and we have made processes in place to ensure that no disparities exist.
To what extent does your organization track and address potential racial disparities in treatment approach, including choice of medication, use of chemical/physical restraints, choice of psychotherapy intervention, etc.?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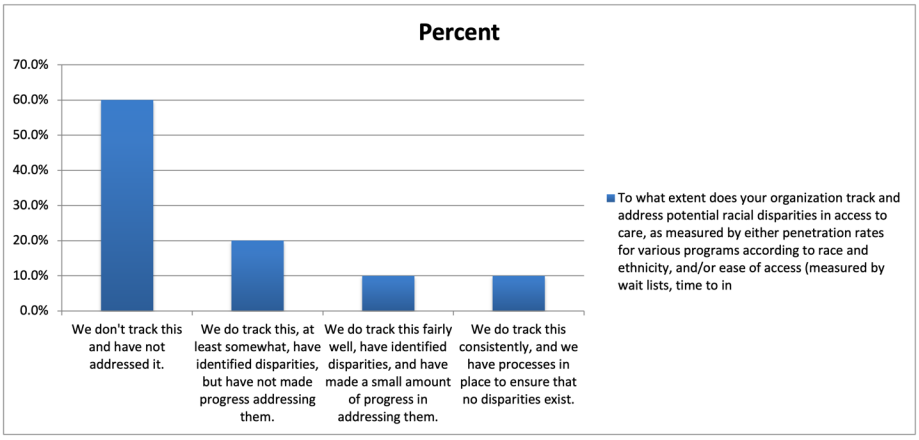
We don't track this and have not addressed it.
We do track this, at least somewhat, have identified disparities, but have not made progress addressing them.
We do track this fairly well, have identified disparities, and have made a small amount of progress in addressing them.
We do track this consistently, have identified disparities, and have made significant progress.
We do track this consistently, and we have made processes in place to ensure that no disparities exist.
To what extent does your organization track and address potential racial disparities in diagnosis among adult patients (e.g., disproportionate diagnosis of Schizophrenia vs mood disorders among certain racial groups)?


Percent
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30.0%
20.0%
10.0%
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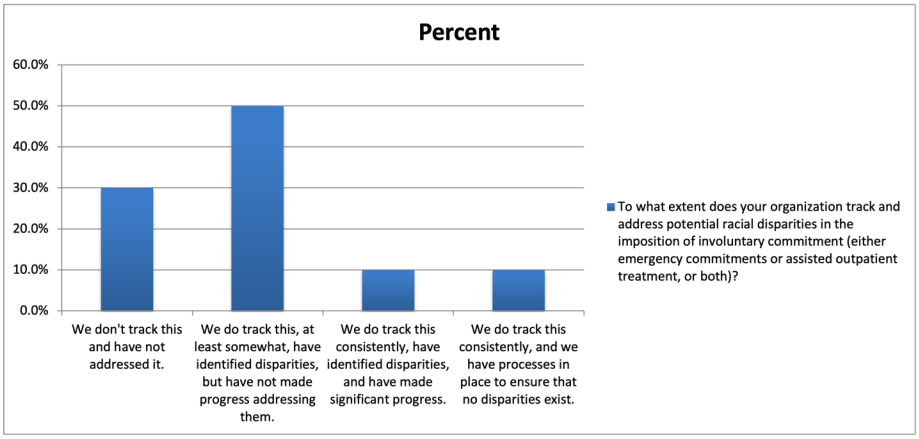
We don't track this and have not addressed it.
We do track this, at least somewhat, have identified disparities, but have not made progress addressing them.
We do track this fairly well, have identified disparities, and have made a small amount of progress in addressing them.
We do track this consistently, and we have processes in place to ensure that no disparities exist.
To what extent does your organization track and address potential racial disparities in access to care, as measured by either penetration rates for various programs according to race and ethnicity, and/or ease of access (measured by wait lists, time to in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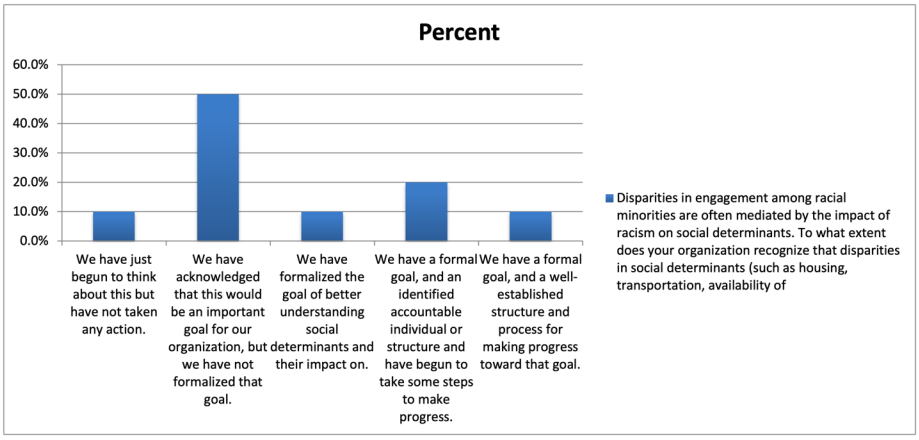
10.0%
0.0%
We don't track this and have not addressed it.
We do track this, at least somewhat, have identified disparities, but have not made progress addressing them.
We do track this consistently, have identified disparities, and have made significant progress.
We do track this consistently, and we have processes in place to ensure that no disparities exist.
To what extent does your organization track and address potential racial disparities in the imposition of involuntary commitment (either emergency commitments or assisted outpatient treatment, or both)?


Percent
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40.0%
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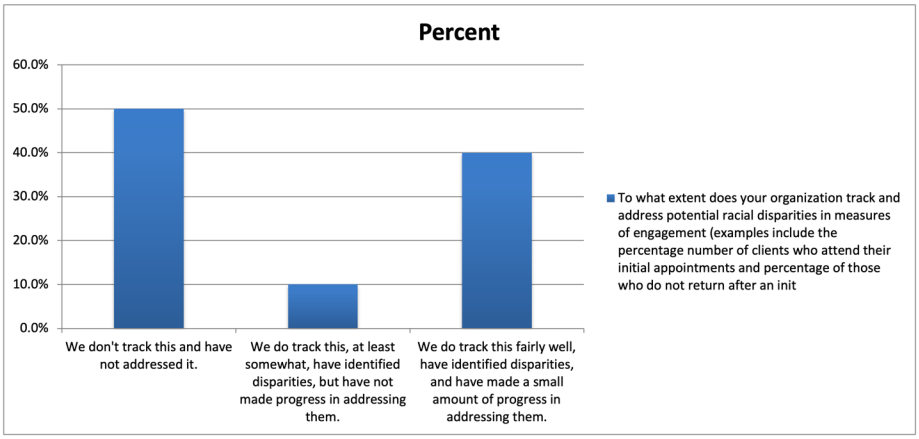
10.0%
0.0%
We have just begun to think about this but have not taken any action.
We have acknowledged that this would be an important goal for our organization, but we have not formalized that goal.
We have formalized the goal of better understanding social determinants and their impact on.
We have a formal goal, and an identified accountable individual or structure and have begun to take some steps to make progress.
We have a formal goal, and a well-established structure and process for making progress toward that goal.
Disparities in engagement among racial minorities are often mediated by the impact of racism on social determinants. To what extent does your organization recognize that disparities in social determinants (such as housing, transportation, availability of


Percent
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10.0%
0.0%
We don't track this and have not addressed it.
We do track this, at least somewhat, have identified disparities, but have not made progress in addressing them.
We do track this fairly well, have identified disparities, and have made a small amount of progress in addressing them.
To what extent does your organization track and address potential racial disparities in measures of engagement (examples include the percentage number of clients who attend their initial appointments and percentage of those who do not return after an init

Appendix C

PDSA 2 Survey Questions and Likert-Scale Results

PDSA 2 Follow Up Survey

1. Do you feel that high patient volume increase the likelihood that your clinical decisions will be affected by implicit racial bias?
   - Strongly disagree
   - Somewhat disagree
   - Neither agree nor disagree
   - Somewhat agree
   - Strongly agree

2. Does increased cognitive stress increase the likelihood of making clinical decisions affected by implicit racial bias?
   - Strongly disagree
   - Somewhat disagree
   - Neither agree nor disagree
   - Somewhat agree
   - Strongly agree

3. Does added time pressure increase the likelihood of making clinical decisions affected by implicit racial bias?
   - Strongly disagree
   - Somewhat disagree
   - Neither agree nor disagree
   - Somewhat agree
   - Strongly agree

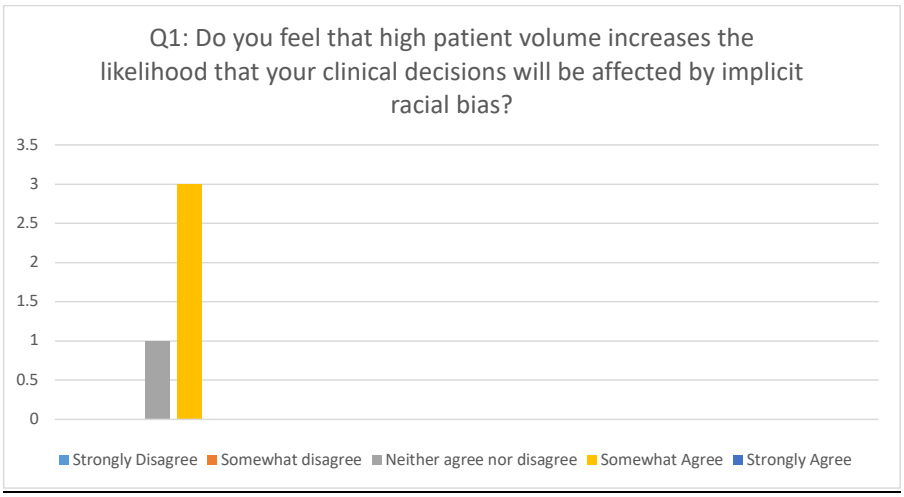
4. Does ED crowding affect likelihood of making clinical decisions affected by implicit racial bias?
   - Strongly disagree
   - Somewhat disagree
   - Neither agree nor disagree
   - Somewhat agree
   - Strongly agree

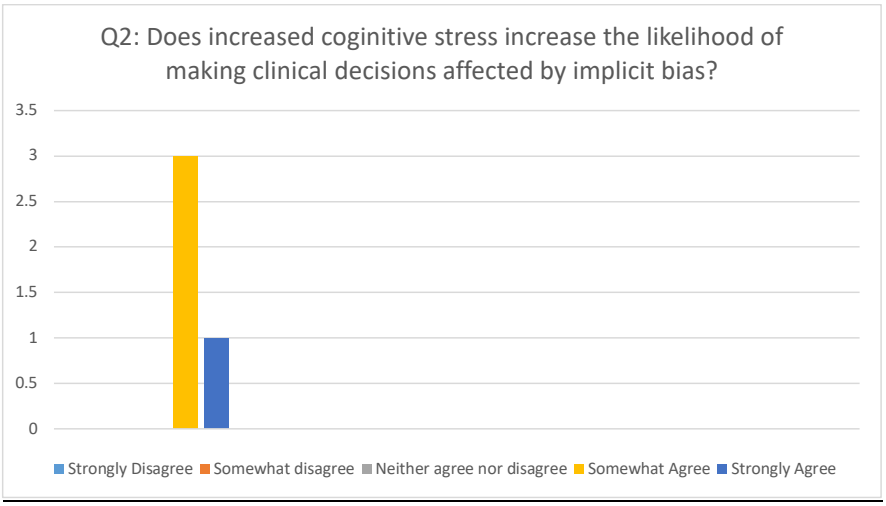
5. Do you feel that participation in any part of this project has added to your cognitive burden during your shift?
   - Strongly disagree
   - Somewhat disagree
   - Neither agree nor disagree
   - Somewhat agree
   - Strongly agree

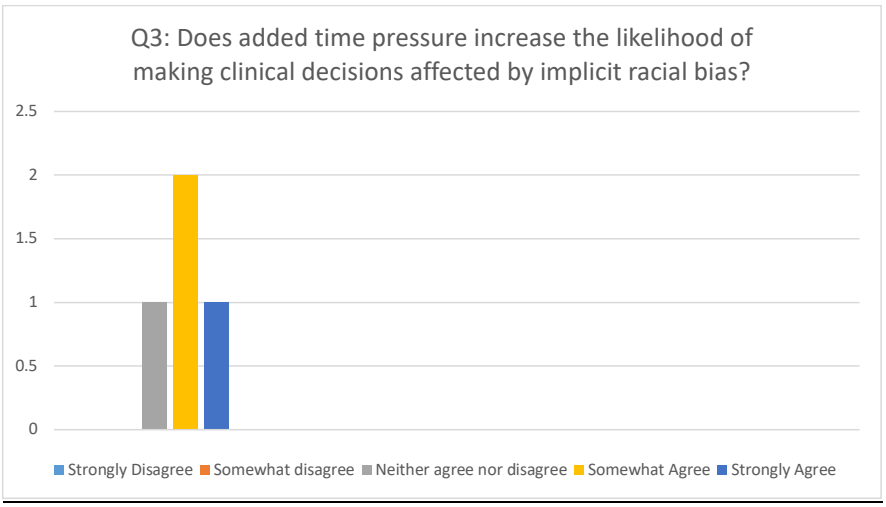
6. Were the results of the Harvard Implicit Association Test congruent with your perception of your implicit racial bias prior to taking the test?
   - Strongly disagree
   - Somewhat disagree
   - Neither agree nor disagree
   - Somewhat agree
   - Strongly agree

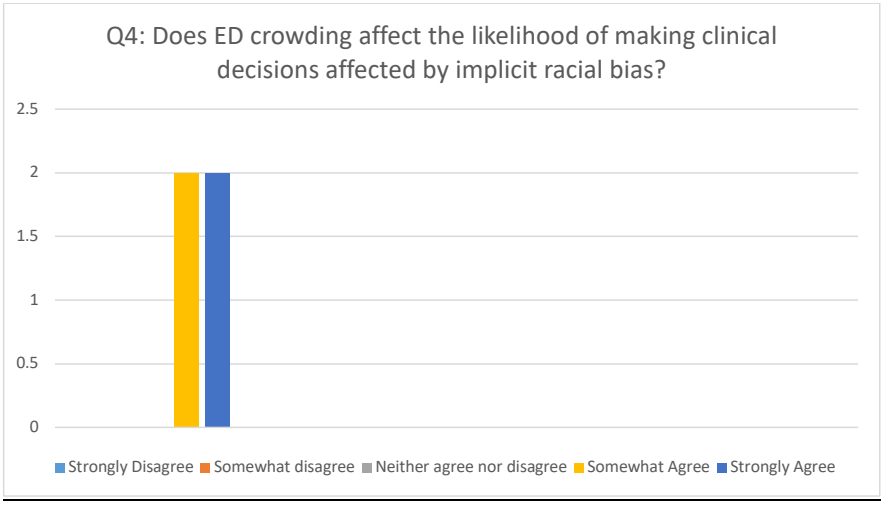
7. Do you feel that individual participation in this project will lead to a decrease in racial bias in the utilization of seclusion and restraint within the PES?
   - Strongly disagree
   - Somewhat disagree
   - Neither agree nor disagree
   - Somewhat agree
   - Strongly agree

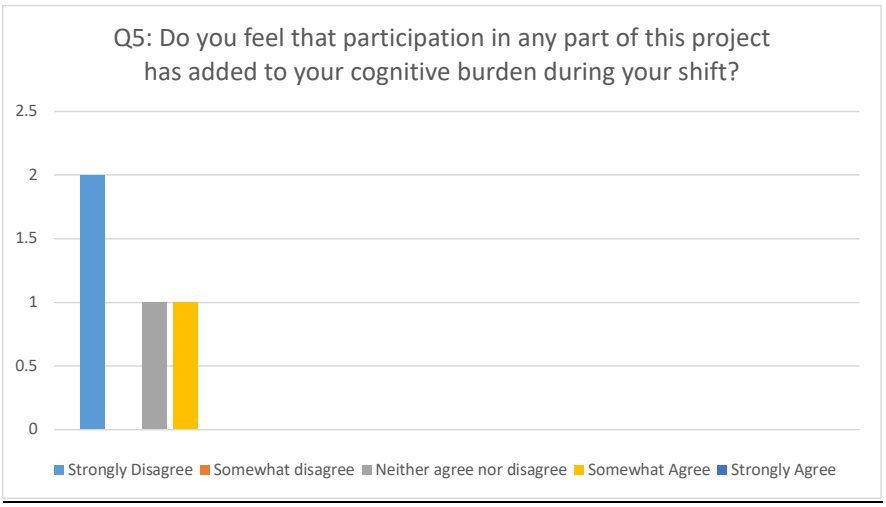
8. Did you complete the initial survey and Harvard Race Implicit Association Test.

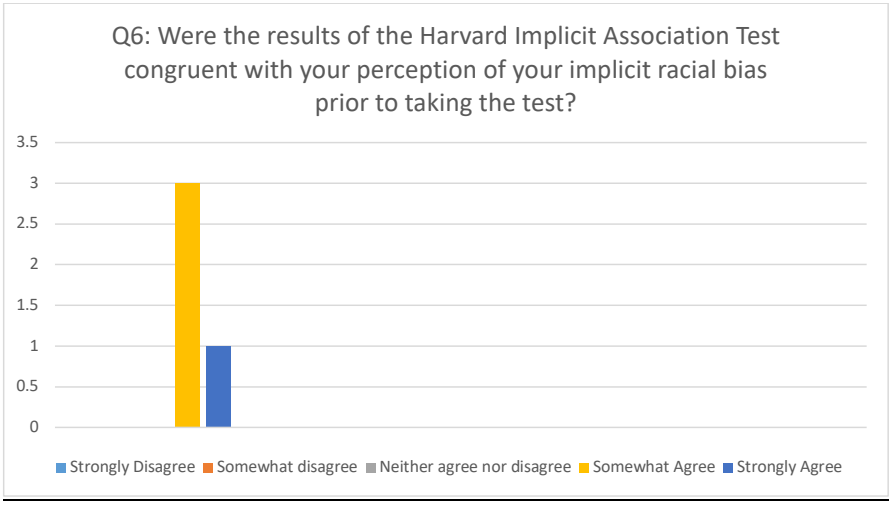

Q1: Do you feel that high patient volume increases the likelihood that your clinical decisions will be affected by implicit racial bias?
3.5
3
2.5
2
1.5
1
0.5
0
Strongly Disagree
Somewhat disagree
Neither agree nor disagree
Somewhat Agree
Strongly Agree

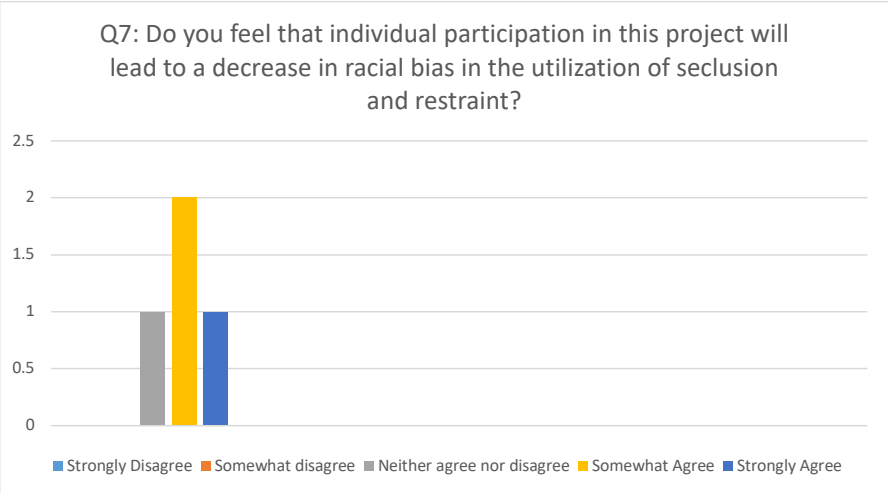

Q2: Does increased coginitive stress increase the likelihood of making clinical decisions affected by implicit bias?
3.5
3
2.5
2
1.5
1
0.5
0
Strongly Disagree
Somewhat disagree
Neither agree nor disagree
Somewhat Agree
Strongly Agree

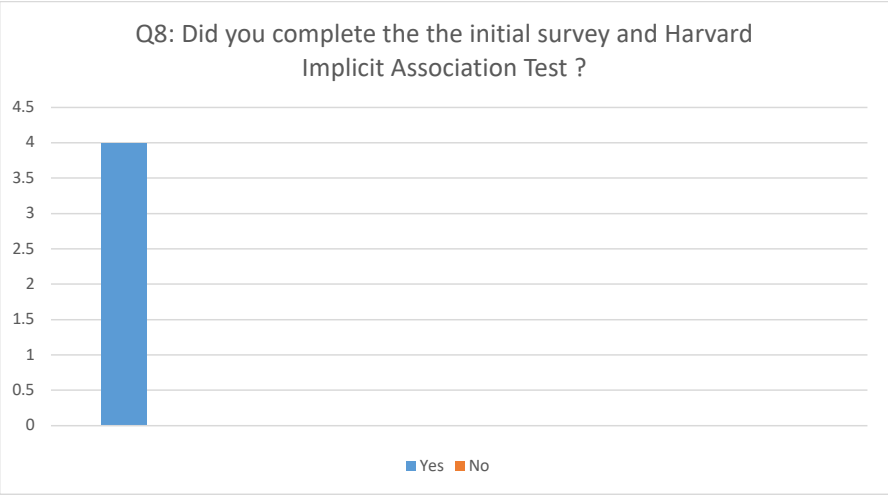

Q3: Does added time pressure increase the likelihood of making clinical decisions affected by implicit racial bias?
2.5
2
1.5
1
0.5
0
Strongly Disagree
Somewhat disagree
Neither agree nor disagree
Somewhat Agree
Strongly Agree


Q4: Does ED crowding affect the likelihood of making clinical decisions affected by implicit racial bias?
2.5
2
1.5
1
0.5
0
Strongly Disagree
Somewhat disagree
Neither agree nor disagree
Somewhat Agree
Strongly Agree


Q5: Do you feel that participation in any part of this project has added to your cognitive burden during your shift?
2.5
2
1.5
1
0.5
0
Strongly Disagree
Somewhat disagree
Neither agree nor disagree
Somewhat Agree
Strongly Agree

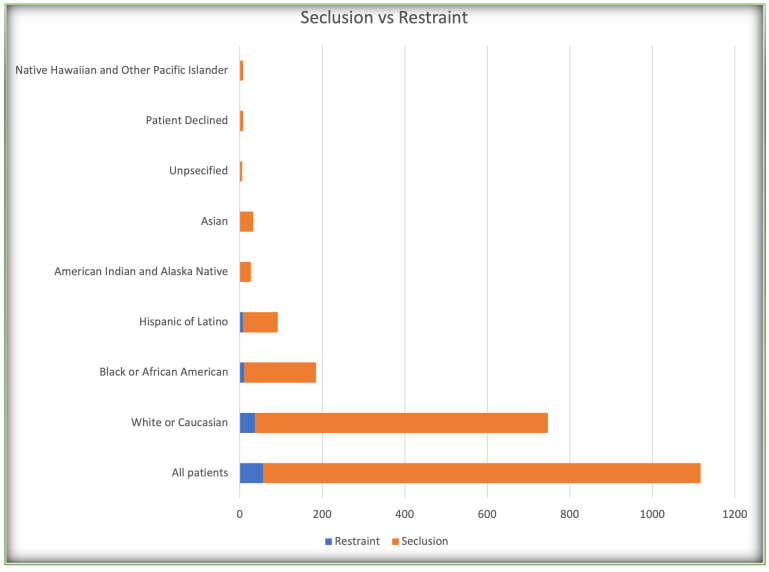

Q6: Were the results of the Harvard Implicit Association Test congruent with your perception of your implicit racial bias prior to taking the test?
3.5
3
2.5
2
1.5
1
0.5
0
Strongly Disagree
Somewhat disagree
Neither agree nor disagree
Somewhat Agree
Strongly Agree

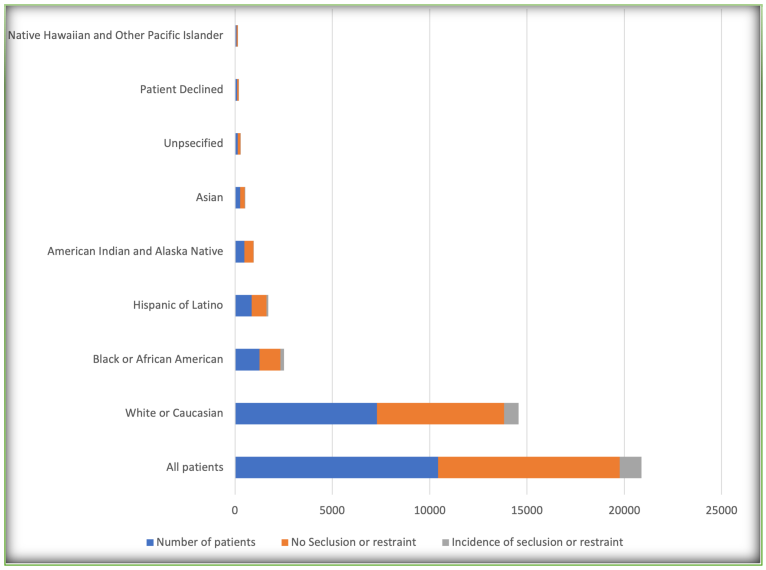

Q7: Do you feel that individual participation in this project will lead to a decrease in racial bias in the utilization of seclusion and restraint?
2.5
2
1.5
1
0.5
0
Strongly Disagree
Somewhat disagree
Neither agree nor disagree
Somewhat Agree
Strongly Agree



Appendix D

R/S data and statistical analysis





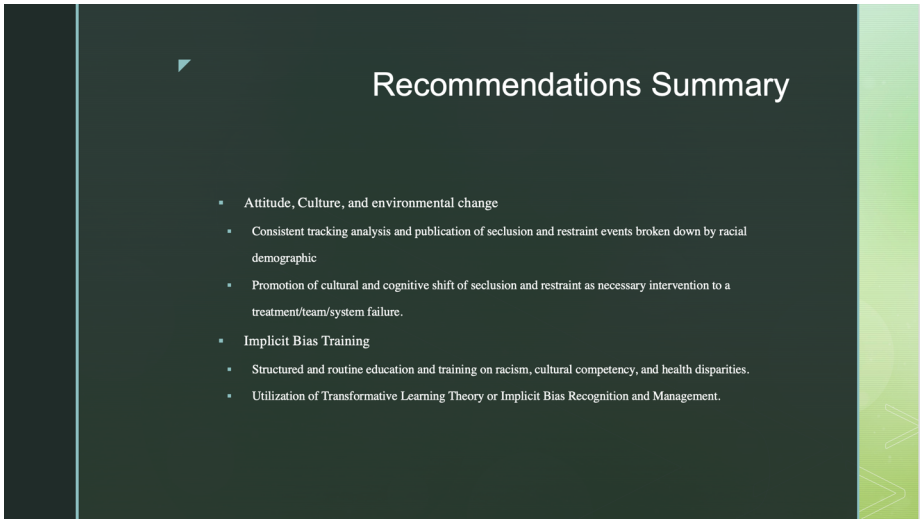
Count of AllRestraints[PAT_ENC_CSN_ID]	Column Labels			
Row Labels	Other Restraint	Seclusion	(blank)	Grand Total
*Unspecified		6		6
American Indian and Alaska Native	1	26		27
Asian	1	32		33
Black or African American	10	175		185
Hispanic or Latino	7	85		92
Native Hawaiian and Other Pacific Islander	1	7		8
Other		9		9
Patient Declined		8		8
Unknown		2		2
White or Caucasian	36	711		747
(blank)				
Grand Total	**56**	**1061**		**1117**

Racial Demographics	Number of patients	No Seclusion or restraint	Incidence of seclusion or restraint
All patients	10437	9320	1117
White or Caucasian	7283	6536	747
Unpsecified	137	131	6
Black or African American	1257	1072	185
Hispanic of Latino	849	757	92
American Indian and Alaska Native	481	454	27
Asian	263	230	33
Patient Declined	95	87	8
Native Hawaiian and Other Pacific Islander	73	65	8

Racial demographic	OR(95% CI) Compared to White Patients	P-value
Black or African American	1.51 (1.2695, 1.7959)	0.001
Hispanic or Latino	1.06 (0.8455, 1.3374)	0.599
Asian	1.2554 (0.8649, 1.8222)	0.232
American Indian and Alaska Native	0.5204 (0.3504, 0.7728)	0.001
Native Hawaiian and Other Pacific Islander	1.0769 (0.5147, 2.2532)	0.844

Appendix E

Recommendations Summary

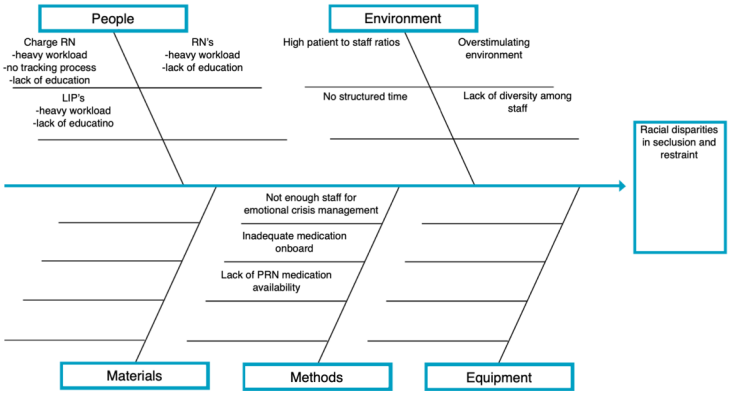


Appendix F

IHI Cause and Effect Diagram

Team: Caleb Norton, Rodney Olin **Project**: Assessing for racial bias in the use of S/R.

1) Input the effect you'd like to influence.
2) Input categories of causes for the effect (or keep the classic five).
3) Input causes within each category.



Appendix G

IRB Letter of Determination

OREGON HEALTH & SCIENCE UNIVERSITY

IRB MEMO

Research Integrity Office
3181 SW Sam Jackson Park Road - L106RI
Portland, OR 97239-3098
(503)494-7887 irb@ohsu.edu

NOT HUMAN RESEARCH

August 25, 2023

Dear Investigator:

On 8/25/2023, the IRB reviewed the following submission:

Title of Study:	Improving Organizational Use of Seclusion and Restraint in a Metropolitan Psychiatric Emergency Room: Assessing Racial Bias Using Component of the Implicit Association Test and SMART Tool
Investigator:	Rodney Olin
IRB ID:	STUDY00026099
Funding:	None

The IRB determined that the proposed activity is not research involving human subjects. IRB review and approval is not required.

Certain changes to the research plan may affect this determination. Contact the IRB Office if your project changes and you have questions regarding the need for IRB oversight.

If this project involves the collection, use, or disclosure of Protected Health Information (PHI), you must comply with all applicable requirements under HIPAA. See the HIPAA and Research website and the Information Privacy and Security website for more information.

Sincerely,

The OHSU IRB Office

LEGACY HEALTH | LEGACY RESEARCH INSTITUTE

Legacy Research Institute
1225 N.E. Second Ave.
Portland, OR 97232
503.413.2491 *phone*
503.413.4942 *fax*

LEGACY HEALTH INSTITUTIONAL REVIEW BOARD

NOTICE OF IRB ACTION

Protocol: *Improving Organizational Use of Seclusion and Restraint in a Metropolitan Psychiatric Emergency Room: Assessing Racial Bias Using Component of the Implicit Association Test and SMART Tool*	
Principal Investigator: Rodney Olin	Board Action: EXEMPT QI/NOT HUMAN SUBJECT RESEARCH DETERMINATION
Submission type/date: New QI 8/22/23	Date of Board Action: 10-12-23
Sponsor: OHSU	Study Risk Level: Minimal risk
Site(s): Legacy Unity Center	Jurisdiction: OHRP/OCR
IRB Tracking Number: 2124	Continuing Review: None

SUBMITTED DOCUMENTS REVIEWED

- ✓ Legacy IRB Form A:
  - LEGACY IRB_Complete
  - 2023-08-22 14-57 PI assurance and signature
- ✓ Investigator's CV
  - Olin.OHSU.CV. SOM5_23
- ✓ Determination of NHSR Correspondence for OHSU Study 00026099 8-25-23

REVIEW

REVIEW TYPE	IRB ACTION
✓ Initial Review ✓ Exemption QI Review ✓ Administrative Review	✓ Exempt QI ✓ Not Human Subject Research Determination

ADDITIONAL FINDINGS AND REQUIREMENTS FOR THIS STUDY

- ✓ The study is minimal risk quality improvement.
- ✓ The project is not human subject research.
- ✓ All data is anonymized or de-identified.

Appendix H

Organization letter of support

Letter of Support from Clinical Agency

Date: *[08/24/2023]*

Dear *Caleb Norton*

This letter confirms that I, *Rodney Olin, DNP*, allow Caleb Norton, RN, BSN(OHSU Doctor of Nursing Practice Student) access to complete his/her DNP Final Project at our clinical site. The project will take place from approximately 9/1/2023 to *1/15/2024*

This letter summarizes the core elements of the project proposal, already reviewed by the DNP Project Preceptor and clinical liaison (if applicable):

- **Project Site(s)**: *Unity Center for Behavioral Health Psychiatric Emergency Services Department*
- **Project Plan: Use the following guidance to describe your project in a brief paragraph.**

Identified Clinical Problem: The use of seclusion and restraint as a psychiatric safety/behavioral intervention has created ethical and moral dilemmas since the inception of psychiatry. It has been shown that the application of seclusion and restraint has been disproportionate when analyzed along racial and ethnic lines. Seclusion and restraint have been shown to be physically and psychologically traumatic to both patients and staff and has resulted in physical injury including pressure injuries, nerve damage to immobilized limbs, respiratory depression, and even death. Therefore, the purpose of this study is to analyze any racial implicit bias that may exist in the application of seclusion and restraint at a large metropolitan psychiatric emergency department.

Rationale: Currently there exists no data assessing for racial disparities in seclusion and restraint at Unity. By gathering this data, analyzing it, and presenting it with racial bias training clinical staff will gain awareness of the role that race plays in seclusion and restraint initiation.

Specific Aims: Increase staff awareness of racial bias. Decrease racial disparity in the use of seclusion and restraint.

Methods/Interventions/Measures: In the first PDSA cycle providers and nurses will voluntarily complete a survey of select questions from the SMART tool that will be chosen based on appropriateness for the psychiatric emergency department setting utilizing Qualtrics survey software. The survey will be sent via email to all clinicians and nurses in the psychiatric emergency services. Responses will be recorded as a baseline to be used for future comparison. Questions related to bias, client outcomes, clinical care, and workplace culture will be selected. In addition, seclusion and restraint order data will be gathered from patient charts for FY23 and cataloged based on the racial demographics of patients. A 12-month chart [redacted] with the intent to assess for any possible disparities in the utilization of seclusion a[redacted] to educate clinical staff on the seclusion and restraint patterns at the hospital.

The second PDSA cycle will consist firstly of presentation, via email, of seclusion and restraint data gathered in PDSA cycle 1 to clinicians and nurses who completed the initial SMART Tool Survey. The clinicians and nurses will then be asked to complete the Implicit Association Test and results will be recorded. All respondents will again be sent the SMART Tool survey via email and responses from the initial survey and final survey will be assessed for changes in racial bias perception of respondents.

PDSA 3 will consist of gathering of seclusion and restraint data for one month post completion of PDSA 2. This data will be compared to seclusion and restraint data gathered for FY23 to assess for changes in rates of seclusion and restraint thereby measuring the successfulness of the interventions in reducing the role racial bias plays in seclusion and restraint. The primary outcome measure for this project will be the percentage of seclusion and restraint events that involve a person of color between November 1, 2023, to March 31, 2023. A secondary outcome measure will be the change between the initial implicit bias survey responses and the implicit bias survey responses post educational intervention.

Process measures will include the number of completed surveys and number of staff who complete the implicit bias training. A link to surveys and the implicit bias training will be included with the monthly unit newsletter as well as written as an announcement on the shift report board and reviewed during each shift report. Follow up email reminders will be sent weekly, and the survey will be open for one month.

Balancing measures to consider will include additional cognitive burden on clinical staff as well as added work responsibility. To assess these additional variables, a cognitive burden and workload question will be added to the survey utilized in PDSA cycles 1 and 2. Analytical tools and processes will be modified depending on survey respondents' responses.

Measures will be recorded and presented as an annotated run chart which will assist in the ease of visualization and identify areas that would benefit from future changes.

Data Management: Data analysis will be completed utilizing a binary analysis method with 0 representing no seclusion or restraint, 1 representing instance of seclusion, and 2 representing instance of restraint. Patient race will be grouped into the following Black of African American, Latino, Asian, Native American/Native Alaskan, Mixed Race/other, and white Retrospective analysis utilizing the EMR provided demographic and R/S data for FY23. For patient privacy, some individuals belonging to racial groups with small percentage of admissions will be excluded due to concerns for potential patient identification. Multiple instances of seclusion or restraint of individual patients during their length of stay or in the case of multiple admissions over the study period will be considered unique instances and included as individual data points. Survey data will be compiled and analyzed using Qualtrics survey software.

Site(s) Support: The site has agreed to provide access to computers to cons[redacted]e patient data from site files, as well as a secure site for data storage. The site has a[redacted]onnaire as well as follow up reminders.
Other:

During the project implementation and evaluation, *Caleb Norton* will provide regular updates and communicate any necessary changes to the DNP Project Preceptor.

Our organization looks forward to working with this student to complete their DNP project. If we have any concerns related to this project, we will contact *Rodney Olin, DNP* and *Caleb Norton* (student's DNP Project Chairperson).

Regards,

Dr. Rodney Olin, DNP
DNP Project Preceptor (Name, Job Title, Email, Phone): Rodney Olin, DNP, Asst. Professor OHSU SON and SOM, rodlin@ihs.org, 503.875.9705

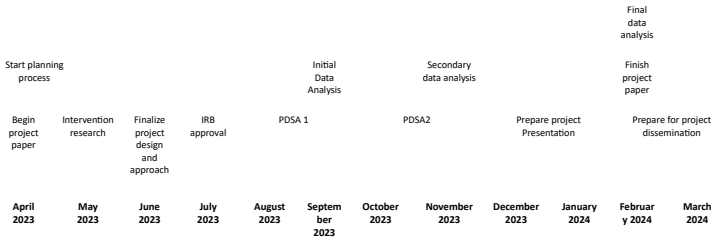
Rodney Olin, DNP
Signature

8/24/2023
Date Signed

Appendix I

Project Timeline

Proposed Timeline



Actual Timeline