Embedding Equity Considerations in Quantitative Research

KANSAS HEALTH INSTITUTE
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Development of the Guides

Many organizations may encounter challenges in embedding equity in their research, literature review, technical assistance, facilitation and policy analysis due to uncertainty about effective approaches and strategies. Although numerous valuable resources exist to guide these efforts, they are not necessarily structured by topic, phase of the project or as checklists.

To address this, the Kansas Health Institute (KHI) has developed a set of practical guides to integrate equity considerations at every stage of these processes. Development of the guides was informed by current literature and KHI's experiences.

> **Health equity** – The state in which everyone has a fair and just opportunity to attain their highest level of health. Achieving this requires focused and ongoing societal efforts to address historical and contemporary injustices, overcome economic, social, and other obstacles to health and health care, and eliminate preventable health disparities.

Feedback on the set of guides was gathered during a convening hosted by KHI on May 14, 2024, titled "*Centering Equity in Research: Developing Practical Strategies and Identifying Considerations*," as well as through a post-event survey. The convening included about 50 stakeholders from across Kansas who reviewed these strategies and provided valuable feedback, which later was incorporated into the guides. The event featured speakers Eusebio Díaz, M.A., Vice President of Strategy, Learning and Communications at the Health Forward Foundation, Shannon Portillo, Ph.D., from Arizona State University and Bridgette L. Jones, M.D., M.S.C.R., from the University of Missouri-Kansas City. The speakers discussed the current state of equity in research, addressing challenges and exploring future opportunities.

These guides are organized by process stage and in checklist format. They are designed to be a practical tool for easy application. The strategies suggested are not intended to be a complete list of all possible strategies that could be used. Additionally, it may not be appropriate or feasible to implement all of the strategies listed in a single project. The purpose of this set of checklists is for researchers to consider opportunities to center equity more intentionally and build capacity over time to experiment with and build upon these strategies. Also, while the checklists are presented linearly, we suggest using an iterative and flexible approach in your research as necessary.

The guides are intended for a wide range of audiences, including those engaging in research activities and members of the community who are engaged in or affected by research.

We Value Your Feedback!

To ensure we hear from as many voices as possible, we are launching an open comment period from July 1, 2024, to Dec. 31, 2024. This period is an opportunity for you to share your thoughts and help us refine these resources further. Together, we can make meaningful progress toward equity in our work. Scan the QR Code to [provide your feedback](#).

Embedding Equity Considerations in Quantitative Research

Definition of Quantitative Research

Quantitative research is a systematic approach that involves collecting and analyzing numerical data typically through surveys, experiments or existing databases. This method is used to identify patterns, test hypotheses and determine associations or causal relationships between variables. Often, data from a sample are generalized to a larger population. Quantitative research is distinguished by its structured and measurable variables, standardized data collection methods, statistical analysis and replicable outcomes.
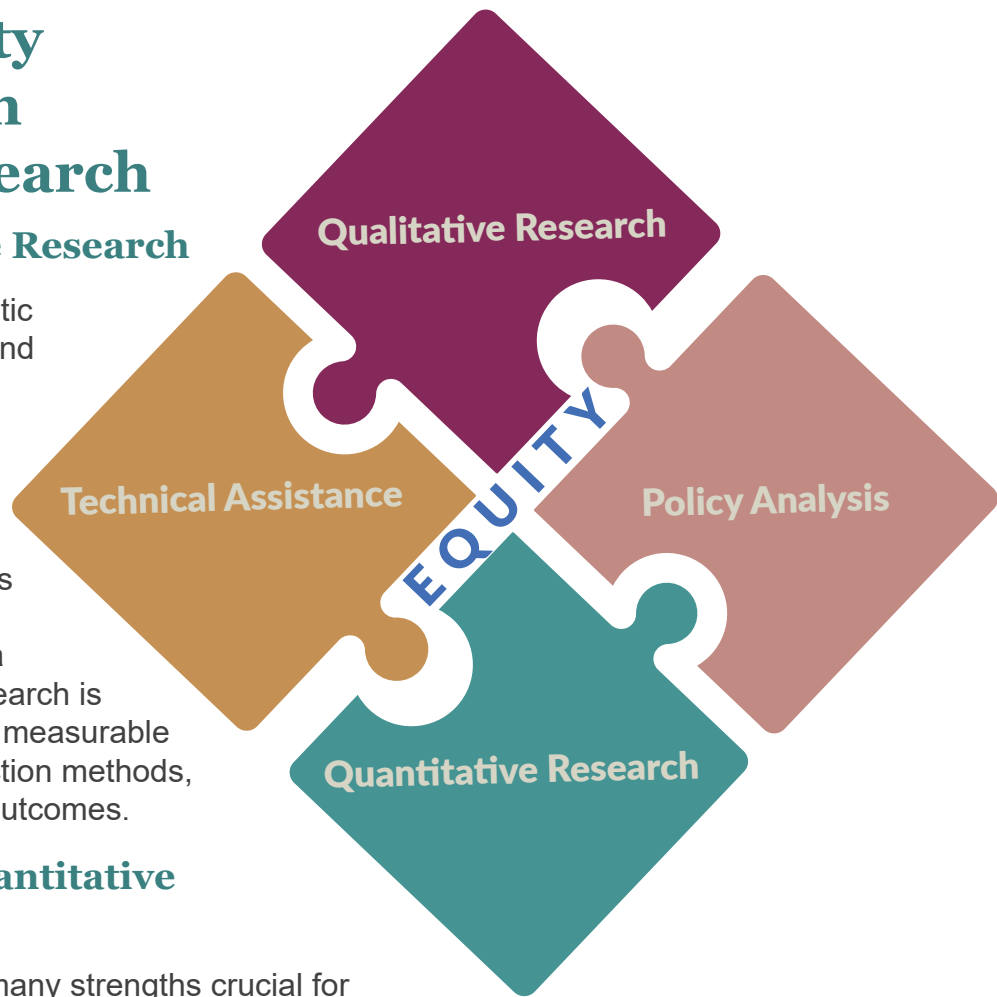
Why Embed Equity in Quantitative Research

Quantitative research possesses many strengths crucial for advancing an equity mission, including:

- Measuring health disparities and monitoring progress.
- Quantifying the effects of drivers of inequities.
- Quantifying the impact of inequities on various outcomes (e.g., economic).
- Assessing the impacts of interventions on inequities.

Each aspect is vital for shaping public policy and guiding evidence-based practices. Integrating equity considerations into quantitative research can enhance its quality and impact. Addressing the implicit biases of researchers, fostering greater community ownership and influence, and valuing community insights into the findings and their implications are essential steps toward ensuring a more equitable distribution of benefits and more effective translation of research into actions. This is crucial for improving health disparities and addressing social determinants of health.

Below are a set of general and quantitative-specific principles important for embedding equity into quantitative research. Note that the strategies suggested are not intended to be a complete list of all possible strategies that could be used.

About This Series

GENERAL PRINCIPLES		
1. Strategies Before You Begin		
	1.1. Recognize that incorporating equity across every stage in your research requires substantial time and effort. Incorporate this time and the resources required into your research project's budget at the beginning of the project. If a project has already begun, examine how strategies might be intentionally imbedded into the existing project.	
	1.2. Identify the sources of funding for your research and discuss with the funder the strategies you plan to use to incorporate equity and why these are important to the research and for building trust with the community you are researching. Additionally, inform your partners and participants about the source of your funding and why they are funding your work.	
	1.3. Determine how you will assess implementation and gather community feedback on the strategies selected to ensure your approach is having the desired effect of incorporating equity in research. Outline action steps to address this feedback and build capacity in any areas in which a deficit is discovered, through training, reflection and expansion of the project team.	
	1.4. Assess the historical context related to your topic, community of focus or research questions. Assessing the historical context can help the research team navigate existing dynamics and understand what is already known related to the topic. During this stage, it is important to also identify what research or work is already being done related to this topic. Consider what dominant cultural narratives exist related to the topic and how varying research approaches could contribute to or challenge these narratives.	
2. Strategies for Building an Inclusive Project Team		
	2.1 Assemble a project team with diverse backgrounds, experiences and perspectives to reflect different:	
		2.1.a. Race, ethnicity, national origin, etc.
		2.1.b. Gender, sexual orientation, etc.
		2.1.c. Population density, such as rural areas, urban areas, suburban areas, if applicable.
		2.1.d. Socioeconomic status.
		2.1.e. Other considerations pertinent to the research and or event.
	2.2. Evaluate the need to collaborate with external agencies or community members with lived experience to enhance team diversity and representation. If need is identified, select community representatives to serve as a close partner throughout the project.	
	2.3 Ensure that policies and practices are in place to create an environment conducive to the success and well-being of diverse team members.	
	2.4. Promote self-awareness among team members of their identities, biases, assumptions, preconceptions and positionality. Using regular self-assessments and subjectivity statements can make the worldviews of the team more transparent. Discussing the types of biases that exist and using tools such as a critical appraisal checklist can help the research team assess for biases in a research study.	
	2.5. Foster a culture of continuous learning and reflexivity within project teams, encouraging ongoing discussions and training on topics such as unconscious bias, cultural competence and the ethical implications of data analysis in diverse contexts.	
	2.6. Establish transparent and inclusive decision-making processes that value input from all team members, ensuring that diverse perspectives are considered in project planning and implementation.	

GENERAL PRINCIPLES	
2. Strategies for Building an Inclusive Project Team (continued)	
	2.7. Regularly assess and reflect on the team's approach to equity, including how decisions are made and how team dynamics impact collaboration and communication.
	2.8. Foster an environment where team members feel comfortable discussing issues related to equity and diversity openly and constructively.
	2.9. Create mechanisms for soliciting feedback from team members on the equity and inclusivity of project processes and outcomes.
	2.10. Be open to receiving feedback and willing to adjust project strategies and practices to ensure a more equitable approach.
3. Strategies to Ensure Inclusive Terminology	
	3.1. Select and validate terminology and variables that are culturally competent and reflect the diversity of populations. Consider the use of culturally and linguistically appropriate services (CLAS) standards.
	3.2. Consult with stakeholders, experts and community members familiar with the issues discussed to identify and validate the relevance and sensitivity of terms used in the narrative and variables used in the data.
	3.3. Use terms that encompass a wide range of races, ethnicities, gender identities, geographies, socioeconomic statuses and other identity markers.
	3.4. Incorporate terms that allow for the exploration of intersectional identities and experiences. Understanding how overlapping identities impact people's experiences can provide deeper insights into equity issues.
	3.5. Include terms specifically related to groups that are historically excluded. This helps ensure that the data and analysis consider the needs and challenges of these populations.
	3.6. Use geographic-specific terms when relevant to capture regional disparities and local contexts. This approach can uncover inequities that occur at local or regional levels.
	3.7. Use a combination of broad and narrow terms to capture both general and specific aspects of issues. This can help in identifying both widespread and niche concerns related to equity.
	3.8. Include terms that reflect historical injustices and contexts. Recognizing the historical background of inequities can inform a more nuanced analysis. Facilitators can conduct research on this background before a project begins.
	3.9. Pilot test materials with audience members to learn how they understand the terminology used and how to incorporate their terminology.

QUANTITATIVE RESEARCH	
4. Strategies for Inclusive and Effective Formulation of Research Questions	
	4.1. Familiarize yourself with the literature in your area of interest to identify what has been studied, gaps in the literature, and potential biases or limitations. For strategies on how to embed equity in literature reviews, see the guide, *Embedding Equity Considerations in Literature Review*.
	4.2. Build relationships with community members by listening and setting aside your own agenda. Focus on listening to the community's priorities and needs before engaging stakeholders in your work. Identify if there is alignment rather than expecting the community to align with your priorities. This approach helps prevent tokenism, where connections are made only when "we need them." Over time, reassess to confirm continued alignment.
	4.3. Engage stakeholders from diverse backgrounds in identifying questions that should be addressed through quantitative research. This approach improves the inclusion of concerns from various groups, particularly those often underrepresented and historically excluded. Share with the stakeholders how this information informed your work. When finalizing questions:
	4.3.a. Determine the number of questions to focus on, considering data availability, resources, the opportunity to make an impact and which questions most align with the community members' stated priorities and needs.
	4.3.b. Recognize, define and address biases:
	4.3.b.1. Acknowledge biases in theoretical frameworks by engaging in discussions with a diverse group, including meetings or listening sessions with community stakeholders, and seeking frameworks created by researchers to respond to the need for more equity in research suitable for your research question and setting. For example, one option is to consider frameworks created by researchers in non-Western cultures or by Black, Latino and female researchers. Examine how your research frameworks could potentially reinforce existing power dynamics and marginalization and adjust accordingly.
	4.3.b.2. Acknowledge that the biases in work are shaped by who is allowed to pose questions and undertake the work and use inclusive wording or terms in the questions. Recognize the historical contexts, assumptions and dominant cultural narratives that the questions may reinforce or challenge. Priority questions for the community members involved may differ from the research questions most of interest to the research team. Ensuring diverse inclusion and preventing repetitive exclusions can mitigate the recurrence of the same biases. Additionally, consider the impact of funding sources on which questions are asked, by whom and the partnerships that are created as a result. With this information, work to modify the questions to limit the potential impact of these biases.
	4.3.c. Conduct a systematic review to ensure a comprehensive, unbiased and transparent synthesis of existing research.
	4.3.d. Consult with communities on how best to incorporate asset-based framing for questions, as appropriate for the community's context and need. Asset-based framing focuses on recognizing and identifying community strengths and resources instead of leading with gaps and challenges (deficit-based framing).
	4.3.e. Recognize the value of addressing a small number of questions thoroughly as opposed to taking on numerous questions and diluting resources.
	4.3.f. Before beginning the study, analyze the questions developed through an equity lens and the historical context of the community with whom you are researching.

QUANTITATIVE RESEARCH		
5. Strategies for Inclusive Identification of Measures		
	5.1. Include measures related to social determinants of health, such as income, education, housing, health care access and environmental factors, and structural determinants of health, such as policies, power and prestige. These measures can provide insight into the underlying factors driving inequities.	
		5.1.a. Be purposeful in selecting measures for the study, considering those that have been validated in national studies and are relevant to understanding drivers of health disparities.
		5.1.b. Ensure that the focus is not on merely identifying health disparities but on understanding the drivers behind these disparities.
		5.1.c. Conduct a thorough review of existing literature, focusing on studies that investigate the drivers of health disparities and measures used to assess equity.
	5.2. Use an intersectional approach by examining how overlapping social identities, such as race, gender and disability, interact to influence individual experiences and outcomes.	
	5.3. Ensure that the measures and indicators used are culturally validated and appropriate for the population being studied, considering language, cultural norms and values.	
	5.4. Engage stakeholders from diverse backgrounds in identifying, selecting or co-creating measures.	
	5.5. Break down data by race, age, socio-economic status and other social identities. This helps in understanding disparities.	
		5.5.a. Ensure that data disaggregation supports the study's purpose and research questions.
		5.5.a.1. Clearly define the study's objectives and research questions at the outset.
		5.5.a.2. Choose the level and type of data disaggregation based on how it serves the study's purpose, avoiding unnecessary or irrelevant disaggregation.
		5.5.a.3. Review data for the desired level of disaggregation while ensuring data quality, adequate sample size, relevance and potential limitations.
		5.5.b. Before disaggregating data, assess whether the sample size is sufficient for statistical power and precision and if disaggregation aligns with the study's objectives.
		5.5.b.1. When sample size is small, consider different levels of aggregation that support reliable estimates.
		5.5.b.2. For longitudinal data, use moving averages or combine data from multiple years to increase statistical power.
		5.5.b.3. Ensure the level of data disaggregation is aligned with the unit of analysis, such as the relevance of disaggregating data by respondents' race when the unit of analysis is an organization.
	5.6. Ensure that disaggregation provides meaningful insights without creating negative impacts. For instance, if data is disaggregated in a manner that reinforces stereotypes or leads to unfair comparisons, it could result in negative consequences.	
	5.7. Balance measures of deficit or disparity with those that reflect community strengths, resilience and positive health outcomes.	

QUANTITATIVE RESEARCH		
6. Strategies for Inclusive Survey Design and Dissemination		
6.1 Sampling		
	6.1.a. Oversample populations from relatively small groups.	
	6.1.b. Snowball sampling for groups that can be difficult to reach, such as individuals experiencing homelessness.	
	6.1.c. Conduct a power/sample size calculation to identify the minimum number of responses needed for populations of interest.	
6.2 Approach to Questions Development		
	6.2.a. Engage communities in suggesting questions for the survey.	
		6.2.a.1. Host focus groups or community forums to brainstorm and refine survey questions collaboratively. Consider the distances participants must travel and the costs of travel and lodging (if needed) when setting meeting start and end times.
		6.2.a.2. Utilize online platforms or surveys to gather input from a wider range of community members, including those who may not be able to attend in-person meetings.
		6.2.a.3. Collaborate with community stakeholders to test and discuss the survey tools, focusing particularly on framing and interpretation from a community perspective.
6.3 Terminology		
	6.3.a. Ensure that terminology used is culturally appropriate and does not stigmatize populations.	
		6.3.a.1. Ensure terminology is accessible for those with intellectual disabilities and/or limited reading proficiency, use plain language, visual aids and simplified explanations. Provide alternative formats, such as audio or video content, and offer support for understanding through personalized assistance or interpreters. Regularly review and adapt materials based on feedback from these audiences to maintain clarity and inclusiveness.
		6.3.a.2. Conduct cultural sensitivity training for survey designers and administrators to ensure a nuanced understanding of diverse cultural perspectives.
		6.3.a.3. Pilot test survey questions with representatives from different cultural backgrounds to identify any potential issues and make necessary adjustments before wider distribution.
6.4 Demographic Questions		
	6.4.a. Include questions in surveys to identify participant demographics, such as race, ethnicity, sex, gender identity, disability status and other characteristics. Ensure that demographic questions are reflective of best practices.	
		6.4.a.1. Provide opportunities for self-identification beyond the listed categories. For example, this can be achieved by including another option and suggesting respondents provide a description if they do not identify with the specific demographic groups listed.

QUANTITATIVE RESEARCH	
6. Strategies for Inclusive Survey Design and Dissemination (continued)	
6.5 Accessibility	
	6.5.a. Ensure the survey is accessible. Utilize best practices to ensure accessibility of both hard copies and electronic versions of the survey.
	6.5.b. Provide the survey in multiple languages to accommodate participants who may have limited proficiency in the primary language used in the survey. This can enhance inclusivity and ensure that language barriers do not prevent certain groups from participating effectively.
	6.5.c. Provide alternative formats for completing the survey, such as audio recordings or face-to-face interviewers, to accommodate participants with different needs or preferences.
	6.5.d. Offer incentives or compensation for participating in the survey to reduce barriers to participation, particularly for individuals who may face financial or logistical challenges in taking part.
6.6 Building Partnerships and Distribution Channels	
	6.6.a. Build ongoing, long-term partnerships with community organizations, local leaders and individuals interested in prioritizing equity with strong connections to the population of focus. These partners can facilitate access to participants for focus groups and interviews by leveraging trust and established relationships. The relationships should be maintained beyond the life of a project. Before ending a project, the team should meet to discuss with the community partners how to mindfully adjourn the project while maintaining relationships. Identify avenues to empower community partners to approach the researcher about future research questions or suggested projects they have.
	6.6.b. Include discussions about survey distribution and collaboration with community partners as part of the project development phase. Allocate sufficient time and resources in the project timeline and budget to facilitate this collaboration effectively.
	6.6.c. Work with community partners to determine the most effective distribution channels for reaching the population of interest. This may include distributing surveys at community events, through local networks or via social media platforms.
	6.6.d. Offer training and support to community partners to ensure they understand the survey objectives, procedures and confidentiality protocols. Empower them to serve as ambassadors for the survey within their communities.
	6.6.e. Establish long-term relationships with community partners to facilitate ongoing survey distribution efforts. Regularly communicate with partners, solicit feedback and explore opportunities for future collaboration on survey projects.
7. Strategies for Inclusive Data Analysis	
	7.1. Acknowledge historical and systemic biases in data collection methods and work to mitigate their impact on analysis outcomes.
	7.2. Engage with community stakeholders and representatives from diverse backgrounds throughout the data analysis process to ensure that their voices and perspectives are integrated into the analysis and interpretation of results.
	7.3. When disaggregating data by race, refrain from defaulting to White population outcomes as the standard. Instead, provide justification if White populations are referenced.
	7.4. Where possible, establish benchmarks relevant to each racial or ethnic group under study rather than comparing all groups to White populations.
	7.5. Be cautious about employing overly broad categories that may obscure the experiences and needs of specific demographic groups.

QUANTITATIVE RESEARCH	
7. Strategies for Inclusive Data Analysis (continued)	
	7.6. Conduct analysis considering the intersection of multiple identities to uncover hidden inequities. Understanding how various identity combinations can influence experiences is essential for a comprehensive analysis.
	7.7. Utilize culturally competent data visualization techniques that resonate with diverse audiences and accurately represent the nuances of different demographic groups without reinforcing stereotypes.
	7.8. When available and applicable, incorporate qualitative data and narratives alongside quantitative data to provide richer context and understanding of the experiences and perspectives of marginalized groups.
8. Strategies for Developing Inclusive Documents	
	8.1. Emphasize the strengths and assets of communities. Be mindful of how data is presented to avoid stigmatizing communities. Always underscore the systemic nature of disparities instead of attributing them solely to individual or community-level failings. Accompany disaggregated data with an analysis of systemic factors and historical contexts contributing to observed disparities, such as policies, socioeconomic factors, discrimination and access to resources.
	8.2. Focus on how the data can inform solutions and interventions that address systemic barriers. Highlight policies, programs and practices proven to reduce disparities. If space limitations in the fact sheet prevent detailed narratives in each section, consider integrating these issues into the conclusion or introduction for broader context.
	8.3. When presenting findings in tables or creating legends, avoid listing White or male first in order. Consider alphabetical or ordering by data rates/frequencies to foster a more inclusive conversation. For example, instead of listing demographics in a table starting with "White" or "male," consider alphabetical ordering or arranging them based on data frequencies. At the same time, readability and comparability across sections in the publications should be considered as well.
	8.4. Describe limitations and gaps. Acknowledging these gaps is crucial for understanding the full scope of disparities and informing future data collection efforts to address them.
	8.5. Present information in formats that are easy to understand and appropriate for all stakeholders involved. This may include using plain language, providing translation services, adhering to accessibility guidelines and incorporating alternative text for charts and graphics to ensure accessibility for individuals with disabilities. Additionally, consider providing guidelines on how to make charts accessible, such as using descriptive titles, clear labels and high-contrast colors for better readability.
	8.6. Invite community members who participated in the process to be in the audience or co-share results.

REFLECTION QUESTIONS:

1. How can we ensure that the research questions we develop are inclusive and reflective of the diverse perspectives and needs of the communities?

2. How can we effectively engage stakeholders and community members in the process of identifying and refining research questions to ensure their relevance and sensitivity?

3. What strategies can we use to select terminology and variables that are culturally competent and inclusive, reflecting the diversity of the populations under study?

4. How can we ensure that data disaggregation is meaningful and aligns with the study's objectives and research questions, while also addressing the unique needs and experiences of diverse demographic groups?

5. How can we ensure that our data analysis methods account for the intersectionality of identities and experiences to uncover hidden inequities and provide a comprehensive understanding of disparities?

6. What strategies can be employed to represent data in a way that is inclusive and avoids reinforcing stereotypes or biases, while still effectively communicating findings to diverse audiences?

RESOURCES:

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