"You Get Beautiful Teeth Down There": Racial/Ethnic Minority Older Adults' Perspectives on Care at Dental School Clinics

Mary E. Northridge, PhD, MPH; Andrew B. Schenkel, DMD, MS; Shirley Birenz, RDH, MS, FAADH; Ivette Estrada, MA, MPhil; Sara S. Metcalf, PhD; Mark S. Wolff, DDS, PhD

Abstract: To help eliminate reported racial/ethnic and socioeconomic inequities in oral health care, listening to the perspectives of racial/ethnic minority older adults on their experiences with dental school clinics is needed. The aim of this study was to examine the experiences of African American, Puerto Rican, and Dominican older adults who attend senior centers in upper Manhattan, New York City, regarding the care received at dental school clinics. Focus groups were conducted from 2013 to 2015 with 194 racial/ethnic minority men and women aged 50 years and older living in upper Manhattan. All of the 24 focus group sessions were digitally audiorecorded and transcribed for analysis. Groups conducted in Spanish were transcribed first in Spanish and then translated into English. Analysis of the transcripts was conducted using thematic content analysis. Seven subthemes were manifest in the data related to these adults' positive experiences with dental school clinics: excellent outcomes and dentists, painless and safe treatment, affordable care, honest and reputable, benefits of student training, accepting and helpful, and recommended by family and friends. Negative experiences centered around four subthemes: multiple visits required for treatment, loss of interpersonal communication due to use of technology, inconvenient location, and perceived stigma with Medicaid. This study provided novel evidence of the largely positive experiences with dental schools of racial/ethnic minority senior center attendees. Interventions targeted at the organization and provider level, including organizational motivation, resources, staff attributes, climate, and teamwork plus payment programs and services, insurance and affordability, and provider- and system-level supports, may improve health care processes and patient experiences of care.

Dr. Northridge is Associate Professor, Department of Epidemiology and Health Promotion, New York University College of Dentistry; Dr. Schenkel is Clinical Associate Professor, Department of Cariology and Comprehensive Care, New York University College of Dentistry; Prof. Birenz is Clinical Assistant Professor, Dental Hygiene Programs, New York University College of Dentistry; Ms. Estrada is Project Coordinator, Section of Population Oral Health**,** Columbia University College of Dental Medicine; Dr. Metcalf is Associate Professor, Department of Geography, State University of New York at Buffalo; and Dr. Wolff is Associate Dean for Predoctoral Clinical Education, Associate Dean for Development, and Professor and Chair, Department of Cariology and Comprehensive Care, New York University College of Dentistry. Direct correspondence to Dr. Mary E. Northridge, Department of Epidemiology and Health Promotion, New York University College of Dentistry, 433 First Avenue, Room 726, New York, NY 10010; 212-998-9728; men6@nyu.edu.

Keywords: dental education, dental school clinic, dental health services, dental care for aged, minority health, underserved patients, health care quality, access and evaluation, patients, patient satisfaction, dentist-patient relations, geriatric dentistry, dental care delivery, health literacy, minority groups, qualitative research, community-based dental education

Submitted for publication 4/12/17; accepted 6/2/17
doi: 10.21815/JDE.017.085

While the U.S. health care system has the capability to provide effective treatment for a wide array of conditions, this care is not uniformly available to all population groups.[1] Inequities exist not only in access to the latest in life-saving technology, but also in access to the most basic of routine health care.[2] Oral health care is one of the dimensions of the health care delivery system in which striking inequities exist.[1] More than half of the population does not visit a dentist each year.[3] Improving access to oral health care is a critical and necessary first step to improving oral health outcomes and reducing inequities.[2]

At the same time, providing dental students with clinical experiences in community-based settings helps them to acquire skills that cannot be learned in academic settings, improves their comfort level while caring for vulnerable and underserved populations, and increases the likelihood that students may return to such settings in their future careers.[2,4] The Commission on Dental Accreditation (CODA) predoctoral standard 2-25 states: "Dental education

programs must make available opportunities and encourage students to engage in service-learning experiences and/or community-based learning experiences."[5] Clearly, some dental schools have embraced the rewards of community-based education and transcended the initial goals of standard 2-25.[6] Nonetheless, systematic evaluative evidence is lacking on the benefits of community-based learning experiences to dental students, universities, and health care systems.[7]

Patient experiences of care are increasingly recognized as important. For instance, research conducted in the United Kingdom evaluated student, patient, and practitioner experiences of general dental practice placements for senior undergraduate students and found that all parties reported very positive outcomes.[8] On the other hand, Raja et al. conducted in-depth qualitative interviews with 20 uninsured or underinsured dental patients recruited in the waiting room at the University of Illinois at Chicago dental and family medicine outpatient clinics and reported that many patients felt dehumanized during dental visits.[9]

As part of our efforts to improve community- and clinic-based care at dental schools, we sought to understand the views of community members on the care they received in dental school settings. Specifically, the aim of this study was to examine the experiences of African American, Puerto Rican, and Dominican older adults who attend senior centers in upper Manhattan, New York City regarding the care received at dental school clinics. There are two dental schools located in Manhattan: Columbia University College of Dental Medicine with its affiliated clinics in upper Manhattan, and New York University (NYU) College of Dentistry with its affiliated clinics in lower Manhattan. We hypothesized that most of the participants would discuss their experiences at the Columbia University College of Dental Medicine, given its proximity to where participants lived and engaged in focus group discussions. Nonetheless, the inquiry and analysis for this report were not restricted to any particular dental school, but rather considered dental school clinics overall.

Materials and Methods

The Institutional Review Boards at the Columbia University Medical Center (protocol AAAL4104[M01Y05]) and the NYU School of Medicine (protocol i12-02947_CR4) reviewed and approved all study procedures. All Health Insurance Portability and Accountability Act (HIPAA) safeguards were followed in the conduct and analysis of this study.

An ecological model, "Factors That Influence Disparities in Access to Care and Quality of Health Care Services, by Level," was derived from a systematic review of the complex factors that influence health equity.[10] A simplified schematic of this model (Figure 1) highlights the guiding theory for our study: the level of influence (level 3: organization and provider); the associated intervention targets at this level (organizational motivation, resources, staff attributes, climate, and teamwork; payment programs and services, insurance and affordability, and provider- and system-level supports); the health care processes involved (principally, interactions between other organizational members and stakeholders and health care providers); and the outcomes of interest (notably, patient experiences of care, but also clinical outcomes, equity of services, and costs).

Focus Groups

Focus groups were conducted with a sample of 194 racial/ethnic minority men and women aged 50 years and older living in upper Manhattan who participated in one of 24 focus group sessions about improving oral health for older adults. We selected the methodology of focus groups over individual interviews because group discussions may facilitate greater disclosure by participants through reciprocity, i.e., disclosure by one participant may prompt greater disclosure by others.[11] Further, focus groups allow participants to respond to and elaborate on topics raised by fellow participants, thus facilitating discussion of a greater breadth of topics. Also, focus groups may be less fatiguing than individual interviews, a factor that may be particularly important in interviewing older adults.[12]

Focus group participants had to meet the following criteria: aged 50 years or older; attended a senior center or other community locale where older adults gather in upper Manhattan; speak fluent English or Spanish; and self-identify as African American, Dominican, or Puerto Rican. Field recruitment staff visited senior centers in upper Manhattan and directly approached older adults to explain the study, screen them for eligibility, and solicit participation in the focus groups. Senior centers were selected rather than places where older adults receive dental care in order to obtain a sample of individuals who did not

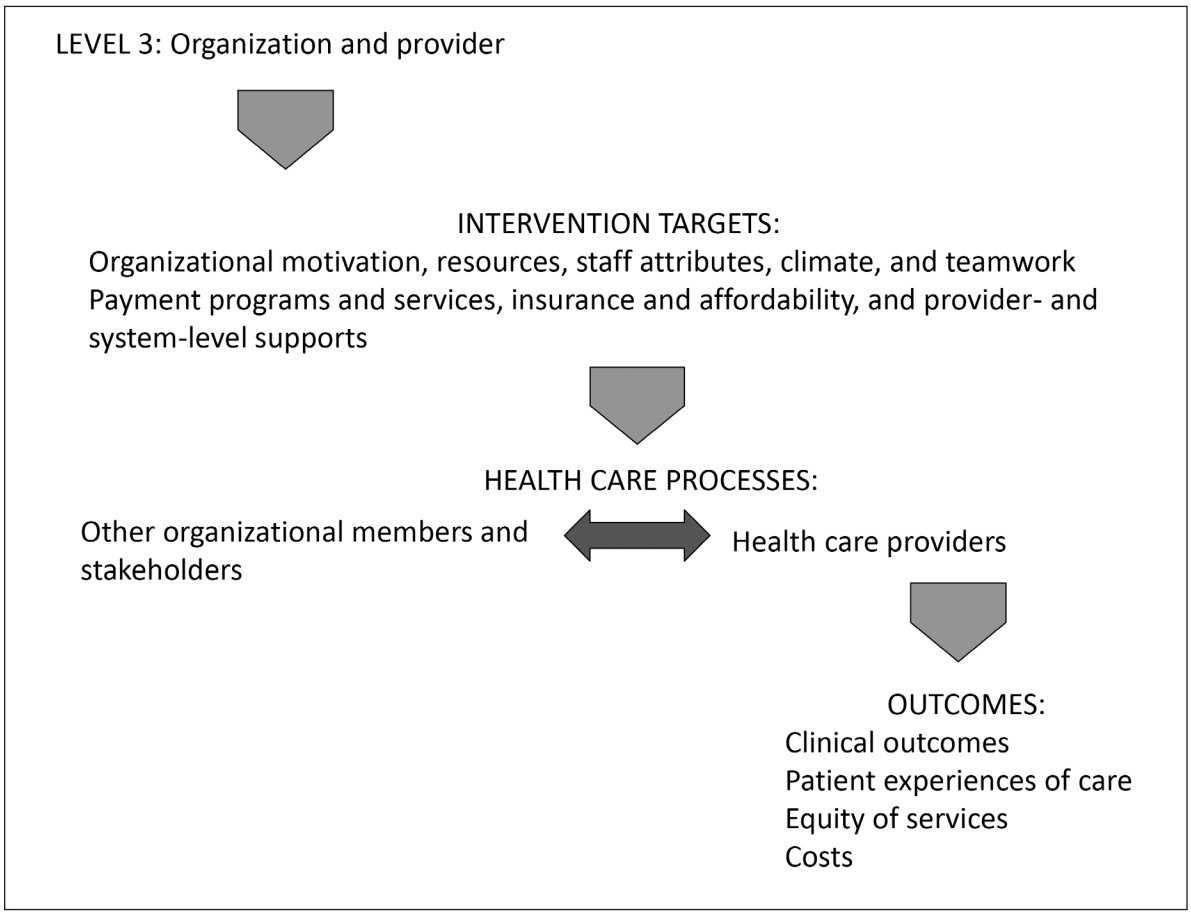

Figure 1. Simplified schematic of model of factors influencing health care disparities

Source: Graphic is derived from conceptual model created from analysis of findings in this systematic review: Purnell TS, Calhoun EA, Golden SH, et al. Achieving health equity: closing the gaps in health care disparities, interventions, and research. Health Aff (Millwood) 2016;35(8):1410-5. The focus in this simplified schematic is on factors at the organization and provider level that result in patient experiences of care.

necessarily have access to, or seek, dental care. Senior centers have been identified as important "third places" (as distinct from homes or "first places" and worksites or "second places") where older adults may be targeted for health promotion activities.[13] Both field recruiters were bilingual in English and Spanish and had several years of experience working with racial/ethnic minority older adults and senior center directors in upper Manhattan.

To ensure geographic and demographic representation of upper Manhattan, approximately equal numbers of participants were recruited from senior centers in each of three upper Manhattan neighborhoods: Central/West Harlem (home to large numbers of African Americans), Washington Heights/Inwood (home to large numbers of Dominicans), and East Harlem (home to large numbers of Puerto Ricans). These three neighborhoods have historically been considered as racial/ethnic enclaves, with large numbers of recent immigrants and many residents qualifying for Medicaid and other forms of public assistance. Further details of the recruitment and screening procedures are available elsewhere.[14]

The study design of 24 focus groups was selected a priori in order to obtain multiple groups of each demographic segment, thereby allowing conclusions about each demographic segment to be based on multiple focus group discussions rather than on a single focus group discussion. Consistent with standard focus group techniques,[15] the groups were segmented based on important characteristics that may influence the issues discussed or the ability of the

members to build rapport. A total of 24 focus groups were conducted: 12 groups of men and 12 groups of women. Within each gender set, four groups were conducted with African Americans, four with Dominicans, and four with Puerto Ricans. Within each gender/ethnic/racial set, half of the groups were conducted with participants who had visited a dentist in the past year, and half were conducted with participants who had not visited a dentist in the past year. Ten groups were conducted in English (including two groups with Puerto Ricans who preferred to speak English), and 14 groups were conducted in Spanish.

Data Collection Methods and Instruments

The focus groups were conducted with an average of eight participants per group (standard deviation [SD]=2.4; range=5 to 14 participants). Group discussions were held from October 2013 through June 2015 in two locations (one in Central Harlem and one in Washington Heights) to better ensure that participants did not need to travel far from their residential neighborhoods to attend a session. Importantly, all participants were offered the services of a taxi driver to pick them up at their homes or at a senior center, bring them to the focus group, and take them home afterwards. This strategy was crucial for ensuring focus group attendance, particularly for older adults with mobility problems.

The focus groups were moderated by one of two senior qualitative researchers, one of whom spoke fluent Spanish, along with an experienced bilingual (English and Spanish) assistant moderator who made sure that signed consent forms were obtained from all participants, audiorecorded the group discussion, took notes during the conversation, and provided honoraria to each participant on completion of the group discussion. To facilitate a conversational environment, a catered meal and beverages were provided prior to the start of all focus groups. After the meal, the moderator explained the purpose of the study, and all participants provided written informed consent. Next, they participated in a semistructured focus group interview using techniques originated by Merton et al.[16] and elaborated on by Krueger and Casey.[15] The groups were conducted using an interview guide, also known as a questioning route,[15,17] consisting of a series of semistructured questions[16] to explore the community-, interpersonal-, and individual-level factors that served as facilitators or barriers to obtaining oral health care.[18] Among the questions explored in each group were how often older adults in their communities visit a dentist, how important it is for older adults to visit a dentist, issues of affordability in receiving oral health care, and barriers and facilitators in visiting a dentist. This report is largely based on conversations among group participants in response to those questions in which dental schools, dental students, or dental faculty were mentioned. Focus groups lasted an average of 1.3 hours (SD=13 minutes; range=55 minutes to 1.7 hours). Participants each received $30 after the focus group discussion was completed.

Data Collection and Analysis

All groups were digitally audiorecorded and transcribed for analysis. Groups that were conducted in Spanish were transcribed first in Spanish and then translated into English. To ensure accurate transcription and translation, the assistant moderator (who is bilingual—English and Spanish—and was present at all focus group sessions) compared the transcripts against the original audio recordings. Analysis of the transcripts was conducted using thematic content analysis.[19,20] To enhance the validity of the coding scheme, multiple members of the study team began the data analysis by each independently reading some or all of the transcribed focus group discussions to identify the topics discussed. Next, the study team met to discuss the topics identified and to construct a list of topic codes. Although many of the identified topics were directly explored with questions in the interview guide, some of the original guide topics were collapsed, and unanticipated codes were identified and included in the analysis. Consensus among the research team members on the topic codes was achieved.

One of the codes identified was "University vs. Private Dentists." To isolate the text in which participants discussed this issue, all transcripts were read to ascertain instances in which dental schools, universities, student dentists, or differences between university and private dentists were discussed, and relevant sections of the text were extracted from the transcripts. Next, pertinent quotes were organized to characterize the specific views described by the study participants. The most commonly reported views are presented in this report, identified by the characteristics of the focus groups in which they were discussed. Quotes were first grouped by major theme (positive or negative experiences with dental school clinics) and further organized by subthemes that best represented the perceptions described by the participants.

Results

A total of 625 potential participants were screened for eligibility in the focus groups. Of those, 564 older adults were determined to be eligible. After accounting for eligible older adults who were unable to be scheduled or were not interested in participating or whose gender/racial/ethnic/dental care segment had been previously filled, 277 older adults were scheduled to participate in a focus group. In the end, 194 older adults (70.0%) actually attended a session, signed a written informed consent, and participated in a focus group. Details of the screening results, including the reasons for ineligibility and non-participation, are available elsewhere.[14] The demographic characteristics of the focus group participants are shown in Table 1. Most (89.7%) of the participants lived in the upper Manhattan neighborhoods of Inwood, Washington Heights, East Harlem, Central Harlem, and West Harlem. Nearly half (48.5%) reported Spanish as their primary language, while another 9.3% reported speaking both English and Spanish.

Table 1. Sociodemographic characteristics of focus group participants by race/ethnicity and for total sample

Characteristic		African American	Dominican	Puerto Rican	Total Sample
Number	Participants	72	69	53	194
	Focus groups	8	8	8	24
Age (years)	Mean	68.3	71.6	68.5	69.5
	Standard deviation	10.2	9.6	10.0	10.0
	Range	50-92	50-90	50-91	50-92
Age group (years)	50-54	11.1% (8)	4.3% (3)	13.2% (7)	9.3% (18)
	55-59	6.9% (5)	1.4% (1)	7.5% (4)	5.2% (10)
	60-64	15.3% (11)	20.3% (14)	17.0% (9)	17.5% (34)
	65-69	20.8% (15)	15.9% (11)	11.3% (6)	16.5% (32)
	70-74	23.6% (17)	15.9% (11)	20.8% (11)	20.1% (39)
	75-79	8.3% (6)	21.7% (15)	18.9% (10)	16.0% (31)
	80-84	5.6% (4)	11.6% (8)	7.5% (4)	8.2% (16)
	85-89	4.2% (3)	5.8% (4)	0	3.6% (7)
	90-92	4.2% (3)	2.9% (2)	3.8% (2)	3.6% (7)
Gender	Male	44.4% (32)	49.3% (34)	45.3% (24)	46.4% (90)
	Female	55.6% (40)	50.7% (35)	54.7% (29)	53.6% (104)
Time of last dental visit	Within past year	54.2% (39)	59.4% (41)	47.2% (25)	54.1% (105)
	1-3 years ago	26.4% (19)	29.0% (20)	26.4% (14)	27.3% (53)
	More than 3 years ago	19.4% (14)	11.6% (8)	26.4% (14)	18.6% (36)
Primary language	English	100% (72)	0	18.9% (10)	42.3% (82)
	Spanish	0	98.6% (68)	49.1% (26)	48.5% (94)
	Both	0	1.4% (1)	32.1% (17)	9.3% (18)
Neighborhood of residence	Inwood	4.2% (3)	13.0% (9)	1.9% (1)	6.7% (13)
	Washington Heights	13.9% (10)	58.0% (40)	5.7% (3)	27.3% (53)
	East Harlem	15.3% (11)	5.8% (4)	79.2% (42)	29.4% (57)
	Central Harlem	30.6% (22)	4.3% (3)	5.7% (3)	14.4% (28)
	West Harlem	20.8% (15)	8.7% (6)	3.8% (2)	11.9% (23)
	Other	15.2% (11)	10.1 % (7)	3.8% (2)	10.3% (20)

Note: The racial/ethnic groups did not differ significantly on any of the listed sociodemographic characteristics, with the exceptions of primary language and neighborhood of residence, in accordance with the sampling strategy.

The main finding of this qualitative study was that most of the participants reported positive experiences with dental school clinics (Table 2). The high regard in which participants held dental school clinics is captured in the following seven subthemes: excellent outcomes and dentists; painless and safe treatment; affordable care; honest and reputable; benefits of student training; accepting and helpful; and recommended by family and friends. An unexpected finding was that the racial/ethnic minority older adults who mainly lived in upper Manhattan often visited or recommended the NYU College of Dentistry and its affiliated clinics, which are located in lower Manhattan. Indeed, an African American woman with a dental visit in the past year remarked, "You get beautiful teeth down there."

While the majority of participants held positive views of dental school clinics, certain negative experiences were expressed as well (Table 3). These concerns raised are captured in the following four subthemes: multiple visits required for treatment; loss of interpersonal communication due to use of technology; inconvenient location; and perceived stigma with Medicaid.

Table 2. Focus group comments related to positive experiences with dental school clinics

Subtheme	Representative Comments
Excellent outcomes and dentists	"If you go down to [NYU] dental school, you'll be surprised. You get beautiful teeth down there." *—African American woman with a dental visit in the past year*
	"They do a good job down there [NYU]." *—Puerto Rican man with a dental visit in the past year*
	"The best dentists work in the university. They are very careful, very subtle, very hygienic, and very attentive." *—Dominican woman with a dental visit in the past year (translated from Spanish)*
Painless and safe treatment	"When you go to the right dent[ist]—and I go to NYU— . . . and I sit there. 'When you gonna do it?,' [I ask because] I didn't feel that. [Someone agrees.]" *—African American man without a dental visit in the past year*
	"They [dentists at Columbia University] are there to protect and to have the safety; you know that is their job." *—African American man with a dental visit in the past year*
Affordable care	"In the past, I needed a root canal, and I said, let me go to a dentist, and I went to one. 'How much will you charge for a root canal?' And he said $2,500 and I then said, 'Ah, that's a lot.' I went to the dental school: 'How much for a root canal?' '$800 dollars and you can pay $200 at a time, every time you come in, and you pay it off in four payments.' So I went to the dental school. After I had the work done in the dental school, I then looked for a dentist for maintenance, for x-rays, cleanings, but my big jobs I had to go to the dental school because I trusted them more and they were cheaper." *—Puerto Rican man without a dental visit in the past year (translated from Spanish)*
	"So, now, since I'm retired, I think I'll go back to NYU or some other dental school. They might be a little cheaper." *—African American woman with a dental visit in the past year*
	"You can go to NYU and not pay a lot. And they are students, they clean your teeth for a low fee or for free. . . . NYU has that; it's a big program." *—Puerto Rican man without a dental visit in the past year (translated from Spanish)*
Honest and reputable	"I have been to 30th Street. They did a test for me there [at NYU]. They are honest there." *—Dominican man without a dental visit in the past year (translated from Spanish)*
	"They [NYU] have a good reputation. They are always growing . . . you know." *—African American woman with a dental visit in the past year*
	"I feel more comfortable when I am at the dental school because . . . the people working with you are being supervised. You know that the ones who are there, the supervisors, have diplomas. . . . Many people go there, and that indicates that they do good work, and when you go there, you don't have to think about . . . those negative things." *—Puerto Rican man without a dental visit in the past year (translated from Spanish)*
	"Another way to ensure that they give you good service, for you to know that the dentist has a license and is practicing well, is if you don't know where to go, in every state there is a dental school that I've noticed. They have them in Ohio, they have a New York School of Dentistry, and you can go there and they will give you the same service that a dentist [does], but there is a dentist and a student and the student is learning, but the dentist is there constantly to ensure that they give you good service." *—Puerto Rican man without a dental visit in the past year (translated from Spanish)*

Table 2. Focus group comments related to positive experiences with dental school clinics (*continued*)

Subtheme	Representative Comments
Benefits of student training	"That's where Columbia gets their experience from. Using us they learn how to do this in a fresh new way." *—African American man with a dental visit in the past year*
	"I'm just saying if [you're in a] study group, they'll take care of you for free. They'll take your tooth—wisdom tooth out and push your chin up, and make you fix your bite. They'll do anything for study. They want to do my teeth for free. And they want to remove this gap. . . . But if you have—I suggest that you go to NYU. Don't go on another day." *—African American woman with a dental visit in the past year*
	"There are many students now [at a dental clinic affiliated with Columbia University]. Now there are some really good students." *—Dominican woman with a dental visit in the past year (translated from Spanish)*
	"I was very happy when I went because I worked with students [at Columbia University]." *—Dominican woman with a dental visit in the past year (translated from Spanish)*
Accepting and helpful	"They also accept you at NYU without [dental insurance]. I noticed it. NYU offers you so much that you can get for free, even food, if you go at the right time." *—Puerto Rican woman with a dental visit in the past year (translated from Spanish)*
	"I don't [have dental insurance], but lately, I went to the school of dentistry. I find it very . . . they help a lot." *—Puerto Rican woman with a dental visit in the past year (translated from Spanish)*
Recommended by family and friends	"I talk about it [dental service] with my son. My son is 47 and has no health insurance, and I was telling him to go to NYU, to the clinic on 30th Street, so he can make an appointment there." *—Puerto Rican woman without a dental visit in the past year (translated from Spanish)*
	"Let me put it this way: I don't know if [granddaughter] got that treatment because I worked for NYU. I know that they do have a dental school where the students work on your mouth for a cheaper rate. . . . And they did a superb job. They really did. . . . I know for a fact that they have students that will work on you for a cheaper rate." *—African American woman without a dental visit in the past year*
	"They do a plan that's pretty good, if you go down there and you need dental work, if you have nothing they see you, OK, and they help you out, no costs. [Investigator asked: at NYU?] Yeah, no costs, they will do it. It doesn't take long. I don't know what happened to you, bro, but they do it. I haven't gotten anything myself, but I have been down there and they do it. I have a friend who got full dentures. Full dentures! Dental, we are talking about dental." *—African American man with a dental visit in the past year*

Table 3. Focus group comments related to negative experiences with dental school clinics

Subtheme	Representative Comments
Multiple visits required for treatment	"I wanted to ask about the dental schools 'cause I used to go to the NYU dental school. I went to the one in New Jersey, too. And . . . I only had needed cleaning, but I would have to come like two or three times because they'd schedule you for a certain amount of time and that was it, you know. It seemed like it took a long time. Do they?" *—African American woman with a dental visit in the past year*
	"You go to a dentist; he is going to take X-ray, ah X-ray, ah so and so . . . and come back in three months. [Exactly.] Come back tomorrow. Come back . . . and it's all about money. I have no more faith as I used to in the dentist because you have every other student working on your teeth. You don't even have legitimate dentist no more because these are students working on your teeth and it's like you are a guinea pig." *—Puerto Rican woman without a dental visit in the past year (in English)*
Loss of interpersonal communication	"They used to have two receptionists when you came in, and they knew you by name. 'Hello, Mr. [last name]. Hello, Ms. [last name].' . . . Now they have a big circle with the students everywhere and people sitting there, and they'll be saying [taps, like imitating a computer], 'Hum. What's your name?' And you say, 'Well, my name is so and so.' And they'll say, 'Well, it will be $250 today.'" [Laughter] *—African American man without a dental visit in the past year*
Inconvenient location	"That university, I used to go there and it's very, very far; it's on First [Avenue], around there. [But it's a good dentist that treats you well; I don't mind going that far]." *—Dominican woman with a dental visit in the past year (translated from Spanish)*
Perceived stigma with Medicaid	"When you walk in, the first thing they ask you is what kind of insurance you have. When you come in [if it] is Medicaid or Medicare, they turn up their nose at you. [That's right. Yes, yes, yes.]" *—African American man with a dental visit in the past year*
	"When you go to **** University, they got a line for people who pay and they have a line for Medicaid." *—African American man with a dental visit in the past year*

Even so, these negative experiences were not universally expressed by participants. For instance, one African American man without a dental visit in the past year complained, "But that university, I used to go there, and it's very, very far, it's on First [Avenue], around there." In response, a fellow focus group participant explained, "But it's a good dentist that treats you well. I don't mind going that far." Likewise, a Puerto Rican woman with a dental visit in the past year found dental schools to be accepting of patients without dental insurance: "They also accept you at NYU without that [dental insurance]. I noticed it. NYU offers you so much that you can get for free, even food, if you go at the right time." On the other hand, an African American man with a dental visit in the past year perceived a stigma for patients with Medicaid coverage: "When you go to **** University, they got a line for people who pay, and they have a line for Medicaid." These findings point to potential interventions that may further improve patient experiences of care.

Discussion

This qualitative study adds to the evidence base on the experiences of racial/ethnic minority older adults with dental school clinics by sampling community members in "third places" rather than those seeking dental care.[13] Overall, the majority of participants in this focus group study reported receiving excellent outcomes, safe treatment, and affordable care at dental school clinics. At a time when institutions in U.S. society are not universally respected, dental schools were viewed as honest and reputable. This is a tribute to the efforts of dental school students, faculty members, and administrators to conduct research and reflect on findings regarding what is and is not working well in implementing needed reforms.[21-23]

As the focus group discussions made clear, these racial/ethnic minority older adults were aware that it may take multiple visits and attendant travel to complete treatment, as has been reported previously.[24] Nonetheless, they were also altruistic and recognized the benefits of student learning. While most participants found dental school clinics to be accepting and helpful (and thus not surprisingly recommended by family and friends), more can be done to reduce any perceived stigma associated with Medicaid coverage and improve interpersonal communication.

The implications of these findings may be linked back to the conceptual model we used for the study (Figure 1). In particular, the intervention targets include organizational motivation, resources, staff attributes, climate, and teamwork. For instance, while the introduction of electronic health record (EHR) systems in dental schools has been a valuable tool for, among other areas, strategic planning[25] and promoting students' critical thinking,[26] it may be important to hire and train patient service representatives or other staff who enter patient demographic and appointment information to focus on empathetic interactions with patients during these encounters.[27] In conversations with clinical colleagues at our own dental schools about the underlying reasons for the overwhelmingly positive experiences with dental school clinics, they suggested that the introduction of group practice leaders in the clinics has fostered a spirit of teamwork among our dental students and faculty. A recent initiative to promote a culture of humanitarianism throughout the NYU College of Dentistry awaits full implementation and critical evaluation.

Other intervention targets identified in Figure 1 are payment programs and services, insurance and affordability, and provider- and system-level supports. In particular, the NYU College of Dentistry is working to strengthen its local community outreach programs. A New York City study found that among racial/ethnic minority older adults, Chinese immigrants were more likely to report poor dental health, were less likely to report dental care utilization and dental insurance, and were less satisfied with their dental care compared to all other racial/ethnic groups.[28] Hence, we recently partnered with Chinese American agencies, organizations, and institutions to use the remote capability of the axiUm Dental Software at the NYU College of Dentistry to enter patient information at affiliated community sites into our EHR system, thus enabling tracking at the community, site, provider, and patient levels of receipt of oral health care visits, services, and health outcomes; evaluation of implementation effectiveness; and integration with the Epic EHR system at NYU Langone Medical Center.

The limitations of this study include that the focus group participants were recruited from senior centers and other places where older adults gather in upper Manhattan. Hence, the findings may not be generalizable to older adults who are institutionalized or living in other locales. Moreover, many (but not all) of the focus group discussions revolved around participant experiences with the clinics affiliated with the Columbia University College of Dental

Medicine and the NYU College of Dentistry. Both positive and negative experiences with other dental school clinics may differ from those presented in this report. Finally, the study participants self-identified as African American, Dominican, or Puerto Rican. Whether the experiences of other racial/ethnic older adults are consistent with the findings presented here cannot be known with certainty.

Notwithstanding these limitations, this qualitative study provides novel evidence of the perceived excellent care received and high regard for dental school clinics among urban racial/ethnic minority senior center attendees. The larger research initiative within which this study was conducted is dedicated to understanding how community assets shape familial and peer interactions and contribute to oral health promotion and care-seeking behaviors as adults age. Ongoing modeling exercises are providing guidance on the policies and programs needed to improve outcomes for disadvantaged older adults, including not only patient experiences of care, but also clinical outcomes, equity of services, and costs. This study adds context to efforts by dental schools to meet the challenges of caring for the increasingly diverse older adult population.[29,30] To eliminate reported racial/ethnic and socioeconomic inequities in treatment at dental schools,[31] we would do well to listen to the perspectives of racial/ethnic minority older adults on their experiences with dental school clinics.

Conclusion

Overall, we were heartened yet somewhat sobered by the findings reported here, as were our dental and dental hygiene students. Indeed, they volunteered instances in which they had gone out of their way to advocate for their patients and ensure they received affordable and evidence-based care. The implications of this research for dental education are that we ought to be rewarding the humanitarian efforts of our students, which contribute to improved oral health outcomes and promote oral health equity for racial/ethnic minority older adults throughout U.S. society.

Acknowledgments

The authors thank the participants and recruitment staff whose engagement in this qualitative study made the reporting of the results possible. The authors were supported in the research, analysis, and writing of this article by the National Institute for Dental and Craniofacial Research and the Office of Behavioral and Social Sciences Research of the National Institutes of Health for the project titled "Integrating Social and Systems Science Approaches to Promote Oral Health Equity" (grant R01-DE023072).

Disclosure

The authors reported no financial, economic, or professional conflicts of interest that may have influenced the design, execution, or presentation of this scholarly work.

REFERENCES

1. U.S. Department of Health and Human Services. Oral health in America: a report of the surgeon general. 2000. At: www.nidcr.nih.gov/DataStatistics/SurgeonGeneral/sgr/execsum.htm. Accessed 21 May 2017.
2. Institute of Medicine and National Research Council. Improving access to oral health care for vulnerable and underserved populations. Washington, DC: National Academies Press, 2011.
3. Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services. 2020 leading health indicators: oral health. 2014. At: www.healthypeople.gov/2020/leading-health-indicators/2020-lhi-topics/Oral-Health. Accessed 1 Apr. 2017.
4. Mitchell DA, Lassiter SL. Addressing health care disparities and increasing workforce diversity: the next step for the dental, medical, and public health professions. Am J Public Health 2006;96:2093-7.
5. Commission on Dental Accreditation. Accreditation standards for dental education programs. 2016. At: www.ada.org/en/coda/current-accreditation-standards. Accessed 1 Apr. 2017.
6. Valachovic RW. Reaping the rewards of community-based education. 2012. At: www.adea.org/uploadedFiles/ADEA/Content_Conversion_Final/about_adea/ADEA_CP_September_2012.pdf. Accessed 1 Apr. 2017.
7. Cunha-Cruz J, Senturia JD. Moving beyond charitable dental missions: the pursuit of equitable partnerships to reduce oral health disparities. J Acad Distinguished Educators 2017;5(1):15-7.
8. Craddock HL. An evaluation of student, patient, and practitioner experience of general dental practice placements. Br Dent J 2011;211(6):279-82.
9. Raja S, Shah R, Hamad J, et al. Patients' perceptions of dehumanization of patients in dental school settings: implications for clinic management and curriculum planning. J Dent Educ 2015;79(10):1201-7.
10. Purnell TS, Calhoun EA, Golden SH, et al. Achieving health equity: closing the gaps in health care disparities, interventions, and research. Health Aff (Millwood) 2016;35(8):1410-5.
11. Morgan DL. Focus group interviewing. In: Gubrium JF, Holstein JA, eds. Handbook of interview research: context and method. Thousand Oaks, CA: Sage, 2002:141-59.
12. Wenger GC. Interviewing older people. In: Gubrium JF, Holstein JA, eds. Handbook of interview research: context and method. Thousand Oaks, CA: Sage, 2002:259-78.

13. Northridge ME, Kum SS, Chakraborty B, et al. Third places for health promotion with older adults: using the consolidated framework for implementation research to enhance program implementation and evaluation. J Urban Health 2016;93:851-70.
14. Northridge ME, Shedlin M, Schrimshaw EW, et al. Recruitment of racial/ethnic minority older adults through community sites for focus group discussions. Unpublished manuscript.
15. Krueger RA, Casey MA. Focus groups: a practical guide for applied research. 4th ed. Thousand Oaks, CA: Sage, 2009.
16. Merton RK, Fiske M, Kendall PL. The focused interview: a manual of problems and procedures. 2nd ed. New York: Free Press, 1990.
17. Krueger RA. Developing questions for focus groups. Thousand Oaks, CA: Sage, 1998.
18. Northridge ME, Ue FV, Borrell LN, et al. Tooth loss and dental caries in community-dwelling older adults in northern Manhattan. Gerodontology 2012;29(2):e464-73.
19. Boyatzis RE. Transforming qualitative information: thematic analysis and code development. Thousand Oaks, CA: Sage, 1998.
20. Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol 2006;3(2):77-101.
21. Chandrasekaran S, Powell C, De la Rosa L, et al. Dental students' reflections on quality of periodontal care in dental school clinics. J Dent Educ 2017;81(1):14-21.
22. Ali K, Tredwin C, Kay E, Slade A. Stakeholders' perceptions about a newly established dental school with a problem-based, student-led, patient-centered curriculum: a qualitative study. J Dent Educ 2016;80(3):291-300.
23. Fredericks-Younger JM, Handelman-Yellin ML, York JA. Developing a relevant taxonomy to assess dental school clinic patients' complaints. J Dent Educ 2017;81(3):318-25.
24. Huettig F, Behrend F. Clinical teaching of prosthodontics in undergraduate courses in a German dental school: patients, visits, efforts, and incentives. J Dent Educ 2016;80(1):40-50.
25. Filker PJ, Cook N, Kodish-Stav J. Electronic health records: a valuable tool for dental school strategic planning. J Dent Educ 2013;77(5):591-7.
26. Reed SG, Adibi SS, Coover M, et al. Does use of an electronic health record with dental diagnostic system terminology promote dental students' critical thinking? J Dent Educ 2015;79(6):686-96.
27. Ebn Ahmady A, Pakkhesai M, Zafarmand AH, Lando HA. Patient satisfaction surveys in dental schools: a review and comparison. J Dent Educ 2015;79(4):388-93.
28. Shelley D, Russell S, Parikh NS, Fahs M. Ethnic disparities in self-reported oral health status and access to care among older adults in NYC. J Urban Health 2011;88(4):651-62.
29. Best H. Educational systems and the continuum of care for the older adult. J Dent Educ 2010;74(1):7-12.
30. Nochajski TH, Davis EL, Waldrop DP, et al. Dental students' attitudes about older adults: do type and amount of contact make a difference? J Dent Educ 2011;75(10):1329-32.
31. Broadbent JM, Theodore RF, Te Morenga L, et al. Ethnic and socioeconomic inequalities in dental treatment at a school of dentistry. N Z Dent J 2016;112(2):55-61.