Partnering with local schools of traditional Chinese medicine to provide accessible acupuncture services for pain management in a group of low-income Hispanics/Latinos

Authors:

Patricia Dionicio[1]; Eloisa Gonzalez[2,3]; Telma Menendez[2]; Noel C. Barragan[2]; Cynthia Mendoza[3]; Tony Kuo[3-6]; Brenda Robles[7-9]*

Affiliations:

[1] SDSU/UCSD Joint Doctoral Program in Public Health – Health Behavior, Division of Health Promotion, San Diego State University, San Diego, California, USA.

[2] Division of Chronic Disease and Injury Prevention, Los Angeles County Department of Public Health, Los Angeles, California, USA.

[3] The Wellness Center at the Historic General Hospital, Los Angeles County/University of Southern California Medical Center Foundation, Inc., Los Angeles, California, USA.

[4] Department of Family Medicine, David Geffen School of Medicine at University of California, Los Angeles (UCLA), Los Angeles, California, USA.

[5] Department of Epidemiology, UCLA Fielding School of Public Health, Los Angeles, California, USA.

[6] Population Health Program, UCLA Clinical and Translational Science Institute, Center for Health Sciences, Los Angeles, California, USA.

[7] Department of Economics, University of Rovira i Virgili, Reus, Catalonia, Spain (note: formerly affiliated with the Division of Chronic Disease and Injury Prevention at the Los Angeles County Department of Public Health).

Mary Ann Liebert Inc., 140 Huguenot Street, New Rochelle, NY 10801

[8] Centro de Investigación Biomédica en Red de Epidemiología y Salud Pública (CIBERESP), Instituto de Salud Carlos III, Madrid, Spain.

[9] Research Group on Statistics, Econometrics, and Health (GRECS), University of Girona, Carrer de la Universitat de Girona 10, Campus de Montilivi, Girona, Spain.

Running title: ACUPUNCTURE FOR PAIN MANAGEMENT IN HISPANIC/LATINO ADULTS

***Corresponding author**

Brenda Robles, PhD, MPH

Department of Economics

University Rovira i Virgili, Faculty of Business and Economics, Av. de la Universitat 1, 43204 Reus, Catalonia, Spain.

Phone: +34 977 759 848

E-mail: brenda.robles@urv.cat

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ABSTRACT

This field report describes the accessibility and perceived effectiveness of a free acupuncture program among a group of predominantly low-income Hispanic/Latino adults. Surveys, based on the Levesque Conceptual Framework of Access to Healthcare, were administered to clients. Baseline (n=245) and 6-week follow-up (n=79) surveys were analyzed to document early program findings. A majority of clients were Hispanic/Latino (72.7%) and female (73.1%). Most reported their original pain complaint was treated very well/well (98.7%). Clients reported an average 1.2 points pain level decrease (scale 1-10) at follow-up ($p<.0001$). Early program results suggest this acupuncture program was accessible and well-received by low-income Hispanics/Latinos.

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INTRODUCTION

Chronic pain among Hispanic/Latino adults represents a growing public health problem in the United States (U.S.). In 2021, nearly one in six Hispanics/Latinos (15.4%) reported chronic pain.[1] The prevalence of chronic pain appears to be notably higher among those aged 45 years or older, who have lower education attainment, and who lack health insurance.[2] Research conducted among some Hispanic/Latino subgroups has identified back pain (87.5%), leg/feet pain (79.2%), and arm/hand pain (57.5%) as the most commonly reported types of pain by region.[3] Additionally, emerging evidence suggests that Hispanics/Latinos with a disadvantaged background, such as those with limited access to health care,[4] are at heightened risk of developing chronic pain.[2] Studies also suggest that Hispanic/Latinos tend to have cultural differences in the way they manage, cope with, and seek pain treatment.[4-6]

Present clinical practice guidelines from the American College of Physicians and the American Academy of Family Physicians recommend an integrative medicine approach to managing chronic pain, which includes considerations of cultural norms, race/ethnicity, and the incorporation of acupuncture alongside more conventional health services.[7] Yet, only 2.2% of U.S. adults have reported using acupuncture.[8] Moreover, these users have historically been White and/or have higher levels of education.[9] Affordability and mobility, including factors such as cost, insurance coverage, and distance, are also implicated as key determinants of acupuncture use and how patients/clients access this treatment modality.[9]

Community-based acupuncture programs represent a promising intervention to address these underlying barriers and increase the utilization of acupuncture services for pain. However, literature on sustainable acupuncture models, particularly those reaching low-income Hispanics/Latinos and promoting a holistic approach to pain management, remains poorly

characterized. This field report seeks to address this gap by describing a multi-faceted community resource hub's experience with implementing an acupuncture program on the campus of Los Angeles County's (LAC's) largest safety-net medical center. The program was established in 2015 to treat chronic pain among a predominantly low-income Hispanic/Latino patient clientele in the region.

METHODS

The acupuncture program at The Wellness Center (TWC), the community resource hub on the campus of the Los Angeles General Medical Center, was developed in partnership with two local traditional Chinese medicine schools. Hereinafter, we refer to this program as "TWC-AP." As part of this program, supervised student interns were allowed to receive credit towards their clinical experience requirement if they provided free, safe, and effective acupuncture services to TWC clients. All residents of LAC over the age of 18 years who experienced chronic pain (i.e., ≥3 months) were eligible to receive TWC-AP services.

Flyers promoting TWC-AP were distributed at health fairs and on the hub's website. Clients (patients) were either referred by a physician or signed up through the TWC navigation front desk. During the first session, clients were invited to participate in the program evaluation. Those who completed an Informed Consent form were invited to complete two brief surveys, administered at baseline (the first acupuncture session) and at follow-up (the 6th/last session). No incentive was given for completing these evaluation materials; although, the acupuncture sessions were free. All protocols and program materials were approved by the Los Angeles County Department of Public Health's (DPH's) Institutional Review Board prior to fieldwork.

All acupuncture clients were provided with six free consecutive 30–45-minute sessions, targeted at a chronic pain region of their choice. Onsite Spanish-speaking interpreters were available to facilitate communication or to interpret/translate for the client if requested. The development of the evaluation surveys was informed by the Levesque Conceptual Framework of Access to Healthcare[10,11] (Figure 1) and designed based on its 5 domains: approachability, acceptability, availability, affordability, and appropriateness. Questions on pain intensity, the perceived impact of treating the original pain complaint, and the perceived effects of TWC-AP acupuncture treatment were included in the program evaluation to assess the perceived effectiveness of the treatment. Data collection took place between August 2017 and April 2019.

Survey Measures

Sociodemographics. Gender, age, race/ethnicity, marital status, annual household income, and preferred language were recorded at baseline. Specific race/ethnicity sub-categories were not obtained due to cost, time, and survey administration constraints. Clients were asked to describe the primary reason for visiting the TWC-AP.

***Domain-1 (Approachability)*:** How identifiable and reachable were the services for clients.[10,11] The first question asked clients, "Did you hear about TWC-AP today by [1) doctor referral; 2) seeing a flyer; 3) TWC staff; 4) friends/family; 5) at a health fair; 6) other]?" The second question asked clients (Response options: "yes" or "no"): "Have you seen/taken [1) a primary doctor; 2) a physical therapist; 3) a chiropractor; 4) other; 5) no one; 6) prescribed medication] to treat this problem?"

***Domain-2 (Acceptability)*:** How well the services met the cultural and social needs of the clients was assessed by asking them (Response options: "yes" or "no"): "If it were available, would

you like to continue getting acupuncture services at TWC-AP?"; "Would you recommend TWC-AP to your family and/or friends?"; and "Do you know where to go to receive acupuncture services elsewhere?" Clients were also asked to indicate their likelihood of receiving acupuncture services from other service providers and the last time they visited an acupuncturist.

***Domain-3 (Availability and Accommodation)*:** How well clients were able to physically reach the TWC-AP site was assessed via a 2-item question (Response options: 4-point Likert scale ranging from "very easy" to "very difficult"): "How difficult was it for you to get here today because of [1) mobility/pain issues; 2) transportation issues].

***Domain-4 (Affordability)*:** How well TWC-AP's services matched the clients' ability to pay was assessed by asking clients the following open-ended question: "How much would you be willing to pay for acupuncture treatment?"

***Domain-5 (Appropriateness)*:** Whether the acupuncturist/program took sufficient time to assess and treat pain problems appropriately was assessed using the following 9-item question on satisfaction (Response options: 5-point Likert scale ranging from "very satisfied" to "very dissatisfied"): "How satisfied were you with the [1) amount of time spent with acupuncturist; 2) wait time; 3) explanation of treatment; 4) self-care advice; 5) comfort/ambiance of treatment room; 6) getting someone to answer acupuncture questions; 7) office location; 8) ease of getting to appointment; 9) overall satisfaction]?" Appropriateness was further assessed by asking (Responses options: "yes" and "no"): "Did your provider use acupuncture to treat other problems?"

***Perceived Effectiveness*:** Effectiveness was assessed by asking clients to indicate their level of pain (Response options: 0=no pain and 10=worst pain) at baseline and follow-up. Clients were also asked (Response options: 4-point Likert scale ranging from "very well" to "not very well at all"): "How well did the acupuncture you received at TWC-AP treat the complaint you originally

came in for?" Furthermore, to gauge the perceived impact of the TWC-AP acupuncture treatment, clients were asked to answer an additional eight-item question asking them to indicate their level of agreement with the following statements (Response options: 5-point Likert scale ranging from "strongly agree" to "strongly disagree"): 1) I feel better; 2) I work better; 3) I have less pain; 4) I am more focused; 5) I have more energy; 6) My mood is more stable; 7) I get sick less often; and 8) I get along better with others.

Analysis

SAS version 9.4 was used to clean, manage, and analyze the data. Descriptive statistics were generated to describe the sociodemographic characteristics of TWC-AP's clientele and to explore the program's accessibility and effectiveness. Chi-squared tests were performed to compare clients' sociodemographics at baseline and follow-up; paired sample t-tests compared the changes in self-reported pain among those treated, from baseline to follow-up. The threshold for statistical significance was set at $p<0.05$.

RESULTS

Table 1 presents client characteristics at baseline and follow-up. In total, 245 TWC-AP clients completed the baseline survey, of whom 79 completed the follow-up surveys. At baseline, most clients were female (73.1%), between the ages of 45-64 years (54.7%), Hispanic/Latino (72.7%), married/living with a partner (37.2%), and Spanish-speaking (55.1%, preferred language). Many (40.0%) reported a household income of less than $15,000 per year. The most common pain complaint was low back pain (49.0%). Compared to baseline, clients completing the follow-up

survey differed significantly in age, marital status, and preferred language ($p<0.05$). Client responses on the accessibility and effectiveness of TWC-AP (Table 2) are summarized below.

Accessibility

Domain-1 (Approachability). Clients generally reported learning about the TWC-AP through TWC staff/flyers/health fairs (45.7%), and most reported seeing a provider in the past month for their pain (80.4%; Table 2). **Domain-2 (Acceptability)**. More than half (53.5%) reported never having previously seen an acupuncturist. At follow-up, almost all (96.2%) indicated they would recommend TWC-AP to their family and/or friends. **Domain-3 (Availability and Accommodation)**. Over a third (38.4%) reported a "very easy" or "easy" level of difficulty in accessing the TWC-AP; however, 20.4% reported having transportation issues. **Domain-4 (Affordability)**. At follow-up, clients indicated they were willing to pay $14.0 ± $12.0, on average, for the acupuncture services. About a fifth (19.0%) reported not being willing to pay any amount. **Domain-5 (Appropriateness)**. Most clients reported being "very satisfied" or "satisfied" with TWC-AP services they received, including the location, the acupuncturist they saw, and the treatment received. The percentage of responses indicating 'very satisfied/satisfied' across the TWC-AP client satisfaction questions ranged from 75.9% to 92.4%.

Effectiveness

On average, clients who completed the follow-up survey (n=79) reported a pain level 1.2 points lower at follow-up than at baseline ($t=6.2$, $p<.0001$). Most clients strongly agreed/agreed that several aspects of their health improved as a result of receiving TWC-AP's acupuncture services.

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The percentage of responses indicating 'strongly agree/agree' for these questions regarding perceived effectiveness ranged from 60.7% to 78.5%.

DISCUSSION

This field report describes TWC's experience in implementing an acupuncture program for pain control in a group of low-income Hispanics/Latinos in LAC. Clients found TWC-AP to be accessible, as indicated by positive self-reported outcomes across the 5 domains of accessibility. These findings on access and satisfaction were not too dissimilar from those found in a prior study at a community acupuncture clinic in Portland, Oregon.[12] Clients from this clinic reported similar receptivity to and satisfaction with the acupuncture services they received;[12] however, this program's clientele was generally not Hispanic/Latino (<5% of total).

Clients reported being satisfied with the acupuncture services they received, which may have been amplified by TWC-AP's offer of onsite interpreters. These interpreters likely made non-English speaking clients more comfortable in their interactions with acupuncturists. Satisfaction ratings could have also been further augmented by the externship training model, which provided services free of charge. Similar results have been documented by Highfield et al. in Boston, Massachusetts; this hospital clinic offered free acupuncture services to adolescents of minority backgrounds.[13] Collectively, these and other findings in the literature are not surprising, given the out-of-pocket cost and limited insurance coverage of acupuncture services.[12,13]

Finally, results from the present program evaluation showed that self-reported pain levels improved and clients perceived positive effects from the acupuncture services they received. Future quality improvement studies should further examine these various relationships between the program's pain control strategies and the clients' perceived impact from participating in the

treatment. For example, a quality improvement question that could be addressed is: to what extent did acupuncture treatment reduce missed days from work, increase productivity, and/or decrease the use of prescribed and over-the-counter medications for managing pain?

Although the TWC-AP program evaluation had several strengths, including the use of a theoretical framework to guide program implementation and evaluation, it also had some limitations. Missing responses to survey questions and a lower survey participation rate (32%) at follow-up is one such limitation. Factors that may have contributed to this missingness may have included: (i) clients opting out of reporting their sociodemographic information due to real or perceived fear of disclosing their immigration status (e.g., being undocumented); and/or (ii) clients had concerns about accruing medical debt since many health plans do not cover acupuncture services (i.e., clients may not have been certain that TWC-AP services were offered at no cost). Another limitation of the program evaluation is that among those who completed both baseline and follow-up surveys, differences were observed in age, marital status, and preferred language between the two survey time points ($p<0.05$, see Table 1). This could be due to sample representativeness, participant attrition, or changes in the characteristics of the study population over time. Future studies should test different program delivery methods, client retention strategies, and incentives or inducement approaches that can be used to encourage clients to respond to the follow-up surveys. Due to concerns about interrupting patient care and survey fatigue, TWC-AP opted not to collect detailed information on specific pain diagnoses (e.g., arthritis or chronic low back pain), indicators of obesity (e.g., fat mass and fat distribution),[14] and data on factors related to client retention. A final limitation of the program evaluation is that perceived effectiveness as a metric was internally developed without specific psychometric testing and was largely adapted from concepts/dimensions of measurement found in the literature. In

future evaluative efforts, TWC-AP's early program results could be used to further refine this metric.

CONCLUSIONS

Early program findings underscore the usefulness and positive reception of acupuncture services among TWC's low-income Hispanic/Latino clients. However, the lower survey participation rate at follow-up suggests potential dropouts from the program and/or reluctance among clients to share personal information. Further research is needed to enhance program delivery and attain a deeper understanding of these issues. The TWC-AP model holds promise for replication in other communities and could serve as a non-opioid alternative for managing chronic pain among Hispanics/Latinos and for other communities that have historically faced disadvantages in accessing medical care.

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REFERENCES

1. Rikard SM, Strahan AE, Schmit KM, Guy GP, Jr. Chronic pain among adults - United States, 2019-2021. MMWR Morb Mortal Wkly Rep 2023;72(15):379-385; doi:10.15585/mmwr.mm7215a1.

2. Nahin RL. Pain prevalence, chronicity and impact within subpopulations based on both Hispanic ancestry and race: United States, 2010-2017. J Pain 2021;22(7):826-51; doi: 10.1016/j.jpain.2021.02.006.

3. Hollingshead NA, Vrany EA, Stewart JC, Hirsh AT. Differences in Mexican Americans' prevalence of chronic pain and co-occurring analgesic medication and substance use relative to Non-Hispanic White and Black Americans: Results from NHANES 1999–2004. Pain Medicine 2016;17(6):1001-1009; doi:10.1093/pm/pnv003.

4. Hollingshead NA, Ashburn-Nardo L, Stewart JC, et al. The pain experience of Hispanic Americans: A critical literature review and conceptual model. J Pain 2016;17(5):513-28; doi: 10.1016/j.jpain.2015.10.022.

5. Anderson KO, Green CR, Payne R. Racial and ethnic disparities in pain: causes and consequences of unequal care. J Pain 2009;10(12):1187-204; doi: 10.1016/j.jpain.2009.10.002.

6. Ng BW, Nanavaty N, Mathur VA. The influence of Latinx American identity on pain perception and treatment seeking. J Pain Res 2019;12:3025-35; doi: 10.2147/JPR.S217866.

7. Qaseem A, McLean RM, O'Gurek D, et al. Nonpharmacologic and pharmacologic management of acute pain from non-low back, musculoskeletal injuries in adults: A clinical guideline from the American College of Physicians and American Academy of Family Physicians. Ann Intern Med 2020;173(9):739-48; doi: 10.7326/M19-3602.

8. Nahin RL, Rhee A, Stussman B. Use of complementary health approaches overall and for

pain management by US adults. Jama 2024;331(7):613-615; doi:10.1001/jama.2023.26775.

9. Zhang Y, Lao L, Chen H, et al. Acupuncture Use among American adults: What acupuncture practitioners can learn from National Health Interview Survey 2007? Evid Based Complement Alternat Med 2012;2012:710-750; doi: 10.1155/2012/710750.

10. Levesque J-F, Harris MF, Russell G. Patient-centred access to health care: conceptualising access at the interface of health systems and populations. International Journal for Equity in Health 2013;12(1):18; doi: 10.1186/1475-9276-12-18.

11. Cu A, Meister S, Lefebvre B, Ridde V. Assessing healthcare access using the Levesque's conceptual framework– a scoping review. International Journal for Equity in Health 2021;20(1):116; doi:10.1186/s12939-021-01416-3.

12. Tippens KM, Chao MT, Connelly E, et al. Patient perspectives on care received at community acupuncture clinics: a qualitative thematic analysis. BMC Complement Altern Med 2013;13:293; doi: 10.1186/1472-6882-13-293.

13. Highfield ES, Barnes L, Spellman L, et al. If you build it, will they come? A free-care acupuncture clinic for minority adolescents in an urban hospital. J Altern Complement Med 2008;14(6):629-36; doi: 10.1089/acm.2008.0021.

14. Hussain SM, Urquhart DM, Wang Y, et al. Fat mass and fat distribution are associated with low back pain intensity and disability: results from a cohort study. Arthritis Res Ther 2017;19(1):26; doi:10.1186/s13075-017-1242-z.

Table 1. Sociodemographic characteristics of The Wellness Center Acupuncture Program clients at baseline and follow-up.

	Baseline (n=245)	Follow-Up (n=79)[a]	p-value
	n (%) or mean (SD)	n (%) or mean (SD)	
Gender			0.119
Male	46 (18.8)	10 (12.7)	
Female	179 (73.1)	66 (83.5)	
Other	1 (0.4)	0 (0)	
No Response	19 (7.8)	3 (3.8)	
Age (years)	52.37 (13.02)	55.57 (10.71)	0.003[b]
21-24	5 (2.0)	0 (0)	
25-44	53 (21.6)	9 (11.4)	
45-64	134 (54.7)	57 (72.2)	
65+	32 (13.0)	10 (12.7)	
No Response	21 (8.6)	3 (3.8)	
Race/Ethnicity			0.677
Hispanic/Latino	178 (72.7)	62 (78.5)	
African American/Black	14 (5.7)	3 (3.8)	
White/Non-Hispanic	12 (4.9)	3 (3.8)	
Asian/Pacific Islander	13 (5.3)	6 (7.6)	
Mixed/Multiethnic	4 (1.6)	0 (0)	
Native American/Alaskan Native	1 (0.4)	0 (0)	
Refused to respond	2 (0.8)	0 (0)	
No Response	21 (8.6)	5 (6.3)	
Marital Status			0.04[b]
Married/living with a partner	69 (28.2)	27 (34.2)	
Not married, but living with a partner	22 (9.0)	5 (6.3)	
Single, never married	82 (33.5)	21 (26.6)	
Divorced or separated	49 (20.0)	23 (29.1)	
No Response	23 (9.4)	3 (3.8)	
Annual Household Income			0.231
Less than $15,000	97 (40.0)	33 (41.8)	
$15,000-$24,999	36 (14.7)	16 (20.3)	
$25,000-$49,999	24 (9.8)	5 (6.3)	
$50,000-$74,999	6 (2.4)	2 (2.5)	
More than $100,000	1 (0.4)	1 (1.3)	
Don't know/refused	36 (14.7)	9 (11.4)	
No Response	45 (18.4)	13 (16.5)	
Preferred Language			0.004[b]
English	110 (44.9)	25 (31.7)	
Spanish	135 (55.1)	54 (68.4)	

Note: percentages may not add up to 100 due to rounding.
[a]Not all clients that completed a baseline survey completed a follow-up survey.
[b]Significant differences from baseline – based on chi-square analyses.

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Table 2. Client responses on the accessibility and effectiveness of The Wellness Center Acupuncture Program (TWC-AP).

OUTCOME/ DOMAIN	Baseline (n=245)[a] or Follow-up (n=79)[b] n (%) or mean [SD]
ACCESSIBILITY	
Approachability	
TWC-AP Client Referral Source[a,c]	
Doctor	89 (36.3)
TWC staff/flyer/health fair	112 (45.7)
Friends/family/other	66 (26.9)
Past Pain Treatments[a,c]	
Primary doctor/other Provider	197 (80.4)
Physical therapist/Chiropractor	112 (45.7)
Prescribed medication	152 (62.0)
Nothing	29 (11.8)
Acceptability	
Continue receiving acupuncture services at TWC-AP[b]	
Yes	76 (96.2)
No	1 (1.3)
Recommend TWC-AP to family/friends[b]	
Yes	76 (96.2)
No	0 (0)
Receive acupuncture services from other providers[b]	
Very likely/likely	33 (41.8)
Unlikely/unlikely	42 (53.2)
Last Visited Acupuncturist[a]	
Never seen	131 (53.5)
Past 12 months	38 (15.5)
Past 1-5+ years	62 (25.3)
Knowledge of where else to go to receive acupuncture services[b]	
Yes	11 (13.9)
No	53 (67.1)
Availability and Accommodation	
Reported level of difficulty with arriving to TWC-AP clinic site because of...[a]	
Health issues (e.g., mobility/pain issues)	
Very easy/Easy	94 (38.4)
Very difficult/ Difficult	71 (29.0)
Transportation issues	
Very easy/Easy	117 (47.8)
Very difficult/ Difficult	50 (20.4)

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Affordability	
Mean number of dollars ($) that a client would be willing to pay for acupuncture treatment[b]	14.0 [12.0]
Appropriateness	
Level of TWC-AP client satisfaction with…[b]	
Amount of time spent with acupuncturist	
Very satisfied/satisfied	72 (91.1)
Very unsatisfied/unsatisfied/neutral	7 (8.9)
TWC-AP Office Location	
Very satisfied/satisfied	71 (89.9)
Very unsatisfied/unsatisfied/neutral	7 (8.9)
Ease of getting to appointment	
Very satisfied/satisfied	68 (86.1)
Very unsatisfied/unsatisfied/neutral	10 (12.7)
Length of time spent waiting for acupuncturist	
Very satisfied/satisfied	72 (91.1)
Very unsatisfied/unsatisfied/neutral	5 (6.3)
Explanation of treatment	
Very satisfied/satisfied	73 (92.4)
Very unsatisfied/unsatisfied/neutral	4 (5.0)
Self-care advice	
Very satisfied/satisfied	71 (89.9)
Very unsatisfied/unsatisfied/neutral	7 (8.9)
Comfort/ambiance of treatment room	
Very satisfied/satisfied	68 (86.1)
Very unsatisfied/unsatisfied/neutral	4 (5.1)
Getting someone to answer acupuncture questions	
Very satisfied/satisfied	68 (86.1)
Very unsatisfied/unsatisfied/neutral	4 (5.1)
With the acupuncture sessions received through TWC-AP	
Very satisfied/satisfied	60 (75.9)
Very unsatisfied/unsatisfied/neutral	3 (3.8)
Clients' Ability to Engage[b]	
Client indicated that TWC-AP clinic provider used acupuncture to treat other problems	
Yes	44 (55.7)
No	31 (39.2)
EFFECTIVENESS	
Pain levels[a]	
Client-reported pain levels[a]	6.4 [2.2]
Client-reported pain levels[b]	5.2 [2.4]
Perceived impact of treating original pain complaint[b]	
How well original complaint was treated by TWC-AP	
Very well/well	78 (98.7)

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Not well at all/not well	1 (1.27)
Perceived effects of TWC-AP acupuncture treatment[b]	
I feel better	
Strongly agree/agree	62 (78.5)
Strongly disagree/disagree/neutral	14 (17.7)
I can work better	
Strongly agree/agree	57 (72.2)
Strongly disagree/disagree/neutral	18 (22.8)
I have less pain	
Strongly agree/agree	58 (73.4)
Strongly disagree/disagree/neutral	17 (21.6)
I am more focused	
Strongly agree/agree	60 (75.9)
Strongly disagree/disagree/neutral	14 (17.7)
I have more energy	
Strongly agree/agree	53 (67.1)
Strongly disagree/disagree/neutral	22 (27.8)
My mood is more stable	
Strongly agree/agree	62 (78.5)
Strongly disagree/disagree/neutral	12 (15.2)
I get sick less often	
Strongly agree/agree	48 (60.7)
Strongly disagree/disagree/neutral	27 (34.2)
I get along better with others	
Strongly agree/agree	58 (73.4)
Strongly disagree/disagree/neutral	16 (20.3)

[a]Question(s) was asked at baseline.
[b]Question(s) was asked at follow up.
[c]Question was a "select all that apply" – percentages may not add up to 100.
Note: values may not add up to the total sample size due to missing responses.

Mary Ann Liebert Inc., 140 Huguenot Street, New Rochelle, NY 10801

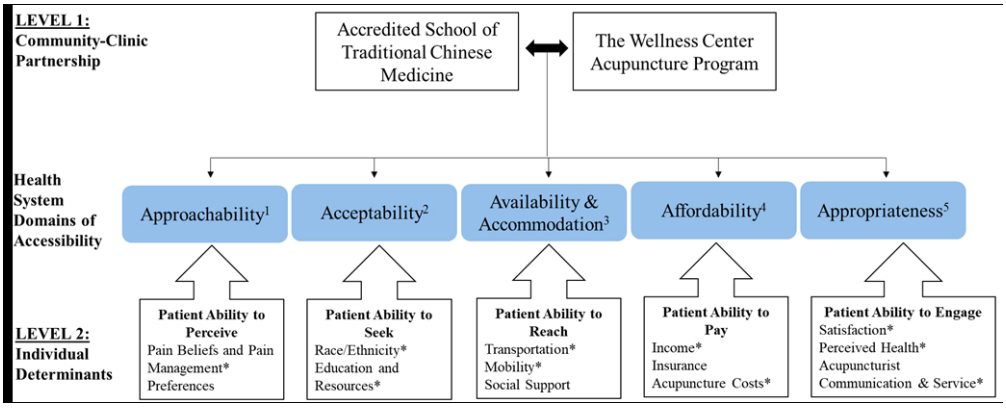

Figure 1

175x70mm (150 x 150 DPI)

Figure 1. Theoretical framework used in the program evaluation of The Wellness Center-Acupuncture Program (TWC-AP)—5 domains of accessibility.

*Determinants assessed by the program evaluation.

*Domains 1-5 pertain to the Conceptual Framework of Access to Healthcare.[10,11] All five domains are described below.

(a) **Approachability**: How identifiable and reachable were the services for clients?

(b) **Acceptability**: How well did the services meet the cultural and social needs of clients?

(c) **Availability and Accommodation**: Can clients physically reach the TWC-AP site and services?

(d) **Affordability**: Did TWC-AP offer services that matched clients' ability to pay?

(e) **Appropriateness**: Did acupuncturists/TWC-AP staff take sufficient time to assess and treat pain problems appropriately?