Using mHealth in Social Work Practice with Low-Income Hispanic Patients

Joyce Y. Lee and Sri Harathi

The Hispanic population is the fastest growing minority group in the United States. According to the U.S. Census Bureau (2006), by the year 2050 it is estimated that nearly one-quarter of the country's population, or 102.6 million, will be of Hispanic origin. However, this population falls behind other ethnic and racial groups in terms of median years of education and annual household income (Gutiérrez, Yeakley, & Ortega, 2000). In addition to poor socioeconomic status, Hispanic people—especially recent immigrants—face issues related to cultural and language barriers that hinder them from seeking and accessing basic health care services (Escarce & Kapur, 2006). As a result, the predominantly low-income Hispanic population is at risk of various health maladies, including diabetes, hypertension, and major depression, without proper access to timely and quality health care provision (Centers for Disease Control and Prevention, 2014; Padilla, Ruiz, & Alvarez, 1989; Sieverdes et al., 2013).

In addition, the Hispanic population is one of the country's most disproportionately uninsured groups. During the first year of enrollment, only 2.6 million out of 10.2 million uninsured Hispanic people eligible for health care coverage through the 2010 Patient Protection and Affordable Care Act (ACA) (P.L. 111-148) signed up for health plans (U.S. Department of Health and Human Services, 2012). Health insurance reduces out-of-pocket costs and has been shown to be the single most important predictor of health care utilization (Escarce & Kapur, 2006). Without health insurance, many Hispanic people forgo not only care even when they need it, but also the opportunity to establish a usual source of care. Having a usual source of care provides a locus of entry into the complex health care delivery system and serves as the link to more specialized types of care (Lewin-Epstein, 1991). However, minority groups such as low-income Hispanic people are less likely to seek specialized health care services and instead rely on public clinics or informal support systems (Furman et al., 2009).

Given these barriers, social work practitioners working closely with Hispanic patients are urged to apply innovative practice methods to help reduce the health care gap prevalent among this population. In particular, Norris and Alegria (2005) have argued that social workers should develop and implement health care services that allow for more flexible hours, elicit feedback from clients, and are more culturally sensitive. In response, researchers have suggested using mobile technology to help fill these service gaps and meet the specific health needs of Hispanic patients (Aguilera & Muñoz, 2011). Meanwhile, it is also important to note the rapidly increasing number of cell phone owners among this population because such a pattern implies mobile technology's potential to effectively deliver appropriate health-related services. With its availability and affordability, mobile technology is continuously identified as a vital tool that supports health assessment, treatment, and client engagement (Seko, Kidd, Wiljer, & McKenzie, 2014). Building on such evidence from previous studies, this article explores most recent practice interventions and action research using mobile technology to address critical health needs among low-income Hispanic patients. Furthermore, it draws important implications for social workers striving to create a more equitable health care system for this population by illuminating the advantages and challenges of using mobile technology in social work practice in health settings.

CELL PHONE OWNERSHIP AMONG THE HISPANIC POPULATION

As of 2014, Hispanic adults scored the highest (92 percent) among those who own cell phones (compared with 90 percent white and 90 percent African American) (Pew Research Center, 2014). Although younger and more educated Hispanic adults are more likely to report their cell phone ownerships,

doi: 10.1093/hsw/hlv078

56 percent Hispanic adults 65 and older, 77 percent with less than a high school diploma, and 83 percent with annual family incomes below $30,000 also say that they own at least one cell phone (Lopez, Gonzalez-Barrera, & Patten, 2013). Given the prevalence of cell phones in Hispanic communities across age, educational level, and annual income, mobile technology is considered to be promising for improving access to health care for this group, especially Hispanic patients in resource-limited settings. Mobile technology used in health settings is often referred to as mHealth, which implies the use of mobile communication—such as applications and text messaging—to promote an individual's health by supporting key health care practices (for example, health data collection, delivery of health care information, or patient self-observation) (World Health Organization, 2011).

MOBILE DIABETIC TREATMENT

To examine the preliminary effectiveness of mHealth intervention on low-income and bilingual Hispanic patients with poorly controlled diabetes, Arora, Peters, Agy, and Menchine (2012) conducted a proof-of-concept trial using the Trial to Examine Text-Based mHealth for Emergency Department Patients with Diabetes (abbreviated as TExT-MED) program, a text message–based intervention designed specifically for low-income diabetic patients. The researchers used a sample of 23 diabetic patients (70 percent Hispanic). Patients received three text messages a day for three weeks in English and Spanish on educational information about diabetes, healthy goal setting, and medication reminders. The study results showed that in the week before TExT-MED, 56.5 percent reported eating fruits or vegetables daily versus 83 percent after the intervention, 43.5 percent reported exercising before versus 74 percent after, and 74 percent reported performing foot checks before versus 85 percent after. Self-efficacy and medication adherence scores also improved. Ninety percent of diabetic patients expressed their desire to continue the text message–based mHealth program.

HYPERTENSION TREATMENT

Similarly, Sieverdes and colleagues (2013) performed a proof-of-concept randomized control trial that examined the initial effectiveness of the Smartphone Medication Adherence Stops Hypertension (SMASH) intervention on 10 Hispanic patients with uncontrolled *essential hypertension*, a rise in blood pressure of unknown cause that also increases risks for cerebral, cardiac, and renal events (Messerli, Williams, Ritz, 2007). For a three-month period, cell phone–connected medication trays provided reminders for patients to take their medications while smartphone messages reminded patients to take at-home blood pressures. Health providers received bimonthly feedback and sent subsequent motivational and reinforcement text and audio messages to the patients. Results showed high provider and patient acceptability through high study recruitment (86 percent), high retention (100 percent), and good to excellent adherence to the intervention (average 97 percent adherence to medication regimen across trial, 83 percent adherence to a three-day blood pressure protocol, and 89 percent adherence to total blood pressure readings), suggesting that the SMASH intervention serves as a potentially effective tool assisting Hispanic patients in managing hypertension.

DEPRESSION TREATMENT

With respect to major depression among the Hispanic population, Aguilera and Munõz (2011) used automated text messages as an adjunct to group cognitive–behavioral therapy among low-income patients with depression. Twelve patients (five English speakers, seven Spanish speakers) in a public sector clinic received daily text messages in English or Spanish that asked questions about the total numbers of positive and negative thoughts, interpersonal contacts, and physical activities (for example, "How many positive thoughts have you noticed today?" "How many positive social interactions have you had today? "How many things have you done to improve your health today?"). After running the text messaging adjunct for two months, the study results showed a participant response rate of 65 percent with reports suggesting increased therapeutic alliances. In particular, Spanish-speaking patients reported that receiving messages made them feel closer to their therapists and encouraged them to attend group sessions. Overall, study results indicated that low-income Hispanic patients receiving psychotherapy in a community-based mental health care setting are responsive to and like using text messages as part of their treatment for depression (Aguilera & Munõz, 2011).

ADVANTAGES AND LIMITATIONS

For social work practitioners serving low-income Hispanic patients and striving to create a more equitable health care system on behalf of this population,

it is important to note the key advantages of mHealth in improving access to health care. In addition to user friendliness, cost effectiveness, and flexibility, mHealth provides the added advantage of anonymity (Seko et al., 2014)—a potentially critical element for Hispanic patients who may be facing issues of immigration, language barriers, and sociocultural stigma attached to seeking certain health care services (for example, HIV/AIDS, depression). Because mobile platforms are usually visible only to the user, Hispanic patients wishing to seek health treatment while simultaneously protecting their identities may be more likely to use mHealth rather than traditional interventions. Most important, mHealth has been known to help strengthen the therapeutic alliance (Morris & Aguilera, 2012), or the professional helping relationship, which is one of the fundamental tenets of social work practice. Social workers are encouraged to incorporate mHealth interventions in their practice to strengthen helping relationships with Hispanic patients and better assist the navigation of and access to necessary health care services.

At the same time, social workers should also note two major mHealth limitations: (1) the issue of privacy concerning patients' digital health information and (2) paucity of evidence-based research (Shore et al., 2014). Because mHealth allows for continual and broad data collection as well as information sharing with multiple parties in a patient's network, it is imperative that social workers take extra precaution to ensure client confidentiality, especially for undocumented Hispanic patients whose immigration statuses often hinder them from seeking basic health treatment. In addition, there is a general lack of evidence-based research that supports the long-term effectiveness of mHealth in social work practice with socioeconomically disadvantaged and ethnic minority clients. Although this article highlighted recent practice interventions that are promising for improving the health care disparity for Hispanic patients, more randomized controlled longitudinal studies using larger samples need to be conducted. Taken together, social workers are urged to keep these mHealth limitations, as well as key benefits, in mind as they judiciously use mobile technology to assist their everyday practice with low-income Hispanic patients. HSW

REFERENCES

Aguilera, A., & Muñoz, R. F. (2011). Text messaging as an adjunct to CBT in low-income populations: A usability and feasability pilot study. *Professional Psychology: Research and Practice, 42*, 472–478.

Arora, S., Peters, A. L., Agy, D., & Menchine, M. (2012). A mobile health intervention for inner city patients with poorly controlled diabetes: Proof-of-concept of the TExT-MED program. *Diabetes Technology & Therapeutics, 14*, 492–497.

Centers for Disease Control and Prevention. (2014). *Minority health: Hispanic or Latino populations*. Retrieved from http://www.cdc.gov/minorityhealth/populations/REMP/hispanic.html#Gov

Escarce, J. J., & Kapur, K. (2006). Access to and quality of health care. In M. Tienda & F. Mitchell (Eds.), *Hispanics and the Future of America* (pp. 410–446). Washington, DC: National Academies Press.

Furman, R., Negi, N. J., Iwamoto, D. K., Rowan, D., Shukraft, A., & Gragg, J. (2009). Social work practice with Latinos: Key issues for social workers. *Social Work, 54*, 167–174.

Gutiérrez, L., Yeakley, A., & Ortega, R. (2000). Educating students for social work with Latinos: Issues for the new millennium. *Journal of Social Work Education, 36*, 541–557.

Lewin-Epstein, N. (1991). Determinants of regular source of health care in black, Mexican, Puerto Rican, and non-Hispanic white populations. *Medical Care, 29*, 543–557.

Lopez, M. H., Gonzalez-Barrera, A., & Patten, E. (2013). *Closing the digital divide: Latinos and technology adoption: III. Cellphone use*. Retrieved from http://www.pewhispanic.org/2013/03/07/iii-cellphone-use/

Messerli, F. H., Williams, B., & Ritz, E. (2007). Essential hypertension. *Lancet, 370*(9587), 591–603.

Morris, M. E., & Aguilera, A. (2012). Mobile, social, and wearable computing and the evolution of psychological practice. *Professional Psychology: Research and Practice, 43*, 622–626.

Norris, F., & Alegria, M. (2005). Mental health care for ethnic minority individuals and communities in the aftermath of disaster and mass violence. *CNS Spectrums, 10*, 132–140.

Padilla, A. M., Ruiz, R. A., & Alvarez, R. (1989). Community mental health services for the Spanish speaking/surname populations. In D. R. Atkinson, G. Morten, & D. W. Sue (Eds.), *Counseling American minorities: A cross-cultural perspective* (3rd ed., pp. 167–198). Dubuque, IA: William C. Brown.

Patient Protection and Affordable Care Act, P.L. 111-148, 124 Stat. 119 (March 23, 2010).

Pew Research Center. (2014). *Cell phone and smartphone ownership demographics*. Retrieved from http://www.pewinternet.org/data-trend/mobile/cell-phone-and-smartphone-ownership-demographics/

Seko, Y., Kidd, S., Wiljer, D., & McKenzie, K. (2014). Youth mental health interventions via mobile phones: A scoping review. *Cyberpsychology, Behavior, and Social Networking, 17*, 591–602.

Shore, J. H., Aldag, M., McVeigh, F. L., Hoover, R. L., Ciulla, R., & Fisher, A. (2014). Review of mobile health technology for military mental health. *Military Medicine, 179*, 865–878.

Sieverdes, J. C., Gregoski, M., Patel, S., Williamson, D., Brunner-Jackson, B., Rundbaken, J., et al. (2013). mHealth medication and blood pressure self-management program in Hispanic hypertensives: A proof of concept trial. *Smart Homecare Technology and TeleHealth, 1*, 1–10.

U.S. Census Bureau. (2006). *Hispanic Heritage Month 2005: September 15–October 15* [Press release]. Washington, DC: Public Information Office.

U.S. Department of Health and Human Services. (2012). *Fact sheets: The Affordable Care Act and Latinos*. Retrieved from http://www.hhs.gov/healthcare/

facts/factsheets/2012/04/aca-and-latinos04102012a.html
World Health Organization. (2011). *mHealth: New horizons for health through mobile technologies* (Vol. 3). Geneva: Author.

Joyce Y. Lee, MSW, LSW, *is a doctoral student of social work and psychology, School of Social Work, University of Michigan, 1080 South University Avenue, Ann Arbor, MI 48109; e-mail: joyceyl@umich.edu.* ***Sri Harathi, BA,*** *is a research assistant, Department of Psychology, Temple University, Philadelphia.*

Original manuscript received November 4, 2014
Final revision received November 26, 2014
Accepted December 8, 2014
Advance Access Publication November 27, 2015