

BACKGROUND

- Postpartum mood and anxiety disorders (PMAD) are a complication of the perinatal period. Neonatal Intensive Care Unit (NICU) parents have increased postpartum depression as compared to the general population.
- Black women have preterm babies at increased rates compared to white women, making up a large portion of the NICU parent population.¹
- Black women are also more likely than white women to die of pregnancy related complications.² Mental health is a major contributor to death from any cause within one year of pregnancy is studied.
- Race is an independent variable in predicting postpartum depressive symptoms.³ Minority women are more likely to have a child in the NICU, more likely to suffer from postpartum complications, including mental health challenges.
- Across clinical settings, PMAD symptoms are inconsistently asked about.
- Minority groups are most likely to rely on their phones as their only means of internet access.⁴

PURPOSE

- The purpose of this study is to create a smartphone application for self-directed care and self-directed referral for mental health services. This is meant to more effectively reach the general population and more equitably screen the maternal NICU population for mental health issues and provide tools for self-guided referral.

SPECIFIC AIMS

- **Aim 1:** Reduce racial and ethnic disparities in access to mental health screening and referral among mothers of NICU patients
- **Aim 2:** Create a novel self-screening and referral tool accessible from any smartphone to assess mental health challenges among mothers with infants admitted to the NICU
- **Aim 3:** Assess the rate of self-screening and respondent demographics through our novel assessment tool as compared with the existing referral process

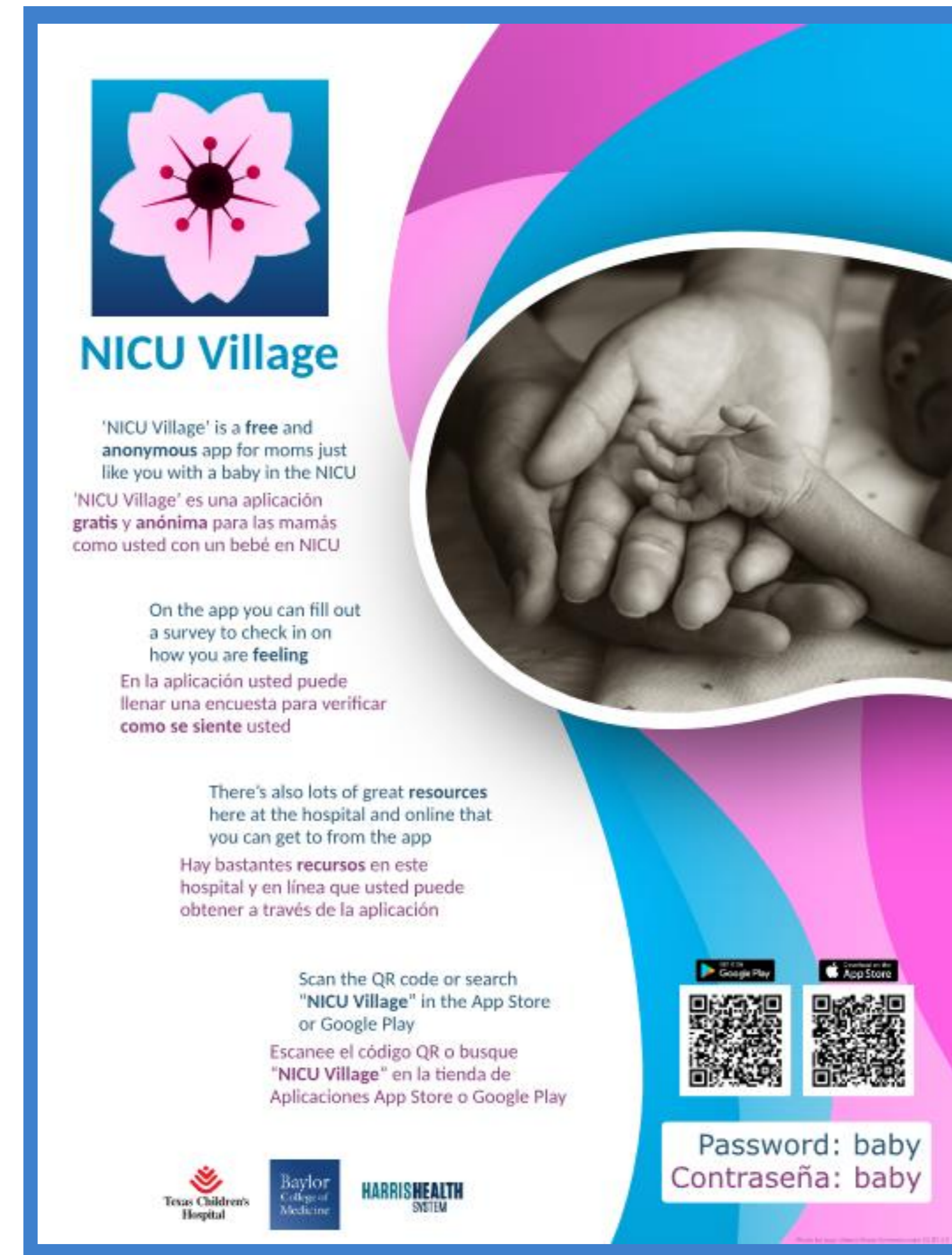


Fig 1: Poster design placed at NICU entry-ways to inform patients of the new screening tool being implemented.

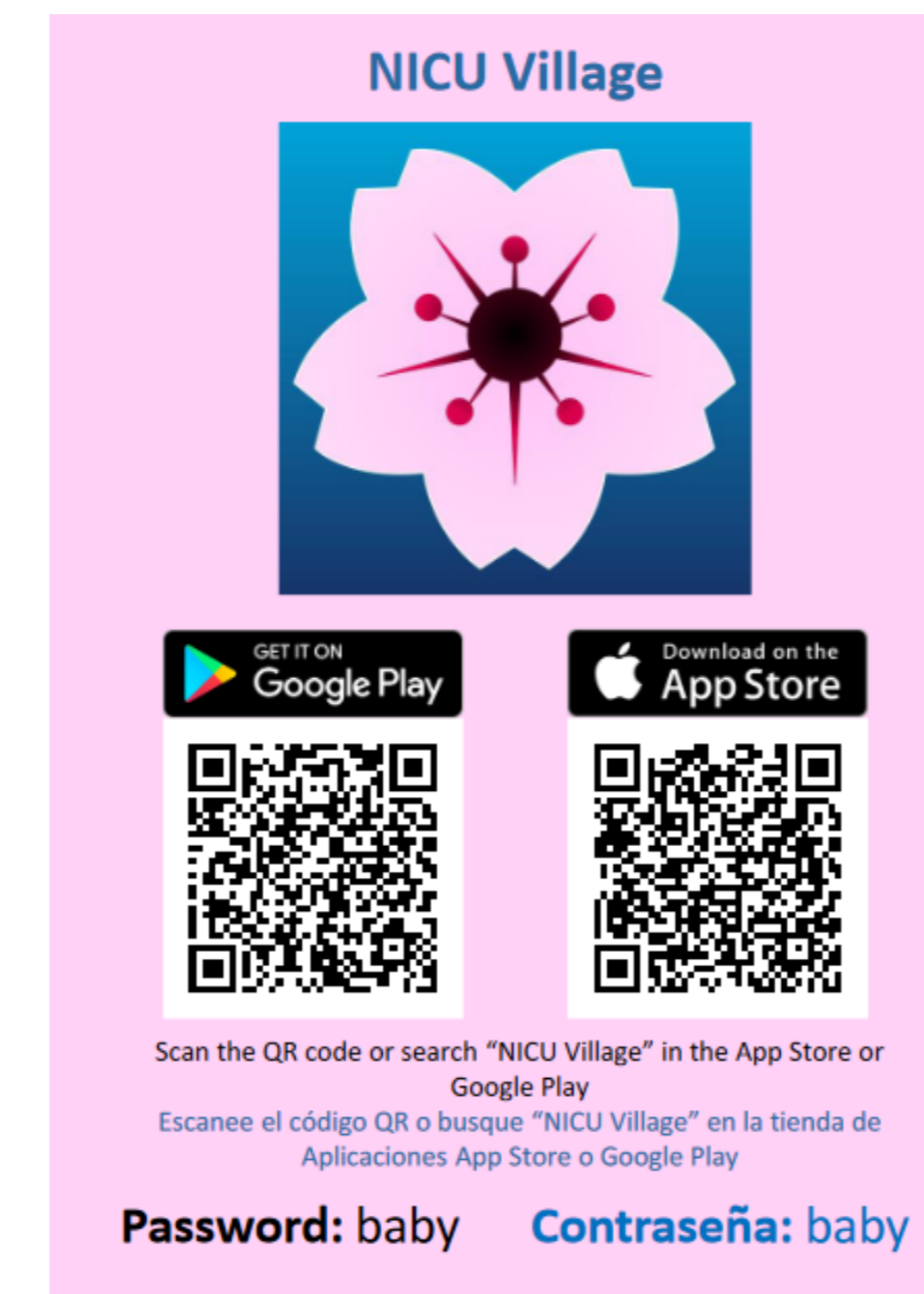


Fig 2: Postcard design given to families with a scannable QR code to access the app with reverse side including information seen in Fig. 1.



Fig 3: App screen seen following demographic information input directing user to screening tools, definitions, and other resources

METHODS

- Application has self-guided screens for postpartum depression (Edinburgh Postnatal Depression Scale, EPDS) and anxiety (Generalized Anxiety Disorder Screen, GAD-7).
- App also includes resources section with information about support services at:
 - Texas Children's Hospital (TCH): Social work, palliative care, child life
 - Ben Taub Hospital: Social work, The Harris Center
 - The Women's Place at Pavilion for Women (Center for Reproductive Psychiatry)
 - Online resources
- Application is available in English and Spanish
- Written information regarding the app will be displayed in the Ben Taub Hospital level 3 NICU, PFW level 3 NICU, TCH level 2 and 4 NICUs, and TCH Fetal Center.
- Written information contains a QR code and password to download the app.
- App set to launch April 2022

ANTICIPATED RESULTS

- Measurable outcomes
 - Number of downloads
 - Self-reported demographics
 - Number of EPDS and GAD-7 screens completed
 - Screen navigation within the app

REFERENCES

- ¹Behrman RE, Stith Butler A, eds. Institute of Medicine, Committee on Understanding Preterm Birth and Assuring Healthy Outcomes. Preterm Birth: Causes, Consequences, and Prevention. Washington, DC: The National Academies Press; 2007
- ²Creanga AA. Maternal Mortality in the United States: A Review of Contemporary Data and Their Limitations. Clin Obstet Gynecol. 2018;61(2):296-306. doi:10.1097/GRF.0000000000000362
- ³Howell EA, Mora PA, Horowitz CR, Leventhal H. Racial and ethnic differences in factors associated with early postpartum depressive symptoms. Obstet Gynecol. 2005;105(6):1442-1450. doi:10.1097/01.AOG.0000164050.34126.37
- ⁴ Pew Research Center, Section of Internet and Technology. "Mobile Fact Sheet." <https://www.pewresearch.org/internet/fact-sheet/mobile/>