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Puerto Rico Community Engagement Research Alliance (PR-CEAL) Against COVID-19 Disparities

PR-CEAL has led, over the past year, a scientific and community effort aiming to address and target COVID-19 related health disparities. This coordinated and interdisciplinary collaboration between the academia and the community has led to the documentation of COVID-19 vaccine barriers, different methods and strategies to reach the vulnerable, underserved and communities hesitant towards vaccination.





Community engagement activities

Community Outreach Engagement Group is the matrix of the development of community activities for the achievement of PR-CEAL objectives. Since November 2021, this group has participated in 35 community activities island wide. The goal from these activities was to increase access to correct and reliable information and to reduce the spread of the coronavirus that causes COVID-19 in collaboration with community-based organizations

PR-CEAL GOAL

The goal of the PR Community-Engaged Research Alliance (PR-CEAL) Against COVID-19 in Disproportionately Affected Communities is to establish effective community outreach and engagement strategies with a team of esteemed health professionals, researchers, and community coalitions who will help in the delivery of accurate information to overcome COVID-19 health disparities in the island.





Associations between perceived perceived changes in stress, eating, and weight during the COVID-19 pandemic among adults in Puerto Rico: Assessments of PR-CEAL

Andrea López-Cepero, Vivian Colón López, Stephanie Cameron, Adriana L. Díaz, William Pagán, Juan Tossas & Cynthia M. Pérez

Objectives: To examine the associations between perceived changes in stress, eating, and weight during the COVID-19 pandemic among adults in Puerto Rico.

Methods: This cross-sectional analysis used data from the Puerto Rico Community Alliance Against COVID-19 Disparities (CEAL) study. A total of 551 adults (>18 years) completed an online survey from December 30, 2021 to January 28, 2022. Three individual items assessed perceived changes in stress, eating, and weight throughout the pandemic (from March 2020 to survey completion). Response options were 'increased', 'decreased', and 'no change'. Participants reporting decreases in stress (n=9) were excluded from the analysis. Adjusted Poisson models with robust error variance estimated prevalence ratios (PR) and 95% confidence intervals (CI), using those reporting no change in stress as the reference group. All models were adjusted for age, gender, number of children in the household, education, income, employment, marital status, COVID-19 diagnosis, and pre-pandemic obesity.

Results: Eligible respondents with complete data on study variables (n=495) were on average 38+14 years, the majority were women (73.9%), and had at least some college education (52.9%). The majority reported perceived increases in stress during the pandemic (74.7%). In adjusted regression models, a perceived increase in stress (vs. no change) was associated with perceived increases in eating (PR=1.88, 95% CI=1.38, 2.56) and weight (PR=1.68, 95% CI=1.11, 2.54) as well as decreases in eating (PR=1.87, 95% CI=1.06, 3.30) and weight (PR=1.51, 95% CI=1.21, 1.88). **Conclusion**: A large proportion of adults in Puerto Rico reported an increase in stress during the COVID-19 pandemic, which were significantly associated with changes (both increases and decreases) in eating and weight. Interventions and clinical programs targeting stress management during public health emergencies are needed to maintain healthy weight and eating habits. **Funding**: Puerto Rico-CEAL was funded by NIH-NHLBI.

Associations between perceived changes in eating, weight, and perceived health during the COVID-19 pandemic among adults in Puerto Rico: Assessments of Puerto Rico-CEAL.

Andrea López-Cepero, Vivian Colón López, Stephanie Cameron, Adriana L. Díaz, William Pagán, Juan Tossas & Cynthia M. Pérez

Objectives: To examine the associations between changes in eating, weight, and perceived health during the COVID-19 pandemic among adults in Puerto Rico. **Methods**: This analysis used cross-sectional data from the Puerto Rico-Community Alliance Against COVID-19 Disparities (CEAL) study. Individuals were adult men and women (n=551;>18y) who completed an online survey from December 30, 2021, to January 28, 2022. Two items assessed perceived changes in eating and weight throughout the pandemic (from March 2020 to survey completion). Response options were 'increased', 'decreased', and 'no change'. Two items assessed overall perceived health, one pre-pandemic (asked retrospectively) and one pandemic (current). Response options were on a five-point scale: excellent-poor. Changes in perceived health were calculated and categorized as decrease, increase, and no change. Adjusted Poisson models with robust error variance estimated prevalence ratios (PR) and 95% confidence intervals (CI), using those reporting no change as the reference group. **Results:** Eligible respondents with complete data on study variables (n=496) were on average 38+14y and 73.4% were women. Overall, 55.6% had no change in perceived health during the COVID-19 pandemic, whereas 36.7% experienced a decrease and 7.5% an increase.



In adjusted models, individuals reporting an increase in eating (vs. no change) were more likely to experience a decrease in perceived health (PR=1.59, 95% CI=1.24, 2.05). Individuals reporting an increase in weight (vs. no change) and a decrease in weight (vs. no change) were more likely to experience a decrease in perceived health (PR=1.75, 95% CI=1.29, 2.28; and PR=1.70, 95% CI=1.17, 2.48; respectively). No significant associations were observed for changes in weightand eating and increases in perceived health. **Conclusion**: Over a third of adults in Puerto Rico reported decreases in perceived health during the COVID-19 pandemic. Increases in eating and changes in weight during the pandemic were associated with a decrease in perceived health. Interventions and public health campaigns on the island need to address negative eating behaviors and promote healthy weight maintenance during public health emergencies to preserve the population's health. **Funding:** Puerto Rico-CEAL was funded by NIH-NHLBI.



Beliefs towards COVID-19 booster vaccination acceptance among immunized adults inPuerto Rico: Assessments of PR-CEAL.

Andrea López-Cepero, Vivian Colón López, Stephanie Cameron, Adriana L. Díaz, William Pagán, Juan Tossas & Cynthia M. Pérez

Background & Objective: Nearly one-third of the eligible population in Puerto Rico (PR) has received a COVID-19 booster vaccine despite its importance in managing ongoing and emerging pandemic challenges. However, beliefs towards COVID-19 booster vaccination among immunized individuals remain unknown. This study examined the beliefs towards COVID-19 booster vaccination and acceptance among adults in PR. **Methods:** Study participants were adults immunized against COVID-19 who completed the PR-CEAL online survey, framed by the Health Belief Model (HBM), from December 30, 2021, to January 28, 2022. Respondents were classified as booster vaccination acceptance (boosted or will get boosted as soon as possible) or booster vaccination refusal (no intent to get boosted or rather wait). Pearson χ2 test was used to comparing the differences in booster vaccination acceptance across HBM constructs. **Results:** Mean (SD) age of the total sample (n=529) was 38.2 (14.5) years, 52.7% had some college education or were college graduates, and 73.3% were

female. Most of the sample (90.7%) reported COVID-19 booster vaccination acceptance, and 9.3% refused booster vaccination. Immunized individuals refusing booster vaccination were less likely to perceive benefits of booster vaccination than those with booster acceptance: the booster decreases chances of getting COVID- 19 or its complications (24.5% vs. 86.3%) and the booster decreases concerns about catching COVID-19 (12.2% vs. 79.8%). Additionally, individuals refusing booster vaccination were more likely to perceive barriers towards booster vaccination than those with booster vaccination acceptance: concerns about booster vaccination acceptance vaccination acceptance is afety (81.6% vs. 37.9%), side effects (75.5% vs 37.7%), and efficacy (79.6% vs 41.0%). Conclusion: Most adults reported COVID-19 booster vaccination acceptance despite concerns over its safety, side effects, and efficacy. However, public health campaigns need to target booster barriers and benefits to reduce booster vaccination refusal in PR. **Acknowledgment:** This work has been supported by OT2HL161827 from NIH-NHLBI.

Exploring gender differences in the impact of the COVID-19 pandemic on weight, eating frequency, and stress among adults in Puerto Rico: Assessments of Puerto Rico-CEAL.

Stephanie Cameron-Maldonado, Andrea López-Cepero, Cynthia M. Pérez, Adriana L. Díaz, William Pagán, Juan Tossas & Vivian Colón-López

Objective: To evaluate weight changes, eating frequency, and stress during the COVID-19 pandemic among adults in Puerto Rico and examine differences by gender. **Methods:** Individuals were men and women (n=551 ≥18 yr.) who completed the Puerto Rico Community Engagement Research Alliance Against COVID-19 Disparities online survey from December 30, 2021, to January 28, 2022. Three individual items assessed perceived changes in weight, eating frequency, and stress throughout the pandemic (March 2020 to survey completion), with response options being 'increased', 'decreased', and 'no change'. Multiple logistic and multinomial regressions models were used to examine the association between gender and perceived changes in all three outcomes. Models were adjusted for age, education, income, employment, number of children in the household, having to care for someone with COVID-19, marital status, and pre-pandemic obesity.

Results: Of the total eligible sample with complete data on study variables (n=524), mean (SD) age was 38.2 (14.5) years, 52.7% had some college education, and 73.3% were women. Over half (53.0%) reported an increase in weight during the pandemic, 42.5% an increase in eating frequency, and 74.2% an increase in stress. In adjusted regression models, women (vs.



men) were more likely to report an increase in eating frequency over no change (RRR=1.55; 95% Cl=1.01, 2.39) and marginally significantly more likely to report an increase in weight over no change (RRR=1.56; 95% Cl=0.99, 2.48). In addition, women (vs. men) had twice the odds of reporting an increase in stress levels (OR=2.14; 95% Cl=1.36, 3.36). **Conclusion**: A substantial proportion of the sample reported weight increases, eating frequency, and stress during the COVID-19 pandemic, and women were disproportionally affected by these pandemic outcomes. Interventions tailored for women are needed to reduce the pandemic impact on weight, eating frequency, and stress in Puerto Rico and preserve overall health. **Funding Sources:** This work has been supported by the National Institute of Health-National Heart, Lung, and Blood Institute (NIH-NHLBI).



Comprensión de la preparación de la comunidad, barreras y facilitadores relacionados con COVID-19: Investigación de participación comunitaria en Castañer Puerto Rico

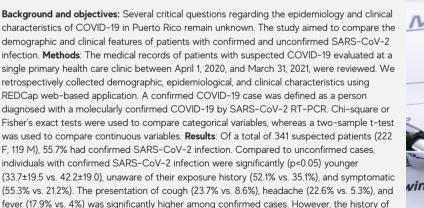
Edna Acosta-Pérez, Marcilyn Colón-Colón, Zuleska Soto-Román, Heriberto Martínez-Piña, José O. Rodríguez-Ramos & Robin Russell-Orama

Trasfondo: Mediante la continuidad de proyecto colaborativo de investigación participativa entre el Hospital General Castañer (HGC) y el RCM examinamos barreras y facilitadores que pueden existir entre pacientes, proveedores y líderes (stakeholders) en Castañer, Adjuntas y Jayuya para las pruebas de detección de COVID-19, la vacunación, la participación en la investigación y los tratamientos, así como las prioridades de salud para las necesidades de desarrollo de capacidades. **Objetivos:** 1) Identificar los factores multiniveles que actúan como barreras o facilitadores para la prevención y atención de COVID-19. 2) Conocer las opiniones, experiencias y recomendaciones de los participantes acerca de las prioridades de salud relacionadas con el COVID-19 y las necesidades de creación de capacidad. **Método**: Realizamos entrevistas narrativas virtuales (n=18) y grupos focales (n=3) con pacientes, proveedores y personas significativas cercana al (HGC). Las grabaciones de las sesiones fueron transcritas y analizadas siguiendo sistema de validación de jueces independientes.

Las metas-categorías más relevantes identificadas del análisis de contenido fueron: Aspectos facilitadores de salud y barreras manejo COVID. **Resultados**: Participaron 51 personas con diversos trasfondos personales y académicos. Entre las categorías emergentes resaltan: 'Respuesta de Castañer', lo cual muestran las estrategias implementadas a partir del COVID-19 y prevalece la 'desconfianza', en cuanto a la vacunación. Conclusión: La pandemia del COVID-19 transformó las vidas y roles de los/as participantes en sus familias, comunidad y centros de trabajo y destacaron aprendizajes para futuras experiencias. Las preocupaciones principales son la continuidad de servicios para las personas mayores, sin acceso a transportación, de baja literacia tecnológica y el impacto que la pandemia ha tenido en todos los aspectos de la vida de nuestros niños/as. Algunas oportunidades para la acción incluyen promover el desarrollo de esfuerzos educativos basado en evidencia y establecer alianzas con los diferentes sectores participantes para mejorar el estado de salud. **Agradecimientos:** Esta investigación fue apoyada por una subvención otorgada por los Institutos Nacionales de la Salud de la Alianza de Participación Comunitaria (OT2HL161827) y La Alianza Hispana para la Investigación Clínica y Traslacional (La Alianza) con el apoyo de los Institutos Nacionales de Salud del Instituto Nacional de Ciencias Médicas Generales (NIGMS-U54GM133807). Aprobado por el IRB del Recinto de Ciencias Médicas (A9360118), (A7080121).

Comparison of demographic and clinical features of patients with confirmed and unconfirmed SARS-CoV-2 infection in a primary healthcare center in Puerto Rico

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comorbidities (44.2% vs. 49.7%) was similar between groups, with hypertension, diabetes mellitus, and hyperlipidemia being the most prevalent conditions. Conclusion: In this single-center, over half of the suspected patients had a confirmed SARS-CoV-2 infection during the first year of the pandemic. Data collection efforts are underway to better characterize SARS-CoV-2 infection in the population served by these primary health care clinics. **Acknowledgments:** This work has been supported by the Puerto Rico Association of Primary Health Care Providers and by the grants 5S21MD000242 and 5S21MD000138 from NIH-NCMHD and OT2HL161827 from NIH-NHLBI.



Interest, attitudes, and participation of Hispanics in Puerto Rico in COVID-19 trials: Results from PR-CEAL.

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Background & Objectives: The COVID-19 pandemic has led to an increase in the conduction of treatment and vaccine trials. However, most participants include non-Hispanic Whites, which could lead to under-representation of minority populations. We describe the interest, attitudes, and participation in COVID-19 related clinical trials in a sample of Hispanics living in Puerto Rico. Methods: We analyzed data collected from an ongoing cross-sectional study that collected information of 138 individuals aged ≥ 21 years between November 2021 and January 2022. Information about demographics and participant's experience, attitudes, and beliefs about participating in COVID-19 related clinical trials was collected through a telephone interview. This study was approved by the IRB-MSC (A1810221). Results: Median age of participants was 57 years, and 71.0% were women. Most had at least a high-school degree (73.2%), an income ≥ \$20,000 (59.7%), and private health insurance (51.9%). The majority were vaccinated against COVID-19 (97.1%), and 62.3% had received

the booster dose. Nearly three quarters (70.3%) of participants were aware of the availability of COVID-19 clinical trials, but only 8% had been invited to participate. Nonetheless, 80.4% have thought about participating on a COVID-19 trial, and 72.8% are willing to participate in a trial to receive COVID-19 treatment if they become infected. One third of participants who had participated in a COVID-19 trial (n=6) indicated the importance of developing COVID-19 treatments as a strategy to return to normalcy. Reasons for refusal to participate in a trial included lack of enough information and fear about treatment safety. **Conclusion:** Our study findings show that there is interest in participating in COVID-19 related clinical trials; however, more efforts are needed to raise awareness in order to improve the likelihood of participation among Hispanic populations. **Acknowledgments:** NIMHD-10T2HL161827.

Community outreach strategies to understand COVID-19 booster vaccination acceptance among adults in Puerto Rico: The Puerto Rico Community Engagement Research Alliance (PR-CEAL) Against COVID-19 Disparities

Adriana Pons-Calvo, Cynthia M. Pérez, Karelys Canales Birriel, Norangelys Solis Torres, Zaydelis Tamarit Quevedo, Vivian Colón-López

Background & Objectives: Community outreach strategies have played a critical role in health initiatives aimed at reducing inequities around COVID-19. The PR-CEAL (Puerto Rico Community Engagement Alliance Against COVID-19 Disparities) aim to disseminate scientific-based COVID-19 related information and develop evidence-based strategies to promote vaccination and inclusion of Puerto Ricans in clinical studies. **Methods:** The PR-CEAL Community Outreach Group (COEG) developed a community survey tool for the assessment of needs related prevention and education of COVID-19, emergent topic related to COVID, and additional health concerns during the pandemic. Health promoters completed the questionnaire in 20 community engagement activities in collaboration with community-based organizations (CBOs). A total of two phases of this survey were conducted. The first one was implemented in November. The second phase occurred in December, to include new booster vaccine recommendations. **Results:** A total of 289 participants were reached. During the first phase of the study, 94% of the participants received their initial dose of the COVID-19 vaccine. Only 7% had been vaccinated against influenza. Moreover, 12% of the participants were immunocompromised, 16% reported a history of chronic conditions, and 44% lived or



worked in a place with a high risk of exposure to COVID-19. The second phase highlighted that more than 40% of the participants had received their booster vaccine dose. However, 89% of individuals who had not received the booster dose reported they are willing to receive it. Hypertension, diabetes, cholesterol, and asthma were the most prevalent health conditions reported by participants. **Conclusions:** These results suggest that the information gathered in community outreach activities can be used to strengthen future community engagement strategies. Efforts to develop targeted booster uptake education, added to reinforcement of the promotion of prevention screening practices for chronic disease and vaccination (including influenza) are needed concurrently with the COVID prevention efforts island wide. **Funding Sources**: This work has been supported by the National Institute of Health-National Heart, Lung, and Blood Institute (NIH-NHLBI).



Sex differences in COVID-19 booster vaccination acceptance in Puerto Rico: The Puerto Rico Community Engagement Research Alliance (PR-CEAL) Against COVID-19 Disparities

Adriana Pons-Calvo, Cynthia M. Pérez, Karelys Canales Birriel, Norangelys Solis Torres, Zaydelis Tamarit Quevedo, Vivian Colón-López

Background & Objectives: Community outreach strategies have played a critical role in health initiatives aimed at reducing inequities around COVID-19. The PR-CEAL (Puerto Rico Community Engagement Alliance Against COVID-19 Disparities) aim to disseminate scientific-based COVID-19 related information and develop evidence-based strategies to promote vaccination and inclusion of Puerto Ricans in clinical studies.

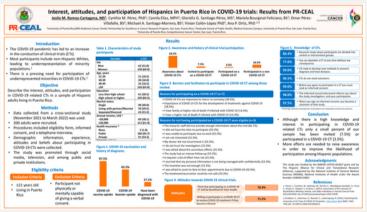
Methods: The PR-CEAL Community Outreach Group (COEG) developed a community survey tool for the assessment of needs related prevention and education of COVID-19, emergent topic related to COVID, and additional health concerns during the pandemic. Health promoters completed the questionnaire in 20 community engagement activities island wide in collaboration with communitybased organizations (CBOs). A total of two phases of this survey were conducted. The first one was implemented in November. The second phase occurred in December, to include new booster vaccine

recommendations. **Results**: A total of 289 participants were reached. During the first phase of the study, 94% of the participants received their initial dose of the COVID-19 vaccine. The second phase highlighted that more than 40% of the participants had received their booster vaccine dose. However, 89% of individuals who had not received the booster dose reported they are willing to receive it. Hypertension, diabetes, cholesterol, and asthma were the most prevalent health conditions reported by participants; with a higher percentage of comorbidities reported among women (63%) than men (51%). Bivariate analysis showed a significant higher rate of COVID-19 booster among women with comorbidities than men (p-value=0.063). **Conclusions**: These results suggest sex differences in booster vaccination. Information gathered in these community outreach activities can be used to strengthen future community engagement strategies. Efforts to develop targeted booster uptake education, added to reinforcement of the promotion of prevention screening practices for chronic disease and vaccination are needed concurrently with the COVID prevention efforts island wide. **Funding Sources**: This work has been supported by the National Institute of Health-National Heart, Lung, and Blood Institute (NIH-NHLBI).

Presentations



Presenter: Adriana Pons Calvo, MS

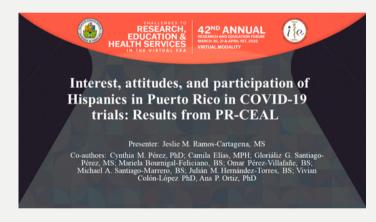


Presenter: Jeslie Ramos Cartagena, MS

Presentations



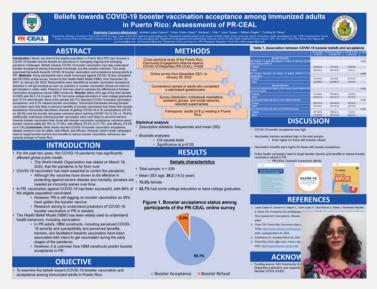
Presenter: Edna Acosta , PhD



Presenter: Jeslie Ramos Cartagena, MS



Presenter: Karelys Canales , MPHE



Presenter: Stephanie Camerón

Community Activities

Since October 2021, COEG has participated in 35 community activities island wide. Information gathered in community outreach activities can be used to strengthen future community engagement strategies.





