Advisory Board & Team Meeting - DZC

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DZC Updates

DZC2 – Competitive Renewal awarded by NIH in Sep/2024

DZC1 - Final report approved by NIH in Mar/2025

Fieldwork starting in May 2025





DZC2 Fieldwork Timeline

DZC1 = Waves 1 to 3

Wave 3 completed, data cleaned and merged with Waves 1 and 2

DZC2 = Waves 4 to 9; 6 months interval

W4 back to Face-to-Face interviews.

Additional 2,000 new respondents (refresh sample)

Average of 2-3 months of fieldwork per Wave





Fieldwork Strategies for DZC-2

Data Quality Strategies:

Internal development of all questionnaire flowchart & logic jumps to expedite corrections & improve quality

Questionnaire rounds of **live testing with programming developers** to avoid errors during fieldwork

Expansive pre-test & pilots to foresee fieldwork situations and solutions

Close work with Fieldwork manager and team to gather **feedback from experienced local surveyors**

Interface between GPS, voice recording and Survey Software to enhance data quality during interview Processes improvement to increase respondent retention & data quality **Community Outreach Strategies:**

Letters sent **prior** to fieldwork start to participants in areas with **difficult access**

Visit gated communities prior to fieldwork to try to gather access

Flyers distributed throughout retail stores and health hubs in the **neighborhoods**

Public relations hired to work with **local TV**, **Radio**, Community and Internet local groups

Instagram and Webpage in Portuguese

Partnership with Curumim, a local and well recognized name in Community Service

Partnership with **local survey company** with extensive **knowledge of audience** and neighborhoods



New in DZC-2

Inclusion of life history calendar that captures:

- Migration history, from childhood through current day, includes city/state/(country) and migration dates
- o Formal & informal union history
- o Contraceptive history up to five years
- o Sexual health assessment
- o Continuing with pregnancy and birth outcomes



New in DZC-2

- Ghost variables and flow control variables: in what is, to our knowledge, the **largest reproductive health survey** ever produced in Portuguese.
- New questions were harmonized with questions based in multiple sources, including DHS, other surveys conducted by team participants and collaborators, and national surveys
- All measures were constructed through multiple rounds of data analysis, review of existing questionnaires, **collaborative** debates among researchers, and in-person testing with target populations. We've produced **over 100 questionnaire versions before final** programming!
- Remarkably, because all this work: we required **only three testing rounds** with the programmed questionnaire to achieve full 100% operational readiness.



Behind the Scenes Work

- UPenn and Brazilian IRB Submissions of DZC-2 approved, with updated Informed Consents and Questionnaire
- Questionnaire for Wave 5 preparation already in progress and will go into programming in June/2025
- Grants for undergraduate students



Methodological Innovation: Adapting to Context

Innovation in Time Measurement ~ within the Life History Calendar, we needed to improve conditions for recall.

In the U.S. and other parts of the world, a common solution is to use quarters or seasons. Not ideal for Pernambuco (Brazil in general), where seasons are not sharply defined.

People often track time by major festivals (Carnival, São João, Christmas). To harmonize international time measures with local cultural context, we developed a novel quarterly division based on festivities to adapt an international time-measurement method to local culture and practices.

- CARNIVAL SEASON (1st Quarter)
- SÃO JOÃO SEASON (2nd Quarter)
- SUMMER SEASON (3rd Quarter)
- CHRISTMAS SEASON (4th Quarter)



Data Cleaning and Preparation

Waves 1 through3 were merged and organized in themed derived datasets to make it easier to use the data:





Analysis Merging Contextual Variables into DZC Data

Exposure to Arbovirus & COVID ~ by Jose Monteiro (PhD Candidate) – Upenn

- 1. Monthly population exposure (person-years lived)
- 2. Monthly rates of Zika/Dengue/Chikungunya
- 3. Monthly rates of Covid-19
- 4. Yearly under-5/infant mortality rates (unadjusted)
- 5. Yearly under-5/infant mortality rates (adjusted)
- 6. Dengue incidence



Analysis Creating Individual-level COVID Exposure measures

Unique individual-level measurements for COVID exposure and proximity, such as:

- # people R knows who had COVID
- COVID infection
- Suspected COVID w/o confirmation
- Whether someone in the household had COVID

Goal \rightarrow how exposure to COVID influences:

- Likelihood of changing fertility intentions, whether to bring forward, postpone, or forgo
- Probability of changing ideal family size
- Likelihood of using contraceptives



Relevant findings so far...

• <u>COVID "Suspected but unconfirmed":</u> Significant effects here suggest that when using macrolevel aggregate incidence indicators, we may be underestimating the true impact of COVID. Simply suspecting infection could have implications for reproductive health intentions & outcomes.

• <u>Race differences:</u> DZC included racial categories that incorporate skin tone (cor). In Pernambuco over 50% of women are Pardas (mixed-race/brown). We further disaggregate this group into Light Pardas and Dark Pardas, allowing for a more nuanced analysis. For most RH processes, Light Pardas seem to have RH processes more like Whites while Dark Pardas tend to resemble Black women



By Mohammad Al-Abbas, PhD Candidate, UPenn

- Impact of extreme precipitation and flooding on different socioeconomic and demographic groups in Pernambuco, Brazil, during the May 2022 floods.
- Satellite and self-reported data show distinct stratification patterns:
 - Satellite Data: Geographic segregation drives disparities; individual socioeconomic factors lose significance after adjusting for location.
 - Self-Reported Data: Household-level factors (e.g., income, labor, family size) are critical predictors of impact and sensitivity, even after accounting for geographic exposure.

• Main Takeaway:

Satellite-based measures capture geographic disparities driven by residential segregation, while self-reported impacts highlight household-level vulnerabilities shaped by socioeconomic resources. Together, they reveal the multifaceted nature of environmental inequality, underscoring the need to integrate both perspectives for effective disaster response



Luiz Sereno, DZC Data Manager and PhD Candidate, Unicamp, Brazil

PhD Dissertation

- Impact of COVID-19 financial assistance on pregnancy
- Quasi-experimental methods (inverse probability weighting) to establish causality
- Main Hypothesis: emergency aid enabled some women to delay pregnancy during Covid
- Contribute to literature on cash transfers and fertility, particularly during public health emergencies



by Brooke Whitefield, PhD Candidate, University of Texas in Austin

Published:

Whitfield, B., & Marteleto, L. "Women's attitudes towards abortion in response to the Zika and COVID-19 outbreaks in Brazil." Sexuality Research and Social Policy, 16:1-17.

• Support for abortion varies by income and religion, but a sizable portion of women across all incomes and religious affiliations support abortion, particularly in the case of fetal anomalies associated with Zika.



by Brooke Whitefield, PhD Candidate, University of Texas in Austin

Under review:

Whitfield, B., Coutinho, R.Z. & Marteleto, L. Evidence of abortion attitude flexibility during the onset of COVID-19 in Pernambuco, Brazil

- About half of women changed their abortion attitudes during the first year of the pandemic.
- Pentecostal Evangelicals were more likely to decrease support, while non-religious women or those with less conservative affiliations were more likely to increase support.
- Greater worry about Zika and COVID-19 --> higher support for abortion.
- Highlights the dynamic nature of abortion attitudes, which should be considered for policies, especially during crises.



Marteleto, Letícia and Sneha Kumar. "Dynamic Family Size Preferences During the Covid-19 Mortality Crisis: A Research Note." Forthcoming in *Demography*

- Exposure to Covid-19 deaths in their communities heightened mothers' desire to have more children and consolidate their families
- Not the same for non-mothers

Maia, Alexandre Gori, Luiz Gustavo Sereno, Letícia Marteleto, Sneha Kumar & Molly Dondero. "Covid-19 Emergency Cash Transfer and Pregnancy: Evidence from Panel Data." Conditionally Accepted in *Demographic Research*

• Emergency aid during the pandemic reduced the probability of pregnancy, particularly among less educated women and younger women.



Marteleto, Letícia, Sneha Kumar, Molly Dondero, & Luiz Gustavo Sereno. 2024. "Fertility Intentions During the Covid-19 Pandemic: An Analysis of Individual-and Municipality-level Determinants." PDR 50 (S1): 213-242

• Married women's Covid-19 infection risk perceptions matter for their intentions to forgo childbearing, net of Covid-19 contextual experiences.

Marteleto, Letícia, Molly Dondero, Sneha Kumar & David Mallinson. 2023. "Measuring Fertility Intentions During Times of Crisis: An Example Using Survey Data Amid the Covid-19 Pandemic." Studies in Family Planning 54(1): 161-180

• Highlights importance of using granular time windows (within two-year intervals) to capture short-term changes to fertility intentions during COVID-19



Maia, Alexandre Gori. (2024). Fertility and mothers' employment: evidences from a longitudinal survey. Presented at XI Congreso de la Asociación Latinoamericana de Población (ALAP, 2024).

- Significant and persistent reduction in formal employment probability for recent mothers.
- Positive mid-term effects on informal employment.
- Negative impacts stronger among parous women and those with unintended childbirths.
- Explored mechanisms by which fertility outcomes and intentions moderate labor supply effects.
- Provided new empirical evidence on how childbirth shapes women's employment dynamics in a developing country context



Marteleto, Leticia, Dondero, Molly Sereno, Luiz, Coutinho, Raquel "Income loss and fertility intentions during the COVID-19 pandemic in Brazil", Revista Brasileira de Estudos de Populacao, 2024.

- Most women intended to avoid pregnancy at the onset of the pandemic, with key differences between intentions to postpone versus forgo between mothers versus non-mothers.
- Pandemic-induced income loss and motherhood/parity interacted to define fertility intentions. Whereas income
 loss did not affect non-mothers, mothers had different intentions depending on income loss, with those
 experiencing it more likely to postpone or forgo a pregnancy, and mothers of two or more children more likely to
 forgo a pregnancy altogether.
- Qualitative analysis corroborated these patterns and provided further nuanced sensitivity of fertility intentions to pandemic-induced income shocks.



What is keeping us excited....

Life-course disease exposure and women's sterilization preferences and outcomes during and after Covid-19

Exposure to **back-to-back epidemics** and women's relationship trajectories before, during, and after Covid-19

Network Covid-19 exposure and its varied implications for women's fertility

Methodological Paper highlighting **DZC innovations**

Zika exposure matters for reproductive behavior and preferences during Covid-19

Employment & birth during crises: presenting during IUSSP/25

Fertility; Zika exposure: survival analysis to uncover cohort differences in adolescent pregnancy

Stratified childbearing norms





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