

### Impact of a multicomponent intervention on COVID-19 cases and deaths in the favelas of Rio de Janeiro

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### **COVID-19: Community Based-Intervention**

Few examples of successful interventions to mitigate the impact of epidemic in poor communities

- How to integrate social support, surveillance, health care and communication in response to the pandemic in neglected territories?
- How to incorporate new technologies in the response?
- How to promote **adhesion** to vaccination?
- How to generate knowledge that has impact for the community during the course of the epidemic?



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#### Response to Epidemic – Massive Vaccination – Clinical Research

June 2020

August 2021

To present

PESQUISA VACINA MAIRÉ

### Complexo da Maré: 16 favelas – 140,000 inhabitants



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### INNOVATION AND TECHNOLOGIES IN PRIMARY HEALTHCARE

#### INOVATIVE MULTINSTITUCIONAL ORGANIZATION





FIOCRUZ Fundação Oswaldo Cruz















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### INNOVATION AND TECHNOLOGIES IN HEALTHCARE

# INGRATED MODEL OF HEALTHCARE AND SURVEILLANCE IN FAVELAS



#### Surveillance

- Testing center
- Mobile technology and AI in case and contact detection
- Consolidated epidemiological information

#### **Health care**

- Telehealth and social support
- home isolation program

#### Communication

- Community engagement and mobilization
- Newsletters and social media reports
- Fight fake news

#### Management

- Integrated and coordinated management
- Integration with primary care



More than **45,000 samples collected** (serological and molecular) at the Maré Testing Center .

#### TELEHEALTH

Approximately **15,000 consultations** in telehealth (medical and psychological).

#### SAFE HOME ISOLATION

More than 1,200 families assisted by the social team.





### **MULTIPLE COMMUNICATION ACTIONS**

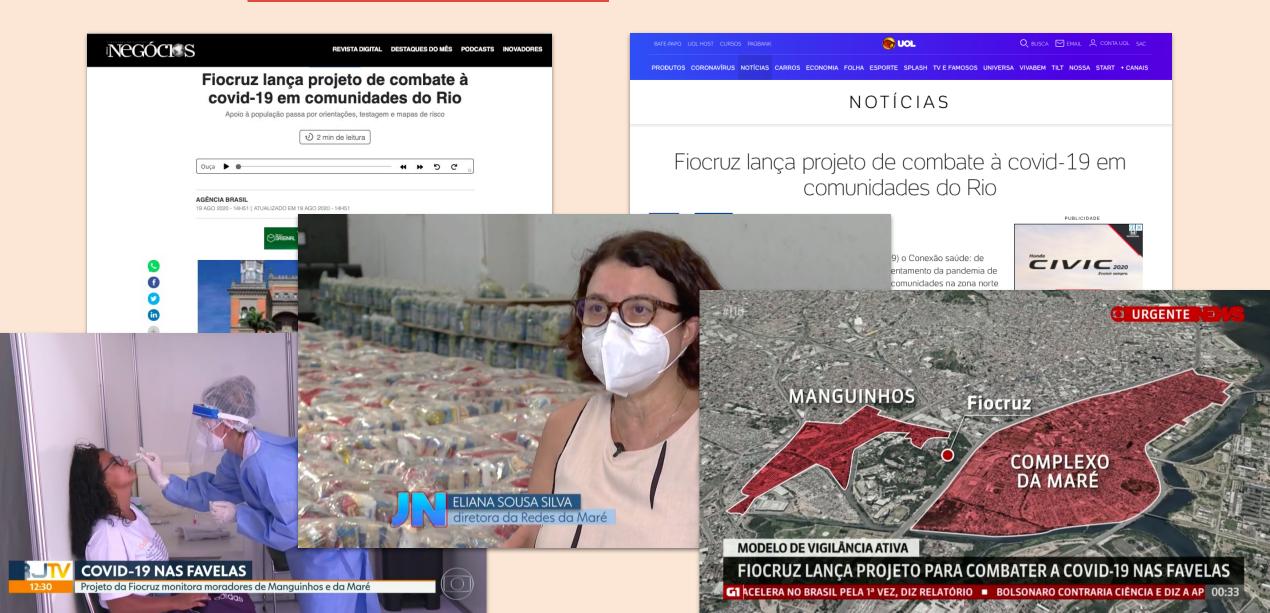


# MULTIPLE COMMUNICATION ACTIONS





# MULTIPLE COMMUNICATION ACTIONS





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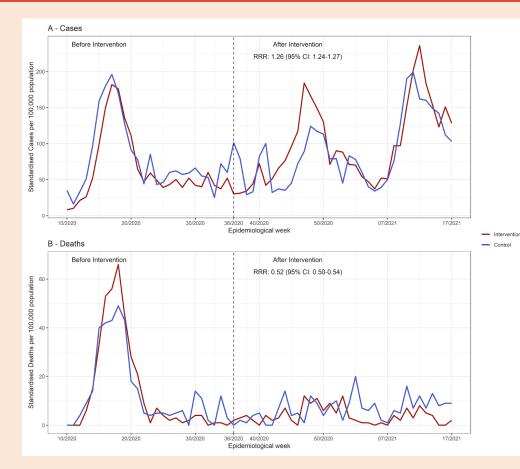


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# Multi-component intervention in Rio de Janeiro's Favelas: Difference-in-Differences analysis



The number of COVID-19 cases reported per week increased by 26% in Maré after the start of the intervention

The intervention reduced 48% of the rates of deaths reported per week in Maré.

**RRR:** Ratio of rate ratios

Estimated intervention effect in the progression of COVID-19 standardised (A) cases and (B) deaths per 100,000 population









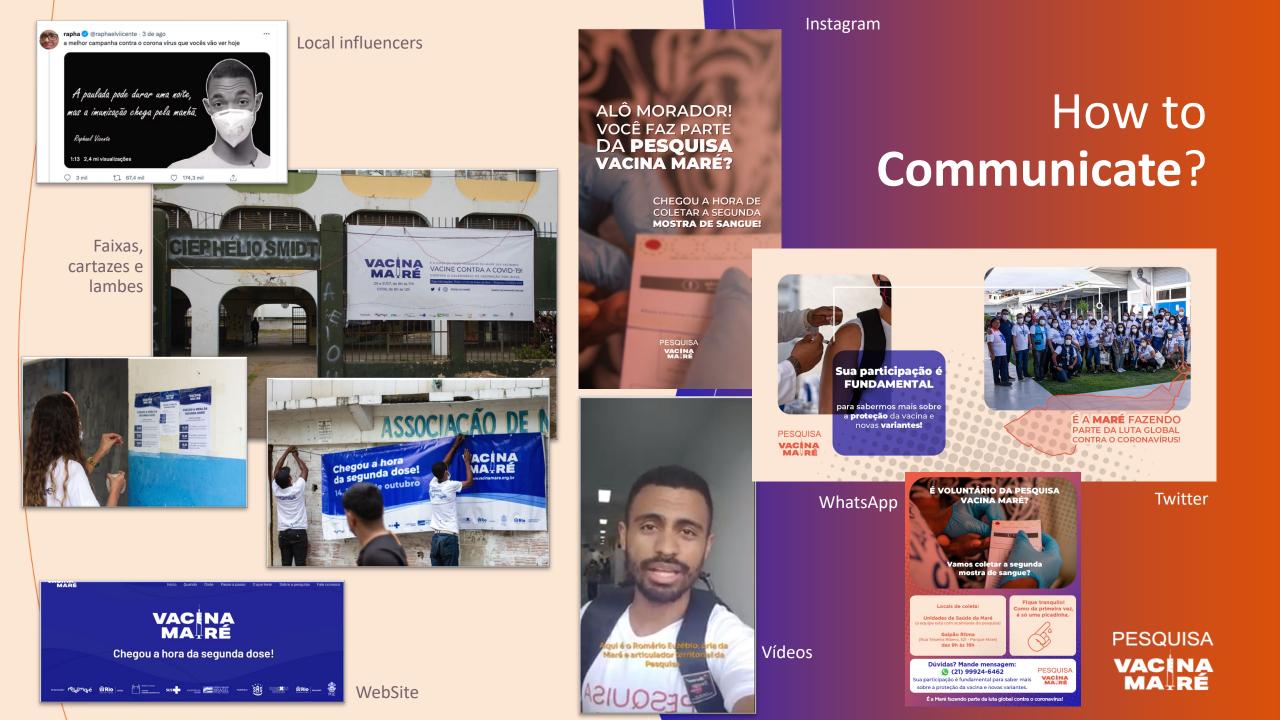
### What means Mobilize/Engage?







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#### Coordenation



#### Preparation







#### The Campaing

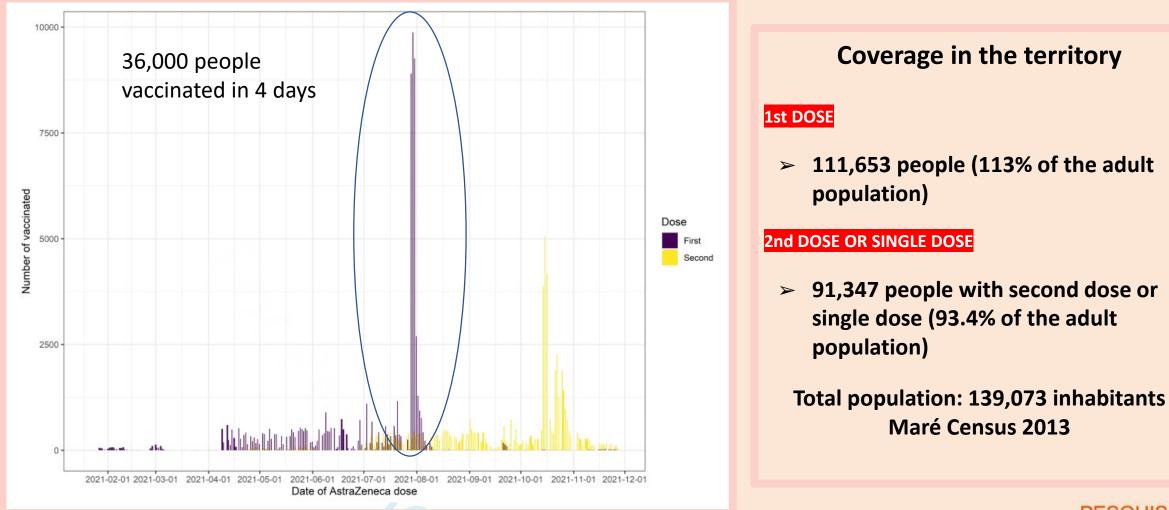


After Campaing



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#### **Vaccination Campaign**



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### **Studies**

### **VACCINE EFFECTIVENESS**

# STUDY 1 NEGATIVE TEST DESIGN STUDY 2 COHORT



### **Test Negative Design**



#### Contents lists available at ScienceDirect

**Clinical Microbiology and Infection** 

journal homepage: www.clinicalmicrobiologyandinfection.com



Research Note

Vaccine effectiveness of ChAdOx1 nCoV-19 against COVID-19 in a socially vulnerable community in Rio de Janeiro, Brazil: a test-negative design study

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#### VE of first and second doses of ChAdOx1

	Symptomatic ( $n = 6394$ tests)	
	OR (95% CI)	VE (95% CI)
Fully adjusted <sup>b</sup>		
Unvaccinated	Reference	Reference
0—13 d after first dose	0.97 (0.63-1.48)	3.4% (-48 to 36.9)
14–21 d after first dose	1.03 (0.65-1.62)	-2.9% (-62.2 to 34.8)
>21 d after first dose	0.68 (0.53-0.88)	31.6% (12.0-46.8)
0—13 d after second dose	0.67 (0.35-1.27)	33.1% (-27.1 to 64.8)
$\geq$ 14 d after second dose	0.35 (0.21-0.59)	65.1% (40.9-79.4)

#### TEST NEGATIVE DESIGN

Adjusted by time of epidemic, age, sex, self-reported race, Maré residence, occupation, whether the RT-PCR was from routine testing or spontaneous, and for six chronic comorbidities.

### Cycle 1

## Participants

- 5,944 adults
- 503 minors
- TOTAL: 6,447 inclusions







# Clinical Research Platform ONGOING STUDIES

- **Cohorts studies**
- Vaccine effectiveness
- Genomic surveillance and transmission chains
- Mental health
- Long Covid in the community.
- Other infections





### CONCLUSIONS

Effective intervention increasing case detection and reducing deaths

Rapid access to new technologies by the population

Innovative organization with high capacity for social mobilization and resources

Effective communication and engagement strategies

Innovation in community based-research and data for action













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