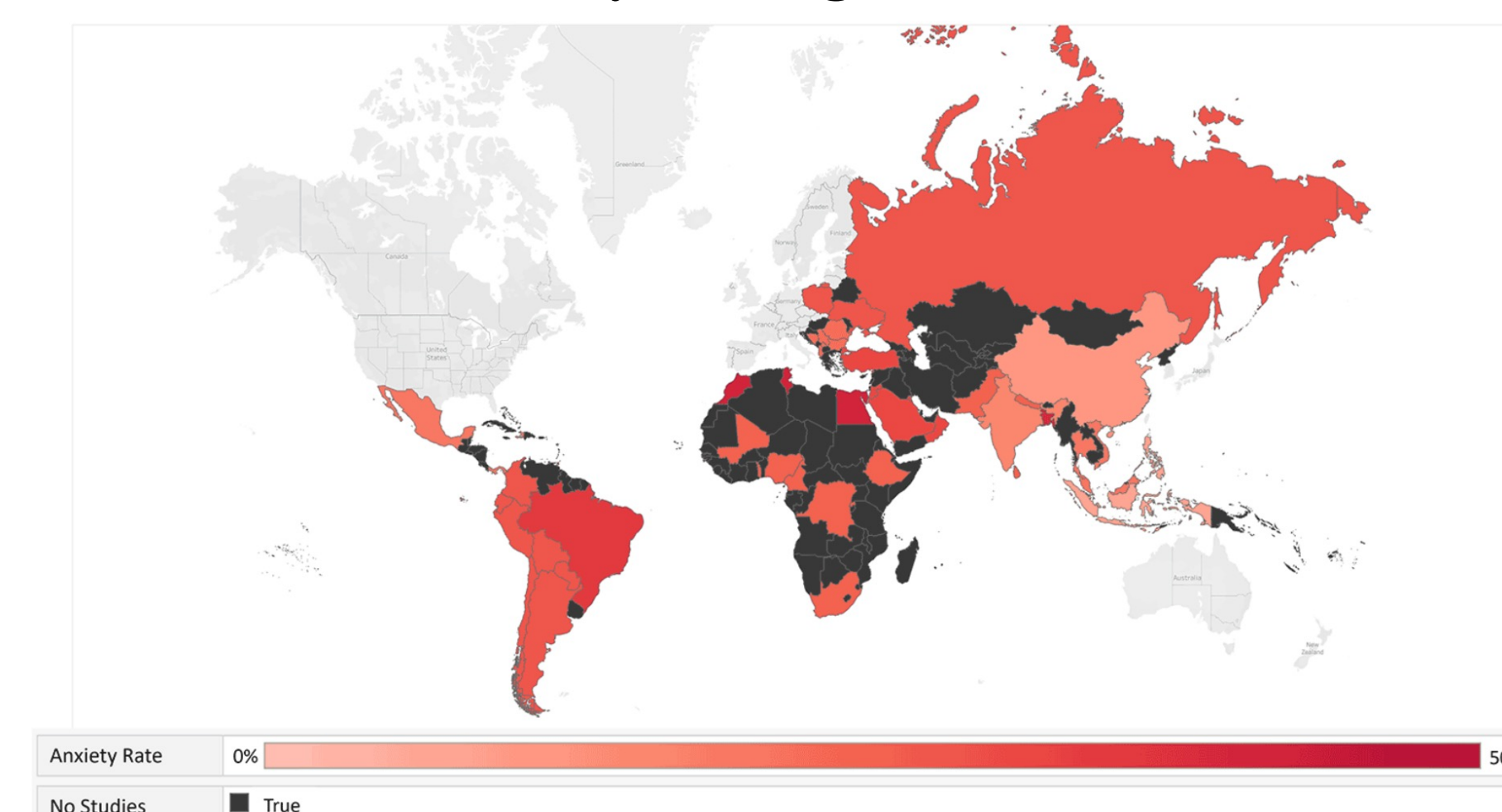


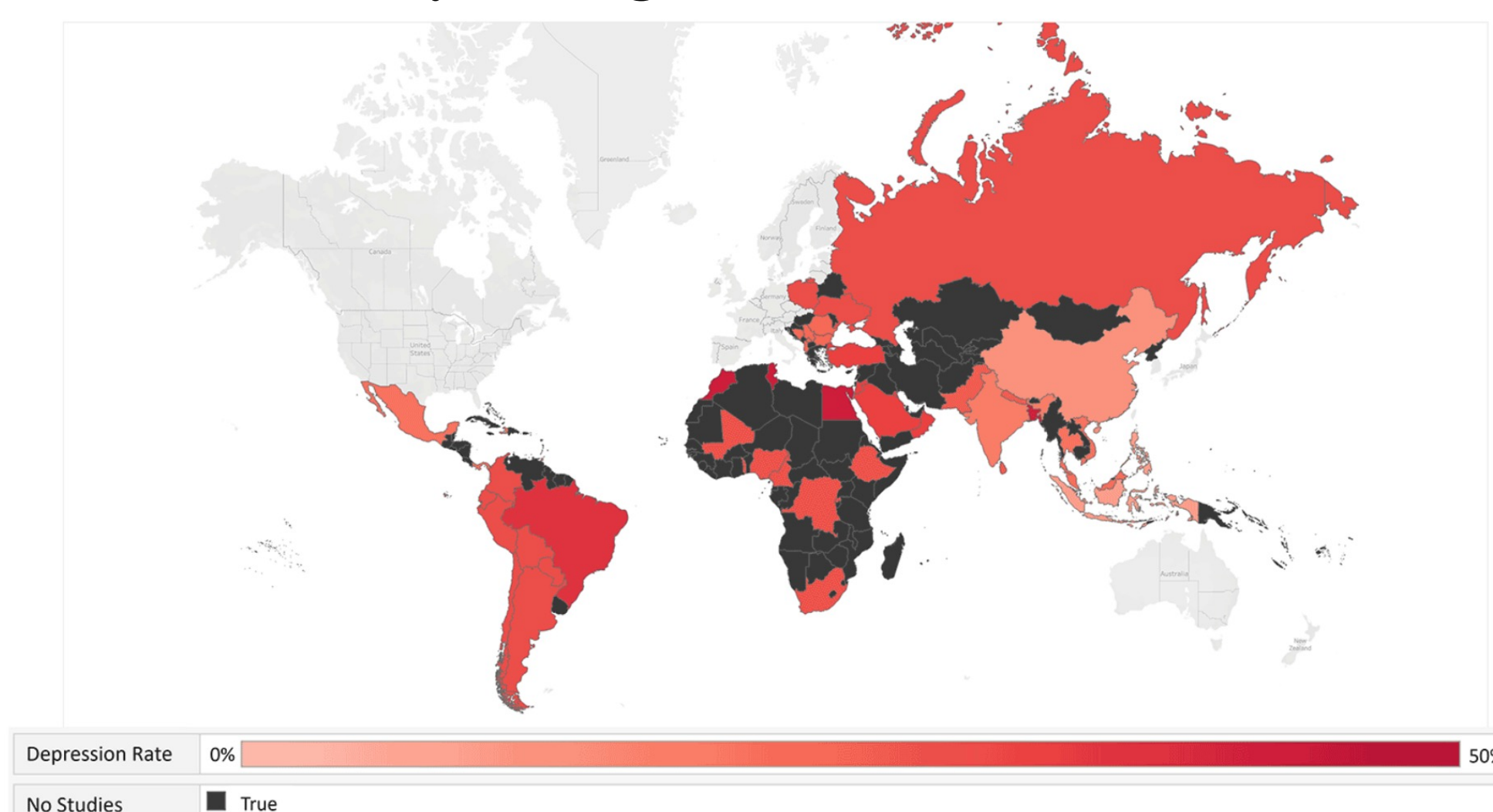
BACKGROUND

- In Low-Middle Income countries (LMIC) like Dominican Republic (DR), public health other than mental health takes priority in securing already limited funding.
 - > 80% of people who have mental disorders reside in LMIC.¹
 - <1% of hospitals in DR have Electronic Medical Records (EMR)
 - No hospitals with psychiatric care have EMR in DR.
- COVID-19 pandemic exposed weaknesses in health systems, especially in LMIC.
 - Higher reported incidence of mental disorders such as anxiety and depression.
 - Diversion of limited resources otherwise directed towards mental health-care to emergency services.
- Lack of healthcare-alternatives (e.g. virtual patient-care, tele-medicine, online consultations) in LMIC.
- Free Mobile phone app “Zoidi” was developed to (a) mitigate consequences of health emergencies in LMIC (b) provide alternatives to redirecting limited funds from mental-healthcare (c) create digital infrastructure (d) Help gather data related to mental health.

Prevalence rates of anxiety symptoms by countries or regions, based on the meta-analytical regression model.



Prevalence rates of depression symptoms by countries based on the meta-analytical regression model.

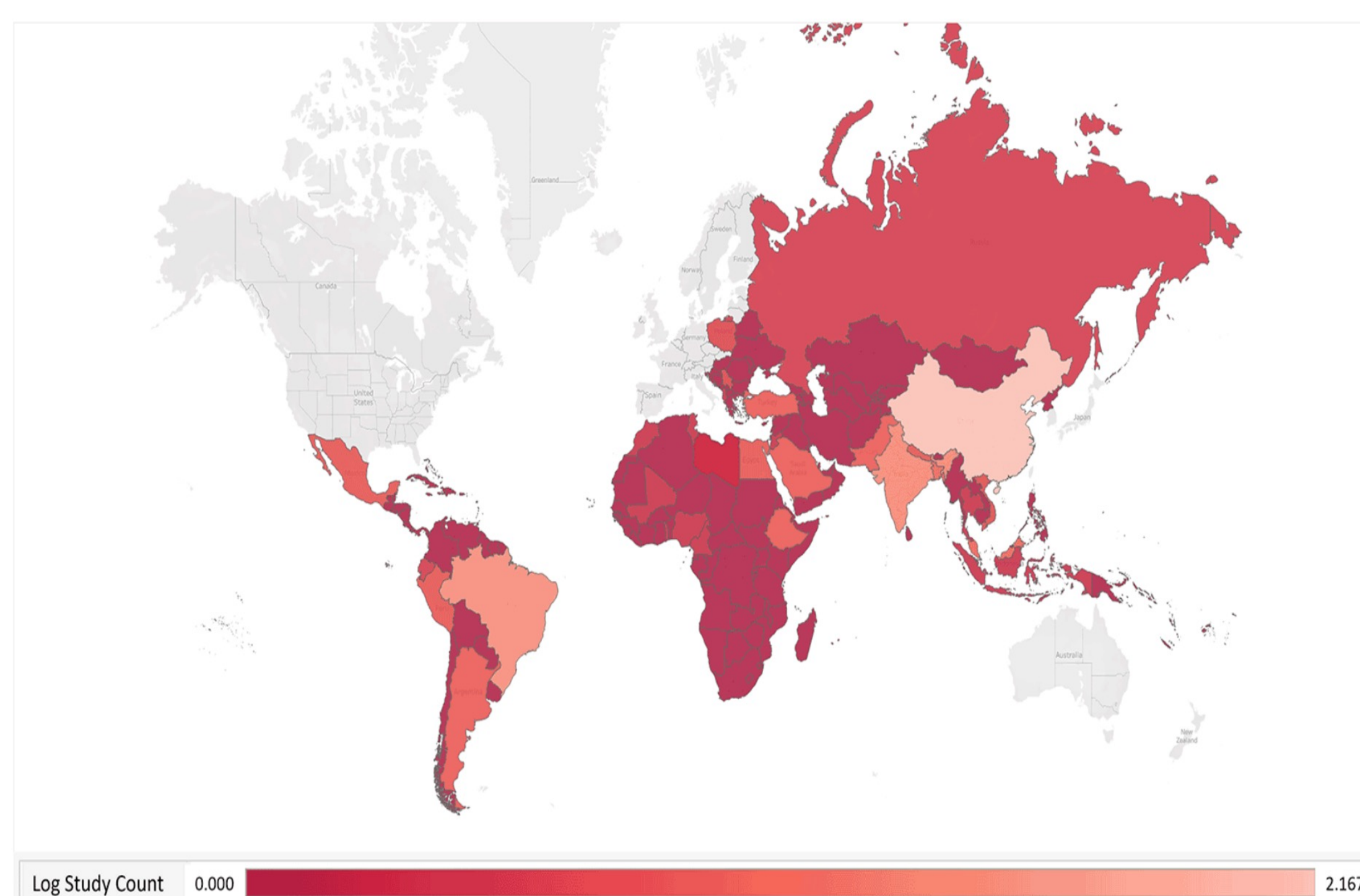


Extracted from: *Mental health symptoms during the COVID-19 pandemic in developing countries: A systematic review and meta-analysis*².

METHODS

- Mobile application development.**
 - App was developed over 8 months with *React Native* and *Java*.
 - Patient data is stored in HIPPA compliant Google Drive servers
- Pre-development field assessment.**
 - 3 hospitals from different sociodemographic levels (from 1st, 2nd and 3rd levels) will be visited to assess for
 - Resource diversion during COVID-19
 - Mental-healthcare data gathering
- Pilot assessment**
 - Hospitals visited during pre-development field assessment (20 patients per hospital = 60 patients)
 - Intervention will determine:
 - Feasibility (identify challenges/constraints)
 - Applicability (external validity)
 - Data gathering effectiveness
 - Cost-effectiveness

Country distribution of mental health prevalence studies in developing countries during COVID-19 pandemic²

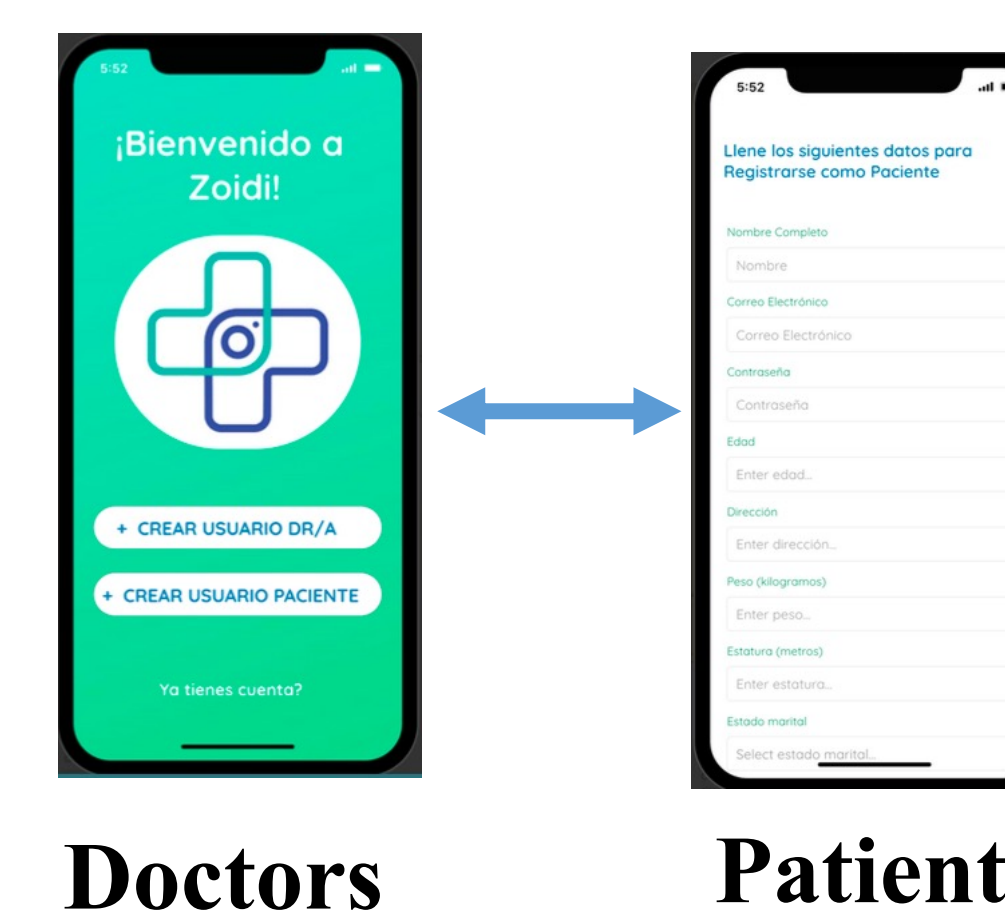


Extracted from: *Mental health symptoms during the COVID-19 pandemic in developing countries: A systematic review and meta-analysis*².

RESULTS

Application was developed with 2 different interphases depending on type of user created:

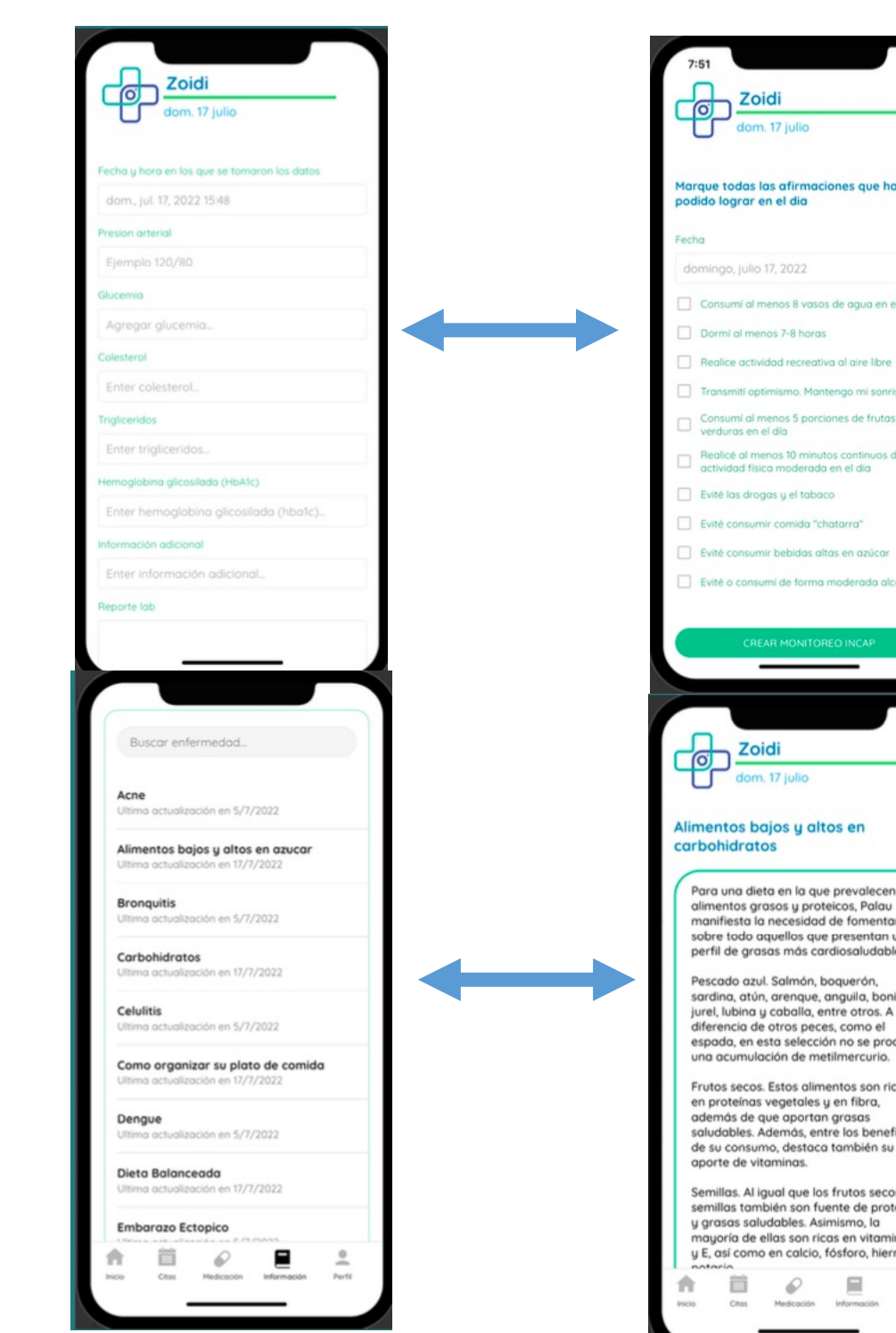
- Doctor
- Patient



Doctors Patients

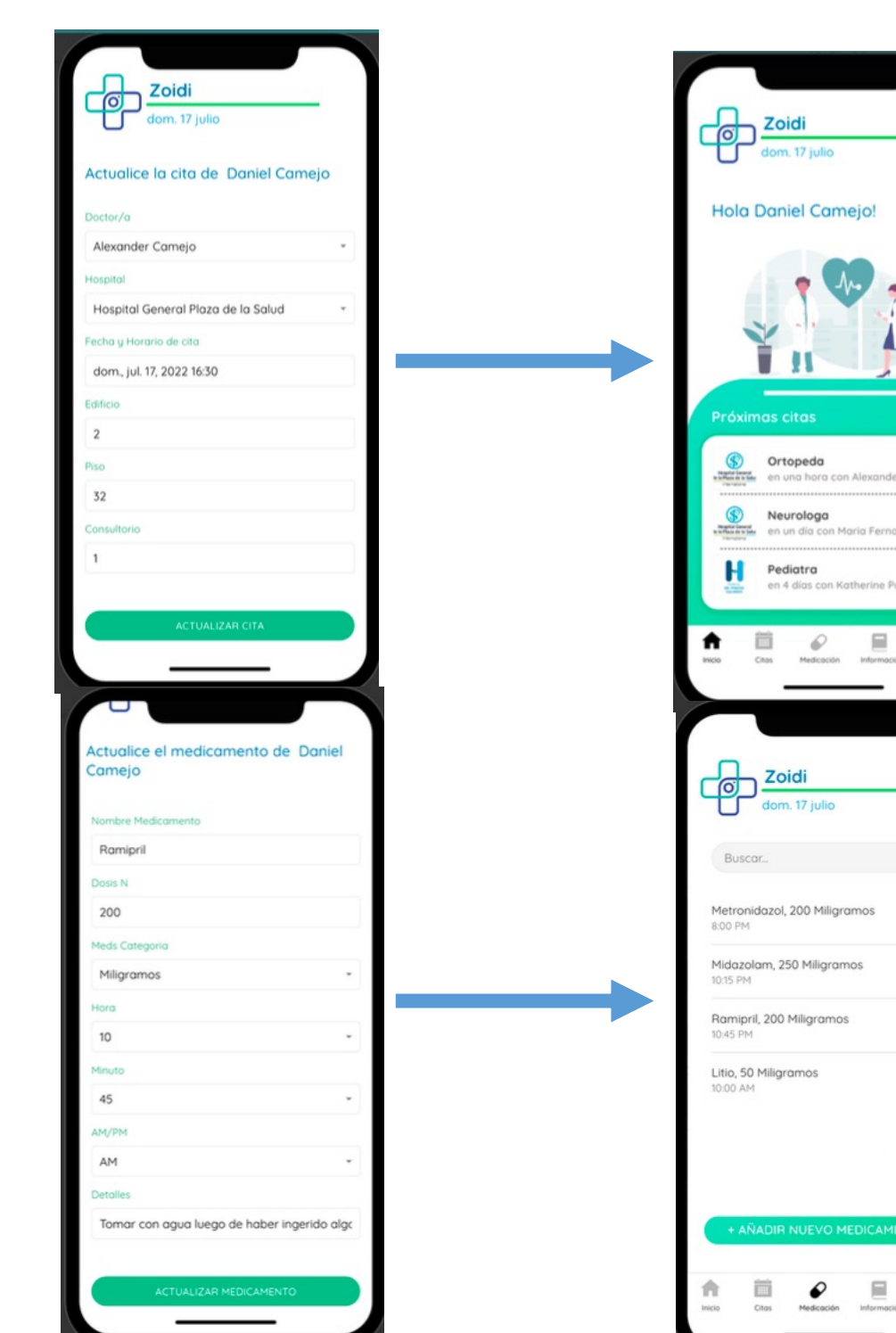
Patients' users can:

- View:
 - Upcoming/past consults
 - Medications with indications
- Provide/view:
 - Laboratory results
 - Lifestyle entries (e.g. food, exercise, smoking, alcohol)
 - Mental health entries from patients based on *Positive and Negative Affect Schedule (PANAS)*.
- Read from in-app information library about healthy lifestyle changes, diseases, relaxation techniques.

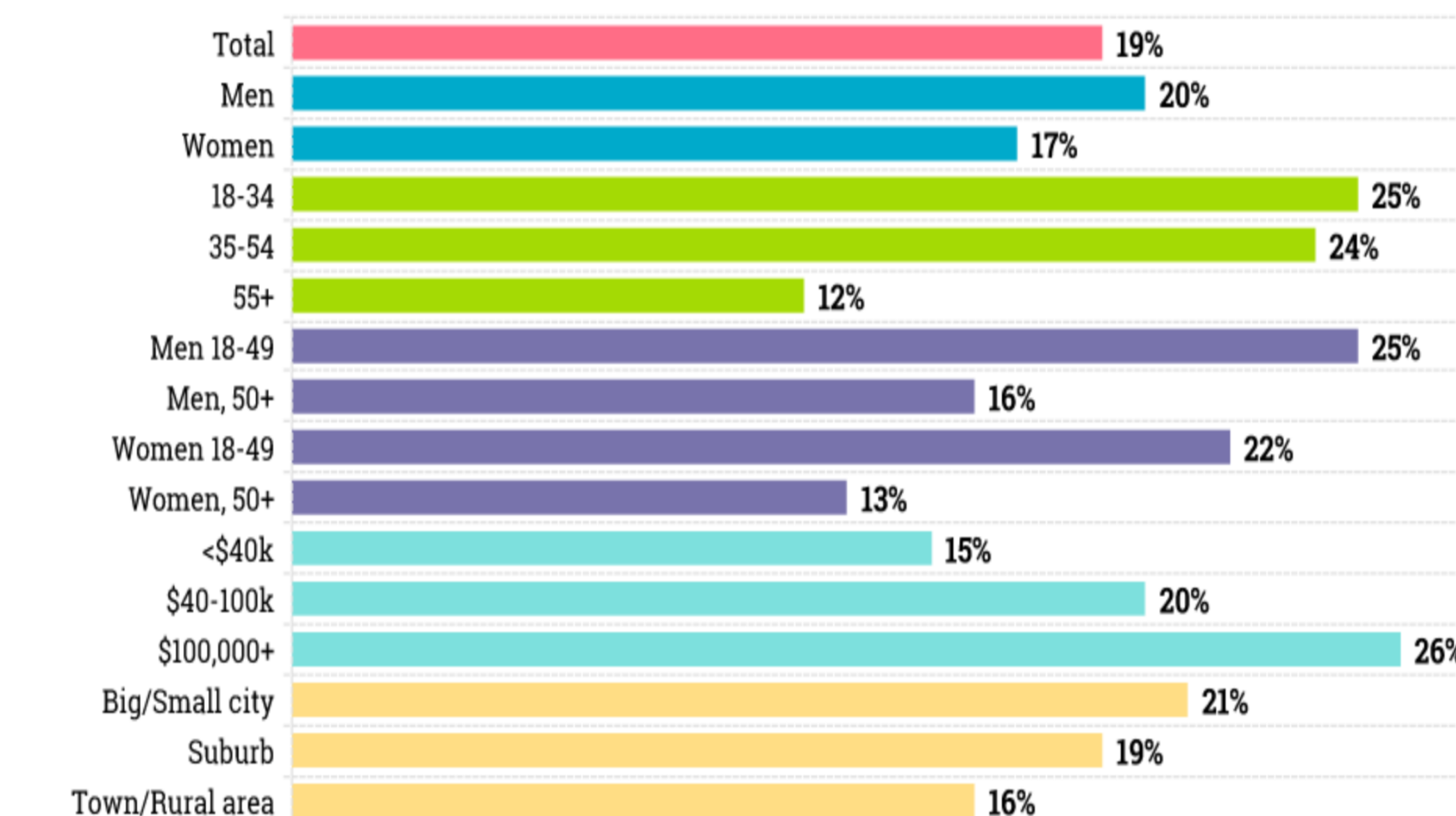


Doctors' users can:

- Schedule/update:
 - Consults
 - Medications
- View:
 - Laboratory results
 - Lifestyle entries from patients (e.g. food, exercise, smoking, alcohol)
 - Mental health entries from patients based on *Positive and Negative Affect Schedule (PANAS)*
- Write in information library for patients to learn



Percentage of US Adults who currently use a Health App to track health statistics.⁴



Extracted from: Gallup MarketingCharts⁴

DISCUSSION

- Growing need to uncover and highlight the uneven distribution of research on mental health in all developing countries across regions.
- Providing patients with alternatives to healthcare services like digital interventions would:
 - Reduce costs
 - Provide empowerment through information
 - Allow epidemiology tracking in otherwise neglected areas
- Healthcare providers and governments in LMIC need to collect valuable data in mental health
 - Quantify the impacts of poor mental health
 - Address mental vs physical health disparities
 - Background for training programs
- Improving mental health services in LMIC requires adequate resources, flexible policies and innovation

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