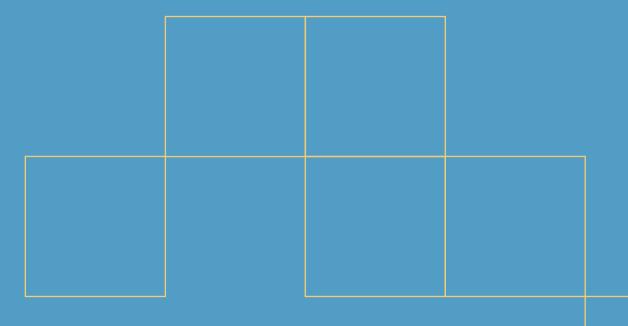


Get to know the tool which evaluates factors for the promotion of children and adolescents' mental health in all of Brazil's municipalities











#### Context

Mental health conditions have become an important challenge for global public health. Over the last decades, an increase in the global burden of diseases attributable to mental disorders has been observed. However, this situation continues to be underestimated by public health policies<sup>1</sup>.

During the COVID-19 pandemic, a global crisis, the debate over mental health intensified with the aggravation of the issue<sup>2</sup>, especially for historically marginalized groups, such as the black, quilombola and indigenous populations<sup>3</sup>.

Yet, even before the pandemic, numbers were already startling. In Brazil, the National Health Survey (PNS) for 2019 showed the prevalence of depression diagnoses made by health professionals was 7.6%. Of these individuals, less than half (46.4%) received specialized medical care in the twelve months prior to the interview, and only 16.4% were undergoing psychotherapy. On the other hand, more than half (52%) used antidepressant medication<sup>4</sup>.

Following on this scenario, suicide is the gravest outcome related to psychological illnesses, its causes being manifold and complex. Worldwide, it is estimated that almost 800 thousand people die each year from suicide, which amounts to one death every 40 seconds. Aditionally, suicide is the second greatest cause of death among youths aged 15 to 29 years old<sup>5</sup>.

These alarming data prove the importance of caring for mental health from an early age. 50% of mental health conditions begin until 14 years old and 75% until 24, despite 80% of them going without diagnosis or adequate treatment<sup>6</sup>. Children and adolescents with mental health conditions can have serious setbacks in their functional development, which corresponds to the capacity of performing routine activities in a manner that is satisfying and appropriate to their developmental

stage. In Brazil, it is estimated that between 10% and 20% of the youth population suffers from mental illnesses and/or disorders and, among these, 3% to 4% need intensive care<sup>7,8</sup>. Therefore, effective efforts in mental health promotion and mental illness prevention must involve careful consideration of children and adolescents.

This context shows the magnitude of the impact of mental health in people's lives and in society, highlighting the importance of prioritizing public policies that support and improve systems and services, ensuring access to necessary treatments. But it is vital to go beyond and improve the efforts for mental health promotion, acting before illnesses occur. So that this prevention approach can be more effective, it is necessary for government leaders to have access to data and evidence which help understand the reality of each territory and which approach mental health as a multidisciplinary and intersectoral theme.

Furthermore, in recognizing that multiple environmental factors influence mental health, it is imperative to consider social determinants and adopt a perspective which accounts for markers such as race and gender. The National Survey of School Health (PeNSE) for 2019, for example, revealed that negative indicators, such as irritability and a feeling that life isn't worth living, are more prevalent among girls aged 16 and 17 in public schools. Recent studies also show the rate of suicide among black Brazilian youths grew 12% between 2012 and 2016. Among black male youths, the situation is even graver: the risk of suicide was 50% greater when compared to white youths.

# The project

It was before this important challenge that, with support from Instituto Cactus and Raia Drogasil, Vital Strategies Brazil conducted the project Children's Mental Health Promotion Platform, which consists of an index which synthesizes 29 indicators related to factors that diminish or increase risks of mental illness.

The initiative focuses on the promotion of mental health for the Brazilian youth population (0 to 19 years) and is an instrument for public management. The project has as its product an online tool which uses georeferencing to inform whether a certain territory's environment is more or less conducive to good mental health for children and adolescents.

The index is disaggregated into Brazil, states, Federal District and municipalities, and, through a holistic and intersectoral view, has as its main objectives:

- Generating data that help public managers, in both the national and subnational levels, prioritize policies which create an environment conducive to the promotion of mental health for the youth population.
- Providing evidence that can be utilized by strategic partners, in both the governmental and non-governmental sectors, for advocacy efforts which are aligned to the priority agendas for mental health.
- Quantifying the social and racial determinants of health, generating evidence which informs better directed and more effective efforts for reduction of iniquities.

# Premises of the Children's Mental Health Promotion Platform

#### **TRANSVERSALITY**

Mental health is multifaceted: the same individual is subject to different public policies, experiences and exposures to contexts. Thus, being healthy is not only a matter of individual choices. Public policies must create a favorable environment so that healthy choices are the people's default. And the health of individuals, including their mental health, significantly affects many aspects:

Quality of life

Academic performance

Professional performance

Social well-being

#### **INTERSECTORIALITY**

If a challenge is multifaceted, so should be the response. Therefore, the Mental Health Promotion Platform project prioritizes a holistic view and integrated action, which unites several fronts of activity: Education, Health, Environment, Public Security, Justice, Racial Equality, Assistance and Social Development.

To reflect this intersectoral view which the subject demands, the project focused on the creation of a Mental Health Promotion Index (IPSM).

"An index is created when individual indicators are compiled into a single indicator and can be used to illustrate complex issues. It provides simple comparisons between territories and measures concepts that cannot be captured by a single indicator. Through it, it is easier to identify common patterns in many separate indicators." 10

#### **HEALTH PROMOTION PERSPECTIVE**

The Mental Health Promotion Index was constructed from a perspective of illness prevention and mental health promotion. It does not focus on assistance as an isolated issue, that is, highlighting the situation after an illness has already established itself.

#### INNOVATION

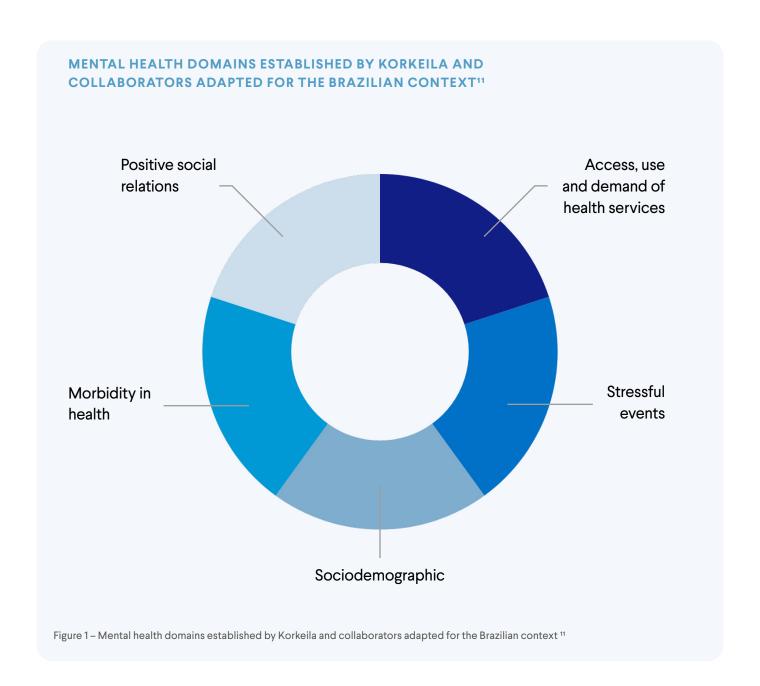
The Mental Health Promotion Platform is an innovative, disruptive and pioneering initiative, which follows the methodology used in the Fortaleza (CE) Mental Health Platform, conducted as a pilot in 2021. Developed in a collaborative manner, the project seeks the best solutions to connect the methodology to the local reality of each territory. This ensures the utilized index is dynamic and open to improvements, allowing for the periodic inclusion of new indicators compatible with the adopted methodology.

## **Methodology and Stages**

#### **DOMAINS OF MENTAL HEALTH**

The first stage of the project focused on the development of a Matrix of Indicators, gathering data related to mental health for the youth population in Brazil. This systematization was conducted based on a robust and well-documented methodology, translating the functional model of mental health. The domains represented in the graph below were carefully adapted to reflect the reality of the country.

The version proposed by Korkeila and collaborators adopts the use of eight domains, but, due to the distribution of the selected indicators for the Index of Mental Health Promotion in the national scope, we opted to aggregate them into five, described below.



#### Access, use and demand of health services:

the analysis and interpretation of data on the use of these services, combined with sociodemographic and epidemiological data, can be useful for planning mental health interventions and strategies. Beyond information on service usage, also available, in most countries, including Brazil, are data on drug sales and disabilities due to mental illnesses and disorders. This domain also includes indicators related to the general and mental health of the population, favoring the comprehensive health approach.

**Stressful events:** prior studies investigated the experience of important events considered undesirable, uncontrollable or potentially fatal as risk factors for mental illnesses. There is evidence that associates significant adverse life events and subsequent mental health conditions. Also considered are indicators of mental illness related and general mortality, which tends to be higher among those with mental health conditions.

Morbidity in health: the mental health conditions tracked are selected due to their importance in regard to public health and quality of data. Depression, anxiety disorders, substance abuse, suicide attempts and nonspecific psychological conditions are examples of illnesses and behaviors that provide relevant information from the public health perspective for mental health promotion strategies.

Sociodemographic factors: the main demographic data related to mental health are gender, age, marital status, race and ethnicity. Furthermore, current scientific literature shows that socioeconomic levels, associated with other risk factors, can affect the prevalence of mental disorders and psychological distress.

Positive social relations: social relations can act as protective or risk factors for the appearance and recurrence of illnesses and affect the course of a mental health condition. In particular, the perceived social support influences mental health, especially for people experiencing stress.

#### **Literature Review**

The first stage of the construction of a Matrix of Indicators from the mental health domains was an ample literature review. Scientific articles and monitoring data from public entities and international agencies which establish connections between specific factors and mental health were collected. This first stage resulted in a list of 222 indicators which would be pertinent for the construction of the Mental Health Promotion Index.

### **Indicator Selection**

The following stage focused on a deeper evaluation of the 222 mapped indicators, which were considered according to various criteria. To compose the index, the indicator needed to:

- Be based on public data available on information systems and sufficiently complete (populational surveys were not included);
- Be available down to the municipal level;
- Fit the scope of one of the five adapted mental health domains:
- Be current (for the possibility of a temporal analysis, data from 2019, 2020, 2021 and 2022 were used);
- Be focused on the youth population.

After this process, which featured an analysis by experts, of the 222 previously listed indicators, 29 (13%) were selected to compose the Mental Health Promotion Index. For those indicators that presented information of a similar nature, those with the greatest accuracy and reliability of available data were selected.

Data and evidence are essential for defining priorities and investing in equitable public policies. To break the cycle of iniquities, it is crucial to implement health promotion and illness prevention policies which conside racism as a social determinant of health. For this reason, during the development process for the index, an analysis was conducted of all indicators from a race/color perspective.

Although an effort was made to collect data disaggregated by race for the 29 indicators gathered, many limitations were found. 15 databases did not have data available for the race/color cross-section, and, when available in some cases, the data are inconsistent, being available only in some municipalities and states, but not in others. This prevents the complete analysis of racial data in an integrated and effective manner, limiting the view to raw numbers and specific locations. This fragility of public data highlights the urgent need of improving collection and transparency of information in the country, especially regarding population estimates with a racial cross-section during intercensal years.

Even with the existence of the National Policy of Comprehensive Health for the Black Population, approved May 2009<sup>12</sup>, and of Directive 344, of February 1, 2017, which highlight the importance and mandatory quality of filling in the race/color fields in health information system forms, there are still great difficulties being faced in the collection of these data.

#### **INDICATORS BY MENTAL HEALTH DOMAIN**

# Access, use and demand of health services

- Vaccine coverage BCG
- Vaccine coverage Polio
- Total health spending per inhabitant
- Proportion of live births whose mothers did not have prenatal consultations
- Rate of coverage of Psychosocial Care Centers (CAPS)
- Dispensing rate of industrialized medicines relate to mental health

#### 2. Stressful events

- Proportion of live births from mothers aged 10 to 19 years
- Rate of mortality due to external causes, using the codes X85-Y09, which correspond to assaults, in accordance with the International Classification of Diseases (ICD).
- Rate of mortality due to causes fully attributable to alcohol use
- Rate of mortality due to self-inflicted wounds
- Rate of mortality due to mental and behavioral disorders
- Rate of notification of child labor
- Rate of notification of interpersonal violence

#### 3. Morbidity in health

- Proportion of live births with low birth weight
- Rate of AIDS incidence
- Rate of hospitalizations due to malnutrition
- Rate of hospitalizations due to mental and behavioral disorders
- Rate of notification of self-inflicted violence

#### 4. Positive social relations

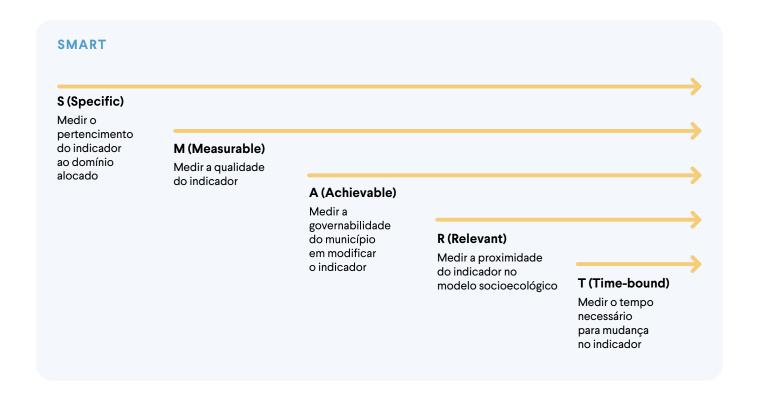
- Social Vulnerability Index (IVS)
- Urban Infrastructure
- Percentage of students served by the National School Feeding Program
- Percentage of mothers in the role of heads of household, with incomplete basic education and at least one child below 15 years of age
- Proportion of children enrolled in kindergarten and pre-schools
- Proportion of schools with sports courts
- Rate of age-grade distortion Basic Education

#### 5. Sociodemographic

- Human Development Index (HDI)
- Gross Domestic Product per capita (GDP)
- Social Prosperity
- Reason for dependence
- Rate of childhood mortality

## **Expert panel**

After the selection of indicators based on the criteria mentioned, a panel of mental health experts was formed to evaluate and validate the Matrix of Indicators. Professionals with expertise in the fields of mental health and public policies were invited, representing educational institutions, governmental and non-governmental organizations, as well as entities from the areas of Health, Human Rights, Justice, Racial Equality, Social Control and Education. The evaluation of the indicators followed five criteria based on the SMART methodology<sup>13</sup>.



This expert consultation process involved the validation of the previously selected indicators and a consensus regarding the quality attributes, represented by the S and M components in the methodology, that is, the criteria of specificity and measurability. Meanwhile, the A, R and T criteria, which stand for, respectively, (I) what is the actionability of the territory as to the improvement of these indicators; (II) what is the relevance of these indicators for better mental health outcomes; and (III) what is the necessary length of time for

these results to materialize, were utilized to judge the indicators on the subject of mental health outcomes.

Besides establishing the relevance of all the presented indicators for the composition of the index, the expert group also defined the attributed weight of each indicator based on a classification of high, medium or average, utilizing the M, A, R and T criteria and the timeframes for impact (short, medium and long term). Scores were always attributed with a focus on mental health promotion.

# CHILDREN'S MENTAL HEALTH PROMOTION INDEX (IPSM)

After the validation and indicator weighing stage, Vital Strategies Brazil focused on standardizing—a process which facilitates the comparison between different sets of data by eliminating the influence of units of measure and scales. With that, it was possible to construct the Mental Health Promotion Index. The index was calculated for municipalities, units of the federation and Brazil as a whole, utilizing the most current available data for the period between 2019 and 2022.

The Mental Health Promotion Index aims to show where the environment is more or less favorable to the promotion of good mental health for the youth population. Its interpretation begins with an outlook which considers the whole set of the 5 mental health domains, which see individuals and their contexts in a multifactoral manner, not to be interpreted based on isolated indicators.

The score will be represented by a color gradient: the darker the color, the greater the score; the lighter the color, the lesser the score.



# **Interactive and Dynamic Platform**

Made available for public managers, the Children's Mental Health Promotion Platform can be accessed at <u>indicesaudemental.org.br</u>. It applies, in an interactive and accessible way, all the intersectoral public health intelligence and epidemiology methodology utilized in the project.

The main tool made available through the platform is the Mental Health Promotion Index, which presents, in map form, the general and domain-specific mental health indices, providing a landscape of the environment related to mental health promotion stratified by units of the federation and municipalities.

It is recommended that the IPSM be read as a whole or by domain, given that this provides a more complete comprehension of each item. The interpretation of isolated indicators does not reflect the totality of the IPSM, considering the methodological process followed for its construction.

As well as providing a dynamic view of the map, the platform also allows for temporal analysis, with data from 2019, 2020, 2021 and 2022. Furthermore, the details on indicators used, with information on their concept and definition, method of calculation, unit of measure, source of data, geographical scope, levels of disaggregation and periodicity of updates are available for consultation.

## **Mental Health Promotion Map**

On the platform's homepage it is possible to access the interactive map which reflects, through georeferencing, the IPSM.

The image (figure 2) shows the score for the national Children's Mental Health Promotion Index. In it, it is possible to see the general Brazil index for each of the five mental health domains. This way, besides having an overview of the IPSM, it is also possible to check the individual status of various factors which influence mental health, considering the intersectoriality typical of the subject.

After viewing the national IPSM, the user can also filter and select each state or municipality that they wish to view individually. When selecting a location on the map, the text box will show the scores for the Mental Health Promotion Index relative to that territory (figure 3), both general and domain-specific.

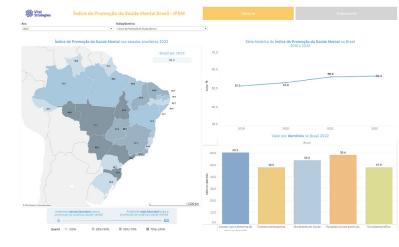


Figure 2

In each municipality's text box, it is also possible to click "View more" to open a detailed view, showing the Mental Health Promotion Index by domain and the indicators which compose each of those domains (figure 4).

This view allows for identification of which domains lower the index, thus allowing the identification of the areas which demand more effort, and which should be prioritized in order to make the local environment more favorable to the good mental health of its population.

At the bottom of Tableau, you can access it in full screen for a better view, or in Tableau Public (figure 5).

Through the index, it is possible to monitor and guide the prioritization of care management, support the formulation of programs and practices focused on prevention and health promotion, as well as fostering the articulation of all the different social agendas for mental health.

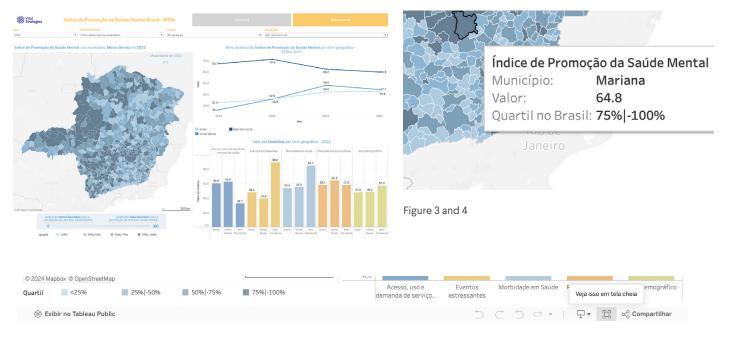


Figure 5

# **Platform Sustainability**

The Children's Mental Health Promotion program allows for the assessment and mapping of indicators which influence mental health in the national, state and municipal levels. The project has promoted an exchange between different areas, such as health, education, social assistance, among others, for the adoption of a tool capable of subsidizing decision-making in the territory with evidence. This intersectoral engagement is fundamental for the formulation, implementation and evaluation of public policies for mental health, especially those focused on the youth population.

A plan of action and continuity was created for the platform's sustainability, and which predicts annual data updates, as well as continuous improvement for the tool and the possibility of customization for UFs and/or municipalities which would like to include or substitute indicators in each of the domains. This continuous improvement process is carried out jointly by all the partners involved in the project and ensures the transfer of technology and knowledge so that the government may continue the platform's updates after the project's conclusion, leading to the continuity and longevity of the initiative.

The project, created from a robust and well-documented methodology, also has a great potential for customization and could be adopted by other countries. There is also the potential for expansion of the index's target audience, encompassing not only the youth population, but all age groups.

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#### References

- 1: Korkeila J, Lehtinen V, Bijl R, Dalgard OS, Kovess V, Morgan A, et al. Review Article: Establishing a set of mental health indicators for Europe. Scand J Public Health. 2003;31: 451–459. https://doi.org/10.1080/140349 40210165208.
- 2: Werneck, A. O., Silva, D. R., Malta, D. C., Souza-Júnior, P. R. B., Azevedo, L. O., Barros, M. B. A., & Szwarcwald, C. L. (2021). Changes in the clustering of unhealthy movement behaviors during the COVID-19 quarantine and the association with mental health indicators among Brazilian adults. Translational Behavioral Medicine, 11(2), 323–331. https://doi.org/10.1093/tbm/ibaa095.
- 3. https://www.scielo.br/j/ea/a/ LnkzjXxJSJFbY9LFH3WMQHv/?lang=pt
- 4: Pesquisa nacional de saúde: 2019: informações sobre domicílios, acesso e utilização dos serviços de saúde: Brasil, grandes regiões e unidades da federação /IBGE, Coordenação de Trabalho e Rendimento. Rio de Janeiro: IBGE, 2020. 85p. 1. Disponível em: https://www.pns.icict.fiocruz.br/
- 5: World Health Organization. The Global Health Observatory - Explore a world of health data. In: World Health Data Platform / GHO [Internet]. 28 Mar 2021 [cited 4 Apr 2021]. Disponível em: https://www.who.int/data/gho/data/indicators/indicator-details/
- 6:https://bvsms.saude.gov.br/bvs/publicacoes/obitos\_suicidio\_adolescentes\_negros\_2012\_2016.pdf
- 7: https://www.paho.org/pt/topicos/saude-mental-dos-adolescentes

- 8: Fegert, J. M., Vitiello, B., Plener, P. L., & Clemens, V. (2020). Challenges and burden of the Coronavirus 2019 (COVID-19) pandemic for child and adolescent mental health: a narrative review to highlight clinical and research needs in the acute phase and the long return to normality. Child Adolesc Psychiatry Ment Health, 14, 20. https://doi.org/10.1186/s13034-020-00329-3.
- 9: Tanaka OY, Ribeiro EL. Ações de saúde mental na atenção básica: caminho para ampliação da integralidade da atenção. Cien Saude Colet. 2009;14: 477–486.
- 10: Joint Research Centre-European Commission, O. (2008). Handbook on Constructing Composite Indicators: Methodology and User Guide. https://doi.org/10.1787/9789264043466-en.
- 11: Korkeila, J., Lehtinen, V., Bijl, R., Dalgard, O. S., Kovess, V., Morgan, A., & Salize, H. J. (2003). Review Article: Establishing a set of mental health indicators for Europe. Scandinavian Journal of Public Health, 31(6), 451–459. https://doi.org/10.1080/14034940210165208.
- 12: BRASIL. Política Nacional de Saúde Integral da População Negra: Plano Operativo. Secretaria Especial de Políticas de Promoção da Igualdade Racial - SEPPIR, [s. I.], p. 16, 2008. Disponível em: http://www.saude.gov.br/ editora. Acesso em: 1 jun. 2021.
- 13: Buccini, G., Pedroso, J., Coelho, S., Ferreira de Castro, G., Bertoldo, J., Sironi, A., ... Barreto, M. E. (2021). Nurturing care indicators for the Brazilian Early Childhood Friendly Municipal Index (IMAPI). Maternal & Child Nutrition, e13155



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# PAINEL DE PROMOÇÃO DA SAÚDE MENTAL INFANTOJUVENIL





