

# Mental health in the republic of Paraguay

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**Keywords.** South America; mental health law; prisoners; adolescents; mental disorders.

First received 8 Feb 2021  
Final revision 26 Apr 2021  
Accepted 6 May 2021

doi:10.1192/bjpi.2021.24

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**Paraguay is a landlocked country in South America. It is a democratic low-middle-income nation, and the Ministry of Public Health and Social Welfare is responsible for its healthcare system. Mental health services receive just 1–2% of healthcare budgets, and there are only 1.6 psychiatrists per 100 000 inhabitants. There are insufficient resources to adequately assess and treat mental disorders in high-risk populations such as children, adolescents and prisoners. Despite several improvements to mental health policies within the past two decades, the nation still lacks a Mental Health Act and specific policies required to optimise the mental health of the population.**

The Republic of Paraguay, one of two landlocked nations in central South America, shares borders with three middle-income countries: Argentina, Bolivia and Brazil.<sup>1</sup> It has over 7 million inhabitants, most of whom speak Spanish and/or Guaraní.<sup>2</sup> Almost half of the nation lives in the capital, Asunción.<sup>1</sup>

Following independence from Spain in 1811, the subsequent War of the Triple Alliance, the Chaco War and a military dictatorship that ended in 1989, Paraguay is now a democratic middle-income nation.<sup>1</sup> Indigenous, colonial and African influences have led to a unique culture reflected in a multi-ethnic population,<sup>1</sup> predominantly identified as 'mestizo' (or mixed).<sup>3</sup> Despite this diversity, 90% of Paraguayans describe themselves as belonging to the Roman Catholic religion.<sup>1</sup> Compared with other South American countries, Paraguay has relatively high income inequality. Despite an increase toward affluence in recent years, over a third of the population still experience poverty, particularly those living in rural areas.<sup>1</sup>

The Ministry of Public Health and Social Welfare is responsible for Paraguay's universal healthcare system, with delivery occurring primarily in family healthcare units.<sup>2</sup> Along with the Institute of Social Welfare, they serve 95% of the population.<sup>2</sup> Less than 7% of the national budget is spent on healthcare.<sup>1</sup> Although mental health inequality in Paraguay has been described briefly in the literature with respect to the right to health,<sup>4</sup> there is an absence of a concise description of the current mental health profile. This paper aims to provide an evidence-based overview of the mental health system (policies, services and workforce) and the mental health needs of

the general population and two subpopulations that experience mental health inequity.

## Mental health services and policy

Mental health services in Paraguay receive just 1.84% of the overall healthcare budget,<sup>3</sup> which is lower than the median values of 2.5% globally and 11.8% for the World Health Organization's Americas region.<sup>5</sup> Consequently, substantial healthcare shortages remain an issue, particularly in rural and marginalised urban areas,<sup>2</sup> and free access to psychotropic medication is not available to all those with mental disorders that require medication.<sup>3</sup>

Mental health services are concentrated in Greater Asunción, where the specialist Psychiatric Hospital is located.<sup>3</sup> This leaves a service provision gap for the population living outside of this region, in more rural areas. Nationally, outside of general hospitals there are two hospitals dedicated to mental healthcare, providing 5.11 beds per 100 000 population.<sup>6</sup> Even when combined with psychiatric beds available in forensic, general hospital and residential care settings, the total number of in-patient mental healthcare beds per capita (6.82)<sup>6</sup> remains significantly below the global median of 16.4.<sup>5</sup> It is therefore not surprising that in-patient bed occupancy rates above 110% have been reported.<sup>3</sup>

Despite policy promotion of community-based care,<sup>7</sup> relative financial investment remains focused on hospital-based care. However, most mental healthcare is accessed outside of hospitals. The median number of visits to adult out-patient and community (non-hospital) facilities per capita is 1661,<sup>6</sup> which is higher than the median visit rate for low-income countries (220), but comparable to the median rate for upper-middle-income countries (1993) and much lower than the median for high-income countries (7966).<sup>5</sup>

In the past three decades, key milestones achieved in the development of Paraguay's mental health policy include the following:

- In 1990, Paraguay signed the Declaration of Caracas, signifying a shift in Latin American psychiatry from institutionalisation to community care.
- In 2002, the Ministry developed its first national policy, which has been criticised for lack of detail and little societal input.
- In 2011, a more detailed national policy was created in line with suggestions from the Inter-American Commission on Human

Rights. This includes an emphasis on universal community-based care.

- In 2013, a pathway for mental healthcare was developed, integrating primary care and community mental health teams.<sup>7</sup>

To date, major obstacles include the lack of a Mental Health Act, the absence of a suicide policy<sup>6</sup> and lack of detailed policy on the rehabilitation those who use psychoactive drugs.<sup>7</sup>

### Medical workforce and psychiatric education

Human resources, including psychiatrists, nurses, psychologists and social workers, are predominantly skewed in distribution toward facilities in Asunción and psychiatric hospitals.<sup>3</sup> As of 2018, there were a recorded 114 psychiatrists and 327 psychologists working for the Paraguayan population of 7 million. Paraguay's rate of 1.6 psychiatrists per 100 000 is lower than the median of 2.02 for upper-middle-income countries and 11.87 for high-income countries.<sup>5</sup>

Because of financial constraints, psychiatric trainees on Paraguay's two residence programmes face obstacles, such as limited training tools and time for psychotherapy supervision.<sup>8</sup> Resource limitation has resulted in community research being neglected in favour of urban-based hospital research. However, research exchange programmes have begun to fill this gap.<sup>8</sup>

Nevertheless, the education division of the Latin American Psychiatry Association is unifying the region's residency programmes with basic curricular requirements.<sup>8</sup> In 2020, Paraguay began developing a unified psychiatric residency curriculum as part of a wider plan to establish a mental health law. The programme includes 3–4 years of training, opportunities for supervised scholarly projects, an oral examination and options to serve underserved areas.<sup>8</sup>

### Mental disorders in Paraguay

There are no large epidemiological studies of the prevalence of mental disorders in the general population, but the burden of mental disorders has been reported.<sup>9</sup> As is widely reported across the region of the Americas, mental and neurological illnesses, substance use and suicide (MNSS) are the most prominent causes of disability in Paraguay, measured in years living with disability. In Paraguay, 35.6% of all disability is caused by MNSS, placing Paraguay alongside Brazil and Chile in having the highest burden of MNSS in the region.<sup>9</sup>

Specifically, depressive disorders account for 9.4% of all disability (years living with disability) in Paraguay, which is the highest in the region. On average, among all countries in the Americas, 4.7% of disability arises from anxiety disorders. However, the burden in Paraguay is 6.8%, which regionally is surpassed only by Brazil (7.5%). In Paraguay, disability attributed to schizophrenia and bipolar disorder is

comparable to that reported in other countries in the Americas, whereas the country has the region's lowest level of disability owing to alcohol use. The contribution of personality disorders to disability in Paraguay is not known.<sup>9</sup> The suicide mortality rate of 9.5 per 100 000<sup>6</sup> is lower than the global rate of 10.5 per 100 000.<sup>5</sup>

### Mental health of prisoners

As of 2017, there were 18 prisons in Paraguay, housing prisoners who were pre-trial, post-trial and on remand. In 2015, 6.5% of the total prison population was female.<sup>10</sup> Overcrowding remains a serious issue. The occupancy level of 143.1% in 2017 (based on the official capacity of 9511) increased to 176.7% in 2019. Meanwhile, 77.3% of the total prison population were pre-trial or on remand, a decrease from 92.7% in 1999.<sup>10</sup>

Nationwide, there are 45 forensic mental health beds in specialised prison in-patient units for inmates with a mental disorder. The minimum length of stay in these prison-based facilities is at least 1 year, and 54% of all forensic in-patients are discharged within 4 years; 38% of patients are discharged after 5–10 years from these forensic facilities, and 8% are there for >10 years.<sup>3</sup>

The prison healthcare budget is small and insufficient to meet the cost of psychotropic medication needed by prisoners. For this reason, access to medicines is extremely limited in prisons, and medical prescribers often seek medication donations from external organisations or rely on complimentary samples.<sup>11</sup> Addressing the paucity of prison mental health research would give an indication of the current level of health inequity and equality within the prisoner population compared with the general population, and offer direction for improving prisoner mental health.

### Mental health of children and adolescents

Each year, approximately nine children or adolescents are admitted to in-patient mental health services. In contrast to adult mental health services, for children and adolescents there are almost as many in-patient facilities (three) as there are outpatient facilities (four).<sup>6</sup> The paucity of community-based services for younger people creates a geographical barrier to accessing timely mental healthcare and adhering to treatment.

It is estimated that approximately 20% of children and adolescents attending a psychiatric clinic present with at least one developmental disorder. Alarming, almost a third of attendees were not attending school, reflecting possible gaps in the education system,<sup>12</sup> as well as a lack of mental health resources. Among young people with a comorbid mental illness, the mean age at onset of illegal substance misuse is 11.4 years, and typically the substance of choice is marijuana. The early age at which young people commence substance misuse has been linked to a range of adverse health and social outcomes, and the issue has been raised as a national public health concern.<sup>13</sup>

The absence of a specific mental health plan or strategy for children and adolescents has been repeatedly highlighted.<sup>6,12,13</sup> It is believed that the development of policies for the younger population has the potential to not only reduce barriers improving community-based services and increasing the mental health workforce trained to provide age-appropriate care, but also enable mental health promotion and prevention to be effectively embedded,<sup>12</sup> and reduce mental health inequity between younger people and adults.

## Conclusions

In the past 30 years, Paraguay has advanced toward deinstitutionalised, integrated and rights-based mental healthcare. However underinvestment in mental health and high poverty rates contribute not only to overall service provision and treatment gaps, especially in community settings and among prisoners and younger people, but also to a deficit in the medical workforce, notable for the income level of the country. The importance of addressing substance misuse in Paraguay is reflected in the recent attention given to these areas in psychiatric training and research.

This overview has revealed a lack of research describing the prevalence of mental disorders in the general population. Large epidemiological studies are therefore needed, to inform and evaluate further mental healthcare development. In addition, research into the effectiveness of existing prison mental health services would provide understanding of prison pathways and unmet treatment needs for this growing population.

Coordinated efforts between governmental departments, such as health, justice and education, are required to ensure a holistic approach to mental healthcare capable of addressing predisposing, precipitating and perpetuating factors associated with the onset of mental disorder during childhood and adolescence. This is important, given the known links between mental disorder, substance misuse and offending across the lifespan.

Finally, the introduction of mental health legislation that includes prisoners and mental health policies for children and suicide is the next key milestone for Paraguay in reducing mental health inequalities within the country, regionally and globally. However, such changes are likely to be most effective in achieving equitable mental healthcare if supported by sufficient funding from the national budget.

## Acknowledgements

The authors are grateful to Dr Deepak Tokas, a consultant forensic psychiatrist with Tees, Esk and Wear Valleys NHS Foundation Trust, UK, for providing valuable peer-review comments on the pre-submission draft of the paper.

## Author contributions

AA. conceived the idea for the paper, undertook the literature search, interpreted and summarised data, wrote two sections of the manuscript and revised the manuscript. A.W. undertook the

literature search, interpreted and summarised data, and wrote and revised three sections of the manuscript. Y.Y.C. undertook the literature search, interpreted and summarised data, and wrote and revised two sections of the manuscript. M.O. undertook the literature search and revised the manuscript. J.T. undertook the literature search, wrote the abstract, interpreted data and revised the manuscript. All authors approved the final draft of the manuscript and agreed to be accountable for all aspects of the work.

## Funding

This research received no specific grant from any funding agency, commercial or not-for-profit sectors.

## Declaration of interest

None.

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