

psychiatric services for adolescents. Thus, gaps in services for young offenders exist, particularly for serious offenders with or without mental illness.

Conclusion

Luxembourg's mental health legislation incorporates many of the principles laid out by the WHO, including the emphasis on community care, least restrictive options, emphasis on assent and consent, and safeguards under which patients can challenge court decisions. Minors are usually detained using child protection legislation with therefore less specific guidance in relation to involuntary treatment.

Data availability

Data availability is not applicable to this article as no new data were created or analysed in this study.

Author contributions

Both authors contributed equally to this work.

Funding

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

Declaration of interest

None.

References

- 1 Salize HJ, Dreßing H, Peitz M. *Compulsory Admission and Involuntary Treatment of Mentally Ill Patients – Legislation*

and Practice in EU-Member States. Final Report. European Commission – Health & Consumer Protection Directorate-General, 2002 (https://ec.europa.eu/health/ph_projects/2000/promotion/fp_promotion_2000_frep_08_en.pdf).

- 2 Senon JL, Jonas C, Botbol M. The new French mental health law regarding psychiatric involuntary treatment. *BJPsych Int* 2016; 13: 13–5.
- 3 Zielasek J, Gaebel W. Mental health law in Germany. *BJPsych Int* 2015; 12(1): 14–6.
- 4 Le Gouvernement de Luxembourg. Loi du 10 Décembre 2009 relative à l'hospitalisation sans leur consentement de personnes atteintes de troubles mentaux [December 10, 2009 Act relating to the hospitalisation of mentally ill persons without consent]. *Official Journal of the Grand Duchy of Luxembourg* 2009: 10 Dec (<http://data.legilux.public.lu/eli/etat/leg/loi/2009/12/10/n1/jo> [cited 17 May 2021]).
- 5 Le Gouvernement du Luxembourg. Code Pénal du Luxembourg, Livre 1er, Chapitre VIII: Des causes de justification, d'irresponsabilité ou d'atténuation de la responsabilité et d'excuse (L. 8 août 2000) (Art. 70 à 72) [Penal Code of Luxembourg, Book I, Chapter VIII: Offences and repression in general: Causes of justification, irresponsibility or mitigation of liability (L. August 8, 2000) (70–72)]. *Official Journal of the Grand Duchy of Luxembourg* 2000: 8 Aug (<https://legilux.public.lu/eli/etat/leg/code/penal/2010430>).
- 6 Le Gouvernement de Luxembourg. Loi du 10 août 1992 relative à la protection de la jeunesse [10 August 1992 Youth Protection Act]. *Official Journal of the Grand Duchy of Luxembourg* 1992: 10 Aug (<http://legilux.public.lu/eli/etat/leg/loi/1992/08/10/n3/jo> [cited 17 May 2021]).
- 7 World Health Organization. *Comprehensive Mental Health Action Plan 2013–2030*. WHO, 2021 (<https://www.who.int/initiatives/mental-health-action-plan-2013-2030> [cited 19 Nov 2021]).



Mental health services in Luxembourg: an overview

Anja Malmendier-Muehlschlegel¹  and Niamh Catherine Power²

¹Consultant Child and Adolescent Psychiatrist, Centre Hospitalier Neuro-Psychiatrique, Ettelbruck, Luxembourg. Email: anja.malmendier@chnp.lu

²Consultant Forensic Psychiatrist, Centre Hospitalier Neuro-Psychiatrique, Ettelbruck, Luxembourg.

Keywords. Country profile; mental health services; Luxembourg; education and training; community and in-patient services.

First received 1 Jul 2021
Accepted 21 Sep 2021

doi:10.1192/bji.2021.58

© The Author(s), 2021. Published by Cambridge University Press on behalf of the Royal College of Psychiatrists. This is an Open Access article, distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike licence (<https://creativecommons.org/licenses/by-nc-sa/>)

We describe mental health services in Luxembourg and how they have evolved over the past 50 years. Health services in Luxembourg are provided through a social health insurance-based system and mental health services are no exception. Additional services are offered through mixed-funding avenues drawing on social care budgets in the main. Luxembourg is closely connected with neighbouring countries, where a large proportion of its workforce live. No run-through medical training exists and the entire medical workforce, including psychiatrists, have trained in other countries. This is reflected in a rich but often non-uniform approach to the provision of psychiatric care.

Luxembourg is a small landlocked country in Western Europe bordered by France, Belgium

and Germany. In 2020 the population was 626 100, comprising almost 170 different nationalities, with non-Luxembourgers accounting for nearly half of this number (47.4%).¹ The people, culture and languages are highly intertwined with those of neighbouring countries – official languages include Luxembourgish, French and German. Luxembourg's healthcare system and legislation are also heavily influenced by those of its neighbours.

Luxembourg is a founder member of the European Union (EU), and during the past decades has enjoyed unprecedented population and economic growth, moving from a steel production and agriculture-based economy to one concentrated predominantly on financial services and banking. When compared with other countries, Luxembourg ranks as one of the richest countries based on gross domestic product (GDP) per capita at purchasing-power parity (PPP) per capita but with a slightly higher than average relative poverty rate.²

The social health insurance system and healthcare expenditure

Luxembourg operates a compulsory social health insurance system with a single payer, the Caisse Nationale de Santé (CNS), that covers three schemes: healthcare, sickness leave and long-term care insurance. The CNS determines overall hospital budgets, negotiates with service providers and monitors the quality of the health services.

Luxembourg's strong economic performance as well as its population and employment growth have had a positive impact on the public financing of healthcare. In addition, over 200 000 cross-border workers commute daily from neighbouring countries, representing a significant minority (45%) of the labour force and more than one-third of those are insured by the CNS. As these non-residents mostly utilise healthcare services in their country of residence, where service costs tend to be lower than those in Luxembourg, they contribute to the subsidisation of the health services for the resident population.³

Public financing of the health service is based on a system of shared contributions: 40% is paid by the state, with the rest shared between the insured population and employers. Overall, about 84% of health spending is publicly funded, with the remainder paid directly 'out of pocket' by households either as co-payment for various services or via top-up voluntary health insurance. In 2017, the latest year for which figures are available, Luxembourg spent €3575 per capita on healthcare, well above the EU average of €2884. Mental health services are allocated 13.4% of the total health expenditure.³

Prevalence of mental illness

To date, data on the prevalence of mental illness in Luxembourg have not been consistently collected. Information obtained as part of the European Health Examination Survey suggests that there is a considerable disease burden due to depression, with migration being a risk factor.⁴ Alcohol and substance use disorders are also thought to be common^{3,5} and rates of binge drinking among adults are among the highest in the EU. The suicide rate in Luxembourg is quoted as 11.3 per 100 000, in line with neighbouring countries.⁶

Workforce

Luxembourg has a relatively low number of doctors (3 per 1000 population, compared with an EU average of 3.6 per 1000) and a rapidly ageing medical workforce. It is also one of the few countries in the EU without a medical school. As a result, Luxembourg is heavily dependent on foreign-trained doctors. At the time of writing, the University of Luxembourg offers the first year of medical education, with medical students switching to universities in other countries for their undergraduate clinical training. A 3-year Bachelor degree programme in medicine, in collaboration

with selected universities in other countries, will commence in September 2021. Postgraduate medical training is currently restricted to general practice, but the plan is to develop training schemes to include neurology and oncology.³ In 2018 there were 21.5 psychiatrists per 100 000 population, placing Luxembourg in the upper middle range in the EU.⁷ Many psychiatrists work exclusively in out-patient consulting rooms, although some are employed by hospitals and provide in-patient services.

Evolution of mental healthcare provision

Historically, psychiatry in Luxembourg has been marked by different orientations, reflecting at least in part the various psychiatric traditions in the countries in which the psychiatrists trained. Agreement on nosology, even within the same hospital, used to be difficult, with language barriers contributing further to the divide.⁸ Some of this diversity is still played out now. For example, at the Centre Hospitalier Neuro-Psychiatrique (Neuropsychiatric Hospital) (CHNP), the country's largest psychiatric hospital, owing to differing language competencies among psychiatrists, internal and external training opportunities are offered separately to German- and French-speaking clinicians. At a national level there is, however, an association for all psychiatrists which helps to bridge the gap.

As in other countries, guidelines are a point of reference for clinical decisions and are considered useful for the implementation of evidence-based practice. International guidelines can vary significantly in their recommendations.⁹ In Luxembourg, national recommendations for evidence-based practice are generally lacking and clinicians therefore tend to refer to guidelines from the country in which they trained, further contributing to the challenges of a cohesive approach.

The evolution of mental healthcare in Luxembourg mirrors that in other European countries: with a trend towards deinstitutionalisation that began during the 1990s there has been a move away from in-patient care towards community-based treatment facilities, and an increasing emphasis on the contributions of multidisciplinary teams.¹⁰ In 1990 Luxembourg had the highest per capita number of psychiatric beds in Europe (2.2 per 1000), largely concentrated in the former state psychiatric hospital. Since then, significant efforts have gone into decentralising psychiatric hospital services and developing regional psychiatric services (short-stay in-patient and out-patient facilities within general hospitals), day hospitals and increased psychiatric provision in primary healthcare settings, all with the aim of promoting community reintegration. At the same time, preventive and positive mental health promotion programmes, as well as programmes targeting the reduction of stigma, have been launched. A report commissioned by the Health Programme of the EU highlighted the positive aspects of Luxembourg's well-resourced mental health services, which

offer patient choice, but noted the relative lack of governance and service integration and the over-reliance on a non-national workforce.¹¹

Current psychiatric services

As in many other high-income countries, the funding and provision of mental health services come from both health and social care budgets, with the voluntary sector also playing a role. Most hospitals offer differentiated mental health services for adults and children.

In-patient and 'day hospital' general adult psychiatry services are located within large general hospitals and are aimed predominantly at patients requiring acute admission and interventions of relatively short duration. Specialist rehabilitation services targeting patients requiring longer in-patient hospital stays and follow-up are located in the country's oldest psychiatric hospital, the CHNP, which has now become a public institution. This former asylum houses specialist units, including rehabilitation-focused wards for those with chronic severe mental illness, predominantly psychosis and mood disorders, a psychogeriatrics unit, in-patient substance misuse services and a home treatment team. Luxembourg's forensic psychiatry service is also located at the CHNP and provides in-patient care and out-patient follow-up as well as an in-reach mental health service to the country's prisons. In addition to a busy out-patient child and adolescent psychiatric service, the CHNP houses an in-patient unit for the longer-term treatment of minors who are at risk of harm to themselves or others and provides a liaison psychiatry service to the secure care service for under-18s. Acute child and adolescent psychiatric in-patient and day services are provided across two general hospitals.

Health promotion and prevention programmes exist and include crisis helplines, early years support, and school medical and psychological services. Support services for the elderly and specialist services for people with autism and neurodevelopmental disorders have been commissioned. Specific programmes targeting well-being at work and aiming to minimise occupational mental health problems have been launched in recent years. Several not-for-profit organisations offer supported living facilities and/or provide daytime activities and vocational training opportunities for people with chronic psychiatric illnesses.

Summary

Luxembourg has relatively well-resourced, publicly financed mental health services that have evolved from predominantly in-patient-based treatment models to comprise a range of community treatment options as well as preventive services. Luxembourg is heavily influenced by its neighbouring countries and the diversity thus created is an asset but can also make integrated and joined-up approaches to evidence-based practice more difficult. External reviews have

praised the well-resourced mental health services but highlighted the need for improved governance and service integration.

Data availability

Data availability is not applicable to this article as no new data were created or analysed in this study.

Author contribution

Both authors contributed equally to this work.

Funding

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

Declaration of interest

None.

References

- 1 Institut National de la Statistique [National Institute of Statistics]. *Luxembourg en Chiffre [Luxembourg in Numbers]*. INS, 2020 (<https://statistiques.public.lu/catalogue-publications/luxembourg-en-chiffres/2020/luxembourg-chiffres.pdf> [cited 20 May 2021]).
- 2 Organisation for Economic Co-operation and Development. *Selected Indicators for Luxembourg*. OECD, 2020 (<https://data.oecd.org/luxembourg.htm> [cited 20 May 2021]).
- 3 Organisation for Economic Co-operation and Development. *Luxembourg: Country Health Profile 2019 (State of Health in the EU)*. OECD Publishing/European Observatory on Health Systems and Policies, 2019 (https://www.oecd-ilibrary.org/social-issues-migration-health/luxembourg-country-health-profile-2019_2b82810f-en [cited 17 May 2021]).
- 4 Ruiz-Castella M, Kandala NB, Perquin M, Bocquet V, Kuemmerle A, Vögele C, et al Depression burden in Luxembourg: individual risk factors, geographic variations and the role of migration, 2013–2015 European health examination survey. *J Affect Disord* 2017; 222: 41–8.
- 5 Véronique L, Marie-Lise L. *Grand-Duché de Luxembourg: Réforme de la Psychiatrie et Politique de Santé Mentale [Grand Duchy of Luxembourg: Reform of Psychiatry and the Politics of Mental Health]*. Government of the Grand Duchy of Luxembourg Ministry of Health, 2013 (<https://sante.public.lu/fr/publications/r/reforme-psychiatrie-politique-sante-mentale-2013/reforme-psychiatrie-politique-sante-mentale-2013.pdf>).
- 6 World Health Organization. *Suicide Rate Estimates, Crude Estimates by Country*. WHO, 2019 (<https://apps.who.int/gho/data/node.main.MHSUICIDE?lang=en> [cited 17 Jan 2021]).
- 7 Eurostats Statistics Explained. *Mental Health and Related Issues Statistics*. Eurostat, 2019 (https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Mental_health_and_related_issues_statistics [cited 20 May 2021]).
- 8 Meisch J-J. Mental health services in Luxembourg: a view from the state hospital. *Int J Ment Health* 1987; 16: 142–51.
- 9 Gaebel W, Weinmann S, Sartorius N, Rutz W, McIntyre JS. Schizophrenia practice guidelines: international survey and comparison. *Br J Psychiatry* 2005; 187: 248–55.
- 10 Shorter E. The historical development of mental health services in Europe. In *Mental Health Policy and Practice Across Europe* (eds M Knapp, D McDaid, E Mossialos): 15–33. Open University Press, 2007.
- 11 Samele C, Frew S, Urquia N. *Mental Health Systems in European Union Member States, Status of Mental Health in Population and Benefits to be Expected from Investments into Mental Health*. European Commission, 2013 (https://ec.europa.eu/health/sites/health/files/mental_health/docs/europopp_full_en.pdf [cited 20 May 2021]).