Mental Health Care in Sweden

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Abstract

Background: Reforming psychiatric services in Sweden in the 1960s and 1970s caused a shift from inpatient to outpatient units. Methods: Besides my lifetime experiences in receiving training, teaching, and practicing psychiatry, I collected information from the literature pertinent to the mental health care in Sweden. Results: In this review, I have highlighted some of the more important mental health events in Sweden. The number of psychiatric beds in Sweden has reduced from 37,000 to 4,500. The national health insurance and the ethos of the welfare state have created an equitable and generous environment for patients who are mentally ill. The suicide rate has gone down over the last three decades. There has been a substantial increase in a Swedish diagnosis called exhaustion disorder (burnout), especially in medical staff, office workers, and in the schools. Also, against all predictions, children and adolescents increasingly report having aches, insomnia, and depressive symptoms. Diagnosis and treatment for attention deficit hyperactivity disorder has increased substantially in the last 15 years. Moving from the International Classification of Diseases, version 9 (ICD-9) in the 1980s to ICD-11 and the DSM nosologies was accompanied by evidence-based guidelines, resulting in revised curricula for undergraduate and graduate training. Current researchers are showing a growing interest in autoimmune conditions that are comorbid with traditional psychiatric disorders. Neurovirology and psychiatry have an interface with the COVID-19 pandemic that will require an immediate action plan and collaborative efforts. Conclusion: Demographic changes due to increasing proportions of elderly and multiethnic populations, as well as the COVID-19 epidemic, will profoundly affect the future provision of services. Key words: COVID-19, mental health services, research and development, telepsychiatry

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Socioeconomic Demographics in Sweden

The Scandinavian peninsula was inhabited 11,000 years ago, and Sweden as a country emerged with King Björn who was buried in Uppsala 2,900 years ago. Stockholm became the capitol in 1634 when the nation grew to encircle the Baltic Sea. Sweden subsequently shrunk in size and influence, and is now similar to California in size and shape. Sweden is on the same latitude as Alaska, USA, and Kamtjatka, Russia.

Sweden has 10.3 million population. In 2019, there were 115,000 births, 89,000 deaths, 115,000 immigrants, and 48,000 emigrants. The infant mortality rate is 2.07/100,000. Longevity for women is a mean 82 years and for men a mean of 77 years. In 2019, Sweden had 2,207 centenarians. The gross domestic product per capita in 2019 was US$50,676 (the current exchange rate is US$1 = SEK9.33).

The image of Sweden abroad is characterized by favorable rankings in indices of happiness, corruption, innovation, gender equality, etc., by the United Nations, World Economic Forum, the Organisation for Economic Co-operation and Development (OECD), as well as various comparative market surveys (https://sweden.se/pl/). The teenager Greta Thunberg has become an international icon for climate activism. The Swedish approach to the COVID-19 pandemic has received much attention abroad. A short recap of life in Sweden may be justified as an introduction to this paper because we are experiencing contemporary changes due to the COVID-19 pandemic as well as demographic changes and finance that will indeed impact psychiatric needs and services.

There is a pervasive egalitarian ethos in this welfare state, grounded in social reforms by the Minister of Social Welfare.
Gustav Möller in the 1930s. Two weeks of summer vacation for all Swedes was introduced in 1938. Vacation cabins (sportstuga) were built in the countryside. Child allowance was introduced in 1937. A new form of cooperative social housing (bostadsrättsförening) was established in law in 1930. The national health insurance was instituted in 1955. Public preschools (kindergarten) were rolled out in the 1970s and a tax system to enable women and mothers to be part of the workforce. Homosexuality was decriminalized in 1944, although still considered a psychiatric disorder until 1979. In recent years, parliament has legalized same-sex marriages, partnerships, and adoption by same-sex couples.

### Sweden as the Welfare State

Wealth in Sweden is redistributed by an income-dependent progressive tax system. The sales tax (VAT) is 25%. The Gini coefficient in 2018 was 0.27, compared to EU-28 0.31 (www.ekonomifakta.se/en). Child care, geriatric care, education, and healthcare are all financed by taxation with some co-payments. A nurse specializing in psychiatry earning a salary of SEK 30,000 per month contributes a total tax of SEK 20,000: income tax, employer’s tax, value-added tax, and special taxes on traffic congestion, vehicles, real estate, petrol, electricity, public service, plastic bags, airline tickets, alcohol beverages, and tobacco. A senior psychiatrist may earn a salary of SEK 80,000 per month, and contributes SEK 65,000 in such taxes.

The burden on the welfare state will continue to increase due to cost for tax-based entitlements, such as care of the growing proportion of > 64 years of age, increasing from 20% to 25% of the population by 2070. By then, the proportion of elderly born outside of Sweden will have increased from 14% to 30% (www.scb.se). Costs will also increase for social support of refugees and asylum seekers. Integration of new immigrants is slow, creating subcultures and dwelling clusters. The total fertility rate is higher among women born in other countries, currently 2.03 versus 1.62 in native women. Arabic is the second most common mother tongue, spoken by 400,000, and third comes Finnish, spoken by 200,000.

Many immigrants are disqualified from the labor market. Across Europe, migrants suffer from mental illness caused by trauma, aggravated by illiteracy, language barriers, and xenophobia. With regard to immigrant adolescents in Sweden, mental health problems are more common than in native adolescents [1].

### Spirituality and Ethnicity in Sweden

Today, Sweden has accepted a prevailing secular attitude to spiritual and other belief systems. Only 23% of the population define themselves as practicing Christians. The majority of native Swedes are not members of a formal religion. Although 80% do not actively support organized religion, churches continue to be used for baptisms, marriages, and funerals. This is accepted as “cultural Christianity,” but 17% of the population define themselves as atheists. Islam, the second most prevalent religion, had 170,000 followers registered with 144 Islamic congregations in 2017 according to a government agency (www.myndighetensst.se). According to a Pew Research Center report, there were 810,000 Muslims in Sweden in 2017, a doubling since 2010 (www.pewresearch.org). In a medium migration scenario by Pew, 20% of the Swedish population will be Muslims in 2050. The Swedish Security Service estimated in 2017 that there were 2,000 violent extremist Islamists in Sweden, a 10-fold increase since 2010.

There are a mere estimated 20,000 people of Jewish parentage in Sweden, about a fourth practicing Judaism (www.myndighetensst.se).

### Alcohol and Tobacco in Sweden

Alcohol beverages are purchased in stores run by a government monopoly (Systembolaget). Adding those sales to beverages imported, or smuggled, and sold by restaurants, the total consumption of pure alcohol in 2018 was 8.8 L per adult, down by 7% over a 10-year period [2]. Alcohol-related deaths are down by 20% over a 20-year period. Among men, there were 29 alcohol-related deaths per 100,000 in 2019, and among women 9. A DSM-IV alcohol use disorder was found in 4% in 2017, according to survey estimates [3].

Daily tobacco smoking is reported by 8%, and daily snuff use by 13% [4]. Use of cannabis is reported by 3.6% [5].

### Case Registries in Sweden

Each individual residing in Sweden has a unique 10-digit identity number given at birth. Personal numbers are also issued to immigrants. This number is used for statistics on a wide range of personal matters, for example, congenital malformations, possession of (legal) firearms, social support, income, somatic and psychiatric diagnoses, causes of death, healthcare utilization, criminal record, and much more. Medical records and nearly all prescriptions of medicines are digitalized. These electronic registries allow for trends analysis, benchmarking, resource allocation, quality control, and a basis for political agenda.

About 7,000 individuals are currently living with an HIV infection. The HIV pandemic was effectively curbed in the 1980s, although, for a while, it was believed that the virus would overtake psychiatry. NeuroAIDS has becomes a reality in the daily work of psychiatrists in many other countries, for example, South Africa [6].

According to national statistics on causes of death, there were 1,269 verified (X60-X84) and 319 undetermined (Y10-Y34) suicides in 2019. Among men, there were 17 verified suicides per 100,000, and among women 9. There has been a substantial reduction in suicides over the last decades, particularly among older men, but not among the young.

### Survey Findings in Sweden

The Public Health Agency regularly conducts surveys in representative samples of the general population (www.folkhalsomyndigheten.se). Table 1 displays responses to such survey questions in 2018, a snapshot of self-perceived health and lifestyle in adults aged 16–84 years. As nonparticipants have higher rates of psychiatric morbidity, including suicide, reported rates err on the conservative side [7].
Table 1. Survey responses in adults 16-84 years of age, 2018

<table>
<thead>
<tr>
<th>Items of questions</th>
<th>Women (%)</th>
<th>Men (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>My health is good or very good</td>
<td>69</td>
<td>74</td>
</tr>
<tr>
<td>My health is poor or very poor</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Long-term disease with reduced work capacity</td>
<td>32</td>
<td>26</td>
</tr>
<tr>
<td>Consulted a primary care physician</td>
<td>43</td>
<td>35</td>
</tr>
<tr>
<td>Severely reduced mobility</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Severe musculoskeletal pain</td>
<td>18</td>
<td>12</td>
</tr>
<tr>
<td>Risk consumption of alcohol beverages</td>
<td>13</td>
<td>20</td>
</tr>
<tr>
<td>Use of tobacco products daily</td>
<td>11</td>
<td>24</td>
</tr>
<tr>
<td>Overweight (BMI 25.0-29.9)</td>
<td>30</td>
<td>41</td>
</tr>
<tr>
<td>Obesity (BMI&gt;30)</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>Risky gambling</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>I can not manage an unexpected expense</td>
<td>22</td>
<td>19</td>
</tr>
<tr>
<td>Fear of going out alone</td>
<td>44</td>
<td>12</td>
</tr>
<tr>
<td>Experienced physical abuse</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Lacks emotional support</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>Very good mental well-being</td>
<td>32</td>
<td>39</td>
</tr>
<tr>
<td>Reduced mental well-being</td>
<td>20</td>
<td>14</td>
</tr>
<tr>
<td>Suicidal thoughts</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Severe insomnia</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Severe anxiety, worry, or apprehension</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Diagnosed with depression by a physician</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Current treatment with antidepressive medication</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Current treatment with anxiolytics</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Hypnotics</td>
<td>13</td>
<td>8</td>
</tr>
</tbody>
</table>

Health-care Organization and Legal Framework

There are 21 regions responsible for public health care in Sweden. Some care is outsourced to private vendors by a regulated process of tender (LOU). Those public health services are paid through taxation. In addition, about 700,000 individuals have private health insurance, mostly paid for by their employers, to have speedy access to medical care. It is unlawful in public health care to treat patients with other than scientific evidence-based methods and long-established medical practice. Being not allowed in public health care is traditional medicine including treatment with herbs, Chinese medicine, Ayurveda, muti, bush medicine, leeching, reading of Koran verses, and other faith-based interventions. Placebo is only allowed in controlled clinical research, governed by the Helsinki Declaration.

Costs for Mental Ill Health in Sweden

In a comparison of cost for mental ill health in European countries in 2018, the OECD estimated that costs for direct health system, social benefits, and indirect labor market amounted to 4.8% of gross national product (GNP) in Sweden [8]. Only Denmark (5.4% of GNP) and Finland (5.3% of GNP) ranked higher. Cost for specialized psychiatric inpatient care in 2017 amounted to SEK 2,234 per 100,000 adult population (www.skr.se). Psychiatric staff cost was calculated as SEK 1,400 per inhabitant. In a study of patients treated for depression (n = 28,000), the cost per patient for inpatient care was SEK 147,000, and for outpatient care SEK 27,000. The corresponding costs for patients with anxiety disorders (n = 38,000) were SEK 95,000 and 25,000, respectively.

Sick Leave and Disability Pension in Sweden

Sick leave for mental health reasons, based on a physician’s certificate, has increased to become the most common reason, with 44% of all sick leaves in 2016 (www.forsakringskassan.se). Adjustment disorders (F43) constituted 45% of the psychiatric diagnoses for sick leave among men and 53% among women. Between 2010 and 2015, there was a 66% increase in sick leave due to adjustment disorder and reactions to stress, causing political reactions and more paperwork for physicians. Disability pension in 2018 was granted to 5,400 individuals, 43% due to psychiatric disorders, mostly in the age group of 19–29 years. About 5% of the population aged 19–64 years were on long-term sick leave or disability pension for any kind of reason in 2018, amounting to 292,000 individuals.

Mood and Anxiety Disorders in Primary Care

In primary care, mood and anxiety disorders constitute 25% of all cases, the second highest only to musculoskeletal disorders [9]. At the time of the study in 2001, maintenance treatment with selective serotonin reuptake inhibitor (SSRIs)/serotonin-norepinephrine reuptake inhibitors (SNRIs) was reported by 5.5% of adults in primary care. Many also received psychotherapy or counseling. Most antidepressants and anxiolytics are prescribed by general practitioners. By sales statistics in 2019, antidepressant prescriptions were dispensed for 679,000 women and 363,000 men (10% of the total population). The substantial decrease in suicide rate in Sweden over the last two decades, except in the young, has been attributed to the increased identification and treatment of depressed patients with antidepressants [10]. Sedatives and anxiolytic prescriptions were dispensed for 340,000 women and 187,00 men (5%) and hypnotics for 454,000 women and 257,000 men (7%). The uses of those medicines are increased with age.

Specialized Child, Adolescent and Adult Psychiatric Care

In 2018, 410,000 patients received inpatient and/or outpatient psychiatric care, an increase by 43% since 2008, controlling for population growth. The highest increase was in the age groups of 10–14 and 15–19 years, particularly due to hyperactivity disorders (F90) for boys and girls: the
increase was almost seven-fold (660%) among girls who were diagnosed with hyperactivity disorder between 15 and 19 years of age. Overall, the increase in the age group 15–19 years for diagnosed conditions was 157% over this 10-year period. In parallel, an increase is also seen since 1985 in self-reported psychosomatic and depressive symptoms reported in surveys by teenagers, particularly 15-year-old girls, among whom currently 57% report symptoms such as headache, irritability, dysphoria, stomach ache, and sleep problems (health behavior in school-aged children Health Behavior in School-aged Children [HBSC] at www.folkhalsomyndigheten.se).

Experts are puzzled by these high rates in a society with generous social benefits for child and adolescent care, and the new phenomenon of helicopter parents [11]. They argue that these increased rates of self-perceived and diagnosed psychiatric disorders in teenagers may be due to adverse screen time, problematic social media use, cyberbullying, and the pressure for conformity. They may even be attributed to boredom. Others attribute them to increased detection due to access to care for mental health issues and widening diagnostic criteria. Children with a psychiatric diagnosis are entitled to extra support in school which may need to be factored in. Overall, the burden on psychiatric services for the young is becoming a topic of much debate.

Fetal alcohol spectrum disorder (Q86) was diagnosed in 69 children in 2018, an increase from 32 children in 2008. Women in Sweden are encouraged to abstain from alcohol during pregnancy.

With regard to adult psychiatric patients, there were 31,000 men and 28,000 women in inpatient treatment episodes in 2018 (www.socialstyrelsen.se). This translates to 615 men and 551 women per 100,000 inhabitants. Outpatient care was provided for 194,000 men and 206,000 women, i.e., 3,788 men and 4,063 women per 100,000. Concerning alcohol-related diagnoses, there were 21,890 men and 11,041 women receiving in- and/or outpatient care.

**New Public Management**

Public services are widely distributed across Sweden with a rapid turnover of patients in inpatient care, and an increase in outpatient consultations in recent years. Many clinicians today are concerned that so much tax money is spent on administration. The concept of New Public Management was introduced in the 1980s, and by 1995 had become a basis for health-care services, to make them accountable and measurable. Physicians began spending a disproportionate time on entering data into electronic health records. They were instructed to work by algorithms created by administrators with no field experience or medical training. This was called “kidnapping” of work time and content, time that should have been spent on patients who had become “customers.” While there are 35,000 physicians in Sweden, there are 44,000 administrators. While the number of physicians was increased by 16% between 2010 and 2017 (Tables 2-4), the number of administrators was increased 36% (www.vardfokus.se).

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of staff per 100,000 adult pop, 2017 (<a href="http://www.skr.se">www.skr.se</a>)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialist psychiatrists</td>
<td>14</td>
</tr>
<tr>
<td>Physicians-in-training</td>
<td>5</td>
</tr>
<tr>
<td>Licensed psychologists</td>
<td>12</td>
</tr>
<tr>
<td>Social workers</td>
<td>8</td>
</tr>
<tr>
<td>Nurses</td>
<td>50</td>
</tr>
<tr>
<td>Psychiatric nurses</td>
<td>22</td>
</tr>
<tr>
<td>Occupational therapists</td>
<td>4</td>
</tr>
</tbody>
</table>

**Table 2. Mental health services in 2017 (www.skr.se)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Child and adolescent psychiatry</th>
<th>Adult psychiatry</th>
<th>Forensic psychiatry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of inpatients</td>
<td>2,891</td>
<td>60,612</td>
<td>1,959</td>
</tr>
<tr>
<td>Number of beds</td>
<td>135</td>
<td>3,037</td>
<td>1,170</td>
</tr>
<tr>
<td>Number of nurses</td>
<td>575</td>
<td>4,145</td>
<td>477</td>
</tr>
<tr>
<td>Number of psychologists</td>
<td>809</td>
<td>1,170</td>
<td>46</td>
</tr>
<tr>
<td>Number of physicians</td>
<td>406</td>
<td>1,901</td>
<td>81</td>
</tr>
<tr>
<td>Number of outpatient consultations</td>
<td>1,000,607</td>
<td>4,286,425</td>
<td>-</td>
</tr>
</tbody>
</table>

**Table 3. Number of staff by category per 100,000 adult pop., 2017 (www.skr.se)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of individual patients and beds, per 100,000 adult population, 2017 (<a href="http://www.skr.se">www.skr.se</a>)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual patients, outpatient care</td>
<td>5,362</td>
</tr>
<tr>
<td>Individual inpatients, women</td>
<td>315</td>
</tr>
<tr>
<td>Individual inpatients, men</td>
<td>367</td>
</tr>
<tr>
<td>Beds</td>
<td>37</td>
</tr>
</tbody>
</table>

There are currently 660 psychiatrists in training (registrar) in adult services, and 145 ones in training child and adolescent psychiatric services.

**Quality Control**

Nine national registries exist for quality control in the treatment of psychiatric patients (www.psykiatriregister.se). They are managed by leading psychiatrists and statisticians, and divided according to diagnostic categories, for example, a registry for bipolar patients, psychotic patients, and patients with attention deficit hyperactivity disorder (ADHD).

The bipolar registry started in 2004, and had 69,000 entries in 240 clinics in 2018. In that year, 72% of all patients were on lithium, and 42% of them had relapses. Structured diagnostic instruments were used in 52%. Patients had been educated in bipolar disorder to reduce the relapse rate in 37%. Gainful
employment was reported by 48% of patients. ADHD was the most frequent comorbid diagnosis.

The ADHD registry had 11,000 individual patients recorded by 265 clinics in 2018. In that year, 50,000 children and adolescents, and 70,000 adults, received at least one prescription, mostly methylphenidate. Most patients were enrolled in educational programs about ADHD and other adjunctive measures, while the use of symptom rating scales varied considerably across the country, 5%-95%.

The registry for patients with psychotic disorders had a cumulative number of 39,000 entries in 122 clinics in 2018, i.e., about 30% coverage. Data on alcohol use disorders identification test for self-report of alcohol use were available for 42% of patients. A third of patients had a body weight index >30. More than 90% of the patients were on antipsychotic medication, 30% on an adjunct antidepressant, and 50% on a benzodiazepine. Illness Management and Recovery and Narrative Enhancement and Cognitive Therapy were applied as self-educational tools to reduce relapse rates and stigma. An estimated 800 new individuals were admitted for a psychotic episode during one year.

The registry for electroconvulsive therapy (ECT) reported that 3,600 patients were treated in 2019 in 47 clinics with a total of 38,000 treatments. Most patients were treated for severe depression. There were also cases treated for a manic episode in bipolar disorder, schizophrenia, cycloid psychosis, and postpartum psychosis. Three out of four patients were rated much or very much improved by ECT on the CGI scale, and 45% were in remission. Most patients received 6–9 unilateral treatments in a series, 2 or 3 times weekly, under anesthesia. One in four patients had another series of ECT in the same year. Subjective memory was rated as impaired one week following ECT in 18% of the patients, while 18% reported improved memory. Thirteen percent of the patients were treated as outpatients, and 22% of them in involuntary care.

**Practice Guidelines in Sweden**

Starting in 2019, the Swedish Association of Local Authorities and Regions (www.skr.se) has gathered a number of guidelines for mental health services, primary care, schools, and social services, to create a national comprehensive program (www.vardochinsats.se). Those evidence-based instruments were created by mental health professionals to include screening and diagnostic procedures, recommended psychotherapeutic and psychopharmacological interventions, and outcome indicators. There are currently such programs for psychotic disorders, ADHD, self-injury behavior, mood and anxiety disorders, and substance use disorders. Looking back 20 years, there were no such guidelines, and the nosology was based on ICD-9, with diagnostic criteria that were developed for use in primary care settings in the 196 member nations of the World Health Organization. The idea of evidence-based medicine and quality indicators was starting to emerge at that time [12, 13]. The use of this national initiative remains to be evaluated.

By law in Sweden, pharmacies must give the patient the cheapest brand of prescription medicines on the shelf (generic substitution). Furthermore, drug formulary committees implement shortlists of recommended medicines, based on a consensus assessment of benefit and pricing. Adherence to these shortlists is about 80% of all prescriptions.

Training staff in caring for patients with involuntary admissions also involves training police officers, lawyers, judges, and paramedic personnel. There are 10,000 individuals admitted once or more annually for involuntary treatment. This is a strictly regulated procedure and a patient can appeal to a court the decision for involuntary admission at any time. The standards of involuntary care must be of the highest standard.

To that end, there is a web-based self-training course for medical staff, the courts, and law enforcement officers at www.tvangsvard.telepsykiatri.se.

**Research and Development in Sweden**

In this paragraph, I cherry-picked recent studies that reflect on current research and development (R&D) in Swedish neuroscience. A website exists to show most ongoing and recent projects funded by the European Union and by Swedish grants, run by the Swedish Research Council (www.swecris.se).

Neurovirology is of increasing importance in psychiatry. A recent study from the University of Gothenburg indicates that the COVID-19 virus does affect brain tissue [14]. The authors found that neurochemical evidence exists for neuronal injury and glial activation in patients with moderate and severe COVID-19.

Gender dysphoria and paraphilias are topics under study at Karolinska Institutet. Naltrexone is proposed as a potential treatment for compulsive sexual behavioural disorder because of encouraging results in an open study of twenty men [15].

Primary humoral immunodeficiencies (PIDs) are mainly dysfunction of antibody production, associated with recurrent infections and autoimmune diseases. In a population-based registry study of 14 million individuals, 8,000 patients with PIDs were identified and matched with 12 psychiatric disorders and suicide [16]. Primary humoral immunodeficiencies are robustly associated with psychopathology and suicidal behavior, particularly in women.

The Gothenburg H70 Birth Cohort Studies has yielded many interesting results, one of which deals with loneliness in the elderly [17]. Perceived loneliness has shown to be an independent predictor of cardiovascular mortality in women.

Body dysmorphic disorder (BDD) can be devastating. This study at Karolinska Institutet used a random forests machine learning approach to test if it was possible to predict remission from BDD in a sample of 88 individuals that had received internet-delivered cognitive behavioral therapy (CBT) [18]. The results provide support for the clinical use of machine-learning approaches in the prediction of outcomes.

Health anxiety is a phenomenon increasingly seen in young people, also affecting their health behavior in caring for children. A cost-effective intervention is Internet-delivered Acceptance and Commitment Therapy (iACT), that was studied in a Danish-Swedish collaborative study of 101
probands randomized to iACT or an internet-delivered discussion forum [19]. The authors found sustained effects of iACT at six months follow-up, in support of expanded use. Internet-delivered CBT for health anxiety has been found to be non-inferior to face-to-face delivered CBT in a study if primary care patients in a suburb of Stockholm [20].

There has been a marked increase in diagnosing autism spectrum disorders (ASDs) in many countries, including Sweden. A study assessed whether the genetic and environmental variance underlying autistic traits changed across birth cohorts, and examined whether the relative contribution of genetics and environment to liability for autism changed across birth cohorts [21]. Using 22,000 twin pairs in Sweden, this study showed that genetic factors played a consistently larger role than environmental factors, and that environmental factors are thus unlikely to explain the increase in the prevalence of ASD [21].

Postpartum depression is a condition with potentially serious consequences for mother, child, and family. Using inflammatory markers in a study of 169 women, a study at Uppsala University has indicated a role for compromised adaptability of the immune system [22].

To elucidate substance use disorder as a risk factor for treatment-resistant depression, a cohort of 121,000 patients starting to receive antidepressant therapy was studied prospectively, 15,000 of whom were treatment resistant [23]. The study showed that the use of alcohol, opioids, sedatives, and combinations of these can increase the risk of treatment resistance substantially.

The prevalence of ASDs was found to be four times higher in children aged 2–5 years living in a multi-ethnic immigrant part of Gothenburg than in the city as a whole [24]. Ninety percent of this part of the population was foreign born. The study results indicate that considerable multi-ethnic expertise is required to meet with the needs of these children.

**International Collaboration**

Genomic-wide genetic data are the focus of the Psychiatric Genetics Consortium, founded by Patrick Sullivan, with members from forty countries, including researchers at Karolinska Institutet (www.med.unc.edu/pgc/) [25]. Another multinational project with several Swedish investigators, particularly Elias Eriksson, looked at genetic susceptibility to panic disorder [26]. A study of the validity of the ADHD module in the MINI interview was done in substance users in ten countries, including Sweden [27].

The ENIGMA major depression consortium with 19 cohorts in eight countries, includes the site with Mikael Landén at Gothenburg. The cited study involves brain aging applying magnetic resonance imaging (MRI) scans in 6,900 probands [28].

The Ageing Trajectories of Health: Longitudinal Opportunities and Synergies (ATHLOS) project is based on 17 aging cohorts in 38 countries. This study, with participation by researchers at Karolinska Institutet and Stockholm University, is to look at self-reported alcohol drinking and health in 135,000 elderly individuals [29].

ECT is widely used in Swedish psychiatry, considered a safe and effective treatment for mood disorders as well as other conditions. The Global ECT-MRI research collaboration is a multinational initiative to study ECT, the most potent antidepressant therapy available. One study of 192 probands in the group, including Peter Magnusson at Lund University, is to identify an MRI pattern of structural changes in the brain associated with clinical response to ECT [30].

The Genetics of ECT International Consortium is another consortium to study the genomics of severe depressive disorders and response to ECT, aiming for 30,000 probands worldwide using a GWAS approach. It includes Patrick Sullivan at Karolinska Institutet and Mikael Landén at Gothenburg University [31].

**Exhaustion and Attention Deficit Hyperactivity Disorder: Emerging Issues in Sweden**

There has been an overwhelming growth in two mental health conditions in Sweden; exhaustion disorder (*Utmattningssyndrom*) and ADHD. Stress-related exhaustion disorder is a condition defined by a Swedish task force in the mid-1990s, that affects increasing numbers of the workforce in Sweden over the last two decades, particularly in office environment, health care (compassion fatigue), and in schools. Costs due to sick leave for exhaustion soared. This condition is not a diagnosis recognized by the *ICD* or *DSM* nosologies. Exhaustion, or burnout, is believed to result from a combination of personality factors (being ambitious, perfectionistic, or unable to say no) and a work environment characterized by unlimited performance demands. The individual has a sense of noncontrol at work and cannot prioritize. Cognition is seriously affected as well as physical fitness and sleep. There is a pervasive fatigue. A Stockholm unit specializing in exhaustion has 400 physician patients, as well as many over-worked administrators and nurse patients. Evidence-based treatment guidelines have not been developed for this condition. Current treatment paradigms are based mostly on conventional wisdom. Complete mental rest is advised, and full sick leave for weeks or months, followed by a gradual return to work, possibly with an adjunctive use of a SSRI [32]. Aerobic exercise and cognitive training is recommended. If all those interventions fail, the patient is encouraged to find another occupation. Some go on disability pension. Prevention of work-induced stress is recommended.

ADHD has emerged as a common comorbid disorder in units for substance use disorders, and in prisons. Christopher Gillberg, a prominent child psychiatrist in Gothenburg, first published a paper in 1988, calling it deficits in attention, motor control, and perception. As the disorder became more recognized, the rate of diagnosis increased substantially after 2006 [33]. Pharmacotherapy was increased as well, with 133,000 patients receiving at least one prescription for ADHD medication in 2019, compared to 15,000 patients in 2006 (www.socialstyrelsen.se). Establishing a diagnosis of ADHD requires an extensive neuropsychologic test battery, family
history, and careful workup before therapy is instituted. The reason for the dramatic increase in diagnosis and treatment for ADHD is unknown.

**Telepsychiatry in Sweden**

The first video-based consultations in psychiatry emerged in the 1950s in Nebraska, USA. The northern Swedish community of Gällivare first implemented telepsychiatry a few years ago, finding that almost all patients could be managed by psychiatrists at a distance. Telemedicine for primary care has seen a surge in 2020 with the COVID-19 pandemic, and telepsychiatry is becoming a part of this development, with high levels of patient and staff satisfaction (www.telepsykiatri.se/english). Patients appreciate continuity of care, seeing the same psychiatrist throughout. Telepsychiatry is cost-efficient and travels are not needed, benefiting the mobility disadvantaged, and saving carbon dioxide emission.

**History**

In the 13th century, the verbal Västgöt law stated that a crazy man must be restrained. In the middle ages, spiritual and religious movements sheltered those insane and destitute, for example, Helgeandshuset in Uppsala 1305. In 1740, insane persons in Stockholm started to be taken to a wooden barack at Danvikens Hospital that was poorly kept. Contemporary physicians in the mid-1850s were outraged and called for a proper hospital to be established for the insane. Construction of the Stockholm mental asylum was started and the first 101 patients were transferred in 1861. Teaching of nurses and doctors began, governed by the first professor of psychiatry. The first psychiatric dissertation was at Uppsala University in 1858 by Johan Leonard Dahlberg, entitled *Psychiska Aetiologien*. The Stockholm Hospital at Konradsberg was operational until 1995 (Figure 1).

There were nurse aides, nurses, physicians, and a chapel. Admissions were involuntary, and staff was instructed to treat the patients humanely because their behavior was caused by disease. The nosology at the time was crude, and we can guess that most admissions were caused by psychoses and bipolar disorder. A few patients were admitted for unrequited love, twice as common in women. Patients were fed and sheltered and put to work. Income was generated by the patients from cultivating mushrooms and printing government forms.

The federal government built several such asylums. Rural communities appreciated the work opportunities. Female psychiatric aides were not allowed to marry, and male aides had to have a permit to marry until 1926. They often lived on the hospital premises.

In the 1950s, there were two major discoveries that caused psychiatrists to question the need for mental asylums. Neurosyphilis, a common diagnosis among asylum patients, was an infectious disease responsive to the new penicillin. And delusions and hallucinations responded to treatment with the new antipsychotic chlorpromazine. There was a general demand for labor that enabled these patients to be returned to the community. Subsequently, there were reforms with therapeutic communities, milieu therapy, and group therapy within the asylums, heralded by the legendary psychiatrist Curt Amark.

In the 1960s, thought leaders in psychiatry joined forces with the civil rights movement to return patients in asylums to the community. Following political decisions, resources were shifted from the government-run hospitals to housing and support by the regions and to outpatient units. The number of beds peaked in 1967 with 37,000 to currently 3,200, plus 1,200 forensic psychiatric beds. The basis for admission shifted to voluntary and the law for involuntary care was made more restrictive. Studies showed that many patients were unable to cope with this transition into loneliness, resorting to substance use, homelessness, and crime. There were more premature deaths.

Eventually, community care was expanded; guidelines for evidence-based care were developed; and increasingly inpatient and outpatient units, primary care, and social welfare units in the community collaborated. Mandatory training in psychotherapy for registrars was implemented in 1976. Psychiatry is in the undergraduate curriculum of physicians and nurses. Foreign medical graduates that are licensed in Sweden have examinations that include theoretical and practical aspects of psychiatry. Peer and advocacy organizations now receive government support.

**Personal Comments**

At age six years, I decided to become a physician, and at 17 years of age to become a psychiatrist. Having my first experience in an outpatient unit as a junior physician in 1972, I am looking back at 48 years of experience with psychiatric patients. It includes a memorable sabbatical at Washington University in St. Louis, mentored by, among others, Samuel Guzé, one of the foremost psychiatrists in the USA. It includes some exposure to psychiatry in South Africa, a population with a completely different diagnostic scenario including neuroAIDS, and patients who had been treated by *iSangomas* with traditional medicine. My personal experience from working occasionally in 18 in- and outpatient units across Sweden impressed me with the dedication of staff and colleagues, and with the operationalized procedures for diagnosing, treating, and caring for patients in voluntary and involuntary units. I encourage young colleagues to spend time abroad to broaden their perspective on working in Sweden. Sweden offers, by comparison, generous patient resources and benefits, yet there is a curious general perception that resources are scarce. The demand for mental health services seems unlimited. As the Swedish welfare system is costly because

![Figure 1. The Stockholm Hospital at Konradsberg](image)
of all entitlements, we will need to reconsider the grounds for sick leave and disability pensioning. We also need to improve adherence to maintenance psychoactive medications to reduce the risk of costly relapses.

The COVID-19 pandemic will have a profound impact on our services, probably switching to video-based consultations on a large scale. The psychosocial consequences of isolation and physical distancing are believed to be substantial, especially for patients with psychiatric disorders [34, 35]. There may be more suicides, more substance use, and more domestic violence. Spending weeks on a ventilator may cause profound mental health effects and cognitive dysfunction. The virus is neurotoxic. The need collaborative research and an action plan is obvious [36].

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Conflicts of Interest

The author of this review is on the board of Svensk Telepsykiatri, a start-up company for telepsychiatric services in Sweden.

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