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Medical Practice Variations

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# Medical Practice Variations in Mental Health and Addictions Care

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## Abstract

This chapter provides an overview of the practice variations in care delivery for mental health and addictive disorders and some of the system-level funding and structural factors that contribute to such variation. Practice variations are described for five populations, along with their expected clinical picture and service needs:

- Children and adolescents
- The elderly
- Severe mental illness
- Mild/moderate illness
- Substance use disorders

These variations occur in a system-level climate which has been transformed over the past decades because of a fundamental change in how appropriate care is defined. Specifically, Western countries have been shifting from institutional to more community-based care – a process labeled “deinstitutionalization.” National differences in how services are funded and organized in light of deinstitutionalization are described. Pending gold-standard outcome indicators such descriptions allow more in-depth examination of what the potential drivers for system change are and how different funding and structure configurations might be compared and evaluated.

## Introduction and Background

In the past two decades, mental and substance use disorders have grown in importance as conditions deserving of societal attention. They first gained international recognition in the landmark 1996 report on the global burden of disease (Murray and Lopez [1996](#)). One of the report’s conclusions, now generally accepted but astonishing at the time, was that the burden associated with mental illnesses was seriously underestimated because of the narrow focus on mortality. Psychiatric illnesses accounted for only 1 % of deaths but 11 % of disease burden, and half of the top ten causes of disability worldwide in 1990 were mental illnesses (unipolar major depression, alcohol use, bipolar disorder, schizophrenia, and obsessive-compulsive disorders). One of the most widely cited findings was the prediction that major depression would be the second leading cause of worldwide disease burden by 2020.

Recent work has reported a 38 % rise between 1990 and 2010 in the global burden associated with mental and substance use disorders, with the increase attributable largely to international population growth and changes in the age structure (Whiteford et al. [2013](#)). Similar work in Ontario, Canada, has found that the burden associated with mental illnesses, measured in terms of premature death and reduced functioning, is more than 1.5 times the burden associated with all cancers and more than seven times that associated with all infectious diseases (Ratnasingham et al. [2013](#)).

The literature is replete with evidence of the effectiveness of a variety of interventions and treatments for mental and substance use disorders (e.g., Dieterich et al. [2010](#)). In addition, numerous professional organizations have developed care guidelines for specific mental and substance use disorders to

address quality of care issues (APA [2010](#); Gaebel et al. [2005](#)). However, guideline uptake by service providers has been slow and variable and has been attributed to a variety of factors including lack of training in recognition, diagnosis, and treatment; provider practice traditions; and lack of resources, system support, and infrastructure (WHO [2008](#); Gaebel et al. [2005](#)).

More importantly, access to care at all, whether guideline consistent or not, has repeatedly been reported as less than optimal with general population surveys documenting a high degree of unmet need. Between 50 % and 75 % of survey respondents who report significant mental health problems also report not receiving care with even higher rates found in developing countries (Demyttenaere et al. [2004](#)). Results from the provider perspective suggest a similar, albeit less dramatic, picture of unmet need. The population proportion receiving mental health care in Canada averages 9.5 % based on survey self-report (Vasiliadis et al. [2005](#)) and roughly 15 % based on health administrative data (Kisely et al. [2009](#)). Given an estimated annual prevalence of 20 % (Offord et al. [1996](#)), both population and provider information sources suggest a gap between need and care but with different magnitudes of that gap. Other perspectives suggest a more complex issue – namely, a mismatch between need and care that includes not only unmet need but also undermet need (Wang et al. [2002](#)) as well as overprovision of services (Lin et al. [1997](#)) and inappropriate care (Baumeister [2012](#)). The evidence for this mismatch (particularly the need–care gap) has led to public and provider education efforts based on the assumption that more information will improve awareness, acceptance, and recognition of mental and substance use disorders (Regier et al. [1988a](#)). These, however, have had only mixed or limited impact (e.g., Olfson et al. [2002](#)); the evidence for the need–care gap has remained consistently high (Kessler et al. [2005a](#); Demyttenaere et al. [2004](#)). The implication is that there are other factors important in explaining the need–care gap.

An important and parallel line of inquiry has been to examine the way care is structured and financed based on the recognition that these are critical ingredients for both the sustainability of the care/service system and the impact of the care/services being delivered. While these are issues important for all health care, they have special relevance for mental health and addictions in the continuing aftermath of deinstitutionalization (the shift from a primarily hospital-based system of care to a greater involvement of community-based services) where the success or failure of treatment can be affected in significant ways by forces outside of the provider/patient interaction. These include issues such as continuity of care and collaboration across service providers as well as factors outside of treatment/intervention services such as housing or employment supports (Rosenheck et al. [1998](#)). This chapter addresses how care for mental and substance use disorders is organized. The focus will be on the system level – specifically, how care is structured and financed and what some of the important factors are which contribute to system-level variations.

The next sections cover

- How mental and substance use disorders are defined and what the main categories of treatment and intervention are

- How mental and substance use disorders are categorized and addressed from health and social service system perspectives

- Children and adolescents

- The elderly

- Severe mental illness

- Mild/moderate illnesses

- Substance use disorders

- Service models and ways that care is organized in Canada and Europe

- Summary and conclusions

# Mental and Substance Use Disorders and Their Treatment/Service Options

## What Is a Mental or Substance Use Disorder?

The answer to the question “what is a mental or substance use disorder?” is not simple. There are numerous terms which are used including “mental illness,” “mental disorder,” “mental health,” “poor mental health,” “mental health concern,” and “mental health problems.” What they denote, however, is complex and not easily defined for at least two reasons.

First, these terms are used both interchangeably as well as to mean conceptually distinct entities. For example, “mental illness” and “mental disorder” generally refer to diseases, particularly those diagnosed and treated by health professionals. “Poor mental health” and “mental health problems” are often considered broader concepts that include both illnesses and less severe conditions such as distress or subthreshold illness (i.e., problems that do not quite meet diagnostic criteria). The term “mental health” has often been defined as the absence of mental illness. However, it has evolved into a more distinct and independent concept as evidenced by the World Health Organization’s 2007 definition:

Mental health is a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community. In this positive sense, mental health is the foundation for individual well-being and the effective functioning of a community.

More recently, some have suggested that mental health and mental illness should be considered orthogonal dimensions contributing to quality of life (Lamers et al. [2011](#); Canadian Institute for Health Information [2011](#)). It is possible, for example, to have poor mental health in the absence of a disorder or good mental health despite the presence of a mental illness and its symptoms, and these scenarios would lead to different management and intervention strategies. For example, alcohol-related harms are not limited to the relatively small percent of individuals who meet formal diagnostic criteria for either dependence or what is commonly thought of as “addiction.” Because the number of people affected is so much greater, the most alcohol-related harm in the population occurs among those who drink at low or moderate levels (Poikolainen et al. [2007](#)).

Second, mental and substance use disorders are a heterogeneous group of conditions that have historically been challenging to define. The challenge is partly due to what Pincus et al. ( [1998](#), p. 1145) describe as a “... paucity of objective measures that might serve to establish the presence or absence of a disorder.” This paucity persists despite numerous efforts to identify clear and definitive genetic, biochemical, or other markers (Singh and Rose [2009](#)). Another source of this challenge, likely related to the lack of objective markers, is the strong influence noted by many observers of the political and cultural forces in defining mental illness, essentially supporting those who have argued that mental and substance use disorders are more social constructs than objective realities. Well-known historical examples are the inclusion in earlier classification systems of epilepsy, syphilis, and homosexuality as mental illnesses (Shorter [1996](#)). The most recent example, as of the writing of this chapter, has been the heated public debate in North America surrounding the release of version 5 of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5) (Lacasse [2014](#)).

Despite these challenges, there is general agreement that the overall effort to create meaningful diagnostic categories based on well-defined criteria has been helpful in imposing order on what has historically been a poorly defined area of medicine. There is also general agreement on what the broad, common elements of mental and substance use disorders are. These include

- Impaired functioning of the brain or mind
- Manifesting as a pattern (syndrome) of disruptions in those processes and behaviors felt to be governed by the brain (specifically, disturbances in “...cognition, emotion regulation, or behavior...” (APA [2013](#), p. 20)
- Clinically significant because of the pattern’s duration and/or severity
- Usually associated with significant personal distress or diminished functioning or impairment in major life activities
- All of which are outside the normal or expected range for the individual’s developmental stage or culture

The two primary classification systems for mental and substance use disorders are the World Health Organization’s International Classification of Diseases and Related Health Problems (ICD - WHO [2010](#)) and the American Psychiatric Association’s Diagnostic and Statistical Manual of Mental Disorders (DSM - APA [2013](#)). ICD originated in 1899 as a list of causes of mortality with nonfatal diseases (such as mental illnesses) added in its sixth revision (ICD-6) published in 1949. It is currently in its tenth revision and preparing for its eleventh. It is one of WHO’s group of classification systems which also include the International Classification of Functioning, Disability and Health (ICF) and the International Classification of Procedures in Medicine (ICPM). For the mental and behavioral disorders, WHO provides several guides (including symptom checklists and text descriptions of the primary defining features for specific illnesses) to assist both clinicians and researchers.

ICD-6 led to the development of the first DSM by the American Psychiatric Association. Published in 1952, DSM-I provided more detailed definitions of mental disorders, and subsequent revisions have refined the diagnostic criteria for individual disorders as well as the patterns and numbers of problems required to meet each criterion. Currently in its fifth revision, DSM has coordinated its changes with ICD (APA [2013](#)). While the two classification systems are similar in their broad classification categories (see [Table 1](#)), the diagnoses within these categories do not always map neatly onto one another, and some specific disorders differ in terms of what symptoms and behaviors are required elements. For example, in ICD-10, a decline in memory is a requirement for the diagnosis of “dementia” while DSM-5 only requires deficits in one or more cognitive domains (which may or may not include memory) for a diagnosis of “neurocognitive disorder,” the new term covering dementia and related illnesses. **Table 1**

ICD-10 and DSM-5 diagnostic categories

Key disturbance/disruption	Disorder category equivalent		
	ICD-10 (WHO <a href="#">2010</a> )	DSM-5 (APA <a href="#">2013</a> )	Examples
Disturbances stemming from cerebral dysfunction	Organic (F00-F09)	Neurocognitive	Dementia, delirium
Disturbances due to psychoactive substance use or	Due to psychoactive	Substance-related and	Dependence

manifesting similar dysfunctional reward-seeking	substance use (F10-F19)	addictive	syndrome Substance use disorder
Disturbances in perception and thinking	Schizophrenia, schizotypal, delusional (F20-F29)	Schizophrenia spectrum, other psychotic	Delusional disorder Schizophrenia
Disturbances in regulation of emotion	Mood (F30-F39)	Bipolar and related	Bipolar 1 Depressive episode
		Depressive	
Disturbances in regulation of autonomic arousal	Neurotic, stress-related, somatoform (F40-F48)	Anxiety	Social phobia/social anxiety disorder Obsessive-compulsive disorder
		Obsessive-compulsive and related	
		Trauma, stressor-related	
		Dissociative	
Disturbances associated with physiological or physical factors	Associated with physiological disturbances, physical factors (F50-F59)	Feeding, eating	Eating disorders Insomnia disorder
		Sleep-wake	
		Sexual dysfunctions	
Enduring, inflexible patterns of behavior/thought differing markedly from cultural expectations and norms	Of adult personality and behavior (F60-F69)	Personality	Antisocial personality disorder
		Gender dysphoria	
		Paraphilic	
Disruptions in early development	Mental retardation (F70-F79) Of psychological development (F80-F89)	Neurodevelopmental	Intellectual disabilities Autism spectrum
Behavioral and emotional disturbances usually with onset	Onset usually occurring in	Disruptive, impulse control, conduct	Kleptomania

in early childhood or adolescence	childhood/adolescence (F90-F98)	Elimination	Enuresis
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## How Are Mental and Substance Use Disorders Treated?

This section deals with the various types of mental illness or substance use treatment modalities to treat an individual. In the next section, we will describe the various sectors in which these modalities are delivered. The interventions used to treat mental illness and addictions can be broken down broadly into (1) pharmacological and biological approaches, (2) therapeutic approaches, and (3) psychosocial interventions. There is overlap between these different categories (e.g., medications often have psychological meaning to patients that can play into response to treatment, and evidence-based psychotherapies have been shown to have biological correlates of response through neuroimaging). The purpose of this section is to provide a broad overview of the different types of treatment modalities to provide context for the remainder of the chapter and is not to be considered a comprehensive description of the various forms of treatment available for mental illnesses and addictions.

Pharmacological approaches to treatment have been in existence since 1950, when chlorpromazine was introduced as the first antipsychotic. The broad classes of pharmacological approaches are antipsychotics (used primarily to treat psychotic disorders such as schizophrenia), antidepressants (used primarily to treat depressive and anxiety disorders), and anxiolytics (used as sedation or to treat anxiety disorders). In addition to medications, there are procedures that have been in use for some time and continue to be used, such as electroconvulsive therapy (used for treatment-refractory depression, for example) and similar, more recently developed, interventions such as transcranial magnetic stimulation. Finally, psychiatrists are joining forces with neurosurgeons to explore the possibilities of deep-brain stimulation for disorders such as obsessive-compulsive disorder; severe, treatment-refractory depression; and anorexia nervosa.

There are a number of short-term therapies that have been developed since the advent of cognitive therapy (APA [2010](#)). These therapies typically have a finite duration and are manual based to help with standardization and reproducibility. These therapies are often called “evidence-based” therapies because they have been shown to be effective for a broad range of disorders through systematic evaluations using high-quality randomized controlled trials. Examples of these short-term therapies include cognitive-behavioral therapy, interpersonal therapy, and, more recently, mindfulness-based cognitive therapy. These therapies can typically be delivered to individuals or in a group format. There are a broader group of therapies that are based upon psychodynamic psychotherapy. These therapies have persisted because of the historical importance of psychoanalysis to the field of psychiatry rather than the kind of rigorous evaluation that has led to the adoption of pharmacological and brief therapeutic modalities.

Beyond these traditional types of treatment, there are a number of emerging therapeutic modalities that are showing promising results. These include peer support, where, particularly in the addiction treatment environment, individuals who have effectively managed their substance use problem provide support to individuals in the middle of treatment. This concept is being broadened beyond addiction treatment to include chronic, severe mental illnesses. Other therapeutic modalities recognize the substantial instrumental needs of individuals with chronic, severe mental illnesses such as schizophrenia. These modalities combine health care interventions with more fundamental needs. For example, supportive housing – providing housing that includes mental health care workers as an

integrated component of the housing – is an important intervention. Supportive employment is a similar treatment modality where employment is coupled with psychosocial supports to create opportunities for normative social interaction and daily structure for individuals with chronic, severe mental illnesses.

A variety of psychosocial, behavioral, and pharmacological therapeutic approaches are used to treat people with substance use disorders. Common psychosocial and behavioral approaches include contingency management, relapse prevention, cognitive behavior therapy, motivational enhancement therapy, and 12-step facilitation. All have been linked to some extent with reduced substance use and other positive outcomes, at least in the short term (Martin and Rehm [2012](#)). Screening and brief intervention approaches for risky and problem drinking have been applied with success through nonspecialized settings, including primary care and online platforms (Cunningham et al. [2010](#); Kaner et al. [2007](#)). On the other end of the severity spectrum, prolonged recovery management approaches have shown evidence of effectiveness in reducing relapse and minimizing harms among those with chronic disorders and complex, co-occurring conditions (Dennis and Scott [2007](#)). Notable pharmacotherapies supported by clinical trials include acamprosate and naltrexone for alcohol dependence (Jonas et al. [2014](#)), and substitution therapy, such as methadone maintenance or buprenorphine, for opiate dependence (Bart [2012](#)). Finally, peer-based support groups, most notably Alcoholics and Narcotics Anonymous (AA/NA), are widely available and accessible for ongoing, community-based support (Humphreys et al. [2004](#)).

## Mental and Substance Use Disorders from the Health and Social Service System Perspectives

The ICD-10 and DSM-5 classification systems provide professionally endorsed and generally shared nomenclatures that support diagnosis and treatment planning and provide information about risk factors and expected prognosis. They are not, however, the basis on which the populations needing mental health and substance use services are grouped at the system level. Mental health services range from mental hospitals to generalist visits and community teams and cover all population groups including children and the elderly. These services compose mental health and substance use–related care, but investment patterns and how these services are organized and mapped onto the components of the health care system vary significantly. These variances increase even more when social service systems – felt by many to address some important determinants of outcomes in mental and substance use disorders – are included. Investment patterns and how they impact on services will be described later in this chapter. This section describes ways in which health care services are conceptualized and mapped at the system level.

Important dimensions at the system level include the type and degree of professional expertise required, the intensity and restrictiveness of services provided, and the special needs and circumstances of particular subpopulations. For example, appropriate care for individuals with highly complex or unresponsive disorders usually includes the involvement of professionals with highly specialized training and/or settings where intensive services can be provided and monitored. Additionally, social, legal, and biological processes create important differences among population subgroups that affect their care. Children and adolescents, for example, have special legal and social statuses and protections while individuals who are elderly often face the impacts of changing occupational and socioeconomic situations and of aging. The link between substance use and crime (Bukten et al. [2012](#)) and the illicit status of many psychoactive substances carries implications for criminal justice system involvement in substance use disorder treatment.



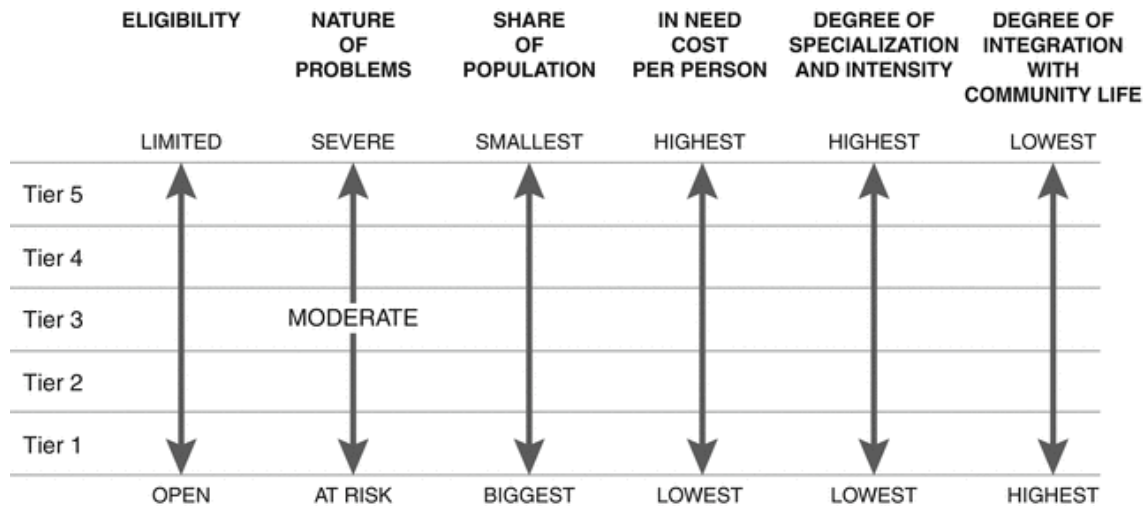
From this perspective, individuals with mental and substance use disorders are often grouped into five broad categories:

- Children and adolescents
- The elderly
- Severe mental illness
- Mild/moderate illnesses
- Substance use disorders

There are at least two issues with these categories that impact on the organization and financing of health care. The first is that they are not mutually exclusive. For example, individuals of all ages can have both substance use disorders and mental illness. Similarly, any age-group can have mild or severe mental health. When services are organized and funded according to these five categories, there is real potential for lack of clarity about which services are responsible for the care of which individuals and therefore for individuals to be “lost in the cracks.” The second is that the appropriate type and mix of services may be quite heterogeneous. Some groups (e.g., those with severe mental illness) may require access to inpatient care as well as intensive, nonmedical community supports. Others (e.g., those with mild/moderate illness) may not. Mental health promotion, screening, and early prevention may have a higher valence for children and adolescents than for those with serious mental illness. Consequently, the levels of funding and the type of funding levers required to support appropriate care and services may require complex, and probably politically negotiated, formulas to accommodate this heterogeneity.

One approach for creating a more unified conceptualization of mental health and substance use–related services is to use a tiered model or framework of care (Paxton et al. [2000](#); Rush [2010](#)). There are three key features of this approach. The first is the use of needs or problem severity (as opposed to diagnosis) as the main driver for organizing care. In mental health, levels of need are conceptualized as severe/complex, moderate, and mild or transient problems and dysfunction (Rush [2010](#)). For substance use disorders, problem severity is a multidimensional construct encompassing the acuity, chronicity, and complexity of the individual’s problems (Paxton et al. [2000](#)).

The second key feature is the characterization of the service system in terms of broad functions (rather than specific types of programs or services). Examples include education, screening, assessment, referral, planning and providing treatment and intervention, crisis stabilization, and provision of community supports such as housing or occupational training. Finally, the third key feature is matching the type and range of functions to the individual’s level of need – essentially, creating the “tiers” of functions. The majority of individuals in a population, for example, may only need education about the signs of mental or substance use–related problems and perhaps screening for early detection (the lowest tier). Others may need the full range of functions including screening, assessment, crisis stabilization, intensive interventions such as care in hospital or involuntary treatment, and nonmedical community supports (the highest tier). The important benefit of a tiered model is to provide a framework that allows description of an entire population in terms of its problem severity, anticipated service costs, needs for specialized and intensive services, and expected participation in community life (see Fig. [1](#)).



**Fig. 1**

Multidimensional tiered framework for planning service delivery systems (Source: Rush [2010](#), used with permission)

Two concerns about tiered models have been raised in the literature. First, coordination across functions is an essential concern, particularly for individuals with more severe and complex problems (Rosenheck et al. [1998](#); Goldman et al. [2002](#); Rush [2010](#)). In particular, the ease with which an individual can move between more and less intensive services as his/her condition changes is important.

Second, how functions are mapped onto individual providers or provider agencies and organizations is not prescribed. Rush notes the existence of “tier trap,” in which different service models are perceived as limited to a single tier despite their provision of multiple kinds of functions ( [2010](#), p. 627). However, the broader issue is what kinds of training and specialization are required for different kinds of service functions. This is an issue which is not limited to tiered models. Driving factors include the desire to provide more comprehensive and complete care (e.g., by working in multidisciplinary collaborative teams), to control costs (e.g., provision of care by less expensive health professionals such as psychiatric nurses), or to improve care in low-income countries (e.g., through task shifting to nonspecialists or laypersons). Other ingredients which may affect this mapping include the advent of new technologies or intervention modalities (e.g., distance telepsychiatry, new medications). These, in turn, would impact on expected costs as well as manifest in variations between countries which have different models of who performs what functions.

Regardless of how countries conceptualize their health and social service systems, there are common threads in the policy goals for these systems in a post-deinstitutionalization context:

- Continuity of care from the individual’s perspective
- Integration or coordination of services from the system’s perspective
- Quality of care
- Client-centeredness, inclusion of client/family in decision-making
- Social inclusion, health equity
- Costs, both of services as well as the opportunity costs of not addressing mental health and addiction problems

## Children and Adolescents

One in five children in community samples has clinically significant psychiatric symptoms (Waddell et al. [2005](#)). Childhood psychiatric illness has negative, compounding effects on multiple domains of child development (Clark et al. [2007](#)). In addition to the significant impact on the future trajectory of the individual with the illness, it is estimated that between one-half to three-quarters of lifetime cases (estimated risk of over 50 % by age 75) have their onset in adolescence (Clark et al. [2007](#)). Given the increased rates of medical illness, health service utilization, and mortality associated with psychiatric illness at all life stages (Jokela et al. [2009](#); Knapp et al. [2002](#)), the importance of early identification and intervention for childhood mental health issues cannot be overstated (Ratnasingham et al. [2013](#)). Psychiatric illness in children and adolescents presents unique challenges and opportunities for diagnosis and treatment. Children and youth exhibit a wide range of clinical severity, functional impairment, comorbidity, and responses to intervention. The majority (40–75 %) of children and youth with psychiatric disorders meet criteria for more than one clinical diagnosis, either cross-sectionally or over time (Merikangas et al. [2010](#)). In the adolescent supplement of the US National Comorbidity Survey (currently, the largest epidemiological survey of children and adolescents), the most common mental disorders were anxiety (32 %), behavior (19 %), mood (14 %), and substance use disorders (11 %). Overall psychiatric comorbidity was 42 % with almost half having three or more psychiatric diagnoses (Merikangas et al. [2010](#)).

(a)

#### Primary and specialist outpatient utilization

Health care for children and youth with psychiatric disorders is a latticework of multiple providers within and across multiple sectors including health, education, child protection, and youth justice systems. Consequently, mental health care interventions for children and adolescents occur in a variety of settings and along a spectrum of intensity. Within the health care sector, the provider of first contact and often the sole provider of care is the primary care physician (Lin et al. [1997](#)). Large, national, population-based surveys in several developed countries report primary care mental health treatment rates of 40–59 % (Waddell et al. [2002](#)) with only 16–27 % of those receiving specialized mental health services. Of children entering a new episode of care, 43 % were seen exclusively by a primary care physician, 49 % were seen exclusively by a mental health specialist, and 7.5 % were seen by both (Harpaz-Rotem et al. [2004](#)). Of children and adolescents seen by a specialist, all were first seen by a primary care physician. Controlling for illness severity, children and adolescents who had mental health specialist care or combined specialist/primary care were significantly less likely to drop out of treatment than those treated by primary care physicians alone (Harpaz-Rotem et al. [2004](#)). The low rate of specialist mental health care is concerning since youth who receive mental health treatment have reduced risk of psychiatric problems in adulthood (Harrington et al. [1996](#)). Multiple factors have been implicated including inadequate supply of providers and services, access barriers, stigma and negative perceptions toward mental illness and its treatments, and a lack of help-seeking by parents and families (Angold et al. [1998](#); Waddell et al. [2002](#), [2005](#)). In addition, parental perceived burden has been reported to be the most powerful predictor of the use of specialist mental health services, regardless of the level of severity of the child's psychopathology (Angold et al. [1998](#)).

(b)

#### Emergency department utilization

When the demand for health intervention exceeds the availability or accessibility of outpatient resources, the emergency department (ED) is frequently called upon to provide assessment, treatment, and referral to specialized services (Christakis et al. [2001](#)). Estimates from US data suggest that 2–5 % of all emergency department (ED) visits for youth are related to psychiatric symptoms (Sills and Bland [2002](#)), with a significant driver being nonurgent diagnoses rather than more serious concerns

such as suicide, self-harm, or psychosis (Soto et al. [2009](#)). The US data indicates that the majority (64–69 %) are already involved in some form of mental health treatment, with one-quarter to one-half having a prior psychiatric admission and approximately half receiving psychotropic medications (Goldstein et al. [2007](#); Soto et al. [2009](#)).

More than 30 % of child and adolescent psychiatry-related ED visits were considered inappropriate and would have been more appropriately seen in outpatient care even if that contact was delayed (Soto et al. [2009](#)). Youth with ongoing psychiatric care accessed this resource only 20 % of the time prior to their ED visit (Soto et al. [2009](#)). The two main reasons for inappropriate referral were direct ED referral from school or mental health provider without psychiatrist evaluation and unavailable outpatient appointment (Soto et al. [2009](#)). In addition, the literature reports that 19 % of youth had repeat visits to the ED, with half returning within 1 month of their initial ED visit. Psychiatric comorbidity, current receipt of mental health services, and previous psychiatric hospitalization were all associated with repeat visits to the ED within 6 months (Goldstein et al. [2007](#)).

(c)

#### Psychiatric hospitalization

There has been a dramatic societal shift from hospitalization to outpatient mental health care delivery driven by fiscal restraint and the ethical desire to provide treatment in the least restrictive setting possible. While the overall number of hospitalizations has remained relatively stable, length of hospital stay has decreased by 67 % even as hospital case mix reflected increasing proportions of seriously ill youth with psychotic, depressive, and bipolar disorders (Case et al. [2007](#)). However, for some diagnostic groupings such as youth with suicide attempts there has been a decrease in number of hospitalizations even as community surveys revealed increased rates of suicide attempts (Brenner et al. [2000](#)).

While decrease in overall LOS is an international phenomenon, there remains significant variation by country. Median LOS was 4.5 days in the US in 2000 (Case et al. [2007](#)) and 4 days in Canada (Carlisle et al. [2012](#)) for youth overall. However, for the subset of youth with psychosis, mean LOS has been reported as 119 days in the UK (Green et al. [2007](#)) and between 22 and 27 days in Canada (Carlisle et al. [2012](#); Gearing et al. [2009](#)).

Consistent with a high threshold for admission, youth admitted to hospital have severe symptoms, multiple comorbidities, and significant dysfunction (Gearing et al. [2009](#); Tonge et al. [2008](#)). In addition, high rates of family dysfunction are reported by both youth (52 %) and parents (35–40 %) (Tonge et al. [2008](#)). While these results suggest potentially improved targeting of resource-intensive services such as hospital care for those in need, they also may be a cause for concern since hospitalization has been found to be an effective means of achieving health gains in children and youth with psychiatric illness (Green et al. [2007](#)).

Postdischarge service utilization patterns can vary widely. In terms of hospital readmission, the rates for children and adults are remarkably similar with the 1-month rate reported as 12 % and the 1-year rate as ranging between 30 % and 38 % (Blader [2004](#); Carlisle et al. [2012](#); Fontanella [2008](#); Gearing et al. [2009](#)). While previous hospitalization is the strongest, most consistent predictor of readmission for adults, this is not the case for children and youth. Factors associated with readmission for children and youth include psychotic and affective disorders (Arnold et al. [2003](#)), externalizing behaviors (Blader [2004](#)), severe emotional and behavioral disturbance (Fontanella [2008](#)), and medication nonadherence (Fontanella [2008](#); Gearing et al. [2009](#)). Shorter LOS also increased risk for readmission (Blader [2004](#); Carlisle et al. [2012](#)). In terms of demographic contributors to readmission, studies have reported inconsistent results for gender and age (Arnold et al. [2003](#); Fontanella [2008](#); Gearing et al.

[2009](#)). However, when combined together with findings from the adult literature (Thompson et al. [2003](#)), they suggest that the group at highest risk of readmission is likely the 15–19 age-group. Outside of hospital readmission, receipt of aftercare at 1 month post-discharge has been reported as high as 73 % (Goldston et al. [2003](#)) with wide ranges reported for 3 months (60–86 %) and 1 year (42–90 %) post discharge (Blader [2004](#); Goldston et al. [2003](#); Granboulan et al. [2001](#)). The two most consistent predictors of aftercare in children and adolescents are presence of a biological parent or grandparent in the home and prior inpatient or outpatient contact with mental health services (Daniel et al. [2004](#)). Longer length of stay in hospital also increased likelihood of receipt of aftercare (Granboulan et al. [2001](#)).

**(d)**

Other contributors to practice variation

The intent behind deinstitutionalization was that decreased inpatient care would be offset by increased frequency and intensity of outpatient services. However, current mental health care systems for children and adolescents suffer from insufficient capacity, impaired coordination among providers and sectors, overall poor accessibility, and inadequate fidelity to evidence-based interventions. The current practice environment is one of documented inadequate supply of child and adolescent psychiatrists and further an uneven distribution of this inadequate supply (Parker et al. [2002](#); Steele and Wolfe [1999](#); Thomas and Holzer [2006](#)). Those in rural areas and lower socioeconomic groupings show a particularly great mismatch between need and availability of specialized psychiatric care (Blais et al. [2003](#); Fontanella [2008](#); Steele et al. [2006](#)).

While in adults, psychiatric disorders are more common and more complex (i.e., greater comorbidity) in urban areas (Peen et al. [2007](#)), no significant urban–rural difference has been found in the prevalence of child and adolescent psychiatric disorders (Offord et al. [1987](#)). However, *lower* family income has been associated with *higher* rates of child mental disorder (Goodman et al. [2002](#)), and *higher* socioeconomic groupings have *greater* child mental health service utilization (Daniel et al. [2004](#)).

Practicing child psychiatrists are not evenly distributed among regions but are concentrated within urban, academic centers further exacerbating the shortage of specialist services in rural and remote regions (Steele et al. [2006](#)). Urban areas had 5.7 times more psychiatrists, 41 % more family doctors, and 8.5 times more social workers compared to rural areas (Blais et al. [2003](#)). Overall, there were 1.6–2.3 times more services used in urban settings than in rural settings, although measured need did not vary among regions (Blais et al. [2003](#)). Approximately one-third of surveyed child psychiatrists reported providing outreach consultation to remote regions (Steele and Wolfe [1999](#)); even so, areas outside of major academic centers remain significantly service disadvantaged.

Estimates of available child psychiatrists in the US vary between 10 % and 45 % of the actual number needed to meet the mental health needs of American youth (Thomas and Holzer [2006](#)). In 2002 the Canadian Psychiatric Association (CPA) estimated that a minimum of one child psychiatrist per 3,800 youth is necessary to address the mental illness burden (Parker et al. [2002](#)). A survey in Ontario (Steele and Wolfe [1999](#)) ascertained that there was, in fact, one child psychiatrist to every 32,365 children, a ratio which falls far short of the CPA recommendations and represents as great a shortfall of child psychiatrists as reported for the US (Thomas and Holzer [2006](#)).

## The Elderly

There are several characteristics of older adults (typically defined as persons aged 65 years and older) that have important potential implications for the delivery of mental health services for this population. One of the most pressing concerns is the demographic trend. There is a rapidly increasing population of older adults in general and a subsequent increase in the number of older adults with mental disorders who will require supports and services for mental health disorders. There are also two major features associated with older adults that can pose challenges in terms of service delivery. First is the high degree of medical comorbidity encountered among older adults with mental disorders. The implications of this are that older adults with mental disorders frequently receive services in medical settings (e.g., primary care, acute medical care, long-term care, or nursing home settings), and mental health services for older adults must be available in these settings and integrated with medical care. Also, medical comorbidity can have an important impact on both the efficacy and safety of pharmacological and nonpharmacological interventions in the elderly. Antipsychotics have been associated with an increased risk of stroke (Herrmann and Lanctot [2006](#)) and death (Schneider et al. [2005](#)) when prescribed to older adults with dementia, and antidepressants have been associated with a broad range of adverse effects among frail older adults (Coupland et al. [2011](#)).

Second is the high prevalence of dementia and cognitive disorders in this population. Age is one of the strongest risk factors for the development of Alzheimer's disease and related forms of dementia. Cognitive impairment can impact on the efficacy of treatments for mental disorders. For example, antidepressants have been demonstrated to be effective for the treatment of depression in older adults without dementia (Mottram et al. [2006](#)) but not for the treatment of major depression in individuals with concomitant dementia (Nelson and Devanand [2011](#)). Also, many mental health conditions can be associated with cognitive changes or an increased risk of dementia which can affect treatment decisions. The majority of older adults with dementia develop neuropsychiatric or behavioral symptoms (NPS) during the course of their illness. These NPS are frequently the focus of their mental health care.

The most common mental disorders in older adults are dementias and related conditions (organic disorders in ICD-10 or neurocognitive disorders in DSM 5), mood disorders with a predominance of major depression and depressive conditions, and anxiety disorders.

Approximately 8 % of all adults aged 65 and older have dementia. This increases to a prevalence of approximately 43 % among those aged 85 and older (Thies and Bleiler [2012](#)). The majority of individuals with dementia have Alzheimer's disease dementia or Alzheimer's disease with contributions of other pathology such as cerebrovascular disease (Brunnstrom et al. [2009](#)). The prevalence of dementia varies according to setting of care with approximately 1–2 % of older adults in community settings, 5–10 % of community-dwelling older adults who receive home care services, 20 % of all older adult inpatient mental health admissions (Seitz et al. [2012a](#)), and 60–70 % of all residents in long-term care (Seitz et al. [2010](#)). Behavioral symptoms including depression, sleep, agitation, and apathy are common among older adults with dementia with approximately 80 % of all individuals with dementia experiencing NPS at any time (Seitz et al. [2010](#)).

Depressive disorders and anxiety disorders are the next most common mental health conditions in older adults. The prevalence of major depression in older adults has been reported to be between 1 % and 3 % in most studies with anxiety disorders reported at a slightly higher prevalence (Regier et al. [1988b](#); Gum et al. [2009](#)).

## Variations in Practice

There is significant variation in the provision of mental health services for older adults. The high degree of medical comorbidity means that much of the care older adults receive is in primary care or

general medical settings. Also, there are significant shortages of geriatric psychiatrists and other geriatric medical providers in most developed countries (Bartels and Naslund [2013](#)) highlighting the importance of enhancing the capacity of general medical services to provide mental health care for older adults. A survey of older adults in Canada demonstrated that among older adults with psychiatric need, only 37 % reported any mental health use (Cairney et al. [2010](#)). Among those who had accessed any psychiatric service, general medical care (e.g., family physician or nurse) was the most common service received.

Additional studies on variation in mental health care for older adults are available in pharmacoepidemiology studies related to prescribing variations in older adults. Antipsychotics are commonly prescribed to older adults with dementia although use of antipsychotics in this population can be associated with adverse events and it is recommended that their use be limited in this population. Among older adults in nursing homes in Ontario, Canada, antipsychotic prescribing rates in the lowest quintile of homes was 20.9 % compared to 44.3 % in facilities in the highest quintile (Rochon et al. [2007](#)). Similar variation has been noted for antipsychotic prescribing in long-term care facilities in the US as well (Chen et al. [2010](#)). Both individual family physicians (Lam et al. [2009](#)) and consulting psychiatrists (Tija et al. [2014](#)) have been independently associated with variation in prescribing rates suggesting clinical practice variations for physicians in their prescribing patterns. Psychiatric services for older adults in primary care settings can be organized in several different ways. Many older adults receive mental health care solely from primary care providers such as family physicians or primary care nurses. Some primary care organizations also now have professionals with additional mental health training or expertise such as social workers or psychologists embedded within primary care services. Aside from these primary care based mental health services, the most common mental health services for older adults would be referrals to psychiatrists or other mental health professionals working either in private practice or in community-based agencies.

While referrals to external agencies are an important component of the range of mental health services available for older adults, novel models of care have been explored to integrate community-based mental health services within primary care settings. In the older adult population such models, known as collaborative care or integrated care, have been shown to be effective in increasing access to mental health treatments for this population. These models typically involve building the capacity of primary care providers to provide psychological treatments and building their skills in the pharmacological management of mental disorders. A stepped approach to care is adopted in these models where initial evaluation and management of patients is provided by primary care clinicians which can be supplemented by consultations with psychiatrists or other mental health providers when required.

Integrated models of care for mental health care of older adults in primary care have been demonstrated to be effective in reducing psychiatric symptoms and improving the quality of care for a number of mental health conditions including depression (Unutzer et al. [2002](#); Katon et al. [1999](#)) and to improve treatment access and retention for older adults with depression, anxiety, or alcohol use disorders (Bartels et al. [2004](#)). Similar models of care have also been developed for the management of dementia in primary care which have demonstrated improvements in the quality of care (Vickrey et al. [2006](#)) and reduction in the behavioral symptoms of dementia (Callahan et al. [2002](#)).

Within medical inpatient settings in acute care hospitals, mental health services are often organized in a fashion similar to that in many primary care settings. The most common method is through consultation or consultation-liaison services. There have been relatively few studies examining other models of mental health care in acute care settings. A recent systematic review identified only four studies that evaluated integrated models of care for medical inpatients with psychiatric disorders (Hussain and Seitz [2014](#)). The results indicated that integrated models of care may be associated with improvements in psychiatric symptoms and total length of stay when compared to usual care although additional studies are required. Two of the studies in this review also included younger individuals so

the results were not specific to older adults. There is also limited information about different models of care for older adults with mental disorders who are admitted to general adult inpatient units. A study from Ontario, Canada, demonstrated that older adults comprised 8.8 % of all discharges (Seitz et al. [2012b](#)). In this sample, cognitive impairment, medical comorbidity, and functional limitations were common among older adults highlighting some of the unique care needs that this population might require for optimal health outcomes. The optimal method of providing inpatient psychiatric care for older adults in these settings has yet to be determined.

Long-term care (LTC) or nursing homes also play an important role in the care of older adults with mental disorders. Mental disorders are highly prevalent in this setting. A systematic review found that the median prevalence of dementia in LTC settings was 58 % and that 78 % of all individuals with dementia in LTC had behavioral symptoms related to dementia (Seitz et al. [2010](#)). Major depressive disorder was present in 10 % of all LTC residents while 29 % displayed significant depressive symptoms that did not meet diagnostic criteria. Other mental disorders such as bipolar disorder and schizophrenia were present in LTC residents as well although much less frequently than dementia or depression. Similar to other care settings, the most common mental health services for older adults in LTC involve psychiatric consultation services. Existing research studies on access to these services suggests significant variation. A survey of LTC facilities in Ontario, Canada, found that 36.8 % of LTC administrators did not have any access to psychiatric services (Conn et al. [1992](#)). Similarly, a survey of US nursing homes found that only 50 % of surveyed LTC facilities felt that services were adequate to meet their needs, and up to 27.5 % of rural LTC homes reported having no access to psychiatric consultations (Reichman et al. [1998](#)). Information from LTC facilities in the UK also reported limited access to psychiatric consultation: 38 % of LTC managers reported no access to psychiatrists in their homes. Aside from psychiatric consultations in LTC homes, training of frontline staff in behavioral management approaches has been another mechanism to deliver psychological treatments for older adults with dementia with numerous studies showing that these approaches can be effective in reducing behavioral symptoms associated with dementia. A recent study involving a depression management program for LTC residents in the Netherlands demonstrated that education in a structured approach to the assessment and management of depression in this setting can be effective in reducing the prevalence of depression in LTC (Leontjevas et al. [2013](#)).

## Severe Mental Illness

Individuals with severe mental illness (SMI), sometimes also referred to as serious and persistent mental illness, are the group most directly affected by deinstitutionalization and consequently have been a policy and planning priority in many countries (Ruggeri et al. [2000](#); Caldas de Almeida and Killaspy [2011](#)). While they are a small proportion of the total population, with estimates ranging from <1 to 2 %, they account for a disproportionate amount of health and social services and consequently of the associated costs as well. This is due, in part, to their need for intensive supports as well as the chronic and complex nature of their clinical picture. Historically, meeting these needs was the mandate of institutional settings. Currently, much of the variation in practice arises from the many models that have been developed to address the shift to community-based care.

While there is no universally accepted definition of SMI, the term refers to disorders which have a high level of severity, are expected to last a significant length of time (often the person's entire life), and impact in major ways on the person's ability to function. The most commonly included illnesses are those which involve psychosis, where psychosis "...describes the loss of reality a person experiences so that they stop seeing and responding appropriately to the world they are used to."



(Lancashire City Council [2015](#)). The most familiar examples of illnesses that involve psychosis are schizophrenia and bipolar illness (also known as manic–depressive disorder).

In the research and policy literature, SMI is typically defined using the “three Ds” of *diagnosis*, *duration*, and *disability*. In practice, there is no consistently used definition (OECD [2014a](#)), and studies comparing different operational definitions have demonstrated a wide range in the resulting SMI rates (e.g., Ruggeri et al. [2000](#)).

One source of variation stems from the set of psychiatric diagnoses that are used to define SMI. As noted earlier, the most commonly included disorders are the nonorganic psychoses, of which the primary example is schizophrenia. However, Ruggeri et al. ([2000](#)), in comparing definitions requiring a diagnosis of psychosis with those which did not, found that 42 % of individuals with a lengthy psychiatric treatment history plus evidence of moderate or severe dysfunction had nonpsychotic illness. Their findings raised the question of whether the list of eligible diagnoses should be more inclusive. While the need for broad diagnostic inclusion is still acknowledged, both research and policy definitions typically specify the diagnostic categories that either support or exclude a designation of SMI. In addition to nonorganic psychoses, the most frequently included are other major mental illnesses (e.g., major depression, bipolar disorder). Broader definitions allow any DSM-IV or ICD-equivalent disorder but usually exclude specific conditions – most commonly, primary diagnoses of substance or addiction disorders, developmental disabilities, social problems (i.e., V-codes), and sometimes organic disorders. The rationale for these exclusions appears to be policy concerns and how services and supports are administered rather than denial of the disabling or incapacitating impact of the excluded conditions.

Other sources of variation include how disability is identified and what the required duration period is. Operational definitions of disability can include the demonstrated need for continued intensive mental health care, impaired functioning due to the psychiatric illness across one or more domains (depending on the severity of the disability), or qualification for disability support benefits. Duration is typically defined as a minimum of 1–2 years. The required or excluded diagnostic conditions, how disability is defined and documented, and the duration thresholds all contribute to variations in who comprises the SMI population and therefore who the planned services and supports are intended for. Individuals with SMI are younger, more likely to be female, less likely to be married than those without SMI, and more likely to live in poor or impoverished circumstances (Pratt [2012](#); Narrow et al. [2000](#)). They have higher rates of psychiatric and SUD comorbidity and a range of medical illnesses, including respiratory diseases such as asthma, bronchitis, and emphysema as well as cardiovascular and liver problems, stroke, and diabetes; they also have higher rates of all-cause mortality (Narrow et al. [2000](#); Kessler et al. [2005b](#); Hayes et al. [2012](#)). Given that disability and duration are part of the definition, it is not surprising that SMI is associated with difficulties across a range of domains including lower educational attainment, higher unemployment and low income rates, higher rates of criminal justice involvement, poor housing, and troubled social relationships (e.g., Goering et al. [2011](#)).

Because of the nature and severity of their psychiatric illness, individuals with SMI will require specialty mental health and even intensive services such as hospitalization at various points during their lifetime. Historically, they were considered to have a chronic, incurable condition with an increasingly poor trajectory (Green et al. [2013](#)) and were commonly institutionalized.

Deinstitutionalization, however, has led to a decades-long reframing and restructuring process on the best approach for delivering care.

An important contributor to this process has been a major philosophical shift from the notions of symptoms, “cure,” and treatment to the notion of recovery – essentially, living and functioning in the context of a chronic, debilitating condition (SAMSHA [2004](#)). Additionally, evidence that longer-term

outcomes, even for individuals with lengthy psychiatric hospitalizations, can include improved functioning in the community and even full recovery has challenged historical notions that SMI is incurable (Green et al. [2013](#)).

Consequently, a broad array of both medical and nonmedical interventions and supports is now considered essential. Early work suggested a better impact of community rehabilitation programs compared to usual medical care for deinstitutionalized individuals (e.g., DeSisto et al. [1995](#)). This and similar work laid the foundation for a variety of intensive and integrated community-based models of care of which the most extensively tested and established is, arguably, the assertive community treatment (ACT) model and its variants (Lehman et al. [1997](#); Stobbe et al. [2014](#)). The scope has continued to broaden, and a substantial literature now documents the impact (or lack thereof) on individuals with SMI of prevention/promotion, self-management, and strategies focused on employment, education, and housing, among others (e.g., Burns et al. [2007](#); Goering et al. [2011](#)). Providing a broad array of services and supports in the context of a tiered model (e.g., Fig. 1, previously) requires coordination both within a tier as well as across tiers if fragmented care is to be avoided and continuity of care, felt to be an essential ingredient for individuals with SMI, achieved (Adair et al. [2005](#)). To address these issues, jurisdictions have piloted, supported, or mandated a variety of integrative models which vary between “one-stop shopping” to solutions which connect multiple organizations and agencies. Examples include multidisciplinary primary care teams; pre-/peri-/postdischarge interventions involving inpatient, community, and peer support staff; single-point access providing triage, referral, and sometimes coordination services; system navigators or coaches; and telepsychiatry and telemedicine (e.g., Fuller et al. [2014](#); MHPA [2012](#)).

The results of these efforts have been mixed and suggest that, despite decades of effort, addressing deinstitutionalization is in some ways still exploratory and experimental. The US National Comorbidity Study documents that only 40 % of individuals with SMI access services and, of these, less than 40 % receive even minimally adequate care (Wang et al. [2002](#)). The desire to provide a broad array of services is accompanied by the adoption of a variety of practices. Some of these are supported by evidence and some not; further the degree of adherence to the guidelines for those practices which are evidence based is variable (Goldman et al. [2002](#)).

Finally, deinstitutionalization has highlighted the important issue of how to address compulsory or involuntary treatment when shifting to community-based care. This is compounded by the modern perspective that individuals with impairments and disabilities should have the same rights and fundamental freedoms as all members of society (UN Convention [2006](#)). The balance between this perspective and the legal obligations and social expectations that psychiatrists are expected to meet vis-à-vis individuals at high risk for harm to self or others is one that continues to be addressed by those providing services for individuals with SMI.

## Mild/Moderate Illness

Mild to moderate mental illnesses refer to the mental illnesses that are largely detected and treated in ambulatory care settings. While the most common of these are mood disorders such as major depression and anxiety disorders such as generalized anxiety disorder or panic disorder, it is more instructive to focus on the setting in which they are served for several reasons. The most important is that the ambulatory setting is a better indicator than the specific diagnosis of the degree of the individual’s functional impairment and associated need for service intensity. There are individuals who have diagnoses that would be described as severe mental illnesses (e.g., bipolar affective disorder) but who are not impaired such that they can be managed in an ambulatory setting, and there are others who have diagnoses that would be described as moderate illnesses (e.g., major depressive

disorder) who require the more intense services provided during hospitalization. Even within a given diagnosis, the need for service intensity can vary over time such that individuals may be served primarily in an ambulatory setting but require more intensive resources episodically. Finally, there has been a substantial amount of literature on the importance of subsyndromal conditions. These conditions (e.g., minor depression or subthreshold depression) have a larger prevalence, by virtue of their lower symptom criterion threshold, and a considerable public health impact, because of the combination of their higher prevalence and relative disability. The majority of these cases are detected and managed in primary care.

The mild to moderate mental illnesses have the largest public health burden. Depression and anxiety disorders have a tremendous impact on burden of illness because they are the most prevalent disorders, have an early age of onset, and individuals typically live for lengthy periods of time with variable levels of disability and reduced quality of life (Ratnasingham et al. [2013](#)). There has also been considerable focus on the impact of mild to moderate mental illness on work productivity, with an emphasis on “presenteeism,” the concept of reduced productivity among workers secondary to a mental illness (Dewa and Lin [2000](#)). As such, these conditions represent the largest opportunity to reduce the burden of mental illness from a public health and broader economic perspective. Since people live with and are burdened by these disorders for long periods of their lives, any interventions (particularly early interventions) that reduce the disability related to these disorders will dramatically reduce the overall burden of disease.

Anxiety disorders are the most prevalent psychiatric disorders, with generalized anxiety disorder being the most prevalent (approximately 5 % 12-month prevalence, with 8 % prevalence in primary care settings – Wittchen [2002](#)), followed by social phobia (4.5 % 12-month prevalence – Magee et al. [1996](#)) and panic disorder (1–3 % prevalence – Weissman et al. [1997](#)). Depression also has a high prevalence, with the National Comorbidity Survey Replication (NCSR) reporting a 12-month prevalence of 6.6 % (Kessler et al. [2003](#)). For all of these conditions, there has been a consistent gender distribution such that the prevalence of anxiety and depressive disorders is twice as high among women as in men. The age of onset for these conditions is typically between the ages of 20 and 40. For depression, earlier age of onset is associated with greater psychosocial impairment, such as worse social and occupational dysfunction, poorer quality of life, more lifetime depressive episodes, and greater depression severity (Zisook et al. [2007](#)). Subsyndromal depression is likely on a continuum with depressive disorders that meet full criteria, having the same risk factors and having similar impact on health status (Ayuso-Mateos et al. [2010](#)).

## Variation in Practice

There are a number of options for the treatment of mild to moderate mental illness, with the main categories being pharmacotherapy and psychotherapy. Antidepressants are the most common form of treatment, most likely due to the successful marketing of selective serotonin reuptake inhibitors (SSRIs) starting with fluoxetine (Prozac) and followed by a number of newer antidepressant agents and the relative ease of prescribing medication vs. providing resources for psychotherapy. While these agents are called antidepressants, they are used to treat anxiety disorders as well.

Psychotherapies are also used to treat anxiety and depressive disorders. Cognitive therapy (Beck [1976](#)) has been developed to treat a broad range of conditions, and interpersonal psychotherapy (Weissman et al. [2000](#)) has been developed to treat depressive disorders specifically. While these two forms of therapy differ in theoretical framework (cognitive therapy emphasizes the relationship between mood, cognition, and behavior, whereas interpersonal therapy emphasizes the impact of interpersonal experiences on depression), they both have a solid evidence base (randomized controlled

trials (RCTs) showing effectiveness) and are based on manuals such that fidelity and reproducibility are enhanced. These psychotherapies are effective for mild to moderate forms of illness and for more severe forms of depression and anxiety when used in combination with drug treatments. More recently, mindfulness-based cognitive therapy, a variant of cognitive therapy that incorporates mindfulness meditation techniques, has also been rigorously evaluated using RCTs showing its utility for a number of mild to moderate conditions and for preventing relapse in depression (Segal et al. [2002](#)).

Antidepressants and evidence-based psychotherapies are the main variants of treatment for mild to moderate conditions like depression and anxiety. There are other forms of treatment with less evidence to inform their use. Long-term psychodynamic psychotherapy has been in existence since its development by Freud. It remains available, particularly in urban areas, but has less evidence to support its use and its requirement for long treatment duration and frequent visits (often multiple visits per week) limit its utility to address access to treatment issues. Exercise has been shown to be beneficial for individuals with depression and anxiety and has the benefit of being available to anyone and with having relatively few side effects.

There are a number of different modalities that have been proven effective to treat depression and anxiety disorders. However, the proportion of individuals with these disorders who receive treatment has remained frustratingly low, resulting in a large proportion of the population suffering without access to treatment. For example, in the NCSR study, 52 % of depression cases received treatment, but only 42 % of these treatments were deemed adequate, resulting in only 22 % of all depression cases being adequately treated (Kessler et al. [2005a](#)). This low rate of treatment has persisted despite an incredible increase in the number of prescriptions for antidepressants. For example, in the UK between 1998 and 2012, there has been a 165 % increase in antidepressant prescriptions, an increase that is not nearly accounted for by depression or anxiety disorder prevalence trends (Spence et al. [2014](#)). These combined findings point to two troubling realities: (1) individuals with depression and anxiety continue to have difficulty accessing the care they need to relieve suffering and illness burden, and (2) there are a large number of individuals with no discernible illness who are receiving treatment. The second point is troubling because any intervention imposes risk, and the tolerability of risk should be balanced by potential gains. In the absence of any gain (due to absence of a treatable condition), there is only the risk imposed by treatment. The other troubling aspect is that finite health care resources that are needed to provide treatment to individuals with discernible illness are being diverted.

The site of service delivery for mild to moderate mental illnesses is also highly varied. In most jurisdictions, primary care settings are where the majority of cases are managed. Within primary care, there can be variability, with evidence for benefit from integrated care managers (Lin et al. [2003](#); Katon et al. [2010](#)). There are also models of service delivery such that psychiatrists are integrated into primary care, with the psychiatrist providing direct care and/or providing support and advice to primary care physicians (indirect care) on specific cases (Gilbody et al. [2006](#)). Psychiatrists also provide care for mild to moderate illnesses. The reasons why certain mild to moderate cases are treated by psychiatrists versus primary care are often unclear and due to factors other than clinical need (e.g., socioeconomic status of the patient – Steele et al. [2006](#)). While psychiatrists provide care to individuals with mild to moderate illnesses, access to psychiatrists has been increasingly highlighted as a problem. Psychiatrists in the US are less likely than other specialists to accept insured patients (i.e., they restrict their practices to patients with an ability to pay out of pocket) (Bishop et al. [2014](#)), and a few studies have shown how infrequently psychiatrists are willing to accept patient referrals from primary care (e.g., Goldner et al. [2011](#)). Finally, in most countries, there is tremendous regional variation in psychiatrist supply although this regional variation does not explain poor access to psychiatrists in high-supply regions (Kurdyak et al. [2014](#)).

The evidence suggests that for mild to moderate illnesses, there is poor correlation between having a mental illness and receiving treatment for it. There is also poor correlation between illness severity and access to specialist care and a general access problem that has been highlighted in multiple countries. To consider these issues, it is often illuminating to consider areas of health care where access and resource intensity alignment with need are less discordant. In most provinces within Canada, cancer care is centralized, with regional care centers. When an individual is diagnosed with cancer, there is usually a thorough investigation to “stage” the cancer and an evidence base by which patients are aligned with appropriate services from aggressive intervention to palliative care. With an evaluation of cancer stage (or “need”), patients are then triaged to the appropriate level of service. With the delivery of mental health care, no such system is in place despite theoretical frameworks such as the tier model described earlier. Specifically, there is no screening for the presence of mental illnesses or the severity of illness when it exists and no alignment of appropriate services with need based on screening. Interestingly, systematic reviews (Gilbody et al. [2008](#)) and more recent reviews by the Canadian Task Force on Preventive Health Care et al. ( [2013](#)) have not recommended screening for depression in primary care because of lack of evidence, the possibility of high false-positive rates (and the unintended consequence of treating individuals who do not have depression), and the fact that screening for depression has not resulted in any benefit to patients with depression. With these sobering results, there remains the problem of an apparent absence of a “system” in the mental health system and a need to rationally address a persistent access-to-care problem for individuals with mental illnesses.

## Substance Use Disorders

Substance use disorders (SUD) are characterized by a pattern of continued alcohol or other drug use despite this having caused significant problems or harms (APA [2013](#); WHO [2010](#)). The central role played by an underlying behavior sets SUD apart from other mental disorders and carries a number of implications for the design and delivery of services. First, there are important conceptual and practical distinctions to be made between substance use, problems, and disorders. Most obviously, there is a reciprocal link between use of a psychoactive substance use and associated problems or disorders; for instance, the volume of alcohol consumed influences the onset of an alcohol use disorder, which in turn has an influence on drinking behaviors. Second, aside from their role in SUD, alcohol, illicit drug, and tobacco use constitute important health behaviors in their own right. They are risk factors for a host of other health and social problems that themselves contribute to morbidity and the need for services. For a variety of reasons related to the health and social implications of substance use, people with a wide array of substance-related problems and levels of severity find their way into specialized and other clinical settings. Treatment systems are accordingly designed to reflect this wide continuum of severity of impairment and problems, from risky patterns of use to persistent and chronic addictive disorders (Rush [2010](#)).

In prevailing diagnostic systems (APA [2013](#); WHO [2010](#)), the symptoms of SUD include using in larger amounts or for longer than intended; having a persistent desire to use or unsuccessfully trying to cut down; spending a lot of time obtaining, using, or recovering from use; giving up or reducing other activities because of substance use; and experiencing craving, tolerance, and/or withdrawal symptoms. Diagnoses are defined separately for classes of psychoactive substances (e.g., alcohol, cannabis, hallucinogens, opiates, stimulants) and convey the level of severity through the number or types of symptoms endorsed. A related diagnosis reflects problematic gambling. While the potential for other behavioral addictions is recognized (e.g., for sex, shopping, Internet, or video-gaming), these have not been formally defined in the diagnostic classification systems that guide assessment and

treatment. A detailed discussion of problematic gambling and other non-substance-related addictive disorders is beyond the scope of this chapter.

A wide variety of risk and protective factors have been implicated in the development of substance-related problems and SUD. Numerous features of the social environment, particularly during adolescence and young adulthood, influence the onset of substance misuse and problems. These include low parental support and involvement, peer and parental substance use, and stressful life events (Huurre et al. [2010](#); Resnick et al. [1997](#)). Additional risk is conferred by psychological factors such as depressive symptoms (Wickrama and Wickrama [2010](#)), as well as by genetic factors and their interactions with features of the social environment (Sher et al. [2005](#); Tarter et al. [2008](#)). At a macro level, a robust literature supports the effectiveness of policies that restrict availability of alcohol and tobacco in changing population levels of use and associated harms (e.g., taxation, outlet density, and legal age for consumption; Room et al. [2005](#); Toumbourou et al. [2007](#)). The key idea from these intersecting lines of research is that the effects of risk and protective factors are *nondeterministic*: no single factor is sufficient to cause SUD on its own. More generally, the course of substance involvement, like other complex health and social outcomes, is not characterized by a single pathway: multiple factors influence risk, and their effects are context dependent (i.e., they depend on the host of other risk and protective factors to which the person is exposed) (Shanahan and Hofer [2005](#)). The ways in which the multitude of risk and protective factors fit together to influence the development of adverse outcomes over time is an active area of investigation.

In a given year in Ontario, approximately 70,000 people receive treatment for drug and alcohol-related problems within the specialized addiction treatment sector (DATIS [2013](#)). The 12-month prevalence of SUD, estimated from population health surveys, is 4.4 % (Pearson et al. [2013](#)), or roughly 590,000 Ontarians (est. population 13.4 million). This means that roughly 12 % of those who meet the criteria for SUD in Ontario receive specialized addiction services during the same year. This figure excludes nonspecialized services, including services in general medical or primary care and mental health care settings, as well as opiate substitution therapy and peer support groups (e.g., AA/NA). Nonetheless, it indicates considerable potential unmet need for services in this population. Other work conducted at the national level in Canada echoes these findings of a significant treatment gap for addiction (Pirie et al. [2014](#)).

There is variability in the complement of services that is offered within a given community or region. However, at the most basic level, activities can be broadly divided into the categories of assessment and treatment planning, detoxification or withdrawal management, active treatment (referring to a broad array of psychosocial, behavioral, and pharmacological interventions delivered in outpatient and residential settings), and continuing care. Within these settings, treatment is delivered primarily by counselors with training in health and human services. In a 2004 survey of workers in the Canadian specialized addiction treatment sector, 1 % of frontline counselors had a PhD or MD (Ogborne and Graves [2005](#)). The majority had a community college diploma or bachelor's degree; the proportion with a master's degree ranged from 3 % to 23 % across provinces. Overall, with the exception of pharmacotherapies, physicians are not commonly represented in addiction treatment settings. Similar educational backgrounds are reported for counselors in the US (Mulvey et al. [2003](#)). Models conceptualizing the specialized addiction treatment system commonly present services as organized along a continuum, with levels of care allocated according to clients' needs (Rush [2010](#)). This implies that there is legitimate variation in clinical pathways through the system, based on clinical presentation and associated psychosocial problems. That is, clients may enter the system through any number of referral mechanisms; however, the care they receive will ideally reflect a sequence of activities oriented to their individualized needs. Accordingly, service coordination and continuity are key aspects of quality in the process of treatment (Garnick et al. [2006](#); Institute of

Medicine [2006](#)). Regardless of the service setting (i.e., residential or outpatient), the duration of treatment is a consistent predictor of positive outcomes (Hubbard et al. [2003](#)).

Beyond single episodes of care, it is increasingly recognized that the coordination of services across the continuum needs to account for repeated and sometimes prolonged connections with services over time (Dennis and Scott [2007](#)). It has been estimated that approximately half of all clients in specialized addiction treatment will exhibit a pattern of repeated cycles of treatment, followed by abstinence, relapse, and readmission over the course of several years before stable recovery is attained (Dennis et al. [2005](#)). Similarly, studies have identified a cohort, accounting for approximately 10–15 % of clients, who cycle repeatedly through withdrawal management services, typically without receiving any active treatment (Haley et al. [2011](#); McLellan et al. [2005](#)). This pattern of service use is unlikely to assist people in establishing long-term recovery (Mattick and Hall [1996](#)).

This specialized system of care is complemented by screening and brief interventions in primary care, emergency services, counseling by religious and spiritual leaders, peer-based self-help groups such as Alcoholics and Narcotics Anonymous (AA/NA), and a wealth of ancillary services that address co-occurring legal, health, and psychosocial problems. Heavy drinking and other drug use pose numerous risks to both physical and mental health, as well as being associated with a higher likelihood of criminal and other risky behaviors (e.g., needle sharing, unprotected sex). Accordingly, clients often present to SUD treatment with a variety of acute and chronic medical and psychiatric problems, including viral infections (e.g., HIV, hepatitis C), substance-related tissue damage (e.g., liver disease), and other mental disorders. In particular, it is estimated that 50 % or more of those who seek treatment for a SUD have a co-occurring mental disorder (e.g., Adamson et al. [2006](#)).

In general, the majority of people with substance use problems will not seek help within the specialized treatment sector; many will be seen in primary care and other health and social service settings (Urbanoski et al. [2007](#); Wang et al. [2005](#)) while many others, if not the majority, will recover without the assistance of formal treatment (Dawson et al. [2005](#)). Clients in specialized addiction treatment settings represent the more severe end of a continuum of problem severity, with a range of complex and chronic health and psychosocial needs (Rush [2010](#)). The high prevalence of physical and mental health problems in people with substance use problems presents a strong argument for collaboration between service sectors (Rush [2014](#)). Multisectoral collaboration has been achieved in different ways, and to varying degrees, for particular subpopulations (e.g., integrated treatment for pregnant and parenting women with SUD (Milligan et al. [2010](#); Sword et al. [2009](#)); people with co-occurring mental disorders and SUD (Drake et al. [2004](#)); or intensive case management for women with SUD on social assistance (Morgenstern et al. [2009](#)). Nonetheless, services for SUD have not historically been well integrated into the broader medical or mental health care sector.

Access to addiction treatment is uneven across the population in need. Studies conducted in the US have shown pervasive ethnoracial and socioeconomic disparities in service use for addiction (Schmidt et al. [2006](#); Greenfield et al. [2007](#)). African- and Native American ethnicity and lower income and education are associated with shorter retention, as are greater substance and mental problem severity and injection drug use (IDU) (Schmidt et al. [2006](#); Brecht et al. [2005](#); Mertens and Weisner [2000](#)). Gender differences in service use appear to be more complex, with equivocal findings reported on the differences between men and women in treatment initiation, completion, and retention. Instead, the evidence points toward gender differences in the *predictors* of treatment entry and retention, including age, race, and co-occurring mental health problems (Greenfield et al. [2007](#); Mertens and Weisner [2000](#)). There is a dearth of research investigating patterns of access to care across marginalized subgroups in Canada. However, Canadian studies have linked numerous indicators of social marginalization, including housing instability and unemployment, with suboptimal patterns of care, such as repeated cycling through withdrawal management services without active treatment (Callaghan et al. 2012).

Across jurisdictions, the high rate of premature dropout is a major challenge to the delivery of quality care and means that most treatment episodes are of very limited duration (e.g., Garnick et al. [2006](#)). Clients present with variable levels of motivation for treatment and behavior change, and many report perceiving coercion to enter a treatment program (Wild et al. [2006](#)). Approximately one-quarter of clients entering specialized treatment in Ontario report a condition attached to their admission, including mandates from legal authorities, employers, child welfare, and other social services ([www.datis.ca](http://www.datis.ca)). These figures are even higher in the US, where 34 % of clients in a given year are referred to treatment by the legal system (Center for Behavioral Health Statistics and Quality [2013](#)). There is a lack of research examining the impacts of treatment mandates on the system and implications for access to care across the population.

## Different Service Models and Care Organization

As noted earlier, mental illnesses have been identified as among the leading causes of disability-adjusted life years (DALYs) worldwide, accounting for one-third of healthy years lost from noncommunicable diseases. Direct health care costs related to treatment and prevention of mental illness coupled with indirect costs attributable to mental health problems (loss in productivity and output) are estimated as the major drivers of global economic burden, larger than cardiovascular disease, chronic respiratory disease, cancer, or diabetes (Bloom et al. [2011](#)).

While WHO estimated that the majority of low–middle-income countries devote less than 1 % of their health budget to mental health care, expenditure on mental health services represent a significant proportion of health expenditure in most high-income countries (OECD [2014a](#)). However, even in these countries, there are considerable differences in what services are delivered and funded and in the proportion of public funding devoted to mental disorders. For example, public expenditure on mental disorders in the European zone varies from < 4–14 % of total health expenditure (Jacobs and McDaid [2010](#)).

In the Western world, there has been a radical transformation of what is considered appropriate care for mental illnesses in the past decades. Until the eighteenth century, dealing with people with mental problems was essentially a family or community responsibility, whereas the nineteenth century was characterized by the development of a more institutional approach. This was considered an improvement at the time but ultimately led to segregation and social exclusion of patients in asylums (Shorter 1966). In the second half of the twentieth century, a fundamental change in the way people with mental problems are cared for has occurred. The majority of Western countries have been moving away from a mental health system built on institutional care toward a new model promoting social integration of patients through treatment in community. This is called deinstitutionalization: the replacement of long-stay psychiatric hospitals with smaller, less isolated community-based service alternatives (Bachrach [1996](#)). Since 2005, with the launch of the WHO action plan promoting mental health, better treatment of mental illness has become a health policy priority throughout the world. Today it has been largely recognized that the model of acute and long-term care based on large institutions is not suitable for most patients and that investing in new care models in the community setting is indispensable to assure the quality and efficiency of mental health care services (WHO [2008](#), [2013](#)). However, across the world the way people with mental problems are treated and the approach to institutionalization varies enormously; in some countries mental care institutions are still the principal treatment option.



Even in the Western world, there have been significant differences in the pace of downsizing psychiatric hospitals, in the scope and nature of community-based services, and in the models used for dealing with severe and mild–moderate mental illnesses.

To evaluate and improve the quality of service provision and the outcomes of mental health and addiction care, it is important to understand what contributes to variations in that care. Particularly important factors are the differences in funding and system design and how they determine practice within and across countries. This section provides an overview of the current delivery models and structure of mental health care mostly in high/middle-income countries for which information is available from the literature. Also, the scope and the scale of problems in low-income countries might be different, but there is a serious lack of data for these countries.

## Funding of Mental Services

The share of mental health services in public health expenditure has been increasing steadily in OECD countries, overall representing between 5 % and 18 % of total health expenditure today (OECD [2014a](#)). But the sizes of mental health budgets vary significantly across countries: 14 % of health expenditures in England, 11 % in France and Germany, 5 % in Italy, and less than 4 % in Portugal, Poland, and Bulgaria (WHO [2008](#)).

However, it is particularly difficult to get an accurate account of mental care spending because of the difficulty in collecting comparable data and attributing costs in community and primary care services, especially for mild–moderate disorders. In the few countries that are able to break down total spending by disease, it appears that mental health accounts for an increasing proportion of health care expenditures. Between 2000 and 2005, the share of mental care in total health expenditure has more than doubled in Australia, France, and Germany, well above the expenditure for cardiovascular disease and for cancer (Fig. 2). In France, with an estimated 22.6 billion euros in 2012, mental health appears to be the second most important source of public health expenditure, after emergency admissions and before cardiovascular diseases, diabetes, and cancer (Cnamts [2013](#)). In Canada, the estimated proportion of government spending on mental health compared to total health increased from 6.2 % to 7.2 % between 2003/4 and 2007/8 (Jacobs et al. [2010](#)).

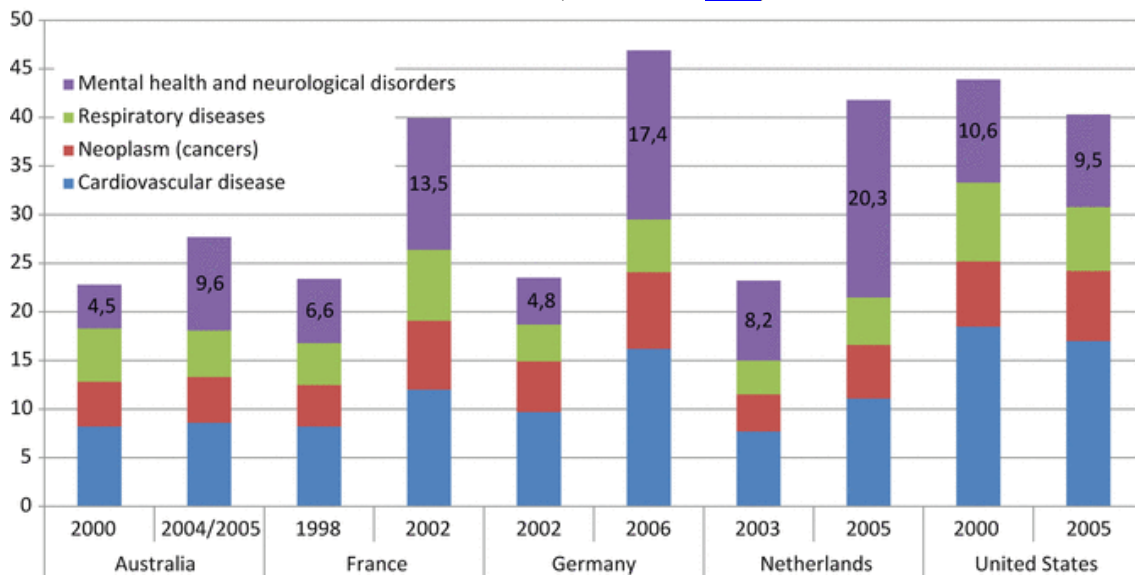


Fig. 2

Share of major noncommunicable diseases in total health expenditures (%) in five countries (Datasource: Garg and Evans [2011](#))

Some of these differences may be explained by what is covered by the public purse, but the organization of care and the place of hospitals in care provision are also major determinants of mental care expenditure. Hospitals still consume the highest share of mental health expenditure in most OECD countries although there are notable differences (OECD [2014a](#)). For example, Korea spends 66 % of its mental health budget in hospitals, France devotes more than 50 % of the mental care expenditure to inpatient institutions, while in Canada inpatient care accounts for less than 30 % of the expenditure. Comparing inpatient mental care to other categories of illness, it appears that mental illness accounts for between 5 % (in Canada) and 19 % (Netherlands) of inpatient care in OECD countries, often in third place after circulatory disease and cancer (OECD [2013](#)). Generally, severe mental illnesses such as schizophrenia tend to account for the bulk of inpatient care expenditures, but depression is also an important contributor. Among the 1.5 million adults treated in hospital-based psychiatric units in France, one out of five was for depression (Coldefy and Nestrigue [2013](#)).

## Provider Payment Can Play an Important Role in Structuring Care Provision

Countries use different methods for paying mental care institutions and care providers. The most common methods used for inpatient care are global budgets (retrospective or prospective), payment per procedure/service, per diem, and more recently per case/DRG-based payment. Each method provides specific incentives in terms of service provision, quantity, and quality of care provided. For example, global budgets based on historical costs give some flexibility in resource allocation within a hospital but push hospitals to have the same amount of inpatient activity from 1 year to the next in order to keep the allocated budget. Per diem payments which are not dependent on clinical services may encourage longer lengths of stay, and payments per procedure/service encourage delivering additional procedures or services if the actual payments exceed the production costs. Payments for case, where cases are defined by diagnosis-related groups (DRG) and payment covers all clinical and nonclinical services provided in hospital for a patient (classified by DRGs), have attracted a lot of attention recently. DRG-based payment has become the major mode of financing acute inpatient facilities in an increasing number of countries since it promotes transparency and efficient use of resources (Busse et al. [2011](#)). Nevertheless, this payment model has well-known risks, in particular if the patient classification is not well adjusted (Cots et al. [2011](#)). The essence of DRG-based payment is to form patient groups which are both clinically meaningful and economically homogeneous. When the classification used for payment is not well adjusted, this can have negative consequences on providers such as adverse selection, quality skimping, or dumping. Paying for acute psychiatric services by DRGs can be particularly problematic as diagnoses are poor predictors of inpatient costs and severity of illness is difficult to establish. Moreover, by its nature, DRG payment gives incentives to increase the number of inpatient cases since the providers' income is linked to their case volume. This means that patients may receive inpatient care while this is not the best treatment option for them. Only a few countries (such as Australia and England) have tested DRGs for paying inpatient mental care. It is increasingly recognized that DRG payment may not be the ideal for mental care and that, in order to provide the right care at the right setting, it is necessary to find payment mechanisms that are independent of the care setting (OECD [2014a](#)).

Ultimately, the payment mechanism used for hospital care can be a barrier to the development of community care and an integrated approach if not carefully calibrated. It is essential to align financial

incentives with the policy objectives of shifting the balance of care from hospital to community while assuring care continuity. In England the new “Care pathways and packages approach” aims to improve and adapt the DRG approach to mental care by creating patient clusters and extending the payment to cover different care settings (<http://www.cppconsortium.nhs.uk/cppp.php>).

## Mental Care Workforce

Some of the variations in mental health practices within and across countries would be related to the instruction and mixture of mental health professionals in place. Mental services are always provided by a diverse range of health professionals, but their composition varies significantly across health systems.

In all countries, psychiatrists are the backbone of mental care delivery. Most people with common problems would not necessarily see a psychiatrist, but their position compared to other professionals is important in shaping the mental care organization. On average, 5% of physicians are trained as psychiatrists in OECD countries, but in many countries such as Switzerland, Germany, or the Netherlands, the number of psychiatrists per population has been increasing in the 2000s. By 2011, the number of psychiatrists per population varied from 22 in France and Sweden to less than 5 in Turkey and Mexico with an average of 16 per 100,000 for the OECD countries (OECD [2013](#)).

*Nurses* represent the largest part of mental health workforce in majority of countries but with notable variations. In some countries like France, there is no specific education or diploma (certificate) for nurses wishing to specialize in mental health, resulting in general nurses without any specialized psychiatric training practicing in psychiatric services. Comparison of the rates of psychiatrists with rates of mental health nurses across countries may give some idea of the differences in mental care systems (Fig. [3](#)). It is interesting to note that some countries with very high numbers of psychiatrists such as Germany and Sweden have relatively low rates of mental health nurses. However, others such as Switzerland have high rates of both, and still others such as Mexico, Turkey, and Korea report low rates of both. Within mental health professionals, psychiatrists are more highly paid and therefore more costly than others. Hence it is striking to note that in some countries such as Hungary and Turkey, the number of psychiatrists per habitant is higher than mental health nurses per habitant. OECD data also show that the variation in the rates of psychologists and social workers are even more pronounced across countries (OECD [2014a](#)).

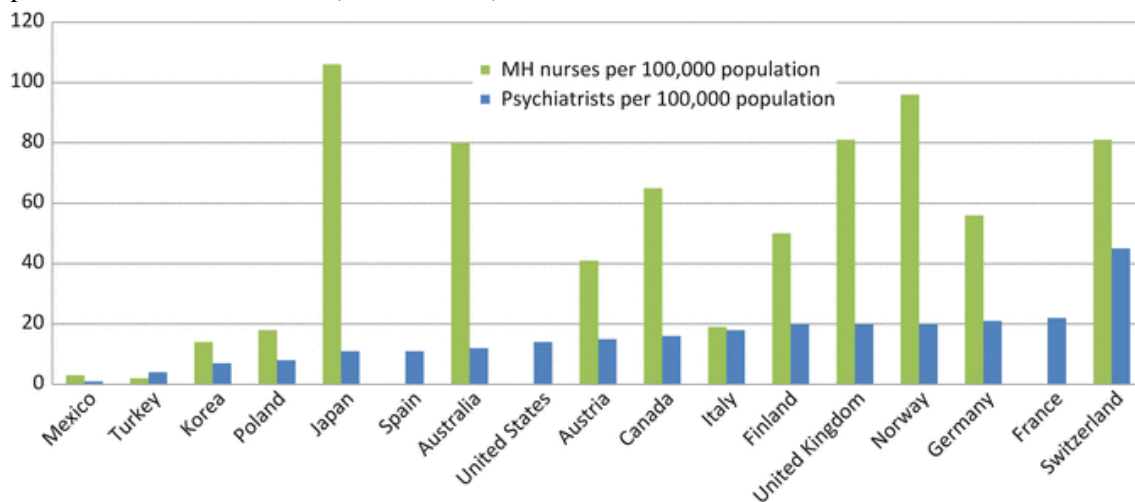


Fig. 3

Psychiatrists and mental health nurses per 100,000 population, 2011 (Datasource: OECD Health Statistics [2013](#), [10.1787/health-data-en](#); OECD [2014a](#), [10.1787/9789264208445-en](#))

Another issue is the variation in the roles and scope of practice between different types of mental health professionals. While primary care providers are increasingly playing an important role in the provision of mental care, their scope of action varies from country to country.

## Role of General Practitioners

In most countries, general practitioners (GPs) or primary care physicians are naturally the first recourse for mental health problems. GPs are generally expected to diagnose, treat, and manage mild-to-moderate mental problems, but they do not always have the basic resources to provide appropriate care. Mental health training is not always a component of GP training (as undergraduate or medical training) and in only a few countries is it included as part of their continuing professional education (OECD [2014a](#)). Nevertheless, even in countries where GPs do not have a gatekeeping role and patients can access psychiatrists directly (like in France and Germany), three-quarters of the people who need help consult generalists for psychological and emotional problems.

The degree to which the coordination between primary care providers and specialists is formalized varies widely across countries. Some countries have formal structures and guidelines for how cooperation should develop in referring patients while in others there is barely a basic communication between GPs and specialists. For example, in Japan and Korea, there is no formal connection between providers, but in most OECD countries GPs refer selected patients to specialists. The referral process can be more or less interactive. Australia and Canada encourage a “shared care” approach whereby specialists and primary care providers share information and treatment strategies, while in France, despite strong recommendations by the High Health Authority, there is little communication between providers. In many OECD countries mental care specialists provide informal advice to primary care practitioners when they need recommendation for a particular patient. In an increasing number of countries, specialists also provide training courses to primary care professionals and/or participate in multidisciplinary meetings (OECD [2014a](#)). Structured cooperation between GPs and specialists is recognized as a necessity for improving care coordination and effectiveness of mental services (WHO [2013](#)).

In most OECD countries primary care practitioners can refer patients to psychological therapies although these therapies are rarely covered by public budgets (OECD [2014a](#)). Usually, GPs do not provide new psychological treatments, such as cognitive behavioral therapy (CBT), considered effective for mild-to-moderate depression and anxiety problems. However, in some countries such as Norway, for example, CBT training is available for general practitioners, and GPs can deliver and are reimbursed for providing CBT. GPs can also play a key role in the treatment of individuals with complex illnesses and disabilities by initiating and managing their psychotropic and other medications (Morden et al. [2009](#)).

Moreover, GPs very often initiate and adjust the prescription of at least some antidepressants and/or other psychotic drugs such as benzodiazepines, etc.

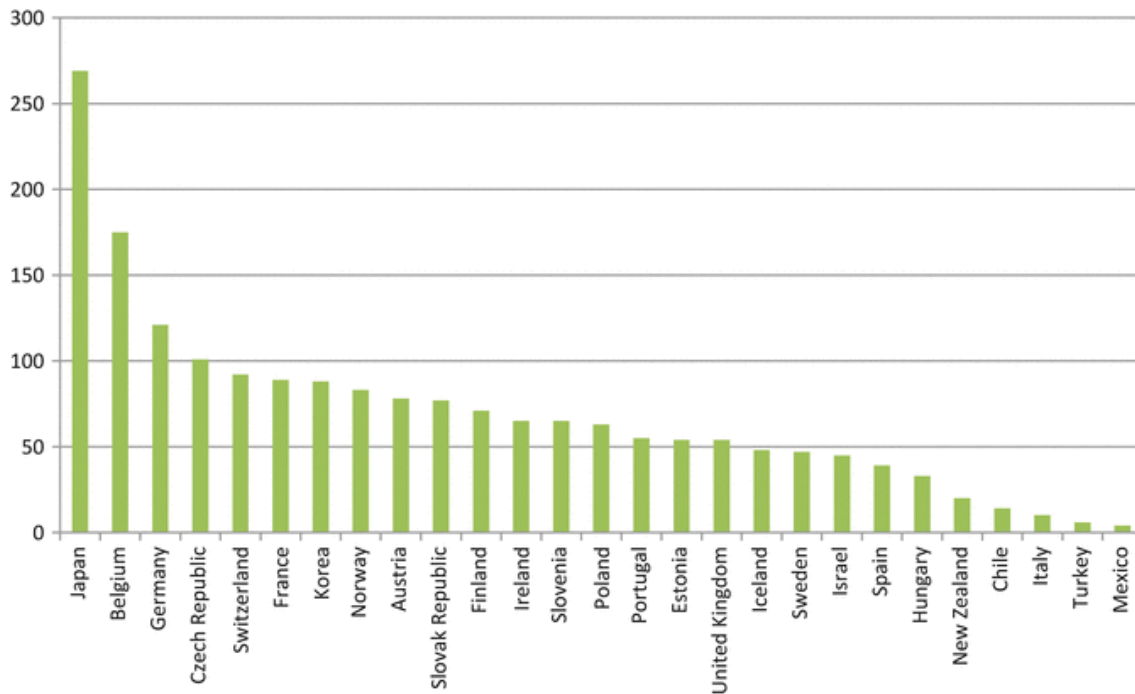
However, variations in prescription levels are known to be significant within and across countries. For some OECD countries, where antidepressant consumption is very low – Korea, Chile, Estonia – there may be a case for better addressing unmet need (considering low consumption and high suicide rates). But for other countries – like Australia, Canada, Denmark, Sweden, and Portugal – with high antidepressant consumption compared with other OECD countries, an assessment of the appropriateness of prescriptions is called for (OECD [2014a](#)). The level of antidepressant consumption

would depend on the prevalence of depression in each country but also upon the prevalence of diagnosed depression, the availability of alternative treatments in the mental health system, and prescribing behaviors among practitioners (Grandfils and Sermet [2009](#)). Inappropriate medication use, especially psychotropic drugs, in elderly people appears to be a common problem across countries (Nyborg et al. [2012](#)). Elderly people with a higher prevalence of comorbidities use several drugs on a regular basis and are especially at risk for drug-related harm from side effects and interactions. There are not always clear and consistent guidelines as to appropriate prescription and treatment for common problems such as depression. The situation gets even more complicated when individuals have multiple conditions. Even when clear guidelines are available, professionals do not always follow them. However, an increasing number of clinical guidelines for the diagnosis, treatment, and management of patients with mental disorders in primary care are becoming available, and a few countries such as Canada, Ireland, and Spain have declared incentives and monitoring with sanctions for poor compliance with treatment guidelines (OECD [2014a](#)). Nevertheless, existing guidelines are often criticized for not being designed to consider the cumulative impact of treatment recommendations on people with several conditions (Hughes et al. [2013](#)). It is not always easy for clinicians to decide on how best to prioritize recommendations for individuals with multiple conditions in whom treatment burden may be overwhelming.

## Place of Hospital: Level of Deinstitutionalization/Institutional Care

Despite the continuing shift of care from large psychiatric hospitals to community-based settings, inpatient care maintains an important place, particularly in urgent and crisis situations. Inpatient care can also be delivered in acute psychiatric units in general hospitals, in acute day hospitals, and long-stay community residential care. The development of acute psychiatric units in general hospital settings is a general and strongly advocated practice in many OECD countries since this contributes to decreasing stigma and encourages collaboration between MH professionals and other medical disciplines (OECD [2014a](#)).

While numbers of psychiatric care beds have fallen everywhere in the past decades, there remain large variations between countries in the reliance on inpatient beds (Fig. 4). The number of psychiatric beds varies from more than 260 per 100,000 population in Japan to 20 in New Zealand. Turkey and Mexico had fewer than 10 psychiatric beds per 100,000 population reflecting variations in overall organization and availability of MH services as well as political and cultural context. Funding and provider payment incentives also can play a role in the balance between inpatient and community-based care.



**Fig. 4** Psychiatric care beds per 100,000 population, 2011 (Datasource: OECD [2014a](#), [10.1787/health-data-en](#))

For example, Japan, Belgium, the Netherlands, Germany, France, and Korea have rates of psychiatric care beds well above the OECD average. In Japan, a high number of psychiatric beds is linked to a regulation from 1950 requiring people with mental illness to be treated in hospital (OECD [2014b](#)). Recent policies have been focusing on shifting care to community, but community-based infrastructure remains underdeveloped. In both Germany and France the deinstitutionalization process was slow. In France, inpatient care remains a major part of psychiatric care, and the funding system does not encourage the development of alternative community-based facilities. In Germany, the deinstitutionalization process was also slowed down by the restructuring of East Germany's mental health system in 1990, and mental health care remained dominated by the psychiatric hospital model (Coldefy [2012](#)). Conversely, Italy has a rate of psychiatric care beds per 100,000 population that is approximately seven times less than the OECD average and has demonstrated leadership in moving mental health care for people with SMI from institutions to the community. However, the country has to deal with large regional disparities in the provision of mental health care, partly due to decentralization, including financial (Forti [2014](#)).

In mental care treatment, day hospitalizations are proposed as a less restrictive option to inpatient admission for people with SMI. There is very little evidence as to cost-effectiveness of this type of hospital, but they seem to have similar patient results in terms of patient satisfaction and follow-up (OECD [2014a](#)). The availability of public day facilities varies across countries with many of them reporting few community day treatment or residential facilities.

In most countries, the average length of stay in psychiatric hospitals had considerably shortened. Norway reported a LOS of 114 days in 1991, which went down to 41 days in 2003. Similarly in France, the annual length of stay has fallen from 86 days in 1989 to 41 days in 2003 in adult psychiatric patients (Coldefy [2007](#)). But differences are important across countries: for example, in Estonia, the average length of stay was much shorter in 2002 (19 days) against 61 days in 1993 (Medieros et al. [2008](#)).

Some of these variations may be explained by the differences in the larger context of mental care provision: in particular, resources available outside the hospital and responsibilities taken up by other sectors. In countries where there are more intensive community supports, this may reduce the amount of inpatient care necessary to stabilize a person so that he/she can safely be discharged into the community.

## Alternatives to Inpatient Care: Community-Based Care

Today it is largely recognized that collaborative or shared care models in the community in which joint consultations and interventions are held with primary care and mental health specialists are the way to improve mental health provision (WHO [2008](#)). Hospital and community-based care are viewed as complements with acute inpatient care playing an important role in times of crisis when there is an increased need for intensive observation, diagnosis, and treatment.

In most countries, the shift of mental health services to the community relies on a network of community mental health teams (CMHTs). CMHTs involve a range of MH professionals including psychiatrists, community psychiatric nurses, social workers, psychologists, and occupational therapists who deliver a range of interventions for people with severe mental illness within a defined geographic area. They have been considered as the basic building block for community MH services. A common method of delivering care within CMHTs is case management. Case management involves coordination and allocation of services for meeting a wide range of patient needs with limited resources (Dieterich et al. [2010](#); Thornicroft and Tansella [2004](#)). In many countries, the shift of mental health services to the community resulted in a more complex and fragmented system of care delivery and posed challenges for people with SMI to successfully navigate. Case management was initially developed for helping people with SMI to keep them in the community by maintaining provision of MH services to reduce hospital admissions and improve social functioning and quality of life (Kent and Burns [2005](#)).

Such services are often team based and designed to respond to both urgent and ongoing care needs. Different models are used such as assertive community treatment services, crisis units, home treatments, early intervention teams, outreach, recovery, and day services.

Early intervention (EI) programs, targeting people potentially in early stages of psychosis, are increasingly recommended within mental health systems of care internationally. EI programs are designed to treat with antipsychotics (at the lowest dose possible) and to address potential secondary negative effects (disruption to family, friends, school, and work) to avoid a longer-term trajectory of social challenge and chronicity. The evidence on effectiveness for those with identified psychosis is encouraging: reduced hospital admissions, reduced symptom severity and relapse rates, and increased treatment retention (Durbin et al. [2014](#); Bird et al. [2010](#)), but questions remain about key components of the model, longer-term benefit, and cost-effectiveness. Moreover, some have raised concerns about the risks of overtreatment with EI, mainly due to the uncertainty surrounding early diagnosis (OECD [2014a](#)). While some common characteristics of EI programs are identified (multidisciplinary teams, small caseloads, provision of case management, an assertive approach to treatment, etc.) the EI model is complex and continues to be studied (Durbin et al. [2014](#)).

Overall, the availability and structure of community mental health services for people with MI varies widely across countries. Countries like Australia and Luxembourg report that services such as crisis and home treatment, early intervention, and assertive outreach services are routinely available (OECD [2014a](#)). But in a large number of countries, such as the Czech Republic, Estonia, and France, comprehensive community-based services are not routinely available and are often provided by local initiatives rather than nationally.

## Involuntary Treatment

If consent to care is an essential prerequisite to any therapeutic treatment, compulsory psychiatric care is authorized in cases of severe mental disorder where the absence of care would endanger public safety and the safety of others. Consent to treatment must always be privileged, and care without consent must remain the exception. Compulsory psychiatric care is not used widely, but in most countries it remains possible, and the legal frameworks for the involuntary placement or treatment of the mentally ill differ widely all over the world (Dressing and Salize [2004](#)). While suffering of a severe mental disorder and the need for treatment are major conditions for detaining a person, additional criteria are quite heterogeneous across countries. For instance, danger to oneself or to others is a prerequisite for involuntary treatment in Austria, Belgium, France, Germany, Luxembourg, and the Netherlands but is completely absent in Italy, Spain, and Sweden (Dressing and Salize [2004](#)). Dressing and Salize ([2004](#)) underline also the remarkable differences in commitment rates between EU member states. In 2000, rates of involuntary placements for mental disorder varied from 6 per 100,000 population in Portugal to more than 150 in Germany and Finland. In all countries, assessments are performed by psychiatrists. But generally, emergency procedures allow physicians who are not trained in mental health to initiate an involuntary admission, pending the psychiatric assessment. In order to regulate decision-making and reduce variations in practice, many countries have transferred the decision on involuntary treatment to nonmedical authorities, usually a representative of the legal system (judge, prosecutor, mayor). This is the case in Italy, UK, Belgium, Germany, the Netherlands, Spain, Portugal, and France (since 2011). These differences in legal frameworks regulating involuntary treatment in the MH system can influence involuntary admission rates and treatment practices. Several countries distinguish between involuntary placement and involuntary treatment. In some countries such as Australia, France, Belgium, Portugal, England, New Zealand, and the US involuntary outpatient treatment can also be used as a follow-up to an involuntary inpatient treatment and considered as a way to enhance the continuity of care or sometimes as an alternative to involuntary inpatient care. Compulsory treatment orders (CTOs) are increasingly considered as a way of reducing hospital admissions while ensuring that people with severe mental health problems receive necessary treatment (OECD [2014a](#)).

## Summary and Conclusions

Mental and substance use disorders have been historically challenging to define. While efforts to classify and defined them more clearly are both laudable and necessary, the likely reality is that there will always be conditions with uncertain or extremely complex etiologies which seriously diminish an individual's quality of life and ability to function in and contribute to the larger society. Psychiatry has traditionally been the branch of medicine which deals with a particular subset of these conditions – namely, those which appear or are hypothesized to arise from impaired functioning of the brain or mind. Their heterogeneous nature is consistent with both differential patient responses to interventions as well as a pressure for practitioners to adopt treatment approaches which are more tailored to the individual than to a single systemwide standard. This heterogeneity is one of the many drivers of practice variations.

A common complaint of current systems of care is that they are fragmented and poorly coordinated, making the experience of patients (regardless of whether they are children, elderly, experiencing mild or serious illness, or dealing with addiction problems) difficult, inefficient, and potentially ineffective.



It could be argued that, prior to deinstitutionalization, there was a functioning system of care based on placing those with illness into separate, relatively self-contained, and sometimes self-sustaining minisocieties – namely, the traditional psychiatric hospital.

The descriptions in this chapter indicate that many countries are still struggling to address the philosophical and practical changes inherent in deinstitutionalization. The question of how to best implement the “least restrictive form of care” and increase social integration across different types of need and levels of severity is one of the themes cross-cutting all of the population groups described in this chapter. While the basic functions of a mental health and addiction care system remain consistent (e.g., assessment, treatment, triage/referral, rehabilitation), determining the “best” way to implement these functions is not straightforward. Issues include whether and how other sectors besides health care should be involved (e.g., education for children and adolescents, medical care for the elderly, housing and other social supports for those with SMI). Within health care, there are questions about what the proper mix of services and supports is, how access for those in need can be improved, and how to facilitate patient transitions across services and levels of intensity. The jurisdictional differences in the answers to these questions are another driver of practice variation.

Ideally, “best” should be determined using the desired patient outcomes and, perhaps more importantly, the sustainability of these outcomes as criteria. The difficulties are at least threefold. First, which outcome(s) should be chosen? Should it be reduction of symptoms or risk of harm? Improved quality of life, satisfaction, or functioning? Increased community tenure, housing stability, or occupational participation? These are all semi-independent, arise from different philosophical stances, and often are only partly under the control of the health care system. Second, there is still limited infrastructure and consequently capacity for measurement that is systemwide and routine despite substantial efforts both within countries and internationally. In Canada, for example, national information on mental health and addictions is limited to data drawn from administrative health data (e.g., CIHI [2011](#)) or occasional national household surveys (e.g., Pearson et al. [2013](#)). Additionally, while some jurisdictions seem comparatively successful in mandating standard outcome measures (e.g., the use of the HoNOS in the UK National Health Service), this is not universal. Third, there are multiple ways to accomplish similar outcomes so even though a “gold standard” criterion might be selected, it still might not provide enough information to distinguish the “best” or even the reasonably sufficient options.

A more common scenario is that other kinds of “outcomes” are used and often take primacy, partly because they are easier to measure and partly because specific parties are charged with responsibility for them. These include measures such as 30-day readmission rate, length of stay, or cost per patient day at the system level and guideline adherence or critical/adverse events at the practice level. While valuable in their own right for such purposes as describing and monitoring utilization, cost, or quality of care, they are often used as proxies for patient outcomes. However, testing the link between these “outcomes” and patient outcomes is still relatively rare, even at the practice level (for an example of a notable exception, see Katon et al. [1999](#)).

It is also important to acknowledge the historical and cultural contexts in which different jurisdictions are embedded and which are important drivers of practice variation. Deinstitutionalization was adopted at different times in different countries and has been operationalized in different ways. In Ontario, for example, the government has focused for the past two decades on increasing community-based services and shifting from an 80/20 hospital/community funding split to a 60/40 ratio (Ontario Ministry of Health [1993](#)). By contrast, in Germany and France mental health care is still dominated by psychiatric hospitals, and the investment in community care services has been more modest (Codefy [2012](#)). In addition, practice patterns at more regional and local levels are supported and dependent on preexisting structures and processes. For example, in France, there are threefold differences in

psychiatric hospitalization rates for the elderly population between different regions (Irdes [2015](#)). Kurdyak et al. ( [2014](#)), in an analysis of Ontario physicians, also provides strong evidence that practice patterns are a critical determinant of variations in access to physician care even above the absolute physician supply.

In sum, practice variations have a variety of drivers ranging from individual patient needs to provider practice patterns to system-level differences in how fiscal responsibilities and resources are structured and allocated. In determining the “best” approach, there may be many configurations which potentially could accomplish similar outcomes but which differ in terms of how they are structured and operate, how much they cost, how they developed historically, and what other cultural and social infrastructures they are embedded in and are dependent upon. The decision of which configuration is “best” or even “better” is thus made in a complicated context. Better monitoring of practice, questioning, and comparing the effectiveness of different therapeutic interventions and grasping the context in which they are developed will help improve decision-making and mental health and addiction care practice globally. The type of descriptive comparisons exemplified by the work of the OECD and the WHO and attempted in this chapter are critical ingredients in deconstructing this context to allow more in-depth examination of what the potential drivers for system change are.

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