

MEDIA RELEASE

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Latest nationwide study shows 1 in 7 people in Singapore has experienced a mental disorder in their lifetime

1. The second Singapore Mental Health Study (SMHS) initiated in 2016 and spearheaded by the Institute of Mental Health (IMH) in collaboration with the Ministry of Health (MOH) and Nanyang Technological University (NTU), has been completed. The nationwide epidemiological study – funded by MOH and Temasek Foundation Innovates – establishes the prevalence of some common mental disorders in the Singapore resident population aged 18 years and above, their associated factors, the delay in seeking treatment, and the period of delay among those who eventually sought treatment. It also provides insight on how the mental health landscape in Singapore has evolved since the first landmark study in 2010.
2. The study involved face-to-face interviews with a sample size of 6,126 participants from 15,900 randomly-selected residents. It examined the following common mental disorders and compared them with findings from the first study:
 - Mood disorders – major depressive disorder (MDD) and bipolar disorder;
 - Anxiety disorders – obsessive compulsive disorder (OCD) and generalised anxiety disorder (GAD); and
 - Alcohol use disorders – alcohol abuse and alcohol dependence.
3. The key findings from the SMHS 2016 show that:
 - 1 in 7 people in Singapore has experienced a mood, anxiety or alcohol use disorder in their lifetime¹. The breakdown by type of disorder is in the [Annex 1](#).
 - Among the conditions assessed in this study, MDD, alcohol abuse and OCD emerged as the top three mental disorders in Singapore. MDD was the most common with one in 16 people in Singapore having had the condition at some point in their lifetime, while alcohol abuse and OCD affected one in 24 and one in 28 people, respectively.
 - Socio-demographic characteristics such as age, gender, ethnicity, marital status, education, employment and income status were factors associated with the prevalence of mental disorders.
 - The proportion of the people with mental disorders who were not seeking help remains high, and a significant treatment gap remains.

Treatment Gap, Treatment Delay and Sources of Help

4. The 2016 study found that the majority of people (i.e. more than three-quarters) with a mental disorder in their lifetime did not seek any professional help². This is known in the scientific literature as the “treatment gap”.

¹ Refers only to the mood, anxiety and alcohol use disorders stated in Paragraph 2

5. Among those who sought help, treatment delay (estimated in median values) was longest for those with OCD at 11 years, followed by bipolar disorder and alcohol abuse at 4 years. Individuals with alcohol dependence sought help from a professional almost immediately after the start of associated symptoms (within 1 year). Although SMHS 2016 did not investigate reasons for not seeking treatment in detail, past research have found that the inability to recognise the symptoms of a mental illness and concerns regarding the stigma associated with mental illness are two common reasons for treatment delay for mental disorders.
6. Among all the people with a mental disorder in their lifetime who sought help, 42.3% had consulted a psychiatrist, and 36.5% went to a counsellor, 26.2% to a psychologist and 20% went to a general practitioner or family doctor.

Changes in Mental Health Landscape in the Last 6 years

7. Comparing the results of the 2016 study with the 2010 study, we observed that:
 - There was an increase in lifetime prevalence of mental illness from 12% in 2010 to 13.9% in 2016.
 - The lifetime prevalence of almost all mental disorders showed an increase. However, the increase was statistically significant only for GAD and alcohol abuse.
 - While there was no significant change in the proportion of people with a mental illness in their lifetime who did not seek help, persons who sought help had done so earlier.
8. The 2016 study showed an increase in lifetime prevalence of mental illness at 13.9% – or 1 in 7 persons³. The 2010 study found that 12% of the Singapore population – or 1 in 8 persons – had experienced a mental disorder in their lifetime.
9. While the lifetime prevalence of almost all mental disorders showed an increase, the increase was statistically significant only for GAD and alcohol abuse. Psychiatric comorbidity, or having two or more mental disorders at the same time, also showed an increase.

Table 1: Lifetime Prevalence of Mental Disorders

Mental Disorder	SMHS 2010 %	SMHS 2016 %
Major depressive disorder	5.8	6.3
Bipolar disorder	1.2	1.6
Generalised anxiety disorder*	0.9	1.6
Obsessive compulsive disorder	3.0	3.6
Alcohol abuse*	3.1	4.1
Alcohol dependence	0.5	0.5
Any of the above mental disorders*	12	13.9
Comorbidity* (presence of two or more of the above mental disorders in the same period)	2.5	3.5

**Statistically significant increase*

² Professionals in the study's context are defined as healthcare professionals (e.g. psychiatrists and doctors), those from the social and community sector (e.g. counsellors and case managers) or religious and spiritual advisors.

³ Refers only to the mood, anxiety and alcohol use disorders stated in paragraph 2

10. Compared to the 2010 study, there was no significant change in the proportion of people with a mental illness in their lifetime who did not seek help. However, among people who had experienced a mental illness in the past one year prior to the survey, we observed an early, positive trend of help seeking. The percentage of those who did not seek help decreased from 82.1% in 2010 to 78.4% in 2016. A significant increase in help seeking was seen for alcohol abuse, for which treatment gap has decreased from 96.9% to 80.6%.
11. Those who sought help for their mental illness did so much earlier (i.e. reduced treatment delay) than what was observed in the last survey. This was seen across all conditions except for OCD where treatment delay had increased.

Table 2: Treatment Delay in Years (Median)

Mental Disorder	SMHS 2010	SMHS 2016
Major depressive disorder	4	1
Bipolar disorder	9	4
Generalised anxiety disorder	6	2
Obsessive compulsive disorder	9	11
Alcohol abuse	13	4
Alcohol dependence	2	0

12. Prof Chong Siow Ann, Vice Chairman, Medical Board (Research), IMH, said, “This comprehensive study is one of the few worldwide that is a part of a deliberate effort to track the mental health status of a country over time. The wealth of information would provide knowledge and insights into common mental disorders in Singapore, the emerging trends and public health concerns, and the impact of measures which have been taken since the last Singapore Mental Health Study in 2010.”
13. Dr Mythily Subramaniam, Director, Research Division, IMH and Associate Professor, Lee Kong Chian School of Medicine said, “The study is the first serial epidemiological study that has examined the trends in mental illness in Singapore. While there is an increase in the prevalence of anxiety disorders and alcohol abuse, early positive trends in the form of reduction of the 12-month treatment gap and decrease in the delay in seeking treatment are heartening. Nonetheless there is still a significant proportion of people who are not seeking help, which is a concern and we hope that this will improve.”
14. Prof Leo Tan, Chairman, Temasek Foundation Innovates, said, “Mental health is so important to all of us, and having a good understanding of mental health issues is key to improving our lives. Temasek Foundation Innovates is glad to have been able to support the last Singapore Mental Health Study started in 2010, and this follow-up study which covers areas that meet the evolving needs of people in Singapore.”

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About the Institute of Mental Health (IMH)

The Institute of Mental Health (IMH), a member of the National Healthcare Group, is the only tertiary psychiatric care institution in Singapore. Located on the sprawling 23-hectare campus of Buangkok Green Medical Park in the north-eastern part of Singapore, IMH offers a multidisciplinary and comprehensive range of psychiatric, rehabilitative and therapy services in hospital-based and community-based settings. The 2010-bedded hospital aims to meet the needs of three groups of patients – children and adolescents (aged below 19 years), adults and the elderly. Besides providing clinical services, IMH also leads in mental health research and training the next generation of mental health professionals in Singapore. For more information, please visit www.imh.com.sg.

About SMHS 2016

Led by the Institute of Mental Health, the study was a collaborative effort between three centres – IMH, the Ministry of Health (MOH) and Nanyang Technological University (NTU). The \$4.9 million study was funded by the MOH and Temasek Foundation Innovates. The Principal Investigators of this study are Prof Chong Siow Ann, Senior Consultant and Vice Chairman, Medical Board (Research), IMH, and A/Prof Mythily Subramaniam, Director, Research Division, IMH. A total of 6,126 Singapore Residents (including Singapore Citizens and Permanent Residents) aged 18 years and above living in households in Singapore were interviewed between 2016 and 2018.

Annex 1

Mood Disorders

- MDD affected 6.3% of the adult population in Singapore, at some point in their lifetime.
- 1.6% of the adult population in Singapore suffered from bipolar disorder in their lifetime.
- Those aged 18 – 34 years, divorced or separated were more likely to have mood disorders.

Anxiety Disorders

- Overall, GAD and OCD affected 4.8% of the local adult population, at some point in their lifetime.

Alcohol Use Disorders

- About 4.1% and 0.5% of the population suffered from alcohol abuse and alcohol dependence respectively at some point in their life.
- Those more likely to have alcohol use disorders were in the age group of 18 – 34 years, male gender, had lower education and were employed (versus being economically inactive).

Annex 2

DESCRIPTION OF MENTAL DISORDERS AND KEY TERMS

Major Depressive Disorder

Major depressive disorder (MDD) is characterised by a depressed mood: a profound feeling of sadness, emptiness, worthlessness and hopelessness. Associated with this is a range of other symptoms such as loss of interest in activities, loss of pleasure in almost all activities, sleep disturbances (either not being able to sleep well or sleeping too much), and loss of appetite with consequent loss of weight, although in atypical cases, there might be overeating. Significant impairment in functioning is brought on by difficulty in concentrating, loss of energy, tiredness and listlessness. The depressed person may have suicidal thoughts or intentions which might lead to suicide attempts or even actual suicide.

Bipolar Disorder

This disorder is characterised by depressive episodes (as described in MDD) and mania. Mania is characterised by abnormally elevated, expansive, or irritable mood. Together with this, there may be an inflated sense of self-esteem or even grandiosity, decreased need for sleep, talkativeness, agitation, a tendency to engage in activities which while pleasurable, would have painful consequences like spending sprees without the money to pay for them, increased sexual activity, reckless driving, as well as rash business and personal decisions. This state is often severe enough to seriously affect the person's life.

Generalised Anxiety Disorder

The essential feature of generalised anxiety disorder (GAD) is a general feeling of excessive anxiety and worry that is difficult to control. These feelings are not related to any specific event or object but may be about a number of events and activities. They are often accompanied by other symptoms like restlessness, fatigue, irritability, and disturbed sleep. GAD can be chronic and recurrent in nature. It can impair family life and reduce social adjustment and functioning. GAD typically develops over a period of time and may not be noticeable until it is significant enough to cause problems with functioning.

Obsessive Compulsive Disorder

Obsessive compulsive disorder (OCD) is characterised by the occurrence of obsessions, compulsive rituals or, most commonly, both recurrent and persistent thoughts, impulses, or images that are experienced as intrusive and cause great anxiety. They are not simply excessive worries about real life issues; the affected individual attempts to ignore, suppress, or neutralise them with other thoughts or actions and recognises that these thoughts are a product of his or her mind. Examples of obsessions include unwanted thoughts or images of harming loved ones, persistent doubts that one has not locked doors or switched off electrical appliances, and intrusive thoughts of being contaminated. Compulsions are repetitive behaviours (e.g. repetitive hand washing or checking) or mental acts (e.g. repetitive praying, counting, or thinking good thoughts to undo or replace bad thoughts) that the affected individual feels compelled to do in response to an obsession or according to rigid rules (e.g. checking that a light switch is turned off by switching it on and off exactly ten times).

Alcohol Abuse

Alcohol abuse is diagnosed when one or more of the following occurs:

- a) Recurrent alcohol use resulting in failure to fulfill major role obligations at work, school, or home (e.g. repeated absences or poor work performance related to alcohol use; alcohol-related absences, suspensions or expulsions from school; or neglect of family or household)
- b) Recurrent use in situations in which it is physically hazardous (e.g. driving a car while under the influence of alcohol)

- c) Having alcohol-related legal problems (e.g. arrested for alcohol-related disorderly conduct).
- d) Continuing to use alcohol despite having persistent or recurrent social or interpersonal problems caused or worsened by the effects of alcohol (e.g. arguments with wife over consequences of being drunk or fights)

Alcohol Dependence

Alcohol dependence is defined as a maladaptive pattern of alcohol use, leading to clinically significant impairment or distress, and the essential feature of which is a cluster of cognitive, behavioural and physical symptoms. These include tolerance (a need for markedly increased amounts of alcohol to achieve intoxication or desired effect), unpleasant withdrawal symptoms when intake is stopped or reduced, and a consuming preoccupation to obtain and use alcohol at the expense of other important social, occupational and recreational activities. The individual persists in using alcohol even with the knowledge that his/her recurrent physical or psychological problem is likely to be caused or exacerbated by the alcohol (e.g. continued drinking despite recognition that an ulcer was made worse by alcohol consumption).

Lifetime Prevalence

Prevalence of any disorder is the proportion of people affected with that disorder in a given population at a specific time. Lifetime prevalence is the number of people in a population that have had the disorder at any time in their life, divided by the total number of individuals in the population at the time of assessment. It estimates the extent of a disorder within a population over a certain period of time.

For example, if there are 100,000 individuals in the population in the year 1999 and of these, 230 have had a disorder at any time in their lives, then the lifetime prevalence of the disorder in that population in that year = $(230/100,000) \times 100\% = 0.23\%$.

12-month Prevalence

Annual or 12-month prevalence is the number of people in a population that have had a disorder during a specific year divided by the total number of individuals in the population. It includes cases arising before but extending into that year and new cases identified in that year. It is often used to estimate impact of a disorder within a population in that year.

Treatment Gap

Treatment gap is the proportion of people who have a disorder but did not receive treatment for it. In this study, under each diagnostic section, respondents are asked whether they had ever in their life talked to a medical doctor or other professional about the disorder under investigation. Example of the question from Depression module: "Did you ever in your life talk to a medical doctor or other professional about your (sadness/or/discouragement/or/ lack of interest)? (By professional we mean psychologists, counsellors, spiritual advisors, herbalists, acupuncturists, and other healing professionals)."

Treatment Delay

Treatment delay is the time taken from the start of the illness to seeking professional help by people with mental disorders. Respondents who reported the age when they first noticed the symptoms associated with their mental illness (i.e. age of onset) were asked if they had ever talked to a medical doctor or any professional about the respective disorder. If they reported that they had, they were asked how old they were the first time they did so. Their responses were used to calculate the age of first treatment contact in this study. Treatment delay was calculated as the difference between the age at first treatment contact and the age of onset.

Treatment delay was estimated in median values due to the wide variation in the values. Median value denotes the number of years taken to seek treatment by half (50%) of those with respective

mental disorders. For example, treatment delay of 11 years for OCD means 50% of those with OCD took 11 years from the first time they noticed the symptoms to seek professional help.

Annex 3

ABOUT TEMASEK FOUNDATION INNOVATES

Temasek Foundation Innovates is a Singapore-based non-profit philanthropic organisation that funds and supports programmes focusing on developing practical solutions for a better life through research and development. Established in 2016, it aims to strengthen research capabilities by nurturing talents, as well as encouraging cross collaborations.

The Foundation manages the Singapore Millennium Foundation Research Grant Programme, under which competitive grant calls have taken place annually since 2011. The Foundation also supports the Temasek Life Sciences Laboratory.

Temasek Foundation Innovates and the other Temasek Foundations were established by Temasek to better serve the evolving needs of the wider community, reinforcing its approach to sustainable giving. Since its inception in 1974, Temasek has established 19 endowments, which focus on building people, building communities, building capabilities and rebuilding lives.

For more information on the Temasek family of Foundations, please visit www.temasekfoundation.org.sg.

For more information on Temasek Foundation Innovates, please visit www.temasekfoundation-innovates.org.sg.

Annex 4

RESEARCHERS INVOLVED IN SMHS 2016

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