



# Trends Shaping the Health Economy: BEHAVIORAL HEALTH

**trilliant**health

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## STUDYING BEHAVIORAL HEALTH WITH THE LAWS OF ECONOMICS

It is well established that the behavioral health (including mental health) status of Americans—from elementary school students to Medicare beneficiaries—has declined since the onset of the COVID-19 pandemic. Simultaneously, the pandemic catalyzed investments in digital health capabilities (e.g., virtual therapy, e-prescribing) in response to unprecedented demand.

While the magnitude of the national behavioral health crisis is well documented by government agencies (e.g., CDC, SAMSHA) and in the academic literature, **less is known about how the pandemic changed the behavioral health care journey and the extent to which certain populations and geographies were differentially impacted.**

For example, the abrupt switch to remote work and school was reportedly associated with an increase in parents seeking ADHD treatment for their children. While companies like Cerebral were well positioned to cover important gaps in in-person behavioral healthcare, their business model raised concerns of over-prescribing. Even with unprecedented investments in behavioral health over the past two years, the undersupply of behavioral health providers is resulting in a greater proportion of patients seeking care from non-behavioral health providers (e.g., primary care).

With the expiration of the Public Health Emergency (PHE) on May 11, 2023, understanding the ways in which the pandemic changed both patient and provider behaviors is advisable. Moreover, **new policy initiatives, such as the U.S. Preventive Services Task Force’s Fall 2022 recommendations to screen children (final) and adults (draft) for anxiety and depression and the Drug Enforcement Agency’s February 2023 proposal to restrict online prescribing of most controlled substances (e.g., Adderall) upon expiration of the PHE, have significant implications for the future of the U.S. healthcare system.**

This report is designed to provide a data-driven foundation for every stakeholder to think about the demand, supply and yield trends influencing the future of the behavioral health economy.

I hope that you will use this report as a compass to inform your strategic approach to the organization, financing and delivery of behavioral health care services in the years ahead. While each data story stands on its own, the connectedness between the stories provides greater context. Each story will resonate differently based on your respective vantage point, but there is something in here for everyone that seeks to play a role in addressing the devastating U.S. behavioral health crisis.



*Sanjula*

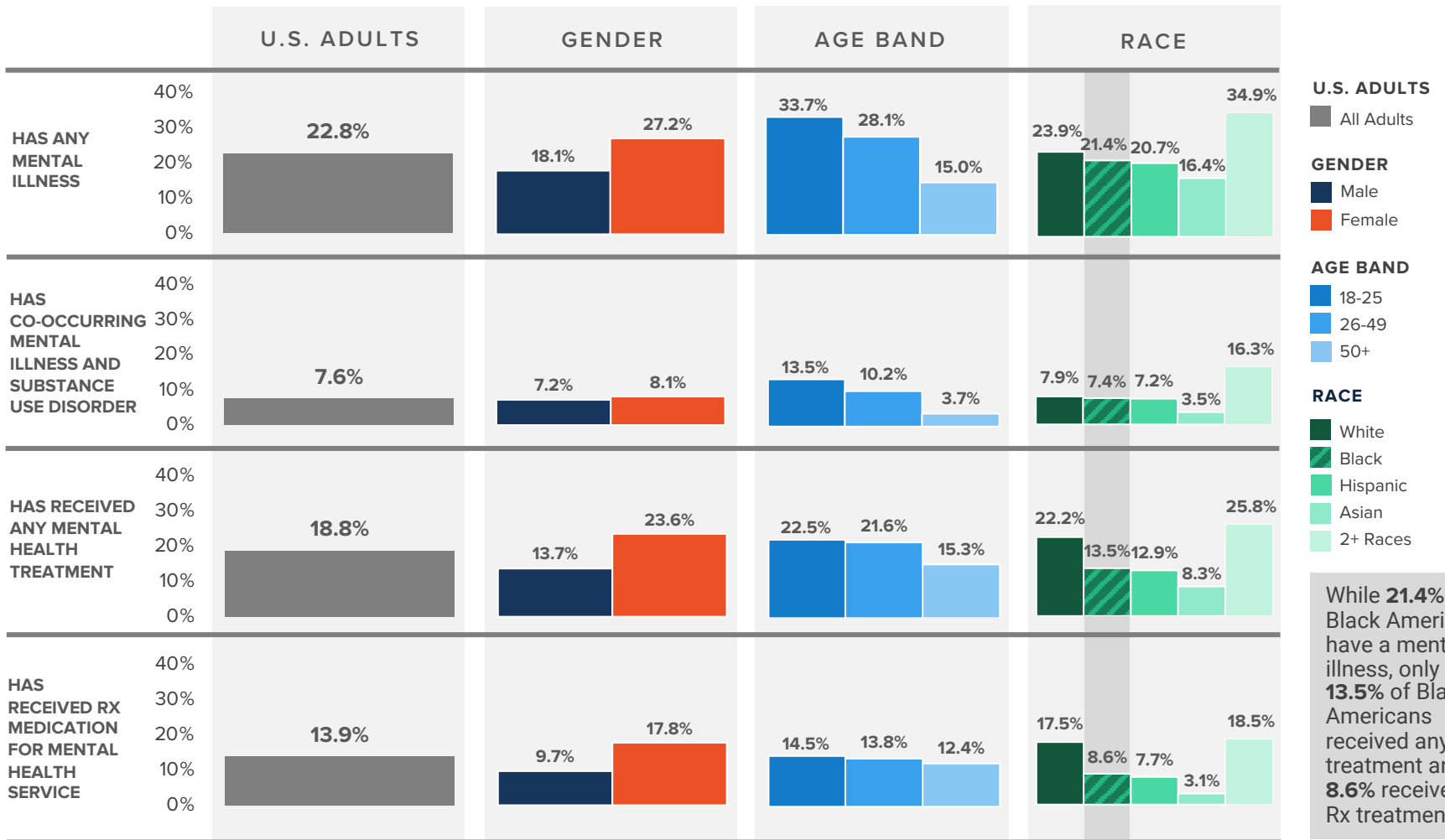
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# INTRODUCTION

The U.S. is experiencing a behavioral health crisis, a trend that was exacerbated by the COVID-19 pandemic. In 2021, 22.8% of adults had a mental illness, or approximately 58.9M Americans. At the same time, only 18.8% of adults received any form of treatment. The increase in behavioral health disease burden has forced health systems, payers, employers, policymakers and financiers to consider different strategies, without a clear picture of what future demand and supply needs, and therefore yield, will entail.



Source: Substance Abuse and Mental Health Services Administration (SAMHSA) 2021 National Survey of Drug Use and Health. Published January 2023.

## INTRODUCTION CONTINUED

To understand the post-pandemic behavioral health landscape more precisely, this report applies the laws of economics to a **longitudinal analysis of the ways in which Americans accessed care and were treated for behavioral health conditions from 2019 to 2022**. While most research on the topic of behavioral health has been primarily limited to analyses of survey data (e.g., SAMHSA) or a discrete patient population, this is the first report to provide insights representative of ~300M American lives from the perspective of healthcare utilization patterns and behaviors.

Across our national analysis of Medicaid, Medicare (traditional fee-for-service and Medicare Advantage) and commercially insured patients, we used the same definition for behavioral health. According to the Agency for Healthcare Research and Quality, behavioral health “is an umbrella term that includes mental health and substance abuse conditions, life stressors and crises, stress-related physical symptoms, and health behaviors.” For the purposes of this report, we examined behavioral health inclusive of diagnoses included in Major Diagnostic Categories 19 (Mental Diseases and Disorders) and 20 (Alcohol/Drug Use & Alcohol/Drug Induced Organic Mental Disorders).

### BEHAVIORAL HEALTH STUDY INCLUSION CRITERIA AND DEFINITIONS

#### MENTAL DISEASES & DISORDERS

- Anxiety Disorders
- Depressive Disorders
- Bipolar Disorders
- Schizophrenia
- ADHD
- Eating Disorders

#### **All Other**

Stress Disorders, Sleep Disorders,  
Neurodevelopmental Disorders,  
Conduct Disorders, Personality Disorders

#### ALCOHOL & SUBSTANCE USE DISORDERS

- Alcohol-Related Disorders
- Opioid-Related Disorders
- Nicotine Dependence
- Cannabis-Related Disorders
- Hallucinogen-Related Disorders
- Cocaine-Related Disorders
- Inhalant-Related Disorders
- Other Psychoactive Substance-Related Disorders

## EXECUTIVE SUMMARY: KEY INSIGHTS

In the current (and forecasted) behavioral health economy, demand exceeds current supply, resulting in a higher cost of care (yield). This longitudinal analysis of the ways in which Americans accessed care and were treated from 2019 to 2022 reveals the following key insights:

- 1** While behavioral health patient volumes have increased, care utilization patterns have remained relatively constant, as has the persistence of gaps in care.
- 2** Behavioral health demand is not changing at the same rate across U.S. geographies, both as a function of prevalence and available supply of providers.
- 3** The proportion of American adults taking medication to manage behavioral health conditions is increasing.
- 4** The most common settings of care where patients receive behavioral health care shifted as a function of the COVID-19 pandemic.
- 5** Behavioral health demand will continue to outpace provider supply, and the gap is likely to widen.
- 6** The existence of direct-to-consumer providers in the behavioral health sector will likely not alter supply at scale but has changed the typical ways in which patients receive care.
- 7** The COVID-19 pandemic exacerbated the behavioral health crisis, but the extent to what is temporary vs. sustained is not yet clear.
- 8** Untreated behavioral health conditions will exacerbate other comorbidities, both in terms of acuity and cost of care.



# DEMAND

Demand refers to both the **exogenous** and **endogenous** factors that influence consumer preferences (e.g., location, price) and need for services (e.g., genetic predisposition).

# DEMAND

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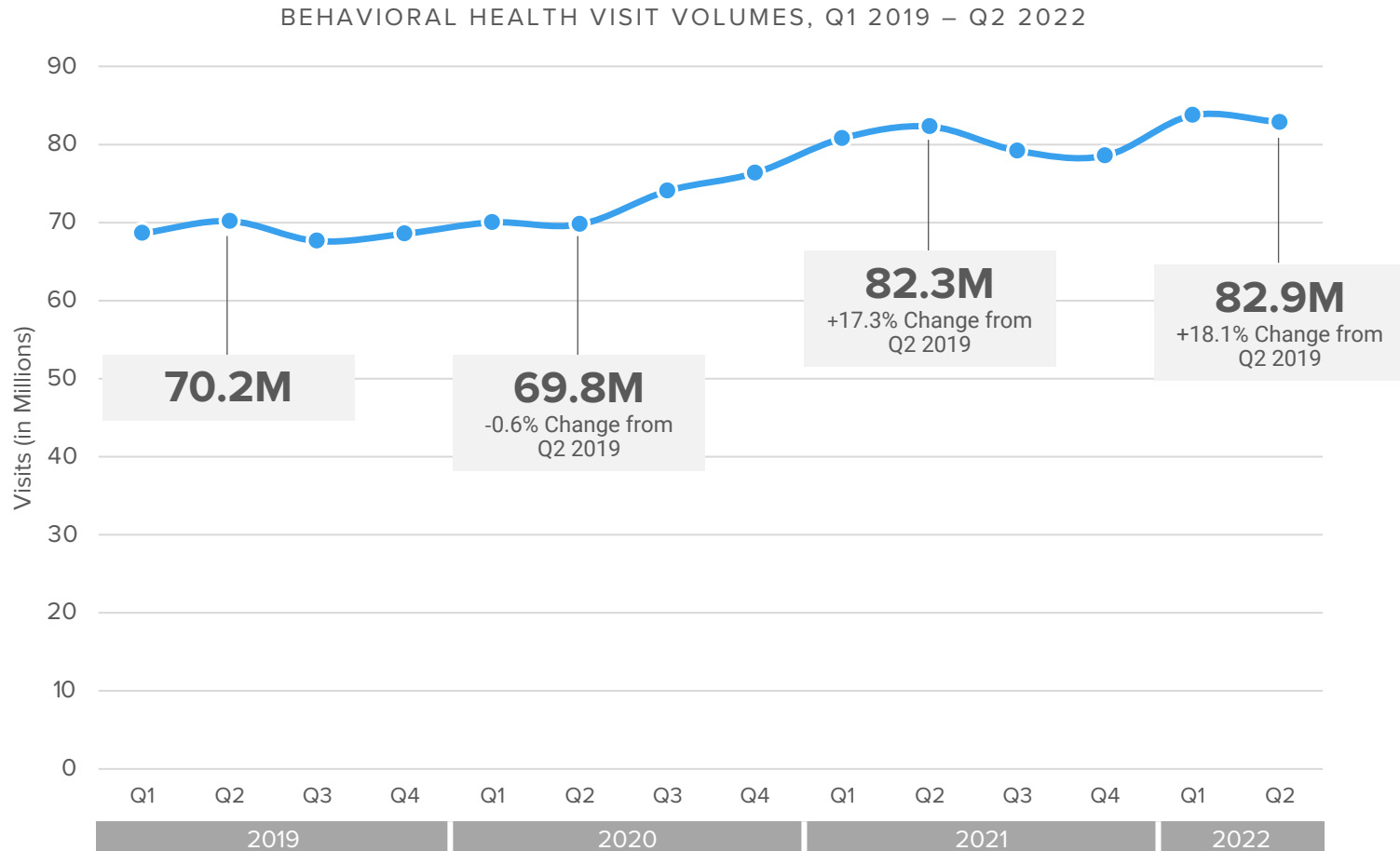
VOLUME



## DEMAND: VOLUME

# Behavioral Health Demand Continues To Grow Post-Pandemic

In Q2 2020, behavioral health volumes were 0.6% lower than in Q2 2019. By Q2 2022, volumes were 18.1% above pre-pandemic levels. Increasing prevalence of behavioral health conditions can exacerbate other medical comorbidities and drive higher spending.



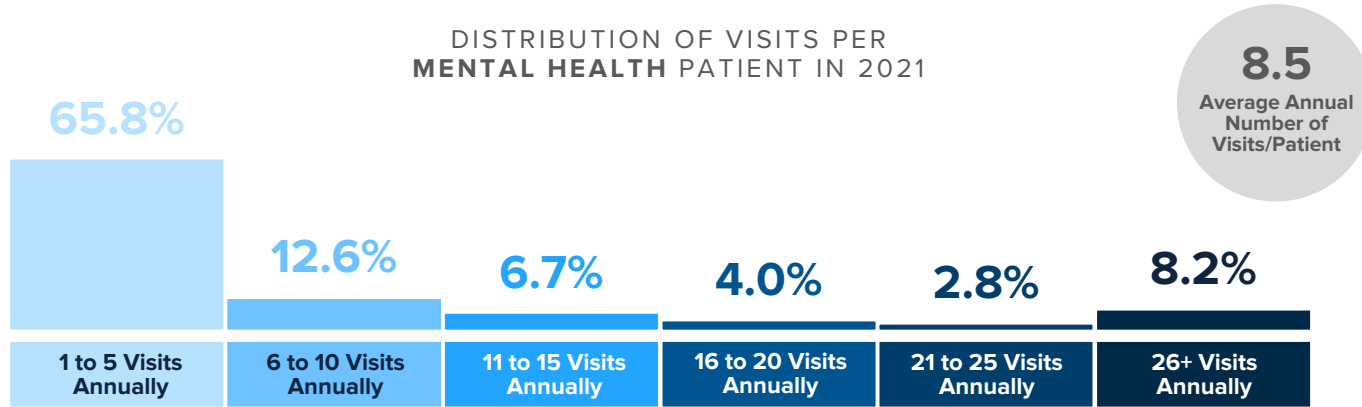
Source: Trilliant Health national all-payer claims database.

## DEMAND: VOLUME

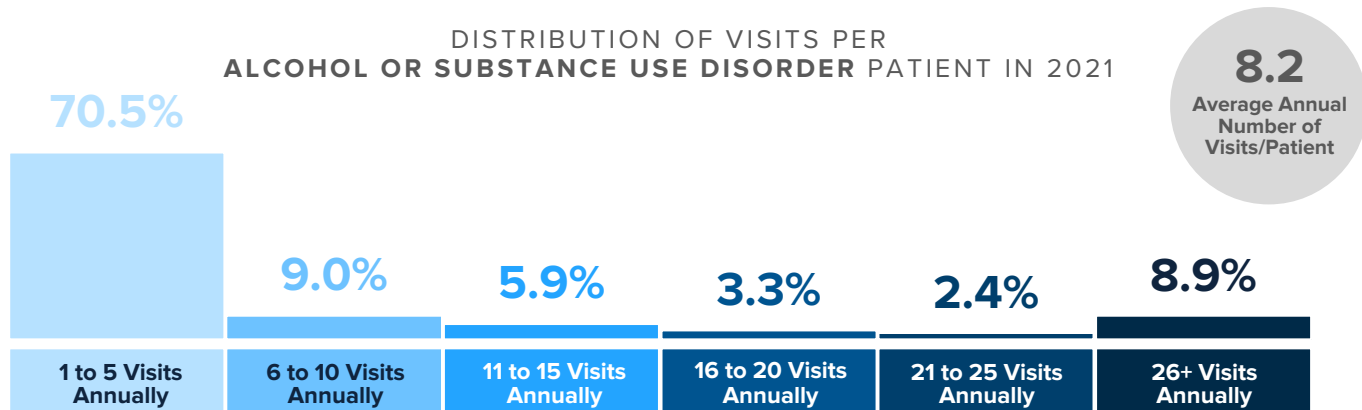
# Most Behavioral Health Patients Had Five or Fewer Visits Annually

Approximately two-thirds of patients with mental health disorders or alcohol and substance use disorders had five or fewer visits in 2021, while just under 10% of patients in both categories had greater than 26 visits annually. To what degree will DTC behavioral health providers increase how often patients receive treatment?

DISTRIBUTION OF VISITS PER  
MENTAL HEALTH PATIENT IN 2021



DISTRIBUTION OF VISITS PER  
ALCOHOL OR SUBSTANCE USE DISORDER PATIENT IN 2021



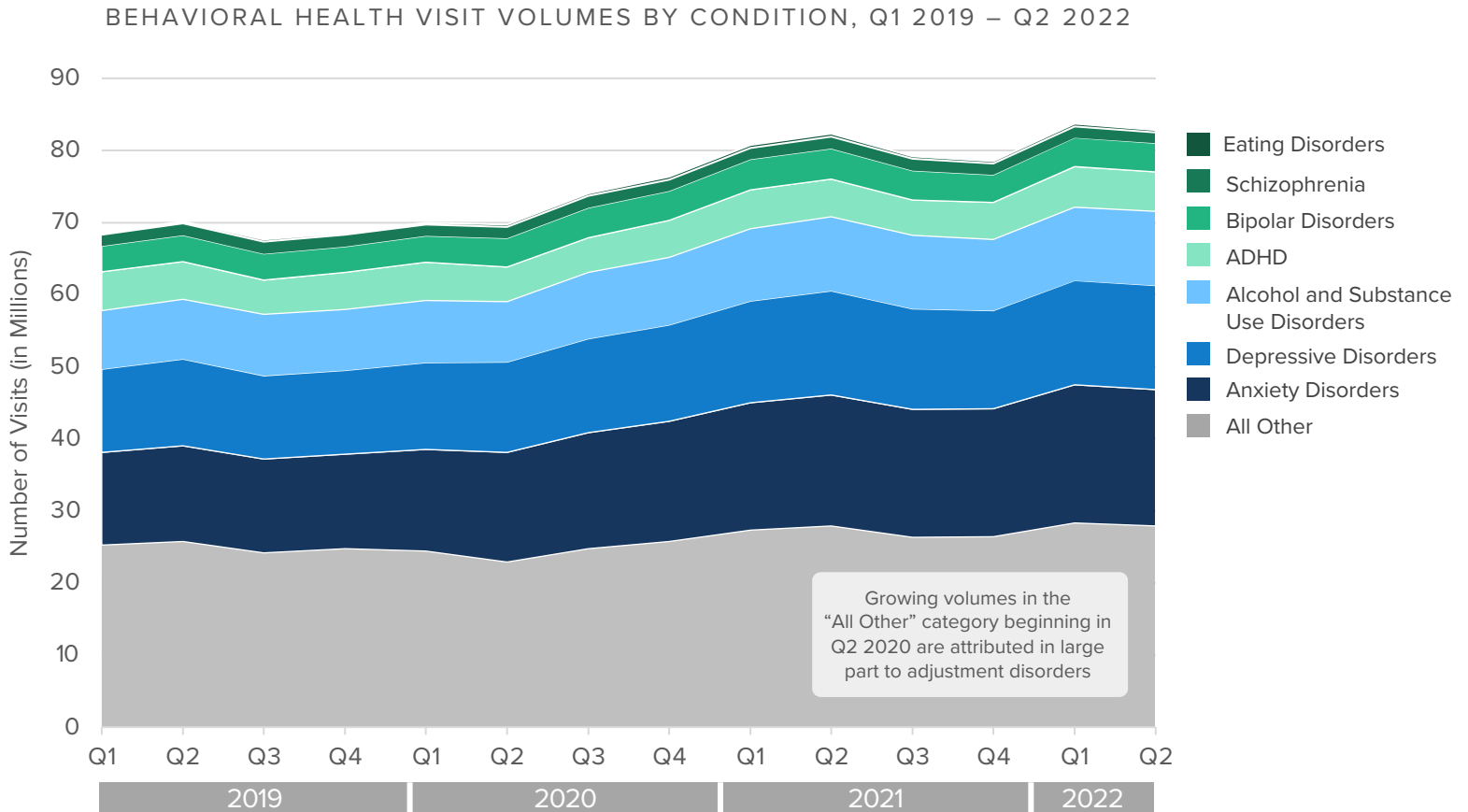
DTC self-pay providers (e.g., Talkspace) generally offer biweekly, weekly or more frequent therapy sessions, averaging a minimum of **26 visits annually**

Note: DTC denotes direct-to-consumer. Totals may exceed 100% due to rounding.  
Source: Trilliant Health national all-payer claims database, publicly available press releases.

## DEMAND: VOLUME

# Anxiety and Depressive Disorders Accounted for Over 40% of Behavioral Health Demand in the First Half of 2022

Visits associated with anxiety accounted for 18.7% of all behavioral health demand in Q1 2019, increasing by 4.2 percentage points to 22.9% in Q2 2022.

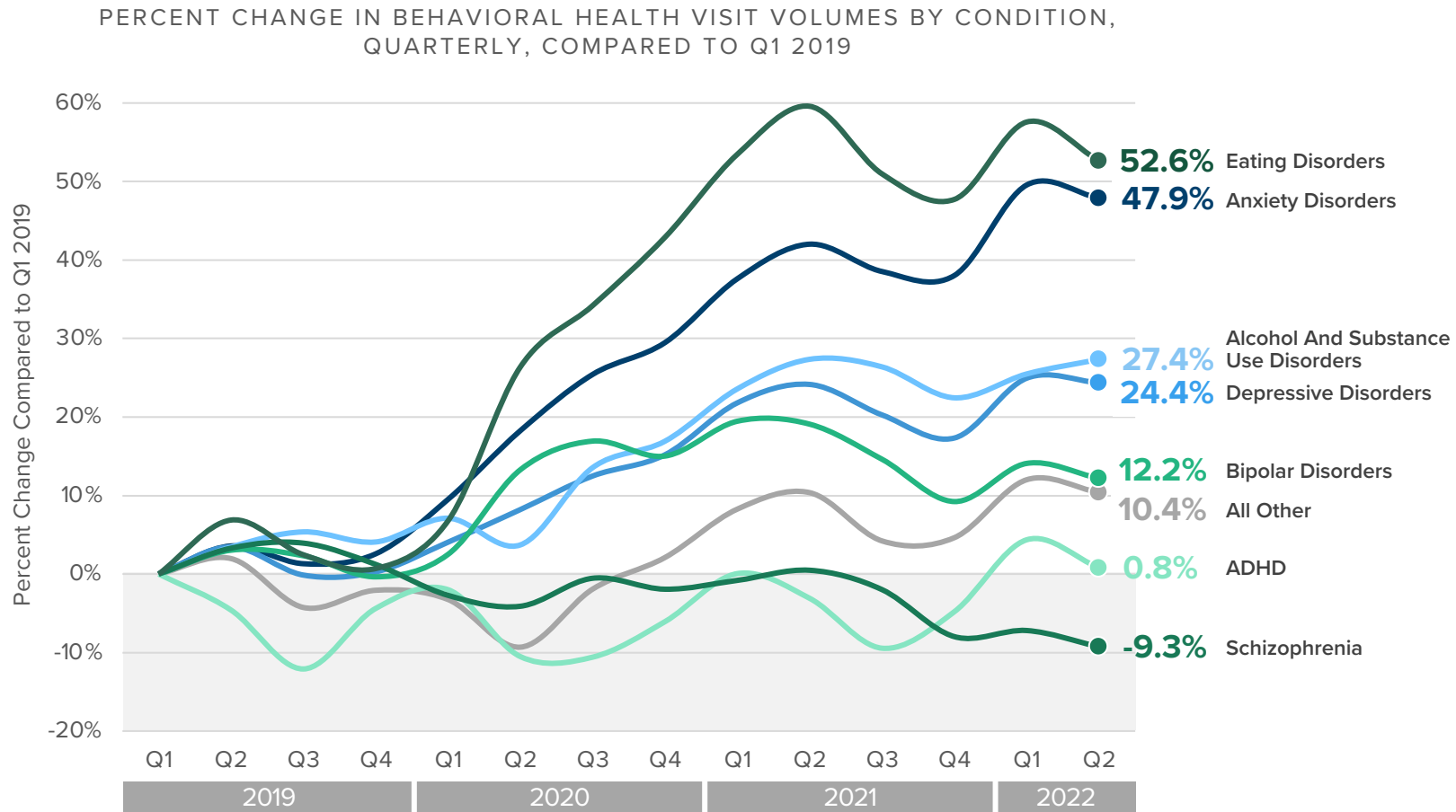


Source: Trilliant Health national all-payer claims database.

## DEMAND: VOLUME

# Rate of Change in Behavioral Health Demand Varies by Condition

Visit volumes for eating disorders (+52.6%), anxiety disorders (+47.9%), alcohol and substance use disorders (+27.4%), depressive disorders (+24.4%) and bipolar disorders (+12.2%) have all consistently trended upwards since 2019. However, schizophrenia visit volumes were down 9.3% in Q2 2022 from Q1 2019.



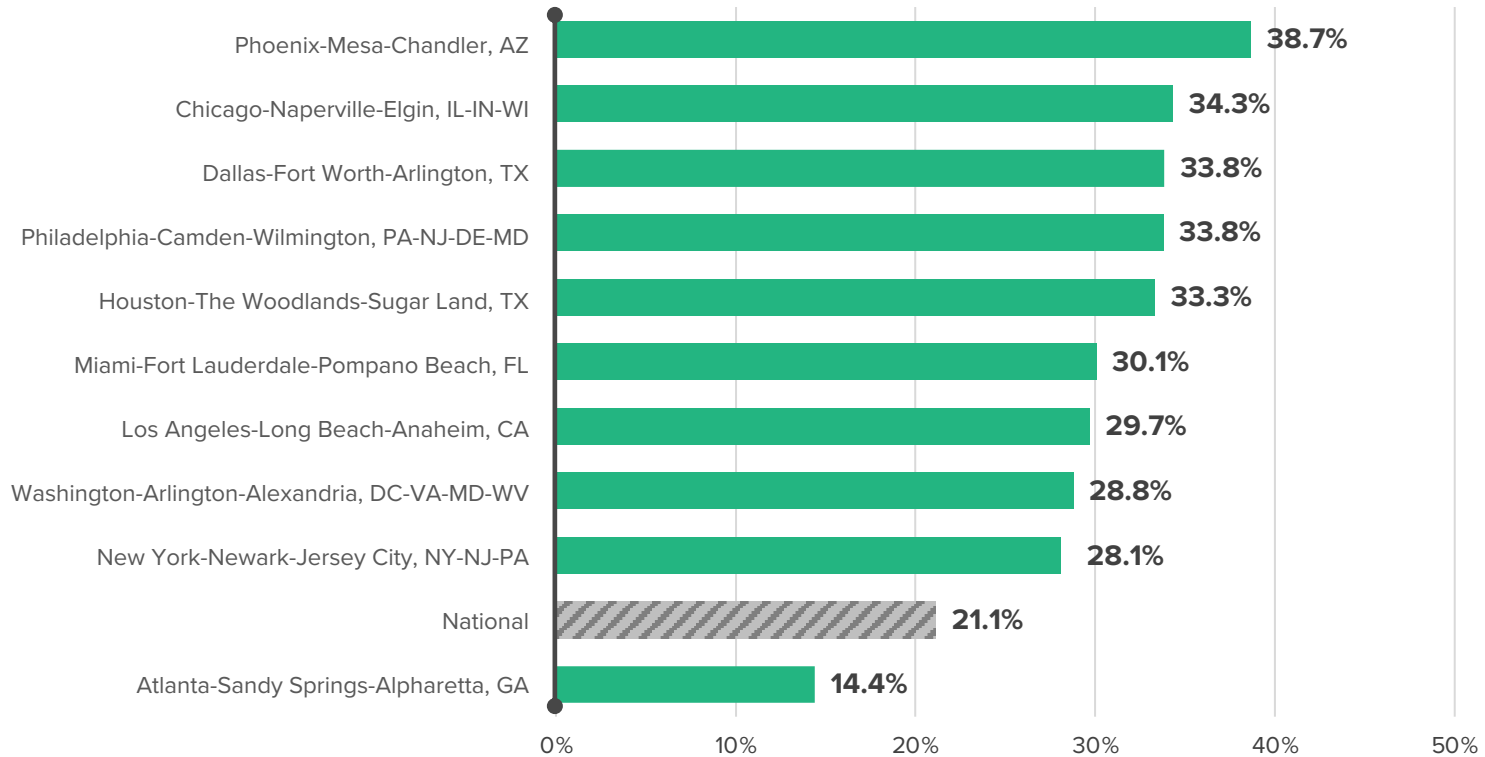
Source: Trilliant Health national all-payer claims database.

## DEMAND: VOLUME

# Behavioral Health Demand Is Higher in Major Metropolitan Areas

Of the ten largest CBSAs by population, behavioral health demand compared to pre-pandemic is higher than the national average (+21.1%) in all CBSAs except for Atlanta (+14.4%). Increasing demand for behavioral health services can be driven both by growth in prevalence of disease and population changes (e.g., in-migration).

MARKET-LEVEL BEHAVIORAL HEALTH VOLUMES,  
PERCENT CHANGE Q3 2018-Q2 2019 COMPARED TO Q3 2021-Q2 2022



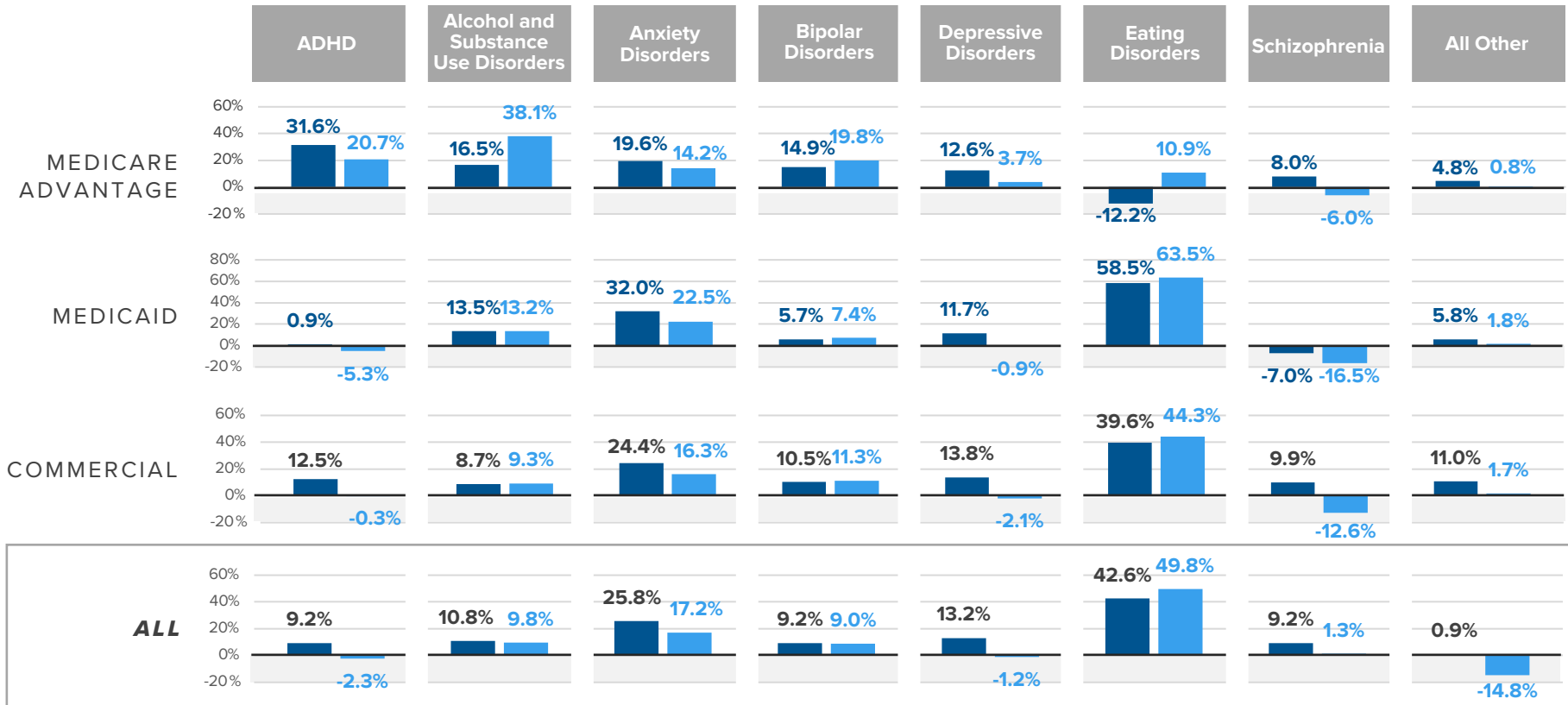
Source: Trilliant Health national all-payer claims database.

## DEMAND: VOLUME

# Magnitude of Change in Demand for Behavioral Health Services Is Different in Rural and Urban Areas, and by Payer

Compared to pre-pandemic, patient volumes for anxiety have increased 25.8% and 17.2% in urban and rural geographies, respectively. Medicaid patient volumes for anxiety have increased 32.0% and 22.5% in urban and rural geographies, respectively.

PERCENT CHANGE IN PATIENT VOLUMES, URBAN VS RURAL, Q3 2018-Q2 2019 COMPARED TO Q3 2021-Q2 2022



Note: Some percentages appear high as the individual number of patients in select condition/payer categories are inherently small.  
Source: Trilliant Health national all-payer claims database.

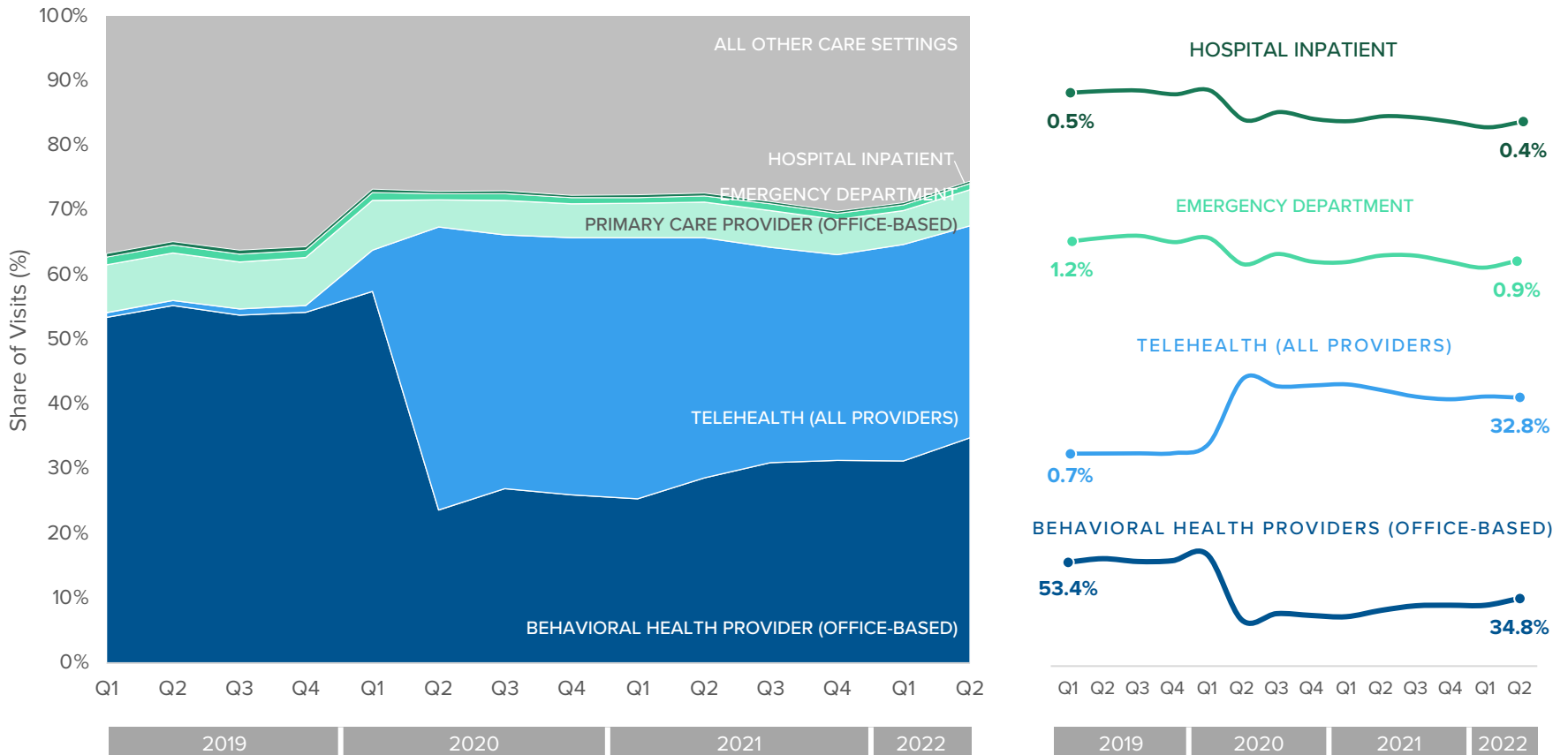
Urban Rural

## DEMAND: VOLUME

# Utilization of Telehealth for Behavioral Health Services Has Increased 45X Since Onset of the Pandemic

Across major care settings and provider types, less than 1.0% of all behavioral health visits were delivered via telehealth before the pandemic. However, as of Q2 2022, 32.8% of visits were delivered via telehealth.

SHARE OF BEHAVIORAL HEALTH VISITS IN MAJOR CARE SETTINGS, Q1 2019-Q2 2022



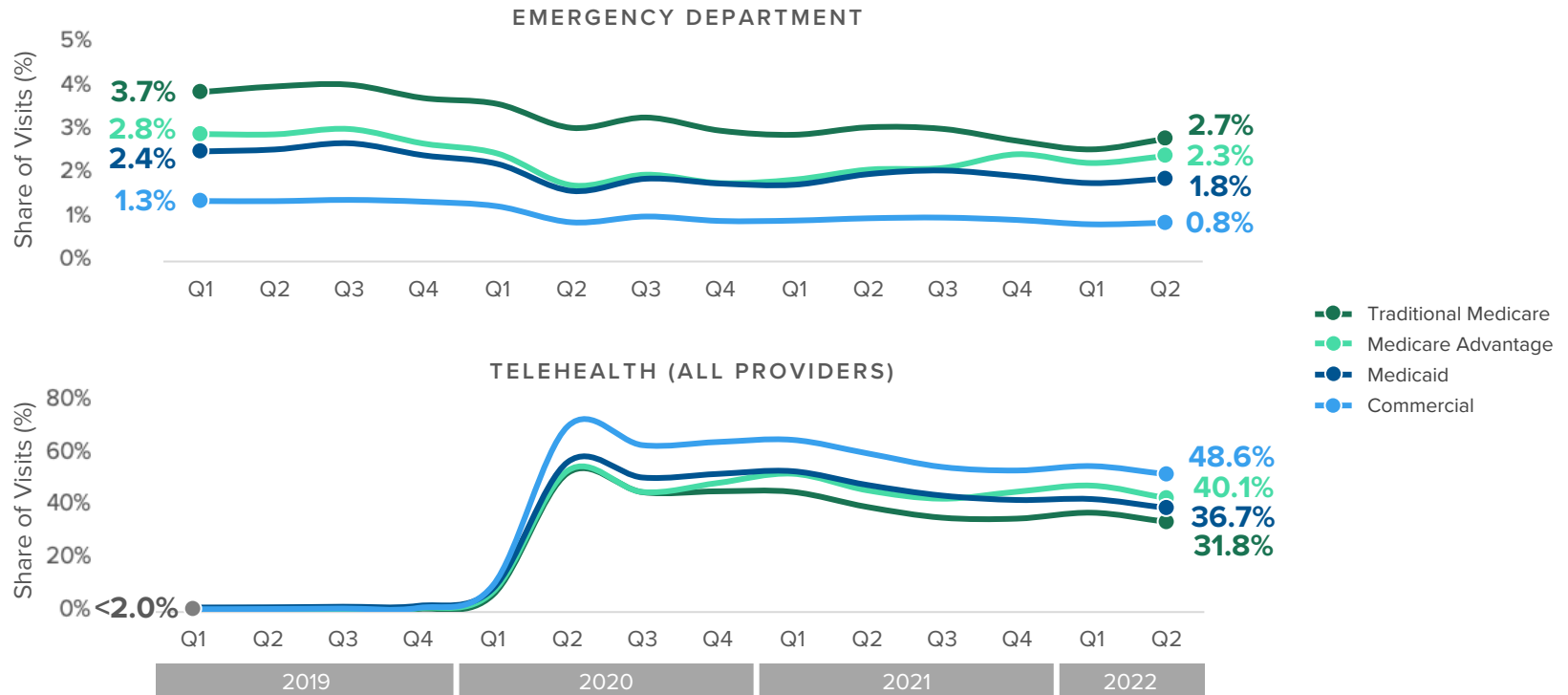
Source: Trilliant Health national all-payer claims database.

## DEMAND: VOLUME

# ED Utilization for Behavioral Health Services Declining Across All Payers, Despite Growth in Medicaid Enrollment

Traditional Medicare has the highest share of ED visits totaling 2.7% in Q2 2022, but down from 3.7% in Q1 2019. Despite historically high ED utilization in the Medicaid population, the share of behavioral health visits in the ED is stabilizing below pre-pandemic levels.

SHARE OF BEHAVIORAL HEALTH VISITS IN THE ED AND VIA TELEHEALTH, BY PAY TYPE, Q1 2019-Q2 2022



Note: ED denotes emergency department.  
Source: Trilliant Health national all-payer claims database.

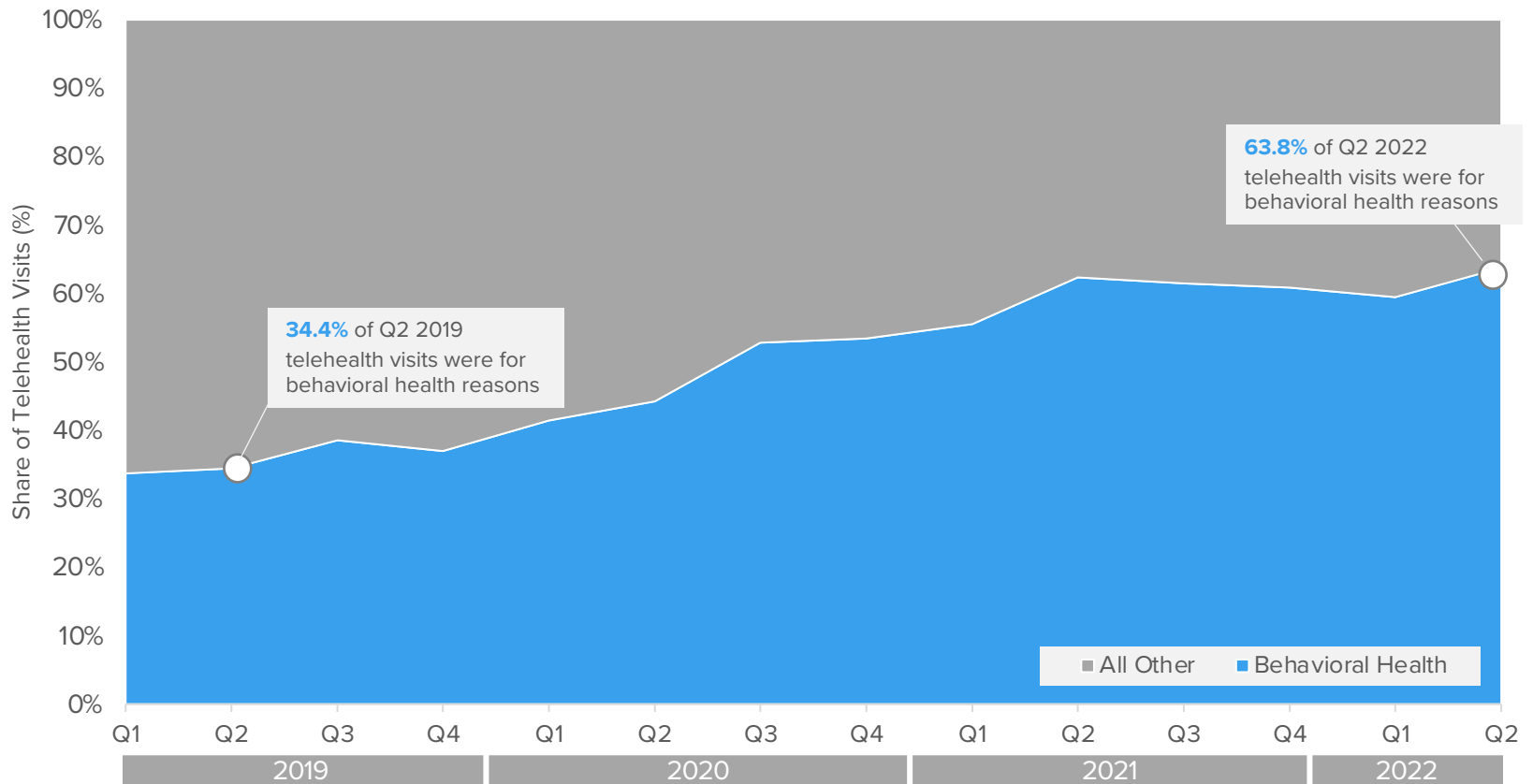


## DEMAND: VOLUME

# Relative to All Healthcare Services, Behavioral Health Accounts for the Majority of Telehealth Use

In a declining telehealth market, behavioral health accounts for a greater share of a smaller number of visits over time. From Q2 2019 to Q2 2022, behavioral health telehealth utilization as a proportion of all telehealth increased by almost 30 percentage points.

TELEHEALTH UTILIZATION, BEHAVIORAL HEALTH VS ALL OTHER, Q1 2019 – Q2 2022



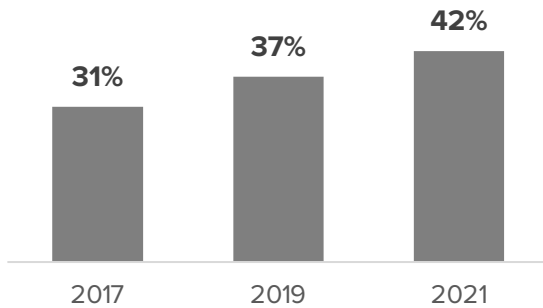
Source: Trilliant Health national all-payer claims database.

## DEMAND: VOLUME

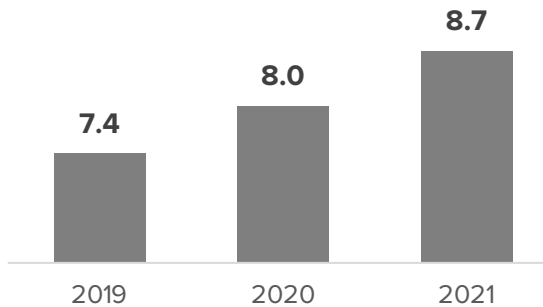
# Behavioral Health Indications Are Increasing Among Youths in Parallel With Increased Social Media Adoption

Since the onset of the pandemic, visits for eating disorders, depressive disorders and self-harm among patients below age 18 increased at rates higher than the overall population and are correlated with increased utilization of social media.

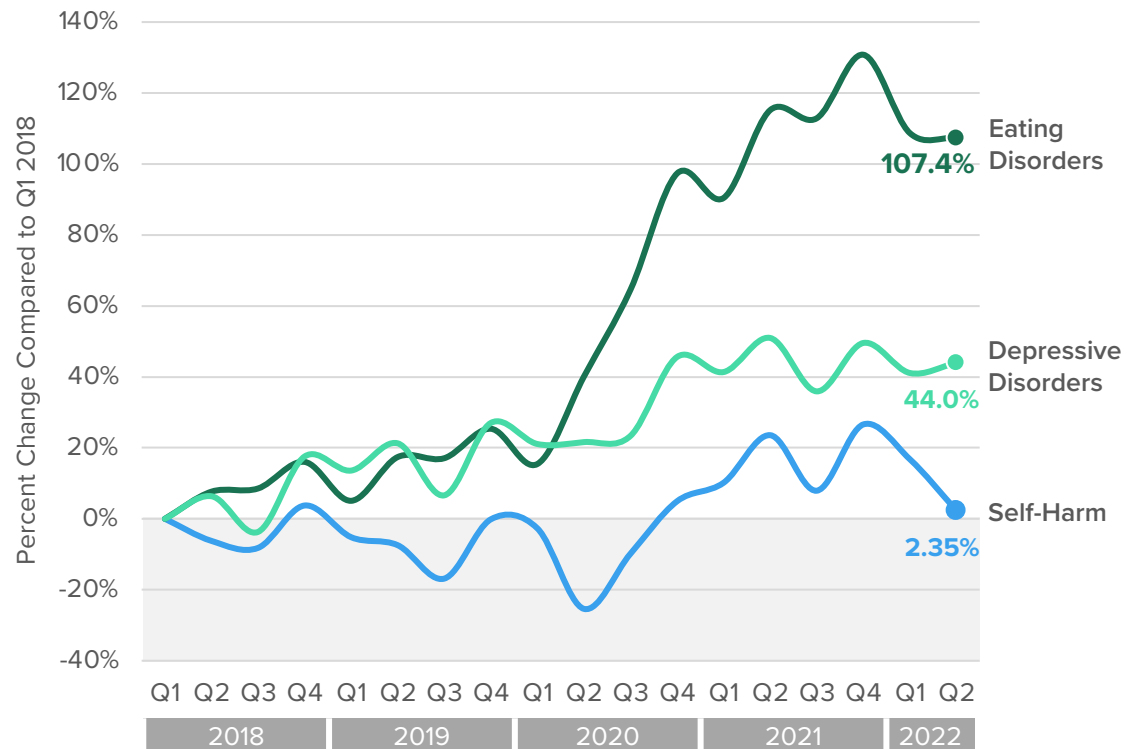
PROPORTION OF TEENAGERS REPORTING PERSISTENT SADNESS/HOPELESSNESS



TEENAGER SOCIAL MEDIA USE, HOURS PER DAY



PERCENT CHANGE IN MENTAL HEALTH VISIT VOLUMES, PATIENTS AGES 0-17, QUARTERLY COMPARED TO Q1 2018



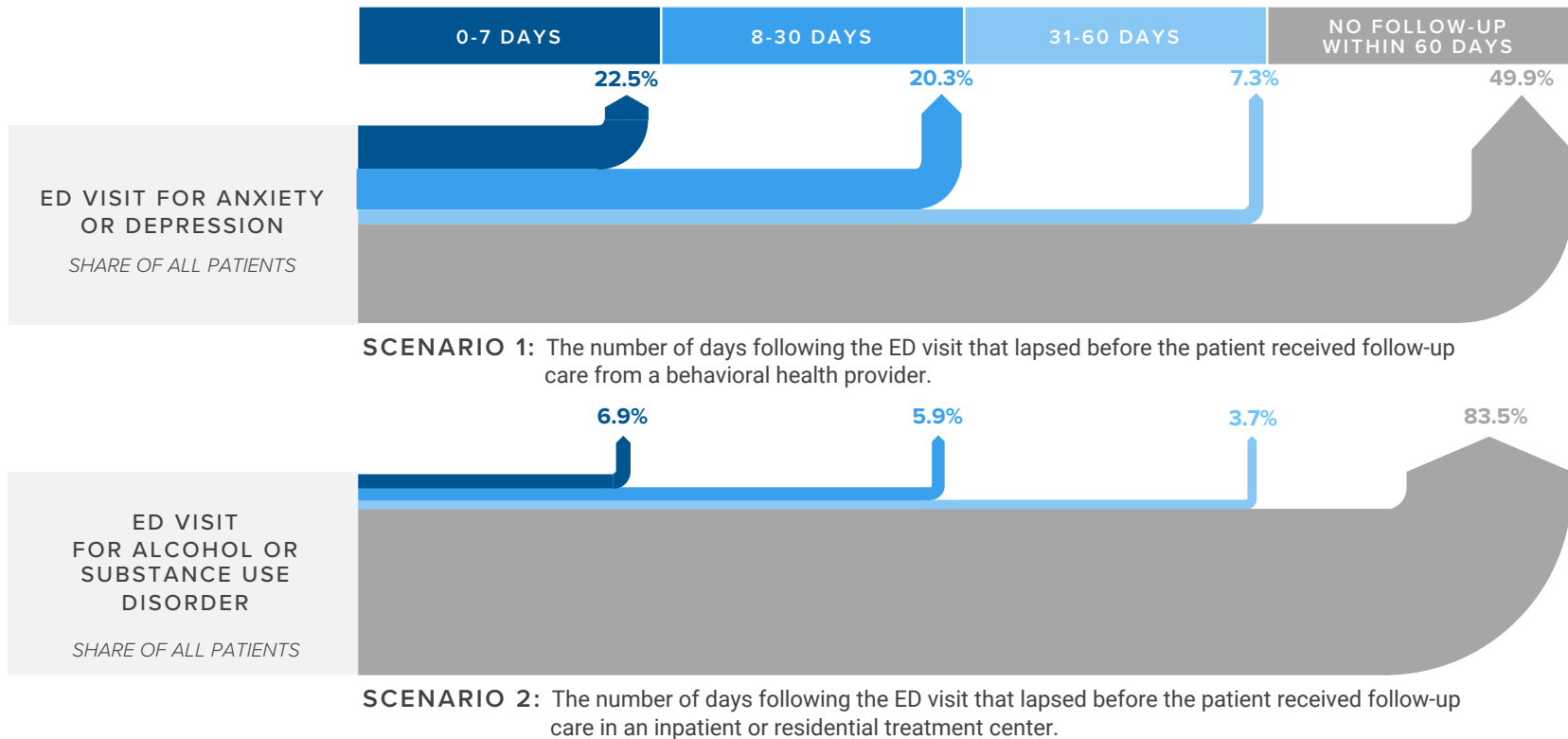
Source: Trilliant Health national all-payer claims database; Center for Disease Control Youth Risk Behavior Surveillance Data, 2017-2021; *The Common Sense Census*, Media Use by Tweens and Teens, 2021.

## DEMAND: VOLUME

# Most Behavioral Health Patients, Particularly Those With Alcohol or SUD, Do Not Receive Follow-Up Care After an ED Visit

Half of patients who were treated in an ED for anxiety or depression did not receive care from a behavioral health provider within 60 days. 83.5% of patients who were treated in an ED for an alcohol or substance use disorder did not receive inpatient care within 60 days.

### BEHAVIORAL HEALTH PATIENT JOURNEYS FROM THE ED TO RECEIVING SPECIALIZED FOLLOW-UP CARE



Note: SUD denotes substance use disorder. ED denotes emergency department. Patients included in this analysis were continuously enrolled for 60 days following their ED visit. Subsequent visits were limited to encounters with the same visit reason.

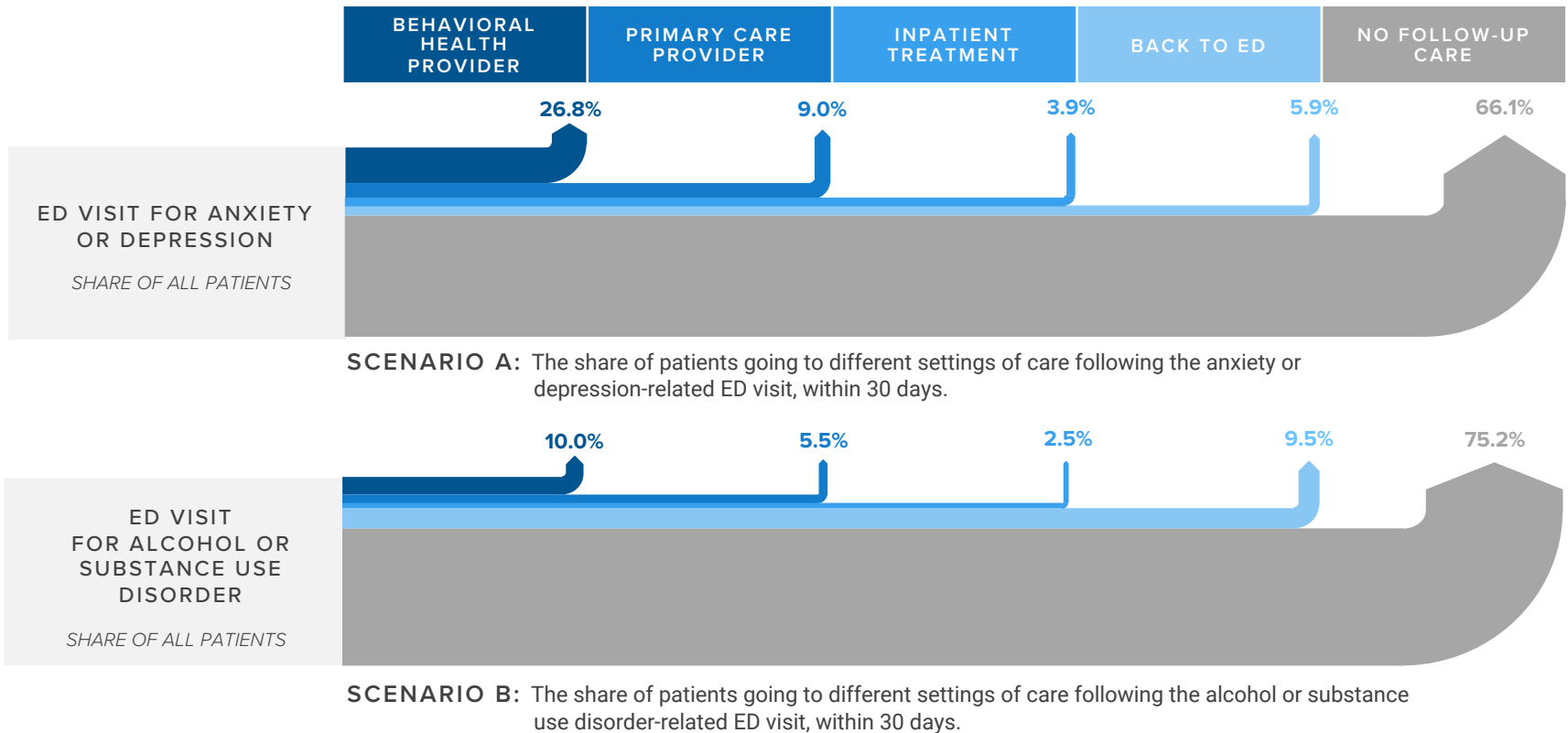
Source: Trilliant Health national all-payer claims database.

## DEMAND: VOLUME

# Almost 10% of Patients With Alcohol or SUD Have a Return Visit to the ED Within 30 Days

While 26.8% patients who were treated in the ED for anxiety or depression received care from a behavioral health provider within 30 days, that share was only 10.0% for patients with alcohol or substance use disorder.

### BEHAVIORAL HEALTH PATIENT JOURNEYS FROM THE ED TO OTHER SETTINGS OF CARE, WITHIN 30 DAYS



Note: SUD denotes substance use disorder. ED denotes emergency department. Totals may exceed 100% as patients may have visited multiple settings of care following the ED visit within 30 days. Patients included in this analysis were continuously enrolled for 60 days following their ED visit. Subsequent visits were limited to encounters with the same visit reason. Source: Trilliant Health national all-payer claims database.

## DEMAND: VOLUME

# Behavioral Health Demand Is Projected at 0.6% CAGR

The national median incidence rate for behavioral health services is projected to increase at 0.6% CAGR between 2022 and 2026. This indicates that by 2026, 25.2% of Americans will require behavioral health services, which is 1.2 percentage points above observed 2021 levels.

NATIONAL HISTORIC & FORECASTED BEHAVIORAL HEALTH DEMAND, 2016-2026



Note: CAGR denotes compound annual growth rate. The algorithmic nature of the Demand Forecast does not attempt to account for the impact of potential policy or regulatory changes. It is reasonable to assume that any government-issued screening guidelines related to behavioral health would increase the probability that future demand would be above the 50th percentile.

Source: Trilliant Health Demand Forecast.

# DEMAND

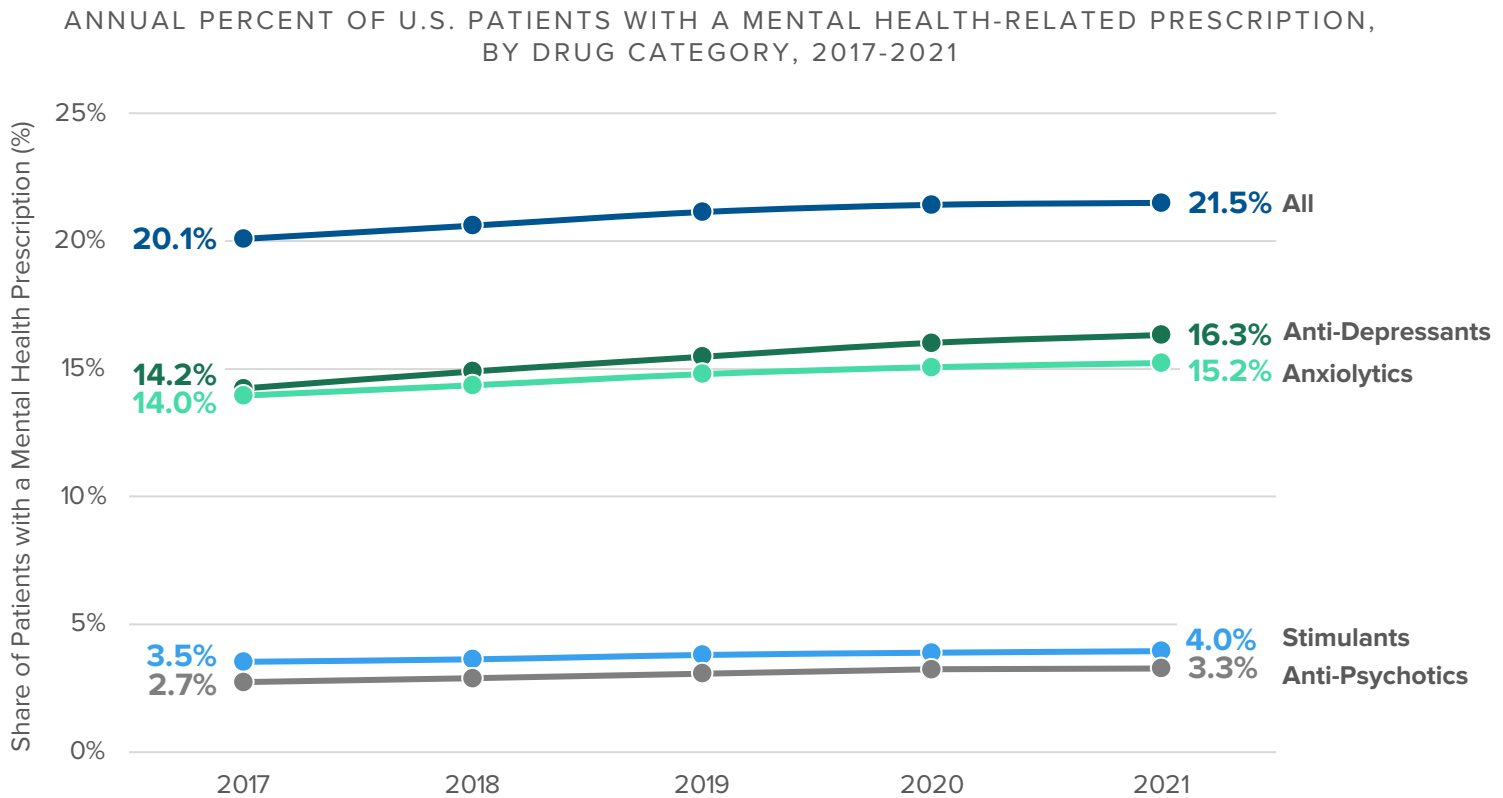
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TREATMENT

## DEMAND: TREATMENT

# Mental Health-Related Prescribing Is Increasing Among All Patients Nationally

The share of patients with a mental health-related prescription has been rising annually across drug categories since 2017. The share of patients with a prescription for anti-depressants increased by 15% 2017 to 2021, from 14.2% to 16.3%.



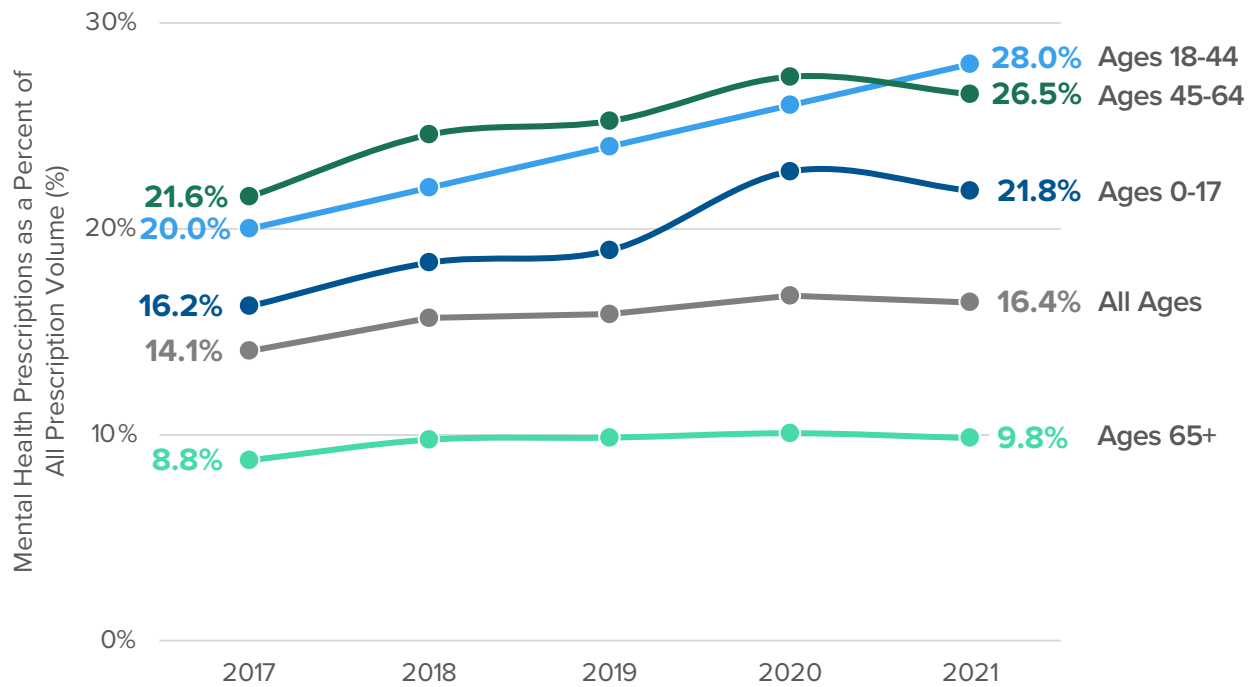
Source: Trilliant Health national all-payer claims database.

## DEMAND: TREATMENT

# Mental Health-Related Prescribing Is Growing as a Percent of All Prescription Volume

The share of mental health-related prescribing has been rising annually across age groups. Since 2017, the share of mental health-related prescription volume increased most in the 18-44 age group (+8.0 percentage points).

MENTAL HEALTH-RELATED PRESCRIBING AS A PERCENT OF ALL PRESCRIPTION VOLUME, BY AGE GROUP, 2017-2021



Assuming the rate of change continues for patients ages <18, what will the long-term health effects be if younger patients sustain use of prescription mental health drugs over a lifetime?

Source: Trilliant Health national all-payer claims database.

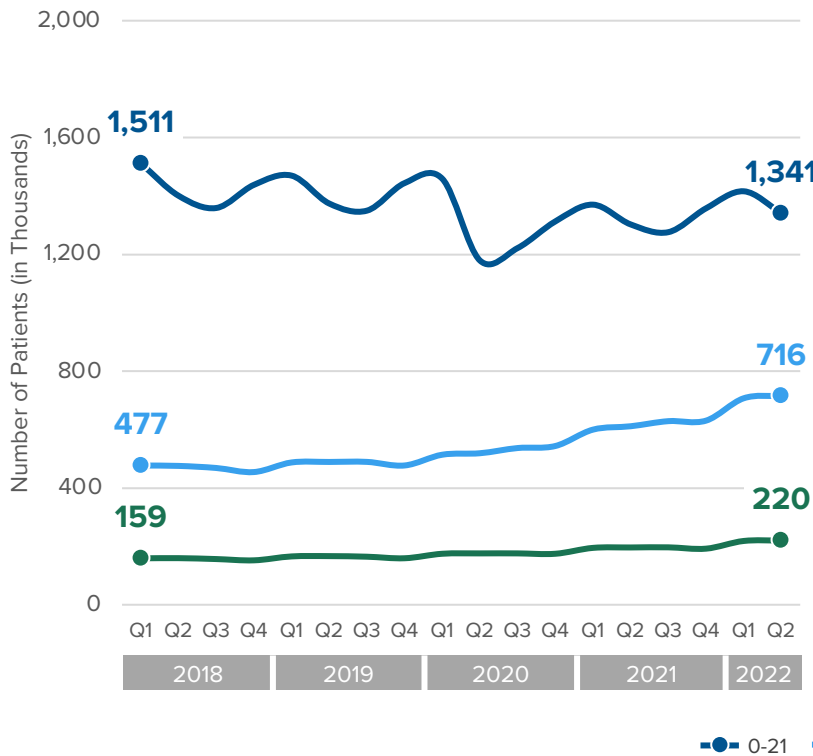


## DEMAND: TREATMENT

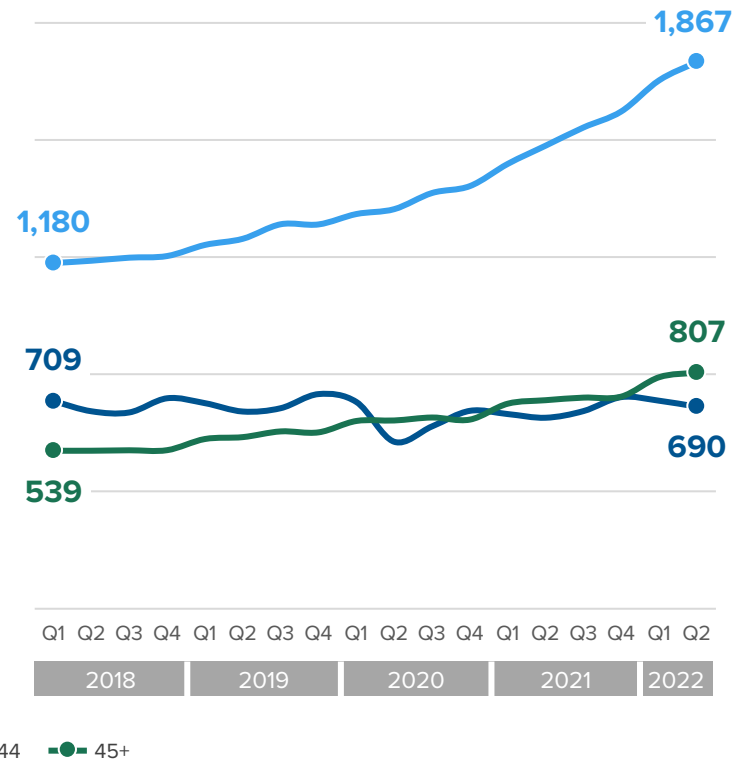
# Adderall Prescribing for Adults Ages 22-44 Is Outpacing ADHD Diagnoses

Since Q4 2020, volumes and Adderall prescriptions for patients ages 0-21 have stabilized below pre-pandemic levels. Conversely, for patients ages 22-44, patient volumes and Adderall prescriptions increased 50.1% and 58.2%, respectively from Q1 2018 to Q2 2022.

PATIENTS WITH VISITS ASSOCIATED WITH ADHD, BY AGE GROUP, QUARTERLY, 2018-2022



PATIENTS WITH BRAND OR GENERIC ADDERALL PRESCRIPTIONS, BY AGE GROUP, QUARTERLY, 2018-2022



Source: Trilliant Health national all-payer claims database.

## DEMAND: TREATMENT

# Patients With History of Prescription Stimulant Use Have Higher Rates of Conditions That Are Known Side Effects

Known side effects of prescription stimulant use include heart rate abnormalities, sleep disorders, hypertension and appetite loss and slow weight gain. These conditions were more common in a cohort of young men with extended stimulant use vs an age- and sex-match comparison group (e.g., 2.7X prevalence of sleep disorders in the patient group prescribed stimulants).

### COHORT DEMOGRAPHICS

Males who were ages 10-22 in 2017  
Continuously enrolled in a health plan between 2017 and 2022



### STIMULANT USE GROUP

Has filled **at least one prescription annually** between 2017 and 2022 for a stimulant (e.g., brand or generic Adderall)

### CONTROL GROUP

Has **NOT** filled a prescription for a stimulant (e.g., brand or generic Adderall) at any point between 2017 and 2022

PERCENT OF PATIENTS IN EACH COHORT WITH A MEDICAL HISTORY OF CONDITIONS THAT ARE COMMON SIDE EFFECTS ASSOCIATED WITH PRESCRIPTION STIMULANT USE

	HEART RATE ABNORMALITIES	SLEEP DISORDERS	HYPERTENSION	APPETITE LOSS AND SLOW WEIGHT GAIN
 STIMULANT USE GROUP	4.8%	8.7%	5.7%	9.5%
 CONTROL GROUP	2.9%	3.2%	4.4%	4.2%

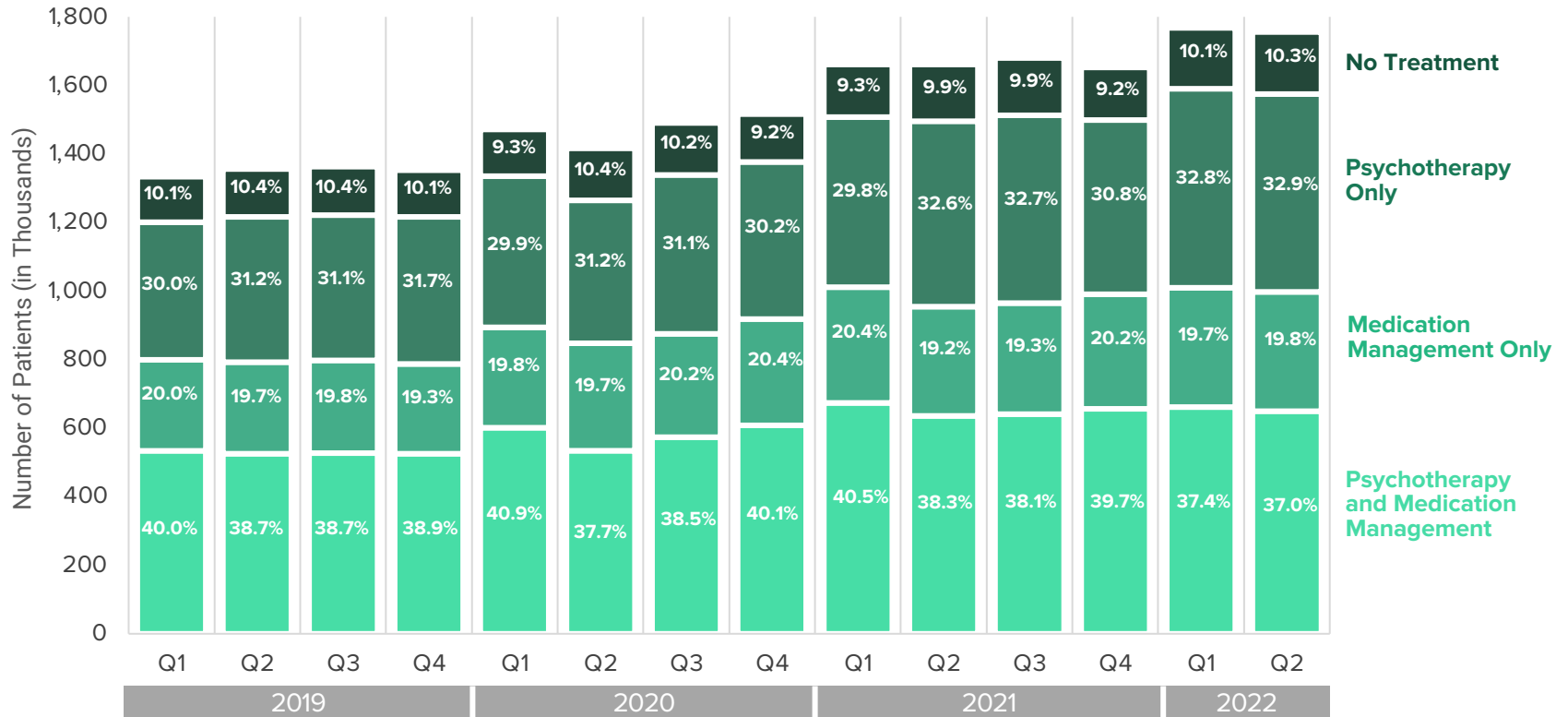
Note: See methodology section for more details on cohort identification.  
Source: Trilliant Health national all-payer claims database.

## DEMAND: TREATMENT

# More Anxiety and Depression Patients Receiving Psychotherapy In the Wake of the Pandemic

Between 2019 and 2022, there was almost no change in the proportion of patients diagnosed with either anxiety or depression who did not receive treatment. A higher proportion of patients are treated with psychotherapy alone, absent medication management.

TREATMENT PATTERNS OF PATIENTS WITH ANXIETY AND/OR DEPRESSION, QUARTERLY, 2019-2022

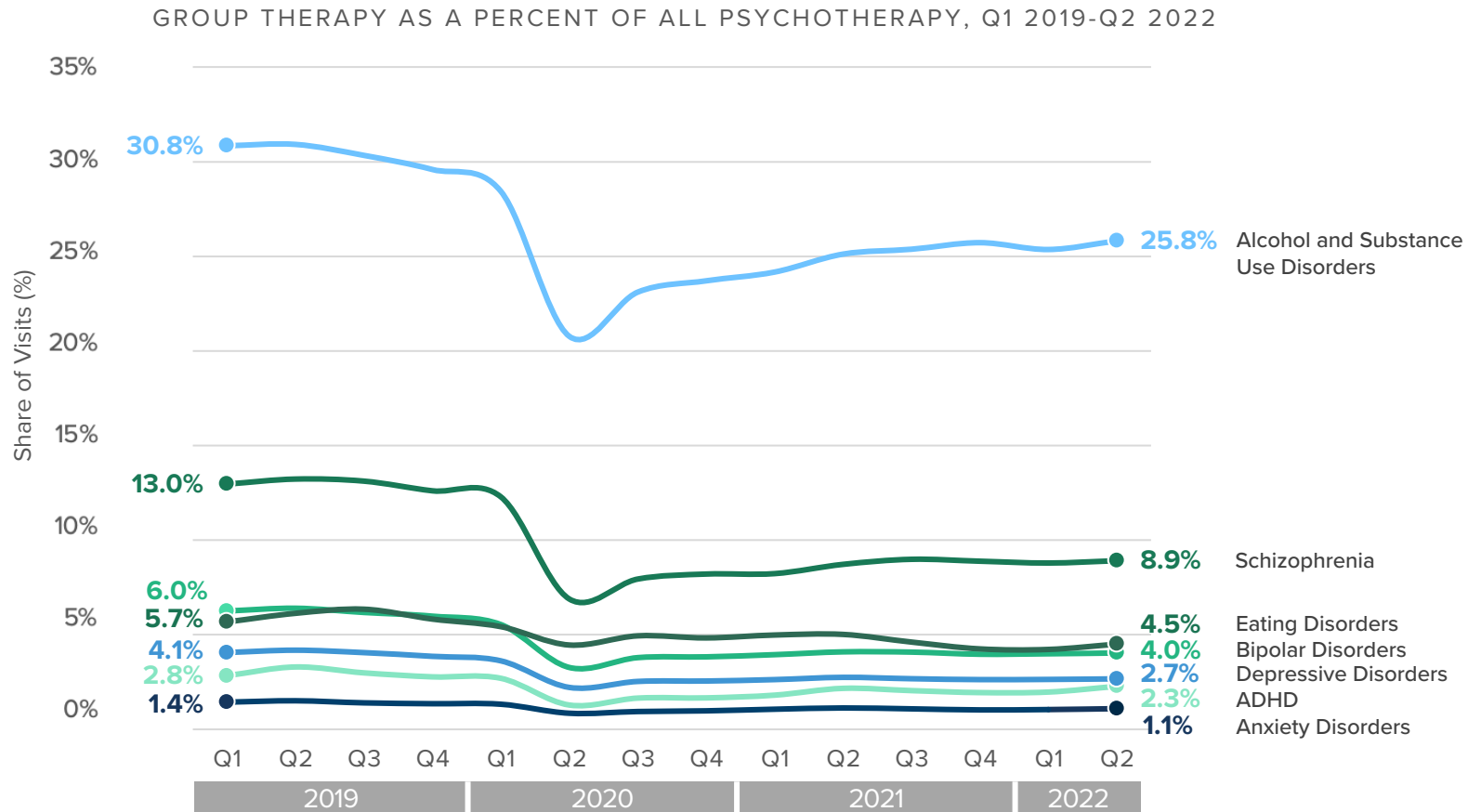


Note: Patients receiving psychotherapy or medication management through self-pay arrangements are not reflected in the analysis. Totals may exceed 100% due to rounding.  
Source: Trilliant Health national all-payer claims database.

## DEMAND: TREATMENT

# Could Group Therapy Demand Increase Amid Provider Supply and Patient Cost Constraints?

While group therapy is most common in the treatment of alcohol and substance use disorders, could the persistent gaps in provider supply and the lower cost of group therapy increase adoption for other behavioral health indications (e.g., anxiety)?



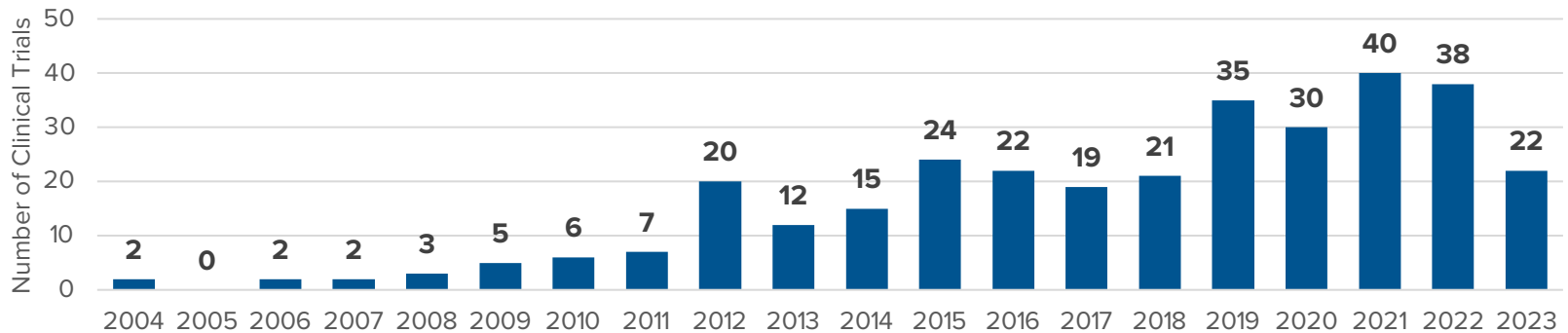
Source: Trilliant Health national all-payer claims database.

## DEMAND: TREATMENT

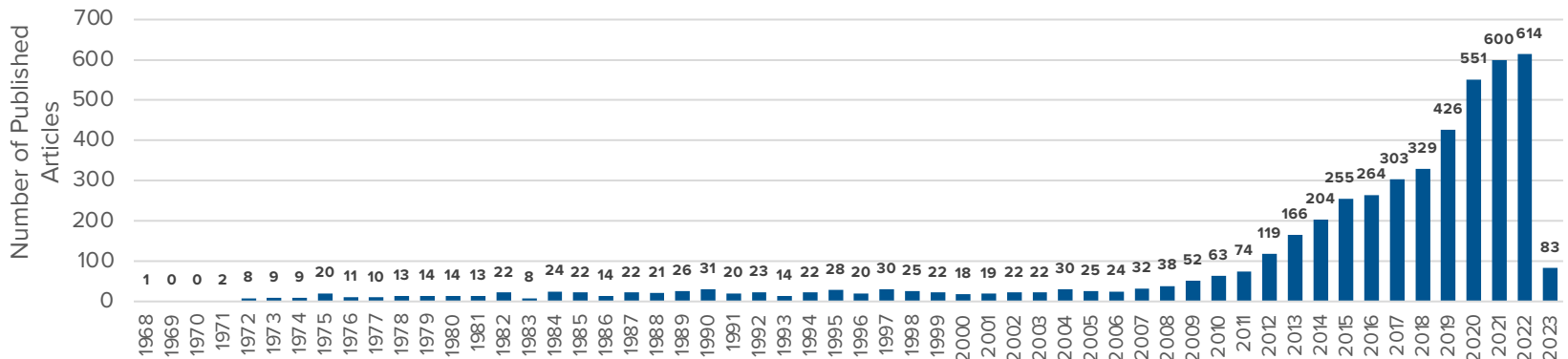
# As Behavioral Health Demand Increases, Does the Research Trajectory Suggest Changes in New Treatment Options?

Proliferation in use and coverage of treatments for major depression involving ketamine and/or psychedelics will be dependent on outcomes of ongoing and future clinical trials.

INTERVENTIONAL AND OBSERVATIONAL **CLINICAL TRIALS** FOR DEPRESSION, INVOLVING STUDY OF KETAMINE AND/OR PSYCHEDELICS, 2004-2023



**PUBLISHED LITERATURE** INVOLVING DEPRESSION AND KETAMINE AND/OR PSYCHEDELICS, 1968-2023



Source: National Library of Medicine; ClinicalTrials.gov; PubMed.



# SUPPLY

Supply refers to the various providers of health services ranging from hospitals and physician practices to retail pharmacies, new entrants (e.g., Walmart, Amazon) and virtual care platforms.

# SUPPLY

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PROVIDERS

## SUPPLY: PROVIDERS

# Scope of Practice for Behavioral Health Providers Varies

Of all behavioral health providers, only MDs, DOs and NPs can prescribe medication to manage behavioral health conditions. Not all provider types are equipped and trained to address all treatment needs across the range of behavioral health conditions.

	CLINICAL SOCIAL WORKER	MASTER'S LEVEL CLINICIANS	DOCTORATE-LEVEL PSYCHOLOGIST	PSYCHIATRIC NURSE PRACTITIONER	PSYCHIATRIST
	PATIENT ASSESSMENT & THERAPY			PRESCRIBE, MONITOR MEDICATION & PATIENT ASSESSMENT & THERAPY	
DEGREE REQUIREMENTS	Master of Social Work	Master's degree (M.S. or M.A.) in a mental health-related field such as psychology, counseling psychology, marriage or family therapy, among others	Doctor of Philosophy (Ph.D.) in a field of psychology or Doctor of Psychology (Psy.D.)	Master of Science (M.S.) or Doctor of Philosophy (Ph.D.) in nursing with specialized focus on psychiatry	Doctor of Medicine (M.D.) or Doctor of Osteopathic Medicine (D.O.), plus completion of residency training in psychiatry
TYPICAL LICENSES & CREDENTIALS	Licensed Independent Social Workers, Licensed Clinical Social Workers, Academy of Certified Social Workers	Licensed Professional Counselor, Licensed Marriage and Family Therapist, Licensed Clinical Alcohol & Drug Abuse Counselor	Psychologists are licensed by licensure boards in each state	National Council Licensure Examination, PMHNP-BC, board certification in psychiatric nursing	Licensed physician in the state where they are practicing; may also be designated as a Board-Certified Psychiatrist by the Board of Neurology and Psychiatry
CLINICAL SCOPE OF WORK	Clinical social workers are trained to evaluate a person's mental health and use therapeutic techniques based on specific training programs. They are also trained in case management and advocacy services.	These professionals are trained to evaluate a person's mental health and use therapeutic techniques based on specific training programs. They operate under a variety of job titles (e.g., counselor, clinician, therapist).	Psychologists are trained to evaluate a person's mental health using clinical interviews, psychological evaluations and testing. They can make diagnoses and provide individual and group therapy. Some may have training in specific forms of therapy.	Psychiatric or mental health nurse practitioners (NPs) can provide assessment, diagnosis and therapy for mental health conditions or substance use disorders. In some states, they are also qualified to <b>prescribe and monitor medications</b> .	Psychiatrists are licensed medical doctors who have completed psychiatric training. They can diagnose mental health conditions, <b>prescribe and monitor medications</b> and provide therapy.

Source: National Alliance on Mental Illness.

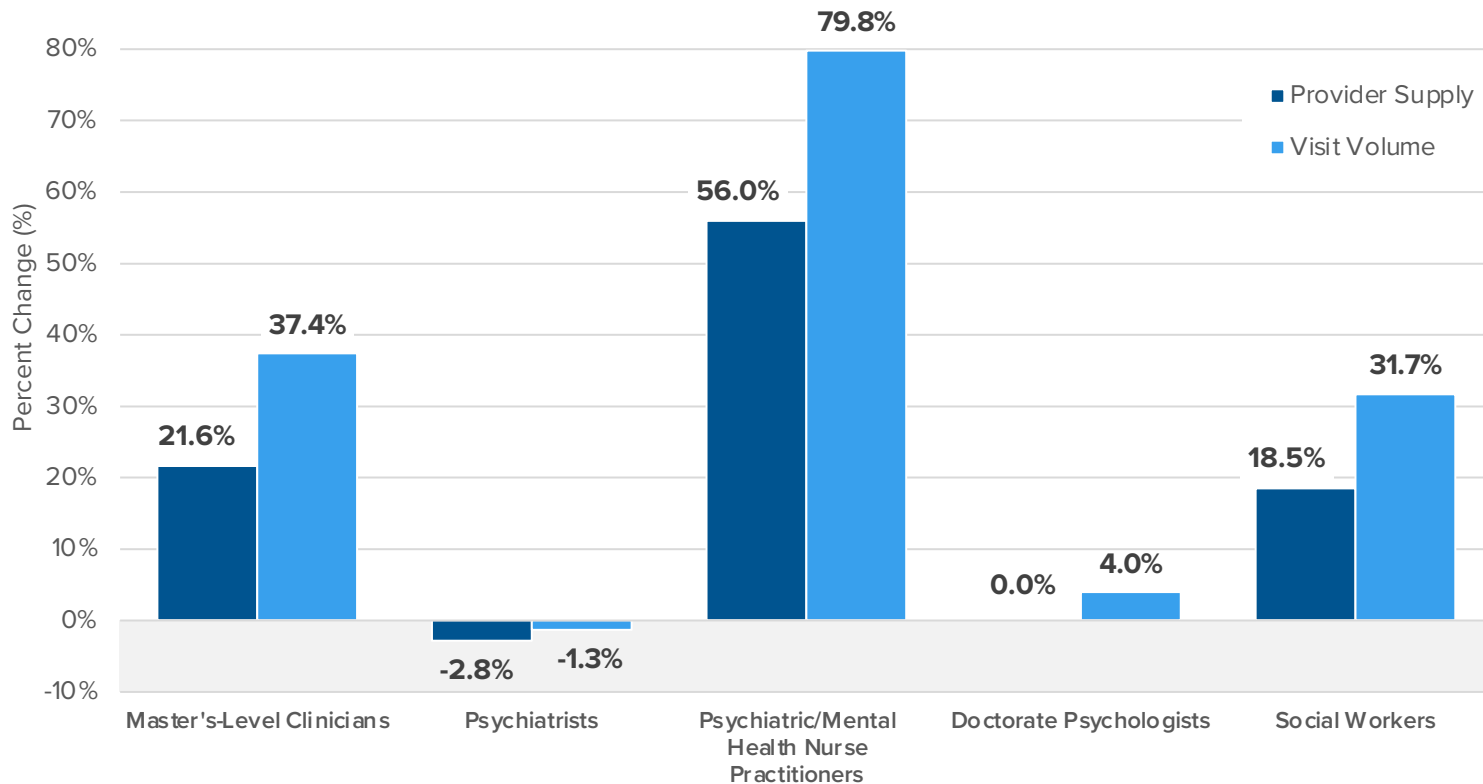


## SUPPLY: PROVIDERS

# Psychiatrist and Psychologist Supply Is Flat to Declining As Allied Health Supply Is Increasing

From 2018 to 2021, visit volumes increased most for psychiatric NPs (+79.8%) and declined most for psychiatrists (-1.3%). Visit volumes for all behavioral health provider types are growing at a rate outpacing the growth in provider supply.

PERCENT CHANGE IN **PROVIDER SUPPLY** AND **VISIT VOLUME** ATTRIBUTED TO EACH BEHAVIORAL HEALTH PROVIDER TYPE, 2021 COMPARED TO 2018



Source: Trilliant Health Provider Directory and national all-payer claims database.

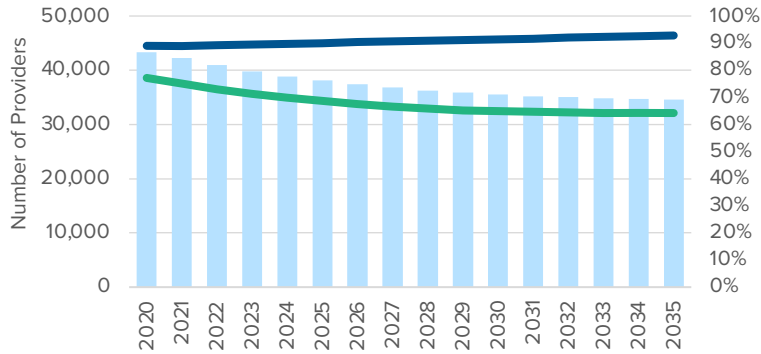
## SUPPLY: PROVIDERS

# The Projected Gap in Behavioral Health Provider Supply Is Largest for Adult Psychiatry

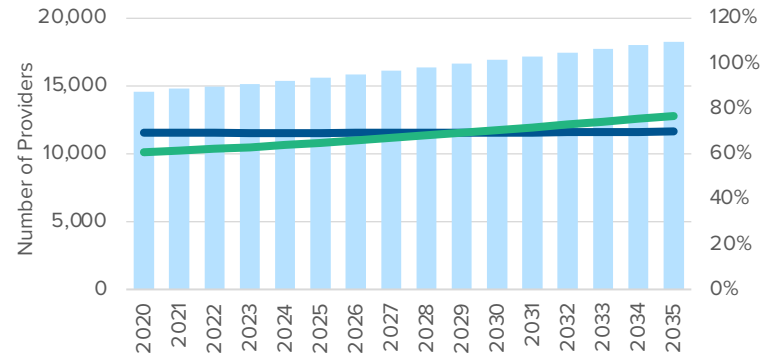
While the supply adequacy is projected to meet demand for allied health professionals, scope of practice limitations and unequal geographic distribution of providers will create barriers for national behavioral health demand to be met.

### SUPPLY AND DEMAND FOR SELECT BEHAVIORAL HEALTH PROVIDER TYPES

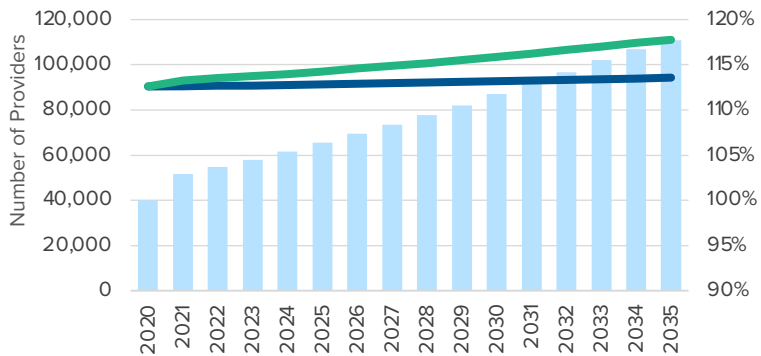
#### ADULT PSYCHIATRY



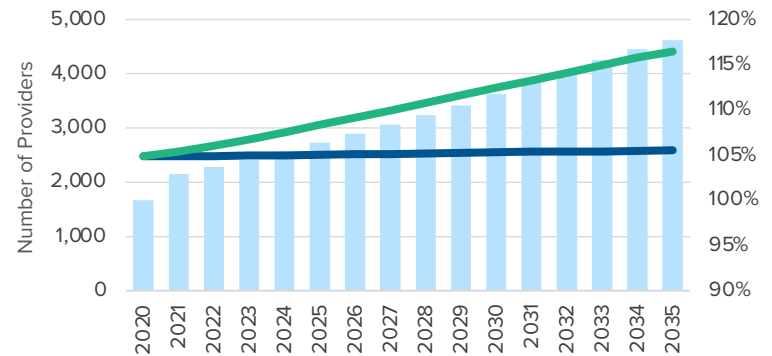
#### CHILD & FAMILY PSYCHIATRY



#### PSYCHOLOGISTS



#### PSYCHIATRIC PHYSICIAN ASSISTANTS



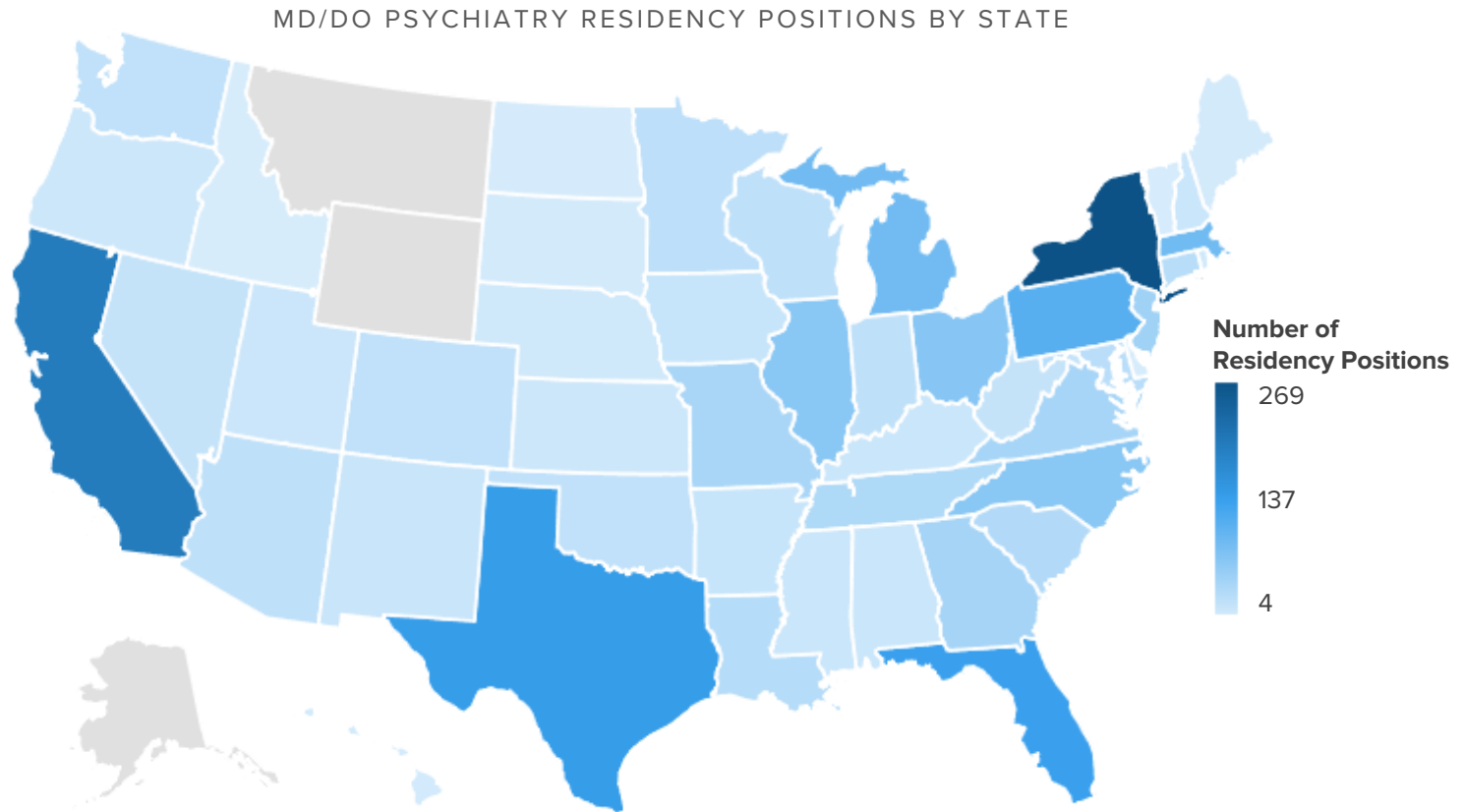
Source: Health Resources & Services Administration (HRSA) Workforce Projections.

■ Percent Adequacy    — Demand    — Supply

## SUPPLY: PROVIDERS

# Psychiatrist Residency Positions Are Not Evenly Distributed

Of the roughly 2,000 U.S. residency positions, 50.8% are concentrated among six states (NY, CA, TX, FL, PA, MA). Without an expansion in the number of residency positions, the gap in supply and demand for psychiatrists will continue to widen. The share of psychiatrists who do not bill any insurance provider will lead to a further decline in access.



Note: Gray states reflect a lack of MD/DO psychiatric residency positions.  
Source: American Psychiatric Association.

## SUPPLY: PROVIDERS

# Stakeholder Investments in Behavioral Health Vary Based on Industry-Level Motivations

Health system investments are concentrated in inpatient psychiatric capacity, whereas payer investments have focused on digital health partnerships. The motivating factors for behavioral investments depend on the goals of each stakeholder group.

### Lifepoint Health Acquires Majority Ownership Interest in Springstone

Completed transaction brings 18 new behavioral health hospitals and 35 outpatient locations into Lifepoint's diversified healthcare delivery network, bolstering expertise, resources and facilities

February 07, 2023 02:30 PM Eastern Standard Time

BRENTWOOD, Tenn.--(BUSINESS WIRE)--Lifepoint Health announced today that it has completed the transaction to acquire a majority ownership interest in the operating company of Springstone, a national behavioral health provider. The transaction expands Lifepoint's behavioral health services across the nation, adding Springstone's 18 behavioral health hospitals and 35 outpatient locations across nine states into Lifepoint's national diversified healthcare delivery network.

### Optum reportedly buys Refresh Mental Health

Ayla Ellison (Twitter) - Friday, March 25th, 2022

Los Angeles, Aug 23, 2022

### Health-Tech Startups Join Cedars-Sinai's Eighth Accelerator Class

HOSPITALS

## Inova Health System joins shift in hospitals investing in inpatient behavioral health

By Tina Reed • Jul 5, 2018 09:12am

### New Hampshire Bulletin

STATE HOUSE VOTING HEALTH EDUCATION ENERGY + ENVIRONMENT COMMENTARY

HEALTH STATE HOUSE

## State plans \$17 million investment in inpatient mental health treatment

BY: ANNMARIE TIMMINS - JANUARY 20, 2022 11:35 AM



FINANCE

## Mental Health Startup Ginger Snags \$50M with Investments from Cigna, Kaiser Permanente

By Bailey Bryant | August 10, 2020

■ Patient Care • March 5, 2018

## San Francisco Partnership Launches New Mental Health Center

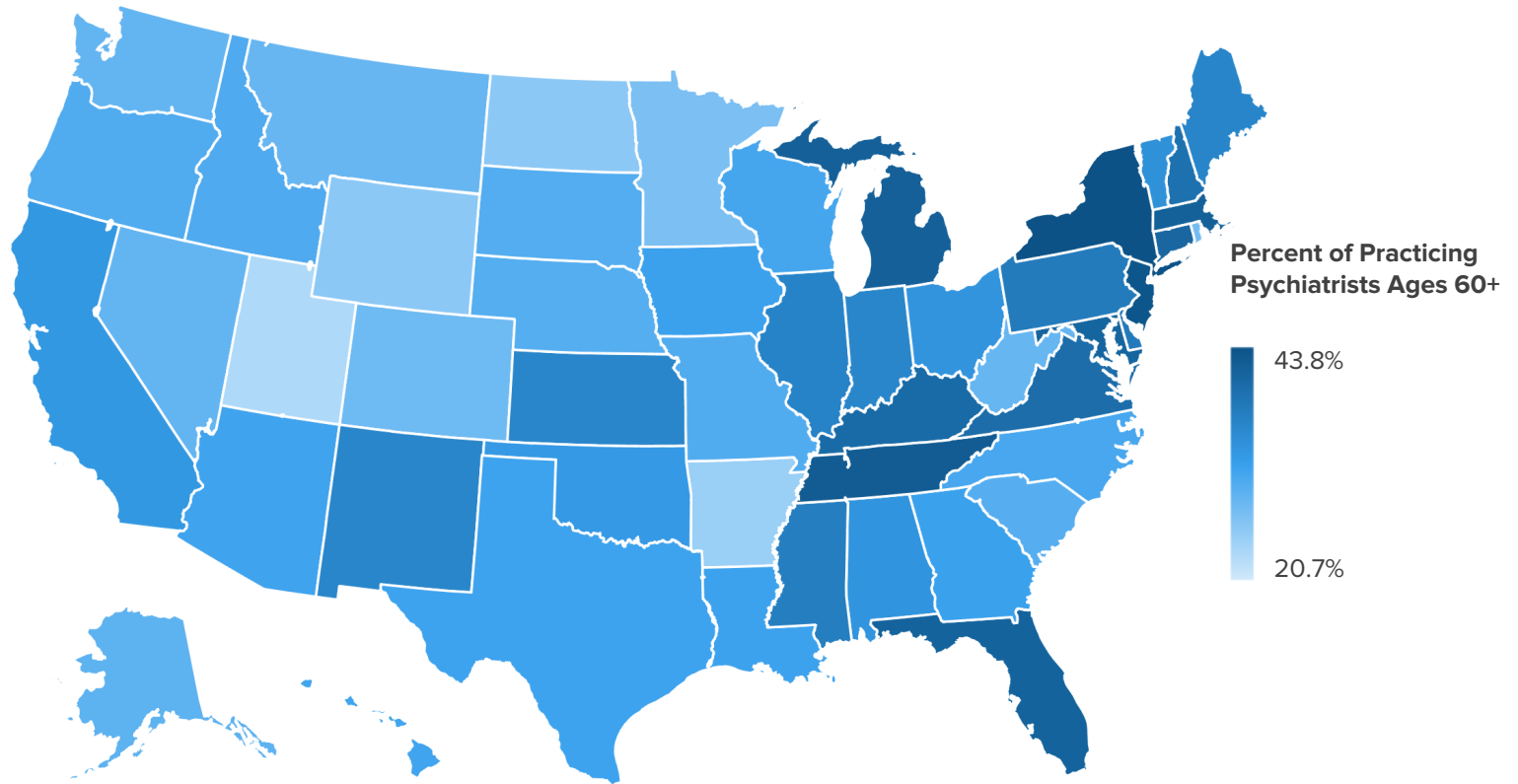
Source: Publicly available news sources.

## SUPPLY: PROVIDERS

# The Aging Psychiatrist Workforce Will Exacerbate Gaps in Supply

The state-level average psychiatrist age only ranges from 50 to 53. However, more than one-third of practicing psychiatrists are ages 60 or older in 22 states.

PERCENT OF PRACTICING PSYCHIATRISTS AGES 60+, BY STATE



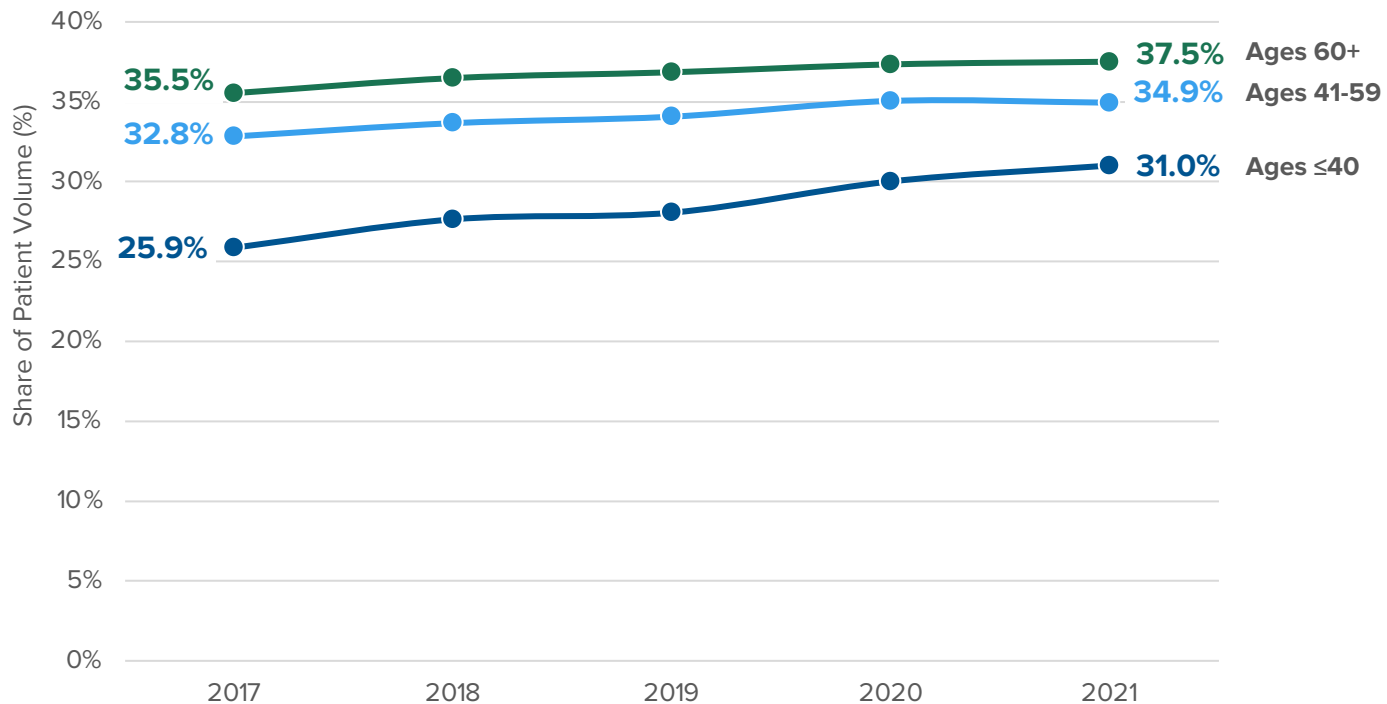
Source: Trilliant Health Provider Directory.

## SUPPLY: PROVIDERS

# Older Psychiatrists Prescribe Medication at a Higher Rate; Younger Psychiatrist Prescribing Is Increasing Over Time

Since 2017, older psychiatrists (ages 60+) consistently have the highest share of patients prescribed a mental health medication. However, younger psychiatrists (less than or equal to age 40) are increasingly managing their patients with medication over time.

PERCENT OF PATIENT PANEL PRESCRIBED A MENTAL HEALTH PRESCRIPTION DRUG,  
BY PHYSICIAN AGE GROUP, 2017-2021



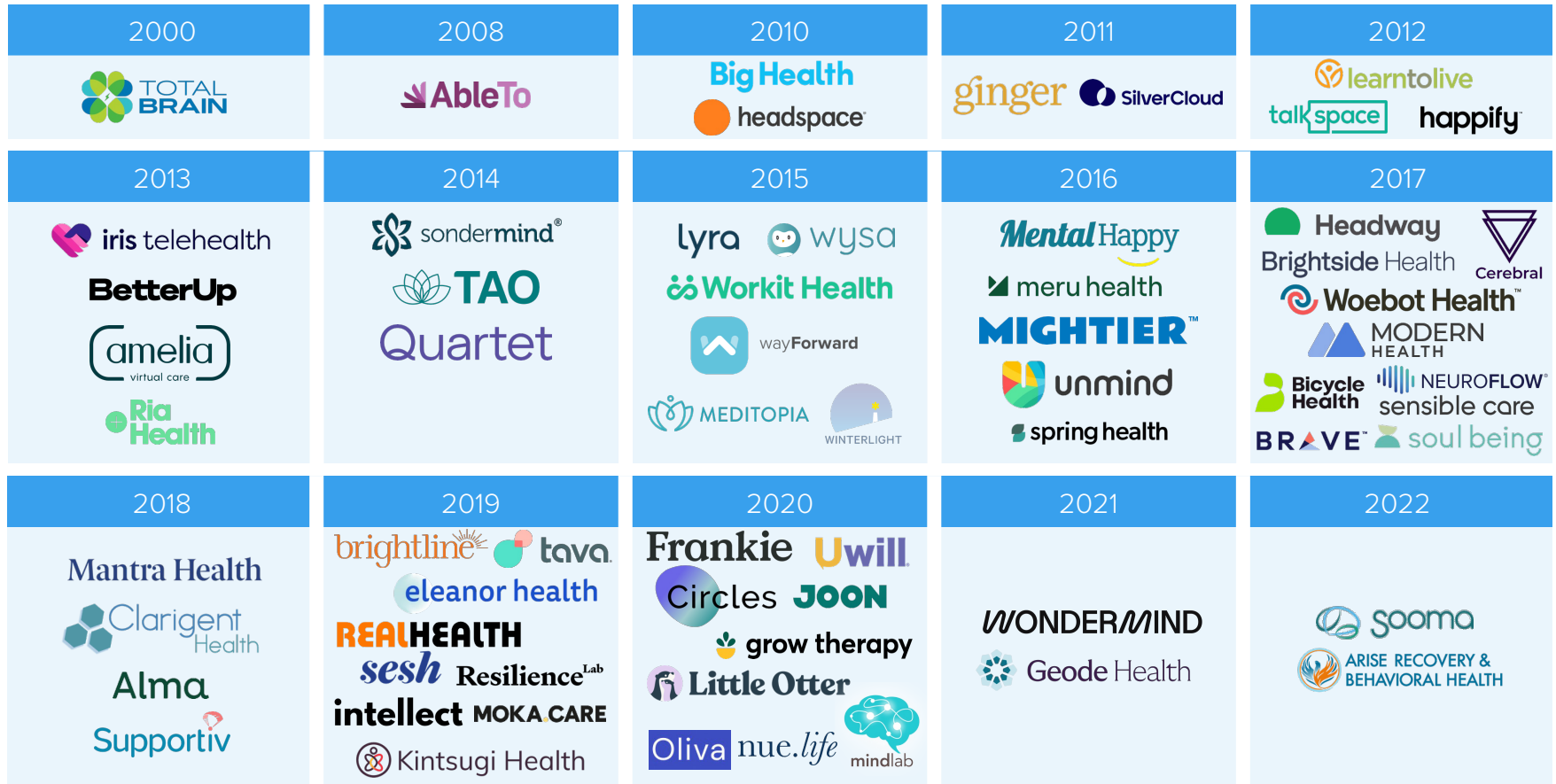
Source: Trilliant Health Provider Directory and national all-payer claims database.

## SUPPLY: PROVIDERS

# The Number of Tech-Enabled Behavioral Health Companies Has Grown

While telehealth volumes spiked in 2020, many tele-enabled behavioral health operators have been in the ecosystem for years; more are projected to come.

TIMELINE OF SELECT SUPPLIERS OFFERING BEHAVIORAL HEALTH SERVICES

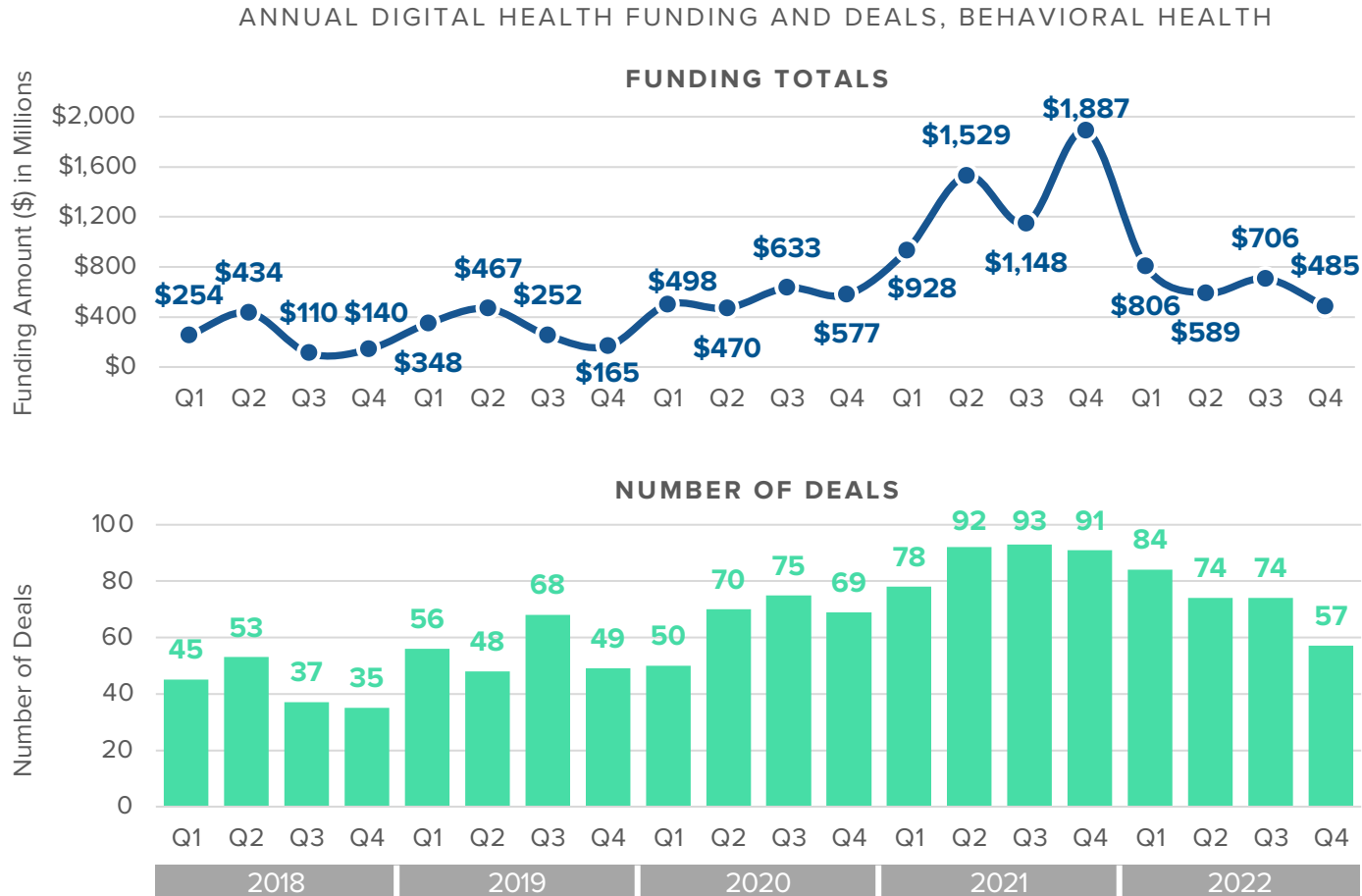


Source: Publicly available company information.

## SUPPLY: PROVIDERS

# Investments in Digital Behavioral Health Are Declining

Private equity investments in the behavioral health sector, including virtual care and digital health platforms, totaled \$2.6B across 289 deals in 2022, declining 52.9% and 18.4%, respectively, from 2021.



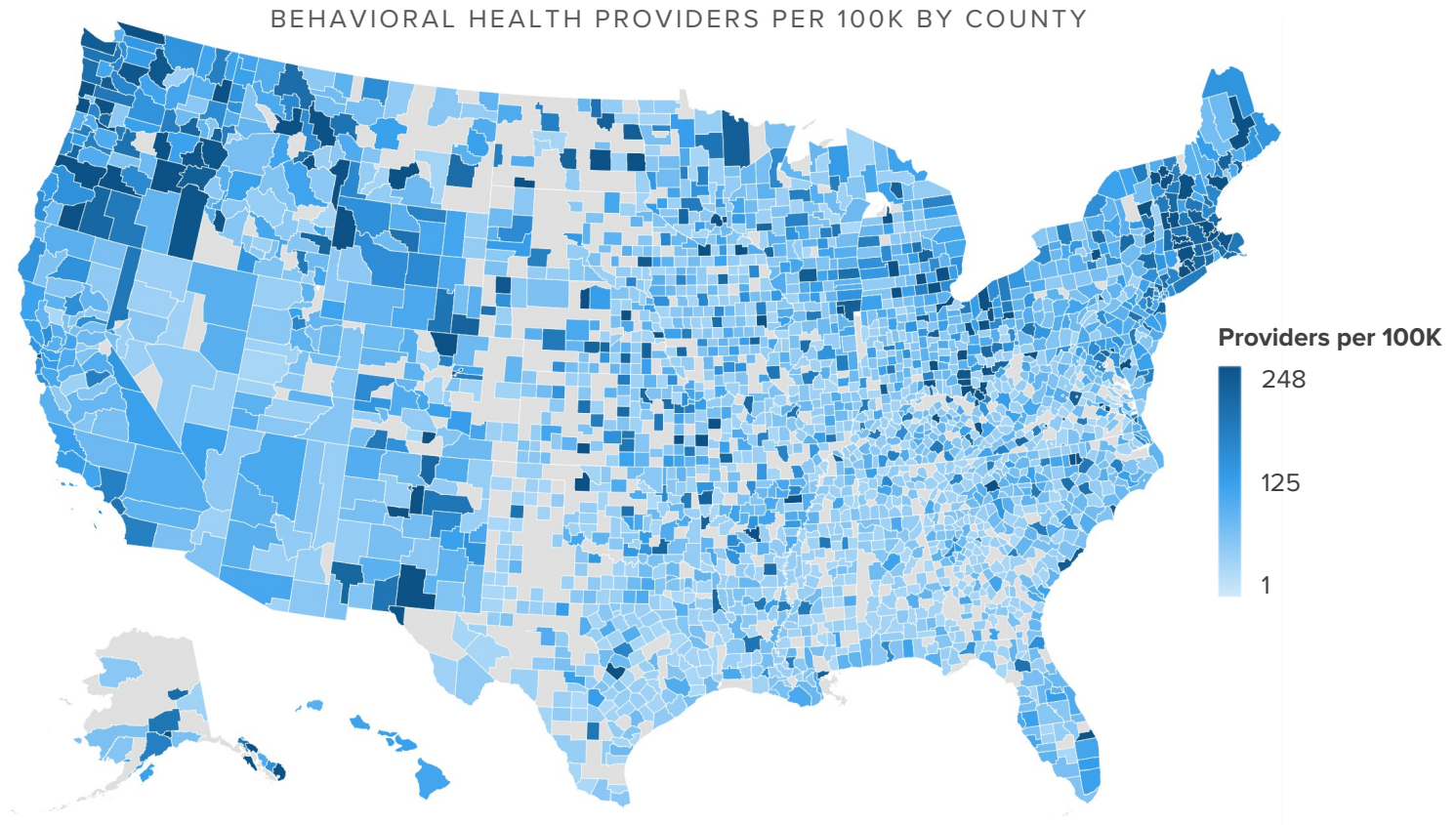
Source: CB Insights State of Digital Global Health 2022.



## SUPPLY: PROVIDERS

# The Average U.S. County Has a Rate of 81 Behavioral Health Providers per 100K

According to the HRSA, more than 160M Americans live in mental health professional shortage areas. The concentration of providers by county is highest in metropolitan areas, as well as more broadly in the Pacific Northwest and New England.



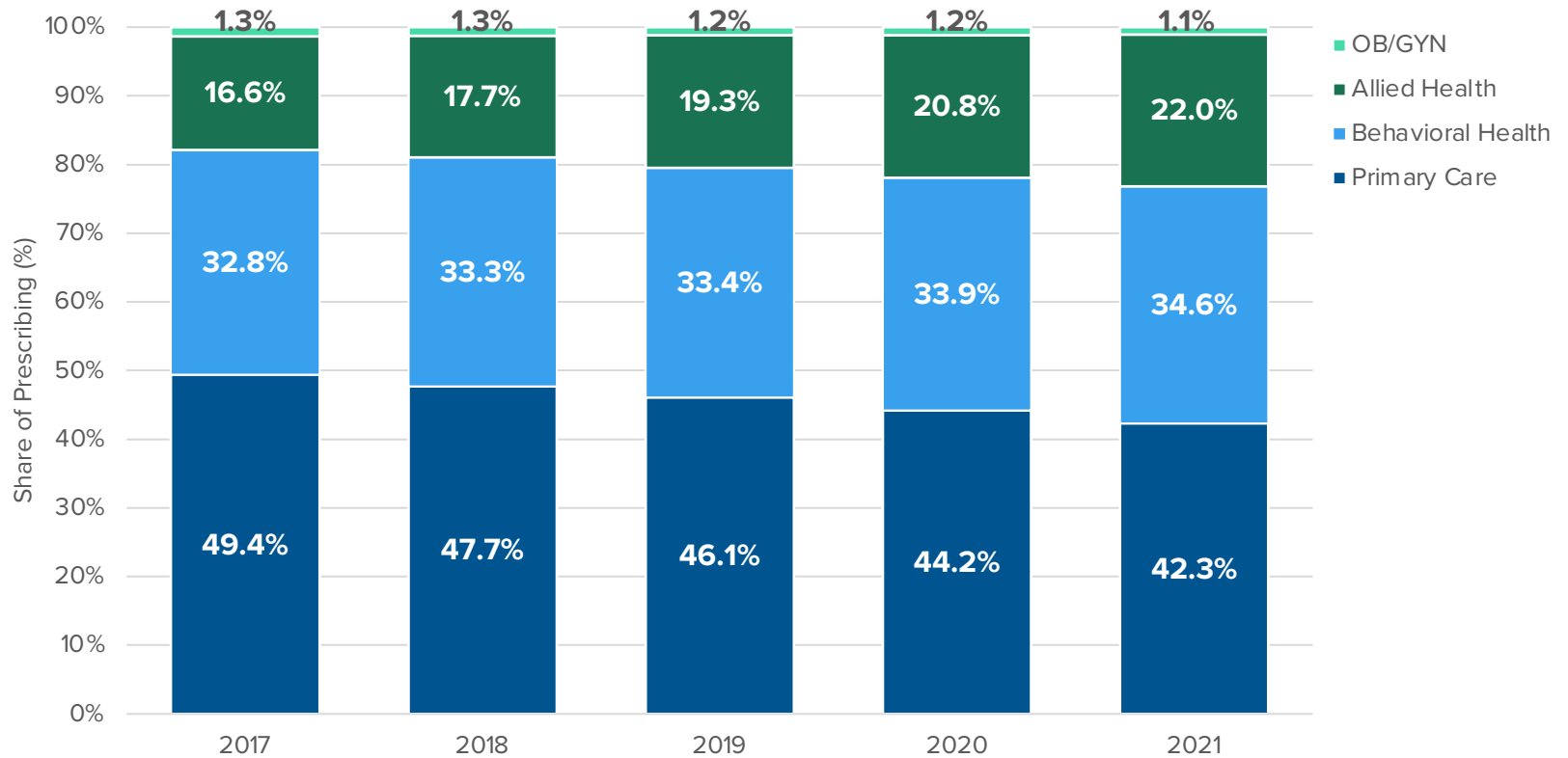
Note: Gray counties indicate areas where data did not show evidence of behavioral health providers in that county.  
Source: Trilliant Health Provider Directory; Health Resources & Services Administration (HRSA).

## SUPPLY: PROVIDERS

# Primary Care Providers Remain the Most Common Prescribers of Mental Health Medications

An increase in allied health professionals including NPs and PAs has led to those provider types prescribing a greater share of the behavioral health medications from 2017 to 2021.

SHARE OF MENTAL HEALTH PRESCRIBING VOLUME BY PROVIDER TYPE, 2017-2021



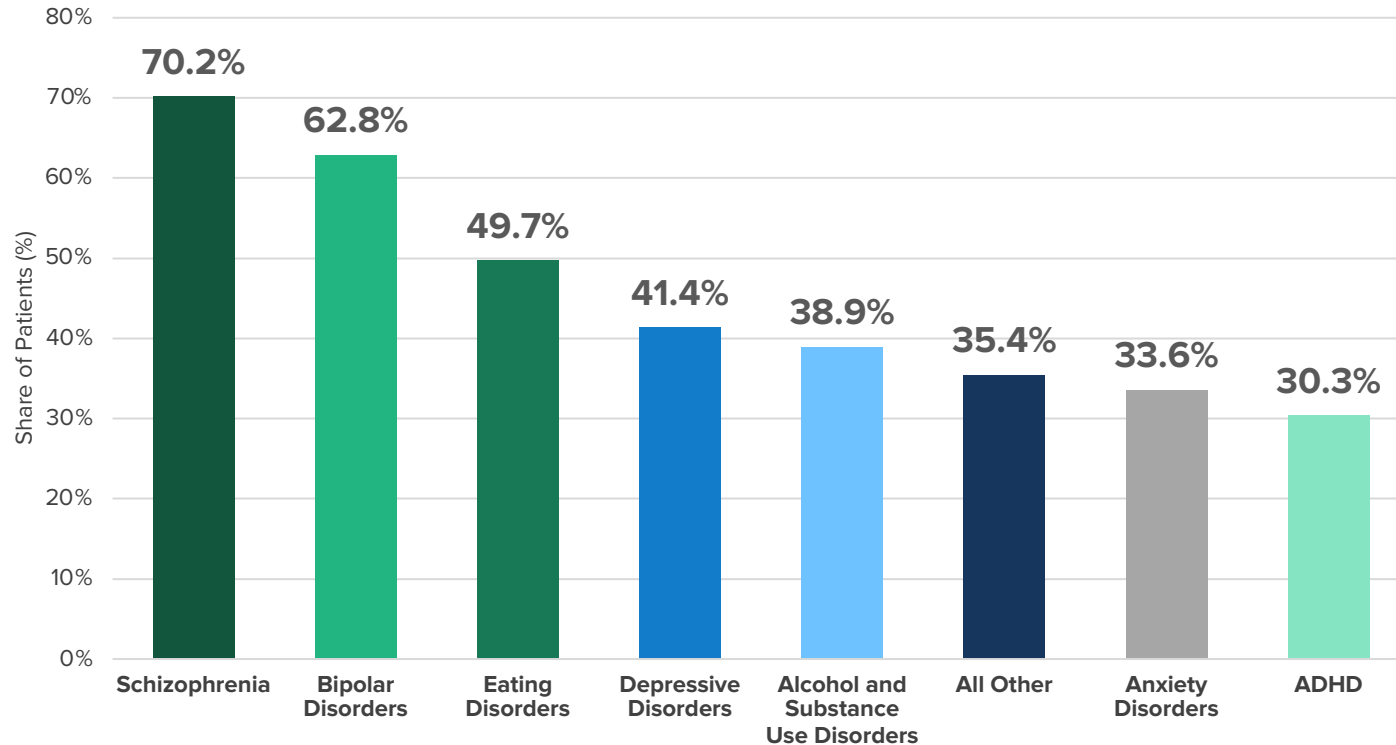
Note: NP denotes nurse practitioner; PA denotes physician assistant. Totals may exceed 100% due to rounding.  
Source: Trilliant Health Provider Directory and national all-payer claims database.

## SUPPLY: PROVIDERS

# Patients Diagnosed With a Schizophrenia and Bipolar Disorder by PCPs Are More Likely to Receive Specialized Follow-Up Care

Most patients initially diagnosed by their PCP with schizophrenia (70.2%) or bipolar disorder (62.8%) received subsequent treatment from a behavioral health provider. In contrast, fewer ADHD patients (30.3%) received subsequent specialized treatment.

PERCENT OF PATIENTS DIAGNOSED WITH A BEHAVIORAL HEALTH DISORDER BY A PRIMARY CARE PROVIDER THAT RECEIVED SUBSEQUENT TREATMENT FROM A BEHAVIORAL HEALTH PROVIDER



Note: PCP denotes primary care provider.

Source: Trilliant Health Provider Directory and national all-payer claims database.

## SUPPLY: PROVIDERS

# When Will Initiatives To Measure the Comparative Quality of Tele-Therapy and In-Person Therapy Be Prioritized?

While there is active conversation among policymakers, academics and industry participants around the perceived quality of tele-therapy for behavioral health, quantitative comparisons are limited.

June 7, 2022

### Perceptions and Use of Telehealth Among Mental Health, Primary, and Specialty Care Clinicians During the COVID-19 Pandemic

Samantha L. Connolly, PhD<sup>1,2</sup>; Christopher J. Miller, PhD<sup>1,2</sup>; Allen L. Gifford, MD<sup>1,3,4</sup>; et al

[Author Affiliations](#) | [Article Information](#)

*JAMA Netw Open.* 2022;5(6):e2216401. doi:10.1001/jamanetworkopen.2022.16401

### Telehealth for the Treatment of Serious Mental Illness and Substance Use Disorders



Publication Date: June 2021

This guide reviews ways that telehealth modalities can be used to provide treatment for serious mental illness and substance use disorders among adults, distills the research into recommendations for practice, and provides examples of how these recommendations can be implemented.

[View Resource](#)

### Measuring the Effectiveness and Value of Virtual Health Care

Jun 8, 2022

Linda Schwimmer, JD  
Chuck Amos, MBA

**The American Journal of Accountable Care**

June 2022

September 26, 2022

### Comparison of Quality Performance Measures for Patients Receiving In-Person vs Telemedicine Primary Care in a Large Integrated Health System

Derek J. Baughman, MD<sup>1,2</sup>; Yalda Jabbarpour, MD<sup>1</sup>; John M. Westfall, MD, MPH<sup>1</sup>; et al

[Author Affiliations](#) | [Article Information](#)

*JAMA Netw Open.* 2022;5(9):e2233267. doi:10.1001/jamanetworkopen.2022.33267

Source: *The American Journal of Accountable Care*, *JAMA Network*, Substance Abuse and Mental Health Services Administration (SAMHSA).



# YIELD

Yield refers to the intersection of demand and supply, which is also influenced by market factors such as policy regulations and reimbursement incentives.

**YIELD**

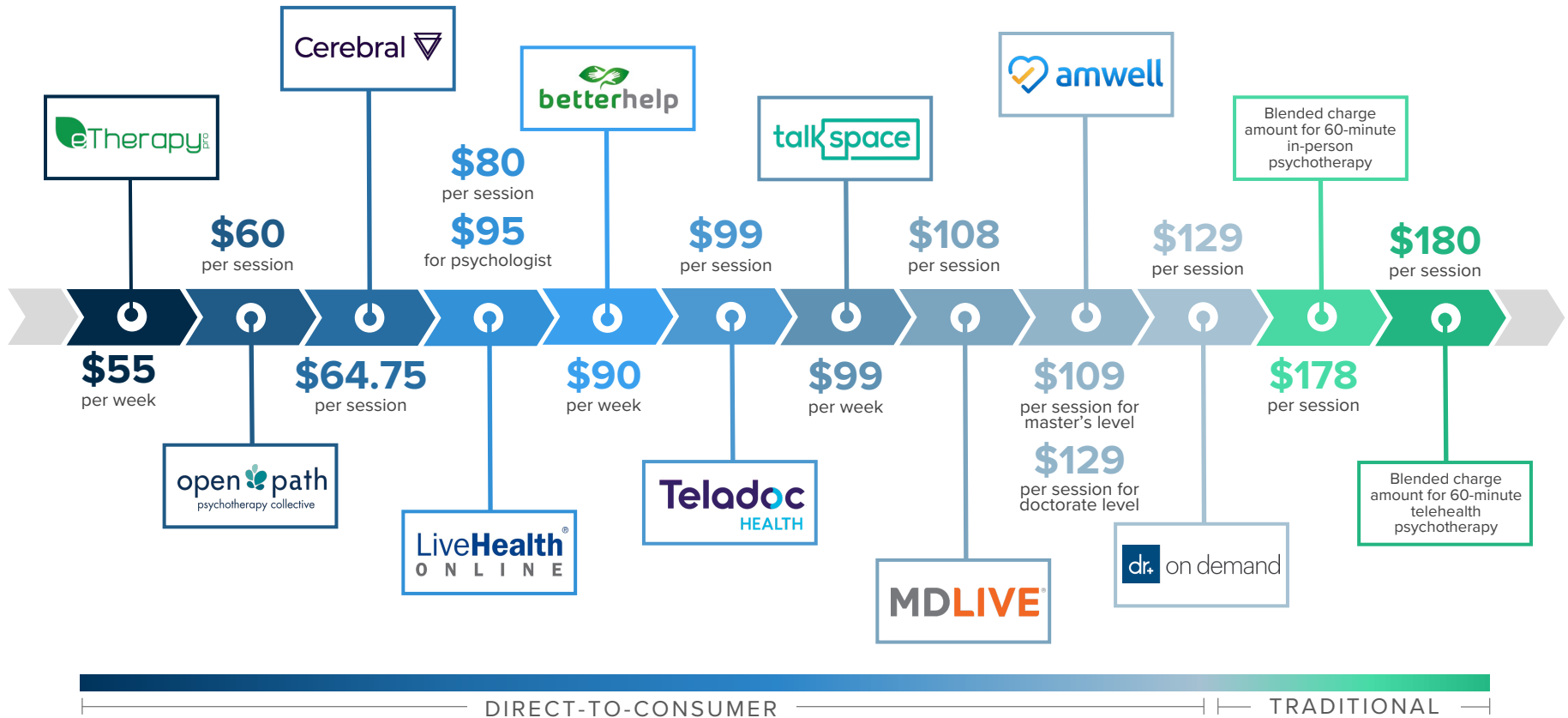
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COST

## YIELD: COST

# DTC Therapy Provider Prices Are Lower Than Traditional Therapy Arrangements

DTC virtual behavioral health providers (e.g., BetterHelp, Talkspace) offer talk therapy at a lower price point compared to the average blended charge amounts for both 60-minute telehealth (\$180) and in-person (\$178) psychotherapy.



Note: DTC denotes direct-to-consumer.

Source: Trilliant Health national all-payer claims database; publicly available company information.

## YIELD: COST

# Cost of Care Is Higher for Patients With Physical and Behavioral Comorbidities

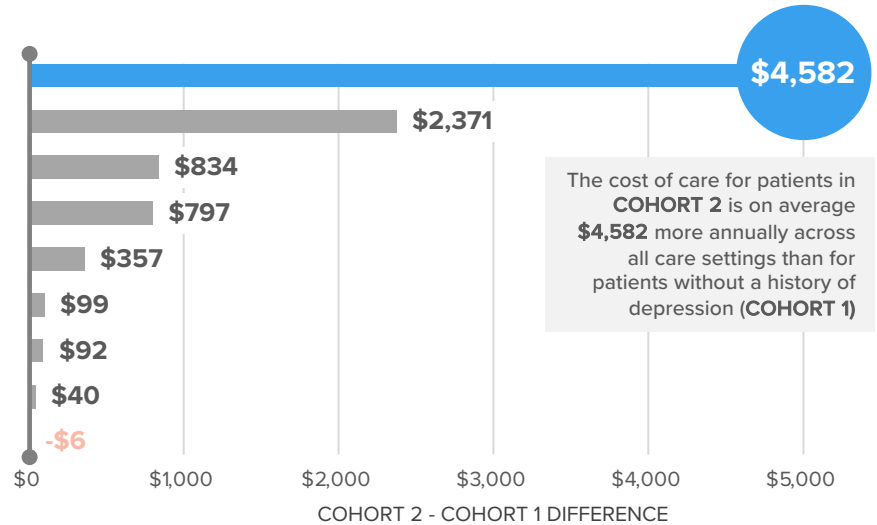
On average, total charge amounts were 20.0% higher for patients that have diabetes, hypertension and depression (\$27,511) compared to patients with diabetes and hypertension alone (\$22,929).

### COHORT DEMOGRAPHICS

Patients ages 45-64  
 Continuously enrolled in a commercial health plan between 2017 and 2021  
 History of diabetes and hypertension prior to 2021  
 No history of other major chronic conditions (e.g., cancer) or serious mental illness (e.g., schizophrenia)

### AVERAGE TOTAL COST OF CARE, PER PATIENT, BY COHORT, 2021

	<b>COHORT 1</b> <i>Has no history of depression or any other behavioral health condition</i>	<b>COHORT 2</b> <i>Has a history of depression</i>
<b>Total</b>	\$22,929	\$27,511
Hospital IP	\$16,625	\$18,996
Non-Hospital OP	\$2,371	\$3,205
Hospital OP	\$1,704	\$2,501
Behavioral Health	\$310	\$667
Emergency Department	\$1,033	\$1,132
Specialist Care	\$338	\$430
Primary Care	\$240	\$280
Urgent Care	\$307	\$301



Note: Total cost of care is inclusive of medical costs incurred within the scope of a patient's insurance benefit in the following settings: emergency department, hospital inpatient, hospital outpatient, behavioral health, primary care, urgent care, specialist care and telehealth.

Source: Trilliant Health national all-payer claims database.

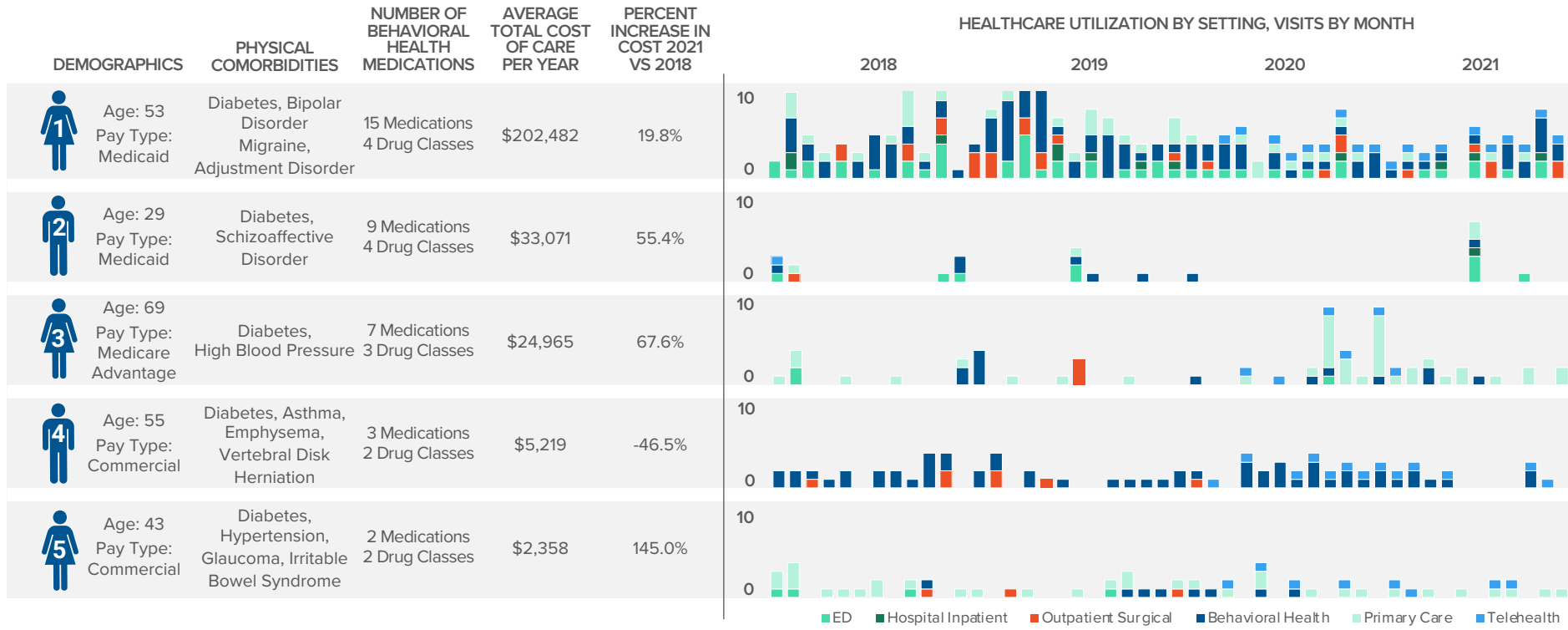


## YIELD: COST

# The Increase in Cost of Care for Patients With Physical and Behavioral Comorbidities Manifests in Different Ways

The existence of a behavioral health condition can exacerbate other physical comorbidities (e.g., diabetes), thereby increasing a patient's total cost of care. Failure to adequately treat a diagnosed behavioral health condition can lead to higher complexity of care (e.g., frequent emergency department visits). Patients with consistent utilization of inpatient and ED settings had higher costs of care (85.9X higher for Patient 1 compared to Patient 5 despite sharing similar age and gender).

PATIENT JOURNEYS AND TOTAL COST OF CARE FOR FIVE MAJOR DEPRESSION PATIENTS, 2018-2021



Note: ED denotes emergency department. Examples are illustrative but represent data from actual deidentified patient journeys. Total cost of care is inclusive of medical costs incurred within the scope of a patient's insurance benefit in the following settings: emergency department, hospital inpatient, outpatient surgical, behavioral health, primary care and telehealth. Costs related to individual prescription drug fills are not included. The four drug classes included are antidepressants, anxiolytics, stimulants and anti-psychotics.

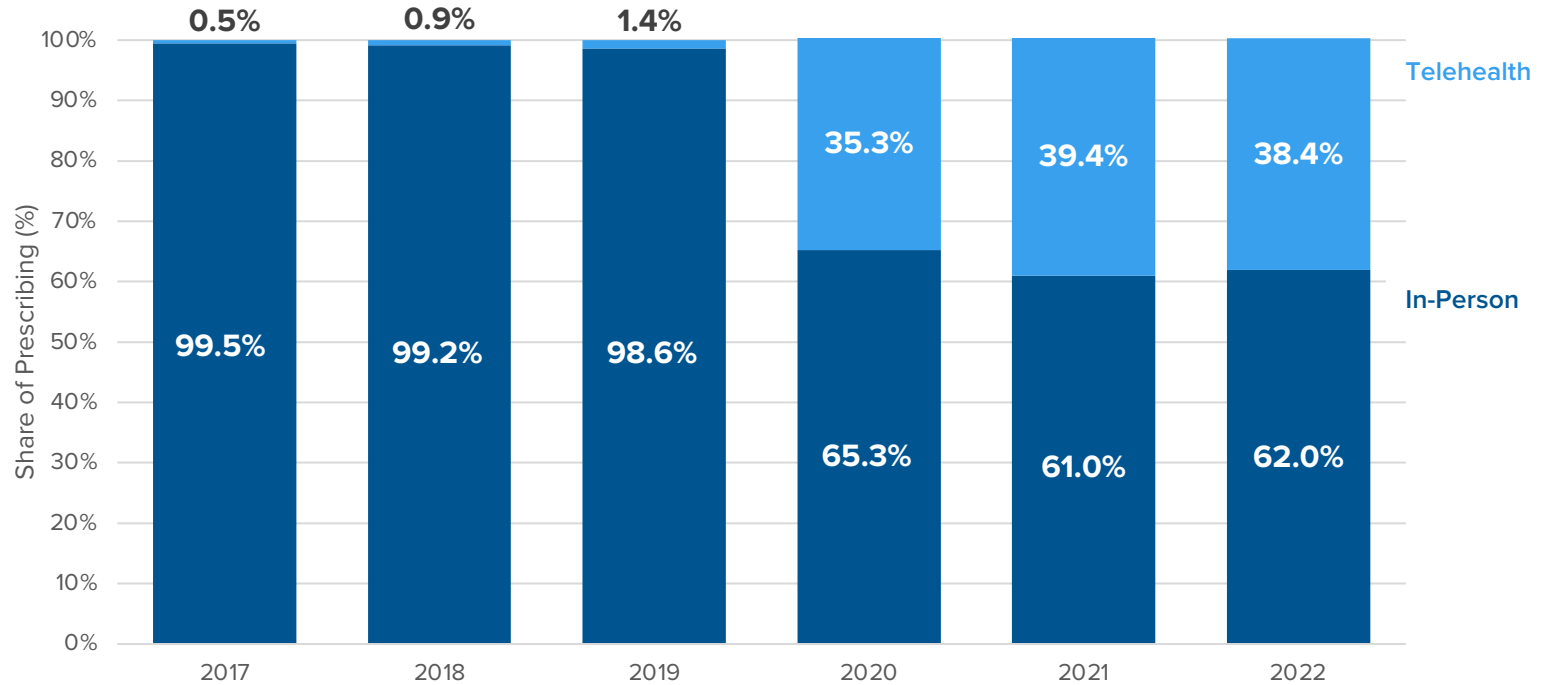
Source: Trilliant Health national all-payer claims database.

## YIELD: COST

# Will More Restrictive E-Prescribing Requirements for Controlled Substances Alter Pandemic-Era Utilization Trends?

Prior to the COVID-19 pandemic, less than 2.0% of stimulants were prescribed via telehealth. As a result of loosened restrictions, that proportion reached 39.4% in 2021. In February 2023, the Drug Enforcement Agency proposed to restrict online prescribing of most controlled substances (e.g., Adderall) once the PHE ends. Will demand for prescription drugs change with a reversion to pre-pandemic regulations?

SHARE OF STIMULANT PRESCRIBING VIA TELEHEALTH, 2017-2022



Note: 2022 data are limited to Q1 and Q2. Totals may exceed 100% for patients with both in-person and telehealth visits with the prescribing provider within three days.

Source: Trilliant Health national all-payer claims database.

# CONCLUSION

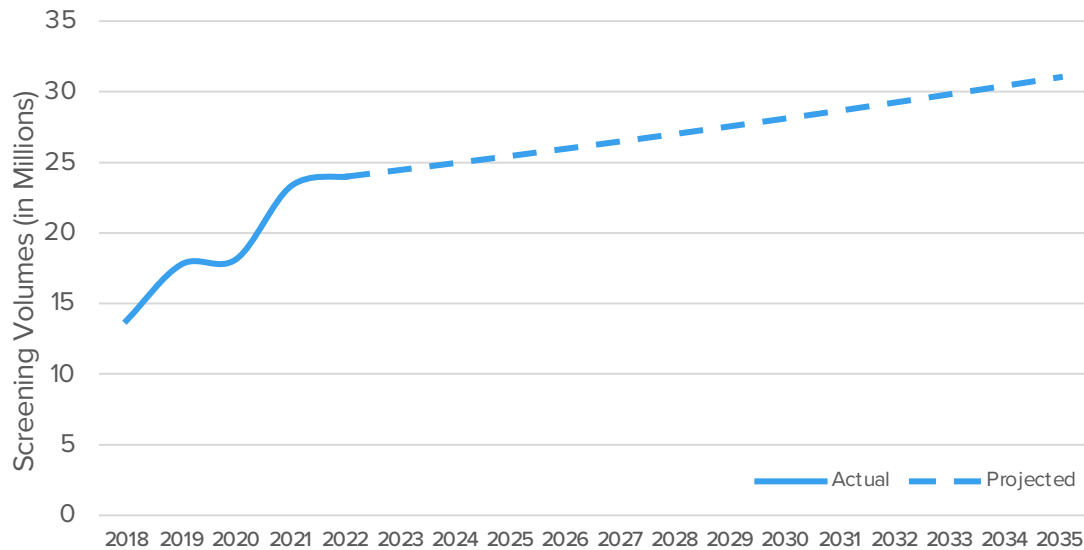
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## CONCLUSION

# How Will Draft USPSTF Screening Recommendations for Select Behavioral Health Conditions in Children and Adults Impact Cost and Prevalence?

Given the higher overall cost of care for medical conditions coupled with a behavioral health diagnosis, what impact will a recommendation for behavioral health screening across a broad age range have on the number of patients diagnosed with and treated for anxiety or depression? If more patients are diagnosed and demand continues to exceed supply, will medication management increase to fill the gap in available talk therapy? Or will proposals to require in-person visits for select prescriptions materially alter demand and/or further constrain supply? Regardless, based on the principles of economics, if demand continues to exceed supply, prices will increase. This will inherently increase the economic burden facing the U.S. healthcare system, which is already fast approaching 20% of GDP.

ACTUAL AND PROJECTED SCREENINGS FOR ANXIETY AND DEPRESSION, 2018-2035



Note: A standard compound annual growth rate (CAGR) of 2.0% was applied for 2022 through 2035 for illustrative purposes. The U.S. Preventive Services Task Force (USPSTF) issued draft recommendations in Fall 2022 for screening adults for anxiety and depression and a final anxiety screening recommendation for children ages eight to 18.

Source: Trilliant Health national all-payer claims database.

## CONCLUSION: KEY INSIGHTS

1

### **While behavioral health patient volumes have increased, care utilization patterns have remained relatively constant, as has the persistence of gaps in care.**

- In 2021, 22.8% of adults had a mental illness, while only 18.8% of adults received any form of treatment. By Q2 2022, behavioral health volumes were 18.1% above pre-pandemic levels.
- Approximately two-thirds of patients with mental health disorders or alcohol or substance use disorder had five or fewer visits in 2021. However, nearly 10% of patients in both categories had greater than 26 visits annually.
- Between 2019 and 2022, there was almost no change in the proportion of patients diagnosed with either anxiety or depression who did not seek treatment.

2

### **Behavioral health demand is not changing at the same rate across U.S. geographies, both as a function of prevalence and available supply of providers.**

- Of the ten largest CBSAs by population, behavioral health demand compared to pre-pandemic is higher than the national average (+21.2%) in all CBSAs except for Atlanta (+14.4%).
- Increasing demand for behavioral health services can be driven both by growth in prevalence of disease and population changes (e.g., in-migration).
- Compared to pre-pandemic, patient volumes for anxiety are up 26.0% and 18.2% in urban and rural geographies, respectively.

3

### **The proportion of American adults taking medication to manage behavioral health conditions is increasing.**

- The share of patients with a mental health-related prescription has been rising annually across drug categories since 2017. The share of patients with a prescription for anti-depressants increased 15.0% from 2017 to 2021, from 14.2% to 16.3%.
- For patients ages 22-44, patient volumes and Adderall prescriptions increased 50.1% and 58.2%, respectively, from Q1 2018 to Q2 2022.
- Since 2017, the share of mental health-related prescription volume increased most in the 18-44 age group, up 8 percentage points.

## CONCLUSION: KEY INSIGHTS

### **4 The most common settings of care where patients receive behavioral health care shifted as a function of the COVID-19 pandemic.**

- Across major care settings and provider types, less than 1.0% of all behavioral health visits were delivered via telehealth before the pandemic. However, as of Q2 2022, 32.8% of behavioral health visits were delivered via telehealth.
- From Q2 2019 to Q2 2022, behavioral health telehealth utilization as a proportion of aggregate telehealth utilization increased by almost 30 percentage points.
- From 2018 to 2021, the volume of behavioral health care increased most for psychiatric nurse practitioners (+79.8%) and declined most for psychiatrists (-1.3%).

### **5 Behavioral health demand will continue to outpace provider supply, and the gap is likely to widen.**

- According to HRSA, more than 160M Americans live in mental health professional shortage areas and the adequate supply of adult psychiatrists is projected to continually decline between now and 2035.
- Screening for anxiety will likely be broadly recommended for children and adults, which may result in a substantial increase in diagnoses, and resulting treatment demand cannot be met by current or projected provider supply.
- Most patients who were treated in the emergency department for anxiety or depression (49.9%) and alcohol or substance use disorder (83.5%) did not receive care from a behavioral health provider within 60 days.

### **6 The existence of direct-to-consumer providers in the behavioral health sector will likely not alter supply at scale but has changed the typical ways in which patients receive care.**

- Private equity investments in the behavioral health sector, including virtual care and digital health platforms, totaled \$2.6B across 289 deals in 2022, declining 52.9% and 15.8%, respectively, from 2021.
- While the supply of virtual behavioral health providers has grown since 2020, staffing of these companies will be constrained by the available supply of licensed providers, inclusive of those that can prescribe, assess and treat patients.
- Despite an increase of virtual suppliers, the nature in which patients receive care has remained relatively consistent.

## CONCLUSION: KEY INSIGHTS

### 7 **The COVID-19 pandemic exacerbated the behavioral health crisis, but the extent to what is temporary vs. sustained is not yet clear.**

- Visits associated with anxiety accounted for 18.7% of all behavioral health demand in Q1 2019, increasing by 4.2 percentage points to 22.9% of all behavioral health demand in Q2 2022.
- Since the onset of the pandemic, visits for eating disorders, depressive disorders and self-harm among patients below age 18 increased at rates higher than the overall population and are correlated with increased utilization of social media.
- Will the conditions with the largest magnitude increase since pre-pandemic (i.e., anxiety disorders and depressive disorders) continue to grow as screenings are more prevalent or will a post-pandemic societal shift slow the growth in stress-related diagnoses?

### 8 **Untreated behavioral health conditions will exacerbate other comorbidities, both in terms of acuity and cost of care.**

- On average, total charge amounts were 20.0% higher for patients that have diabetes, hypertension and depression (\$27,511) than those with diabetes and hypertension alone (\$22,929).
- Factors such as age, gender, insurance status (e.g., commercial, Medicaid, uninsured), geography (e.g., rural vs urban), race, socioeconomic status and other social factors will also determine a patient's ability to be diagnosed and treated for physical and behavioral health conditions in a timely and appropriate manner.
- What will be the sustained, long-term physical impact (i.e., physical side effects) of initiating medications to manage mental health conditions (e.g., ADHD, anxiety) in children that continues into adulthood?

# METHODOLOGY

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## METHODOLOGY

# Report Data

A variety of data sources were leveraged as part of this research, with most insights gleaned from Trilliant Health's proprietary datasets with visibility into patients and providers across the country. Trilliant Health's national all-payer claims dataset combines commercial, Medicare Advantage, traditional Medicare and Medicaid claims, which provides a nationally representative and statistically significant sample accounting for more than 300M American lives on a deidentified basis (i.e., there is no single repository of *all* healthcare encounters in the U.S.). Trilliant Health's consumer dataset includes a range of psychographic, demographic, social determinants and lifestyle data, inclusive of variables sourced from Choreograph and ESRI. Trilliant Health's proprietary Provider Directory enabled direct view into providers and their practice patterns nationally.

Certain trends exclude traditional Medicare claims due to limitations in time period alignment attributed to data release schedules from the Centers for Medicare and Medicaid Services (CMS). Additional data were obtained from a variety of publicly available sources (and are noted in respective source notes), including individual health plan and company financial statements, Health Resources & Services Administration Workforce Projections, the Substance Abuse and Mental Health Services Administration and the American Association of Medical Colleges (AAMC). While most of the report's analyses follow the timeframe of Q1 2019 to Q2 2022, some analyses include data from 2017.

Most data are presented with a national view, while some were exclusively focused on counties or the largest markets—defined as the Core-Based Statistical Areas (CBSAs)—as representative and illustrative of overarching national trends. This research excludes data from self-pay encounters or encounters provided at no cost through commercial insurers. The focus of this report is limited to research questions about how patients access and receive healthcare and does not include detailed analyses of downstream health outcomes (e.g., mortality) with the exception of co-morbidity trends and select condition examples (e.g., stimulant side effects). More detailed analyses of demand, supply and yield trends at the market level and individual condition or medication brand level are accessible through Trilliant Health's Service Line Intelligence | Behavioral Health research subscription.

When referring to behavioral health encounters, visits were categorized into the Major Diagnostic Categories 19 (Mental Diseases and Disorders) and 20 (Alcohol/Drug Use & Alcohol/Drug Induced Organic Mental Disorders). In this report, any time volumes or descriptions of behavioral health are referenced, those analyses are inclusive of diagnoses and treatment related to the subcategories listed on page 5. Throughout the report, **Alcohol & Substance Use Disorders, Anxiety Disorders (inclusive of PTSD), Depressive Disorders, Bipolar Disorders, Schizophrenia, Eating Disorders and ADHD** are often studied independently, with all other mental disorders and diseases categorized together as **"All Other."**

Stimulant cohorts—according to the CDC, boys (13%) are more likely to be diagnosed with ADHD than girls (6%). Given this, the study cohort was limited to boys that were between the ages of 10 and 22 in 2017 to target school-aged patients that are more likely to be earlier on in prescription stimulant use initiation. All patients in the analysis had continuous health insurance enrollment for the study period (2017-2022). With that continuous enrollment, we were able to identify diagnoses for heart rate abnormalities, sleep disorders, hypertension and appetite loss and slow weight gain.

## METHODOLOGY

# Analytic Approach

DATA SOURCE	FEATURE	CATEGORY	DESCRIPTION
TRILLIANT HEALTH NATIONAL ALL-PAYER CLAIMS DATABASE	Volume	Inpatient	Visits associated with medical and surgical care delivered inpatient on the campus of a hospital, reflective of all payers.
		Outpatient	Visits associated with medical and surgical care delivered in the outpatient setting, separating care delivered on the campus of a hospital and in non-hospital settings, reflective of all payers.
		Primary Care	Visits with providers characterized as general practice, family, internal, geriatric, adolescent and pediatric medicine, excluding hospitalists, reflective of all payers.
		Behavioral Health	Visits categorized into the Major Diagnostic Categories 19 (Mental Diseases and Disorders) and 20 (Alcohol/Drug Use & Alcohol/Drug Induced Organic Mental Disorders), reflective of all payers.
	Telehealth	Synchronous audio-video, audio-only, chat-based and asynchronous chat-based and store-and-forward encounters, delivered off the campus of a hospital, reflective of all payers.	
Pharmacy	Drug Categories	Prescription drugs classified as anti-depressants, anxiolytics, anti-psychotics and stimulants, reflective of all payers.	

DATA SOURCE	CATEGORY	DESCRIPTION
TRILLIANT HEALTH DEMAND FORECAST	Confidence Intervals	Forecast outputs for the 10th and 90th incidence rate percentiles are shown to provide a broader understanding of potential outcomes. Unless noted otherwise, forecast projections account for the impact of COVID-19.
	Five-Year CAGR	Forecasted compound annual growth rate of median incidence rate between 2022 and 2026.
TRILLIANT HEALTH PROVIDER DIRECTORY	Primary Care Provider (PCP)	We limited our definition of PCPs, solely including board-certified physicians, though acknowledge the role physician assistants and nurse practitioners serve in delivering primary care services. 2020 Census population was used to calculate a per 100K rate.
	Behavioral Health Provider (BHP)	Our definition of BHPs includes board-certified psychiatrists, psychologists, behavioral therapists, social workers and psychiatric nurse practitioners. 2020 Census population was used to calculate a per 100K rate.

# Acknowledgements

### Report Authors

- **Sanjula Jain, Ph.D.**, Senior Vice President of Market Strategy & Chief Research Officer
- **Katie Patton**, Research Manager
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- **Austin Miller**, Senior Research Analyst
- **Maggie Jackson**, Director of Data Visualization
- **Allison Oakes, Ph.D.**, Director of Research

From whiteboarding the initial concepts to artfully articulating the intricacies of each data story, this report would not have been possible without the significant contributions of the broader Trilliant Health team. The tremendous efforts of our colleagues in data science and data engineering built the foundation upon which we could conduct an analysis of this scale with ease and speed. A special thanks to Grant Anderson, Dimitri Boursinos, Jim Browne, Matt Eby, Justin Fincher, Peter Gaultney, Kam Nola and Stephen Tilstra for their data curation and analytic support.

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