

The Center for Telehealth and e-Health Law (CTeL) is a 501(c)3 non-profit, political and vendor agnostic research institute. For 25 years, CTeL has been committed to expanding high-quality, accessible virtual care through data- and research-backed policy initiatives.

In 2015, CTeL was asked by congressional staff and the Centers for Medicare and Medicaid Services to provide telehealth cost-impact research to the Congressional Budget Office to help enable more accurate scoring of telehealth legislation. In 2017, CTeL initiated a three-phase process to estimate telehealth's cost impact, benefit, and effectiveness.

## PROJECT HISTORY



### PHASE ONE

#### LITERATURE REVIEW

A review of over 16,900 telehealth studies found cost-savings for providers, patients and payers; however, there was insufficient data to perform a meaningful analysis of cost.

### PHASE TWO

#### DATA DICTIONARY

CTeL created a data dictionary to standardize telehealth data, enabling meaningful and reliable analyses across health systems, practitioners, and payers.

### PHASE THREE

#### FINANCIAL ASSESMENT

CTeL analyzed 1.43 million telehealth encounters conducted during the pandemic to assess cost, utilization, services provided, and access.

## STUDY OVERVIEW

**6** Data from large health systems and Arizona Medicaid



Data collected between March and September 2020



50 States, District of Columbia, and US territories represented in study



Data Analyzed:

- service location
- procedures
- patient diagnoses
- demographics
- payor

Cost variables used in analysis:

COST SAVINGS VARIABLES	FIXED COSTS
REDUCE HOSPITALIZATIONS	Personnel Costs
REDUCE PATIENT TRAVEL (time and cost)	Broadband Costs for Patients and Providers
PATIENT PRODUCTIVITY (lost wages)	Maintenance Costs
REDUCE EMISSIONS	Transportation Costs (gas, mileage or public transport)

NOTE: Cost-benefit analysis restricted to Medicare and Medicaid programs from states with the highest volume of telehealth encounters in the data set.

## KEY FINDINGS

### UTILIZATION

**1.43M**

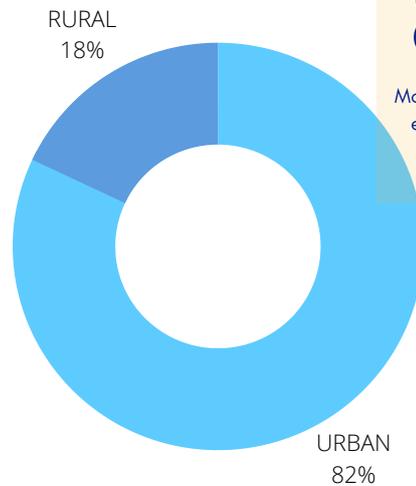
Telehealth outpatient encounters from March to September 2020, from all 50 states



Utilization peaked in April 2020, with decrease in consecutive months

**86%**

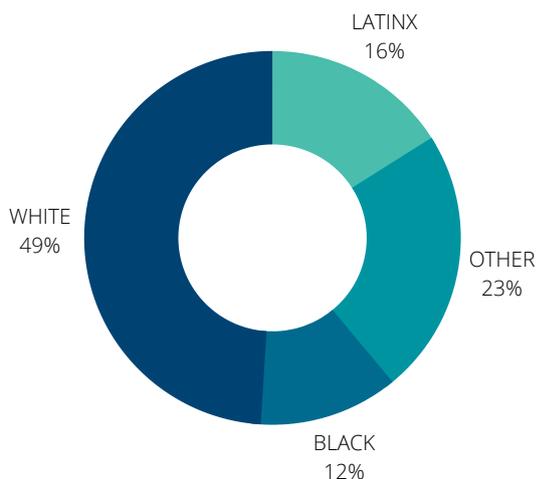
Percentage of U.S. population living in metropolitan statistical areas, according to U.S. Census Data[1].



**82%**

More than three quarters of encounters take place in urban areas

### DEMOGRAPHICS



**37%** of telehealth recipients were Medicaid patients

**18%** of telehealth recipients were Medicare patients

**57%** of telehealth recipients were women, consistent with national data

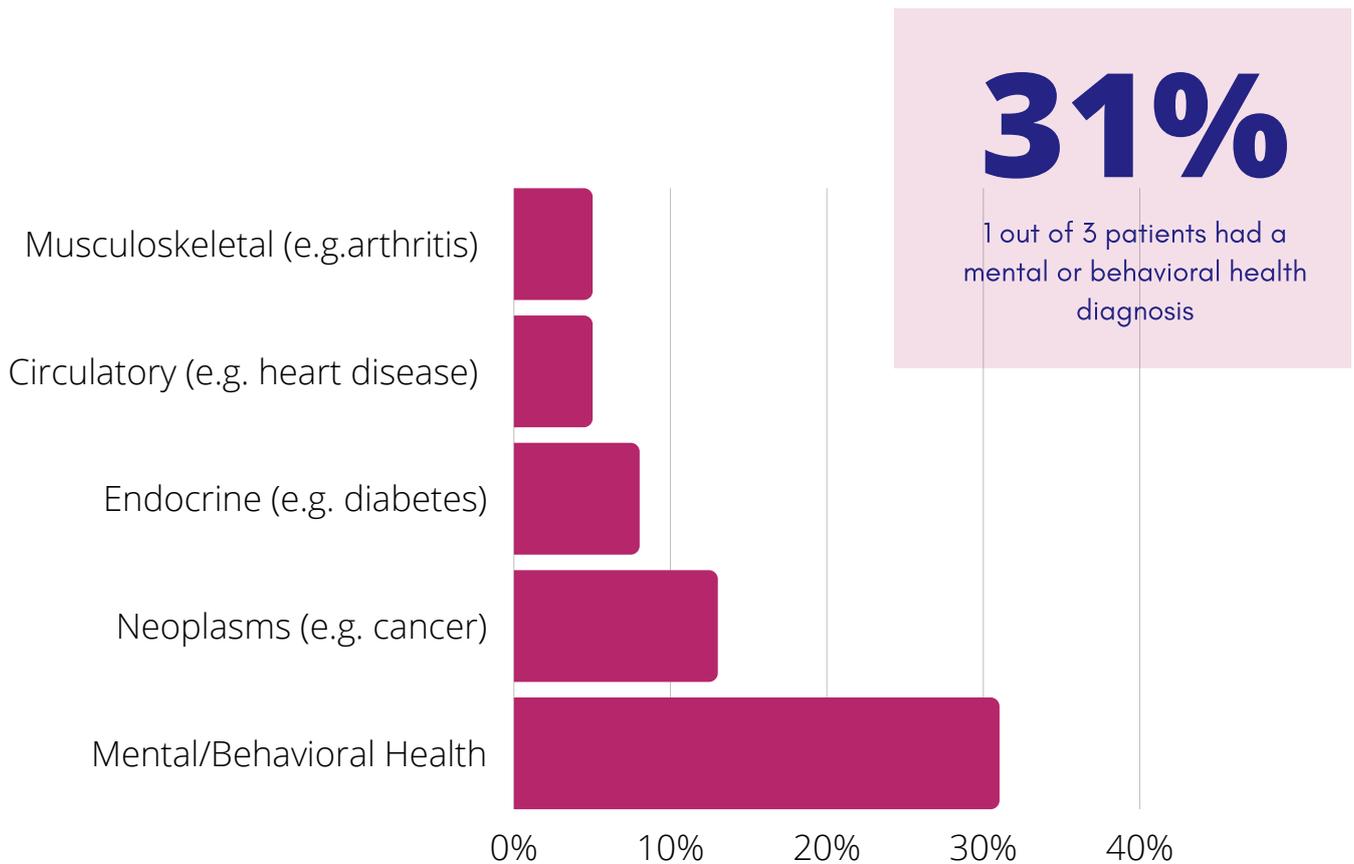
According to Census data, the data set closely resembles the racial and ethnic distribution across America.



## KEY FINDINGS

### PATIENT DIAGNOSIS

- Majority of encounters were for outpatient visits or case management, while just 5% were for outpatient treatment of new patients.
- Nearly one-third of encounters were with patients diagnosed with mental or behavioral health (including substance use disorder).
- Children accounted for more than one-third of encounters with patients with mental or behavioral health diagnosis.



NOTE: The analysis considered the top five diagnoses of the data set used in the study

## KEY FINDINGS

### COST BENEFIT

The cost benefit analysis focused on prevalent conditions in each of the following states.

While CTeL has encounter data from all 50 States, CTeL specifically explored the states where the health systems that contributed data are headquartered.

STATE	DIAGNOSIS	NET SAVINGS	COST SAVINGS
ARIZONA	Mental and Behavioral Disorders (e.g., substance use, anxiety, depression)	\$191,211,514	MEDICAID
NEW YORK	Diseases of the Circulatory System (e.g., heart disease)	(\$6,930,314.57)	MEDICARE
NEW YORK	Neoplasms (e.g., cancer)	(\$1,304,252) (Personal vehicle) (\$1,444,644) (Public transport)	MEDICAID
FLORIDA	Neoplasms (e.g., cancer)	\$33,158,015	MEDICARE
FLORIDA	Neoplasms (e.g., cancer)	\$15,491,429 (Personal vehicle) \$16,750,732 (Public transport)	MEDICAID
MISSOURI	Diseases of the Circulatory System (e.g., heart disease)	\$684,071	MEDICARE
MISSOURI	Diseases of the Respiratory System (e.g., pulmonary disease [COPD])	\$1,637,805	MEDICAID
MISSISSIPPI	Diseases of the Circulatory System (e.g., heart disease)	\$3,488,809	MEDICARE
MISSISSIPPI	Endocrine, Nutritional, and Metabolic Disorders (e.g., diabetes)	\$154,882	MEDICAID
WISCONSIN	Endocrine, Nutritional, and Metabolic Disorders (e.g., diabetes)	\$445,210	MEDICARE

## CONCLUSIONS



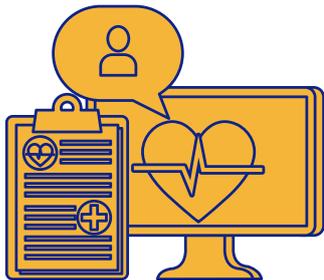
### TELEHEALTH CAN GENERATE SIGNIFICANT COST SAVINGS

**Overall, telemedicine saves costs to both Medicare and Medicaid with higher savings in more populous communities with fewer specialists that accept public insurance.**

- Savings are highest for common chronic diagnosis
- Rural counties and those with a low provider ratio[2] had higher cost savings

**Lower savings in urban areas with high provider volume.**

- Savings from reduced hospitalizations offset by high provider salaries
- Reduction in patient travel
- Impacts depends on prevalence of medical condition, provider accessibility



### TELEHEALTH IS SUBSTITUTIVE, NOT ADDITIVE

- No evidence that service volume increased
- Anecdotal evidence that telehealth reduced no shows and enhanced disease management[3]



### TELEHEALTH DOES NOT INCREASE VOLUME OF FRAUDULENT CLAIMS

- Telehealth is not telemarketing, the latter of which has been associated with fraud[4]
- Providers need better education on telehealth billing and documentation[5]
- In February 2021, the HHS-OIG released a statement confirming the lack of substantiated findings for telehealth fraud and distinguished recent enforcement actions related internet-based fraud schemes as telemarketing fraud schemes, not telemedicine fraud[6].



### TELEHEALTH HAS BEEN PROVEN TO INCREASE ACCESS TO CARE FOR UNDERSERVED COMMUNITIES

- Insufficient evidence from published literature related to impact of race/ethnicity on telehealth use.
- Telehealth has potential to decrease health disparities.

[2] Defined as the number of clinical providers per 100,000 residents  
[3] Based on survey data from Larry A Green Primary Care Center, interviews with health systems, publications  
[4] Office of Inspector General, February 26, 2021.  
[5] Office of Inspector General, September 20, 2021.

[6] Department of Health and Human Services, Offices of the Inspector General . (2021, February 26). OIG principal deputy inspector general grimm on Telehealth. OIG.HHS.gov . Retrieved November 8, 2021, from <https://oig.hhs.gov/coronavirus/letter-grimm-02262021.asp>