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## Introduction

- Adolescents and young adults (AYA) with mental and physical illness separately have high hospital utilization (emergency department and inpatient hospitalization).
- Less is known about comorbid mental and physical illness on hospital utilization.

## Objectives

- To characterize the prevalence of chronic mental and physical illnesses and their comorbidity among adolescents and young adults (AYA) and assess the association of comorbidity on hospital utilization.

## Methods

- Population-level sample of 49,089 AYA (ages 12-21) in Vermont's 2018 all-payer claims database.
- Used the pediatric medical complexity algorithm to identify AYA with chronic illnesses.
- Used multiple logistic regressions to examine associations between comorbid mental illness and hospital utilization (emergency department, inpatient hospitalization) for multiple physical illnesses.

## Results

- 31% of AYA who had claims in 2018 had a mental illness.
- Among those with a chronic illness (mental and/or physical; N=21,290), 72% had a mental illness.
- The most common physical illnesses were neurologic, pulmonary, musculoskeletal, endocrine, and cardiac.

## Discussion

- Mental health screening and triaging in pediatric subspecialty clinics may help decrease overall AYA hospital utilization among those with chronic illness.
- Behavioral health clinicians who are integrated into pediatric subspecialty clinics may be one way to help address this.

**Acknowledgements:** This work was supported by a Medical Student Research Fellowship at the University of Vermont Robert Larner, MD College of Medicine (JEH) and in part by the Agency for Healthcare Research and Quality (AHRQ) (grant number R03HS024575; VSH and SEV). The analyses, conclusions, and recommendations from the Vermont Health Care Uniform Reporting and Evaluation System (VHCURES) data are solely those of the study authors and are not necessarily those of the Green Mountain Care Board (GMCB).

Adolescents and young adults with comorbid mental and physical illness have more emergency department visits and hospitalizations than those with only physical illness.

<http://bit.ly/AYAcomorbidMH>

## Results

**Mental illness comorbidity was common across multiple physical illnesses**

**Table 1. Mental illness comorbidity percentages**

Common Physical Illnesses	% with Comorbid Mental Illness
Neurologic (N=3,807)	44.7%
Pulmonary (N=2,975)	38.2%
Musculoskeletal (N=1,056)	28.5%
Endocrine (N=904)	40.5%
Cardiac (N=517)	37.5%

**Mental illness comorbidity was associated with greater hospital utilization**

**Table 2. Association between having a comorbid mental illness and hospital utilization outcomes for individual physical illnesses**

Physical Illness Subsample	Outcome 1: Emergency Department	Outcome 2: Inpatient Hospitalization
	aOR*	aOR*
Pulmonary	1.7**	2.9**
Endocrine	1.8**	2.1**
Neurologic	1.4**	2.4**
Musculoskeletal	1.4**	2.1**
Cardiac	1.4	0.7

\*aOR = adjusted Odds Ratio, controlling for age, sex, and insurance type

\*\*p-values < .05

**Mental illness comorbidity was associated with greater ED use than comorbid physical illnesses alone**

**Table 3. Association between having a comorbid physical illness and hospital utilization within physical illness subsamples**

Physical Illness Subsample	Comorbid Physical Illness	Outcome 1: Emergency Department	Outcome 2: Inpatient Hospitalization
		aOR*	aOR*
Pulmonary	Endocrine	1.37	3.70*
	Musculoskeletal	0.99	2.28*
	Cardiac	2.28*	3.47*
Endocrine	Pulmonary	1.89*	3.76*
	Musculoskeletal	0.57	1.13
	Cardiac	0.88	1.10
Musculoskeletal	Pulmonary	1.79*	2.66*
	Endocrine	0.81	1.40
	Cardiac	1.16	3.47*
Cardiac	Pulmonary	3.48*	4.50*
	Endocrine	0.85	1.46
	Musculoskeletal	0.86	3.73*

\*aOR = adjusted Odds Ratio. Note: Each subsample included only those with that physical illness in a multiple logistic regression model of comorbid physical illness (yes vs. no) predicting hospital utilization outcomes controlling for the potential confounding effects of age, sex, and insurance.

\*\*p-values < .05