



# Exploring Recent Trends in Health Care

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2022 CASUALTY LOSS RESERVE SEMINAR

Traci Hughes, FSA, MAAA

Anthony Bustillo, FCAS, MAAA

Josh Hammerquist, FSA, MAAA

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# Introduction to Telehealth

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Traci Hughes, FSA, MAAA



# What is Telehealth?



- The use of digital information and communication technologies to access health care services.
  - Patient-to-Provider
  - Provider-to-Provider





# Three Primary Delivery Systems



- Live Video



- Remote Patient Monitoring



- Store and Forward





# Live Video



- Virtual Visits



- Case Collaboration

- ICU, emergency care, neurology, cardiology, psychiatry, orthopedics, pediatrics



- Distance Learning

- Direct access to continuing education opportunities around the world.



# Remote Patient Monitoring



- Used for Chronic Care, Acute Care, and High-Risk Patients.
  - Examples: Blood Sugar, Blood Pressure, Heart Rate Monitors, etc.
- Connected Home Living 
  - Provides kits after discharge personalized to each patient, which the doctor can use to monitor vitals remotely.
- InfoBionic 
  - Wearable cardiac monitor that continuously streams ECG and motion data in real-time for patients with heart conditions.



# Store and Forward



- Store and Forward is a means of gathering, storing, and sharing patient information.
  - A delayed version of live video, usually with heavier emphasis on care coordination between providers.
- Used for Storing and Sending –
  - Health Records (EHRs)
  - Digital Images
  - Educational Material





# Polling Question



Have you utilized telehealth?



# Polling Question



What do you consider to be some benefits of telehealth?



- Growing physician and mental health provider shortages across the country are skewed higher in Rural areas. Telehealth eliminates commute and providers can care for individual across county and, in some cases, state lines.
- Individuals unable to take off work for care can flexibly utilize telehealth to receive diagnosis, treatment, or monitoring.



# Benefit: Improved Patient Health



- Chronic Disease Management allows for better adherence to patient care plans and early detection of any complications.
- Post-Operative Monitoring allows for avoidance of hospital readmittance and early detection of any complications.
- Electronic Health Records (EHRs) permit greater opportunity for efficiency of care and reduction in duplicative care. Though there is still a lot of room for improvement in EHR cohesiveness between providers.



# Potential Cost Savings - 2019 Study



- Idea behind cost savings:
  - A Telehealth visit is less costly than an in-person physician, urgent care, retail health clinic, or most notably, emergency department visit.

Type of Visit	Low Range Cost	High Range Cost
Emergency Department	\$359	\$1,595
Urgent Care	\$98	\$163
Physician Office	\$84	\$131
Retail Health Clinic	\$66	\$89
Virtual Visit	\$41	\$49



# Potential Cost Savings - 2019 Study



- Concerns regarding this idea:
  - Ease of access increases utilization where care might not have been sought out otherwise.
    - Does increased frequency counteract decreased severity?
  - Diagnosis may not be as accurate when the provider can only assess the patient remotely and, in some cases, follow-up care will be necessary to ultimately properly treat the patient.
    - Is the decrease in severity as impactful as it may seem initially?





# Potential Cost Savings – 2019 Study



- A 2019 study published in the American Journal of Emergency Medicine accounted for both concerns by surveying:
  - Immediately following the visit – What would the patient have done if telehealth had not been an option?
    - 16% would have ‘done nothing’.
    - 12% would have gone to the emergency room.
  - 1-2 weeks after the visit – Was any follow-up care pursued?
    - 74% did not pursue any type of follow-up care.
    - 5% went to the emergency room.





# Potential Cost Savings - 2019 Study



- Even after accounting for increased utilization and follow-up care, the overall net cost savings was calculated as being with the range of \$19 to \$121 per telehealth visit.
  - Most of the savings was generated from emergency department visits avoided.



- Note this study was based on individuals using one specific telehealth vendor, was done pre-pandemic, and assumed that the cost per virtual visits was less than the cost per in-person visit.





# Benefit: Potential Cost Savings Updates



- Focus away from savings due to virtual visit vs. office visit
  - Many states (~20-25) have reimbursement parity laws.
  - Private practicing mental health professionals currently have to maintain a physical address (not P.O. Box) to register for or maintain a National Provider Identifier (NPI) and, in most cases, remain as an in-network provider.
- Emphasis on avoiding unnecessary ER utilization
- Emphasis on avoiding hospital admissions and reducing duplicative care (See improved patient health slide)



# Polling Question



What do you consider to be some concerns, obstacles, or challenges to telehealth?



# Concern: Security and Privacy



- Increased use of technology presents greater risk for data breaches of protected health information.
- Data breaches can cost the provider and/or the provider's cyber insurer.



# Concern: Quality of Care



- Patients may be mis-diagnosed due to lack of in-person examination and/or lack of knowledge of medical history.
- Online prescribing laws vary by state, some states require at least one in-person examination to establish a patient-provider relationship. The potential for mis-prescribing or over-prescribing is a concern.
- Can lead to medical malpractice claims, though currently telehealth malpractice claims are low.



# Concern: Technological Failures



- Device malfunction could put the liability risk on the device developer for missed diagnoses or missed detection of bad vital readings.

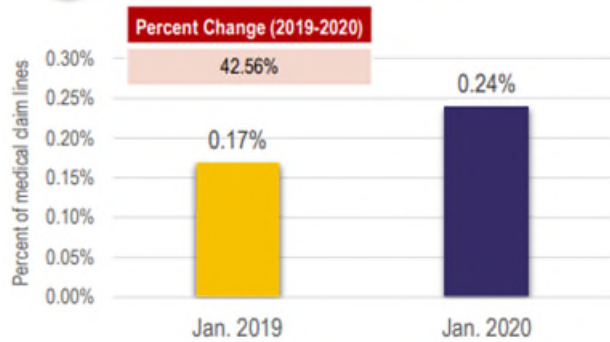
		True	False
Test outcome	Positive	True Positive	False Positive
	Negative	False Negative	True Negative



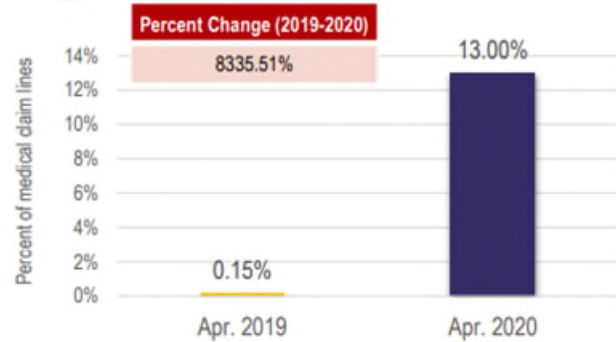
# Impact of Covid-19



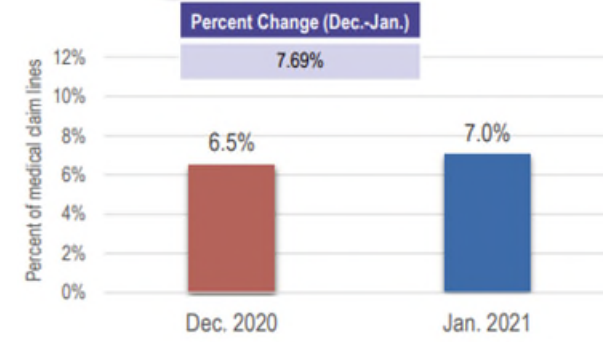
### Volume of Claim Lines, 2019 vs. 2020



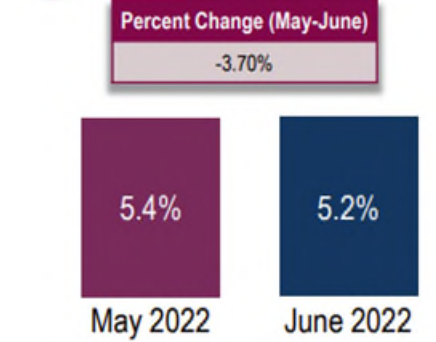
### Volume of Claim Lines, 2019 vs. 2020



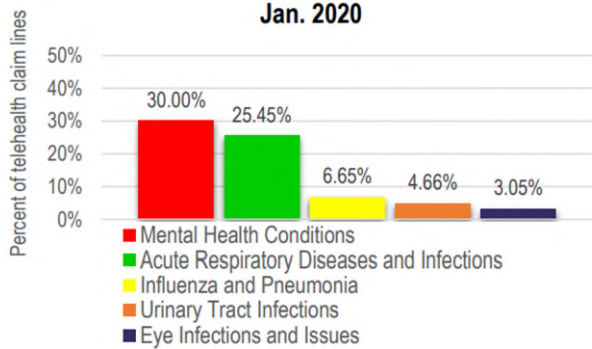
### Volume of Claim Lines



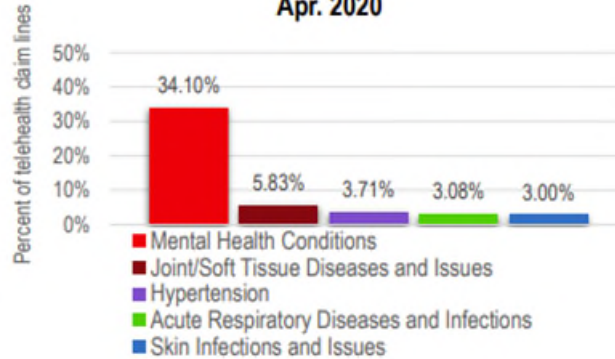
### Percent of Medical Claim Lines



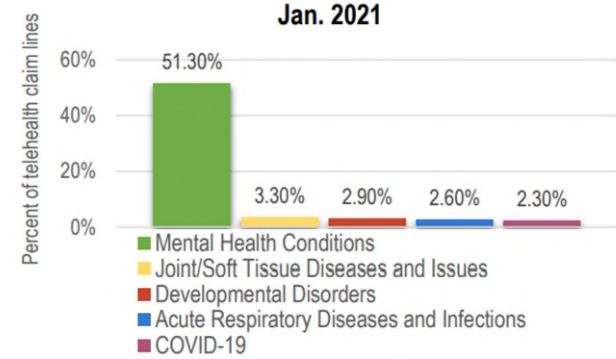
### Jan. 2020



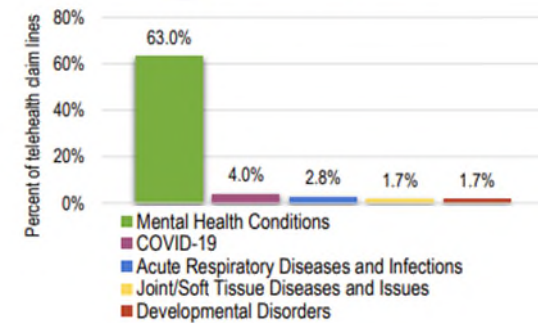
### Apr. 2020



### Jan. 2021



### Top Five Diagnoses



Source: <https://www.fairhealth.org/states-by-the-numbers/telehealth>

# Telehealth in Workers' Compensation

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Anthony Bustillo, FCAS, MAAA



# Polling Question



Do you think there are more benefits  
or more challenges in Workers'  
Compensation by using telehealth?

- ✔ More benefits
- ✔ More challenges





# Agenda



- Usage
- Benefits/Disadvantages to Workers' Compensation (WC)  
Insurers
- Benefits/Challenges for Injured Workers
- Regulatory/Legal Perspective
- Employer Perspective
- Considerations by Injury Type
- Closing Thoughts



- Telehealth – Considerations for Workers’ Compensation Insurers, Employers, and Injured Workers
- <https://www.actuary.org/sites/default/files/2022-07/TelehealthIB.7.22.pdf>

# WC Telehealth Usage Varies Significantly



- National Council on Compensation Insurance (NCCI) medical indicators and trend website
  - [https://www.ncci.com/SecureDocuments/AES\\_Content/MINT\\_3Q\\_2021\\_Edition\\_posting.html](https://www.ncci.com/SecureDocuments/AES_Content/MINT_3Q_2021_Edition_posting.html)
- Percentage of WC claimants using telehealth relative to all active claimants varied across the country
- Percentage also varied significantly by quarter
- Workers' Compensation Research Institute (WCRI) published a report on utilization
  - <https://www.wcrinet.org/reports/telemedicine-patterns-of-use-and-reimbursement-2020q12021q2-a-wcri-flashreport>



# NCCI Medical Indicators & Trends (Q3 2021)



NCCI Medical Indicators & Trends — Q3 2021 Edition

Posted Date: April 14, 2022

Claim Volume Physician Services **Telemedicine** Hospital Outpatient Ambulatory Surgical Centers Prescription Drugs COVID-19

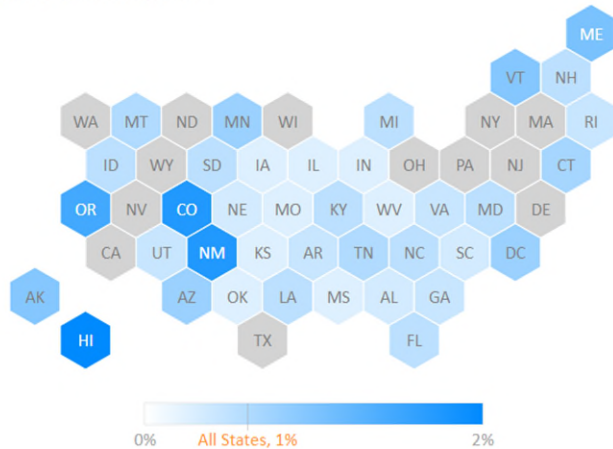
State:

By:

[Learn More](#)

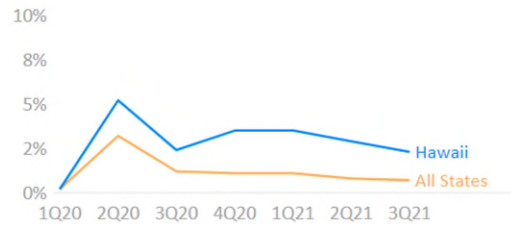
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Telemedicine as a Percentage of Physician Payments  
By State based on Q3 2021



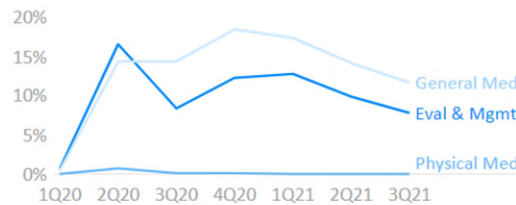
*All States include MI, MN, NJ, WI, and states where NCCI provides ratemaking services (excluding TX). This dashboard is provided solely as a reference tool to be used for informational purposes only. The information in this dashboard shall not be construed or interpreted as providing legal or any other advice. Use of this dashboard for any purpose other than as set forth herein is strictly prohibited. Medical data for IN, MI, MN, NC, NJ, and WI is collected by NCCI on behalf of these states.*

Telemedicine as a Percentage of Physician Payments

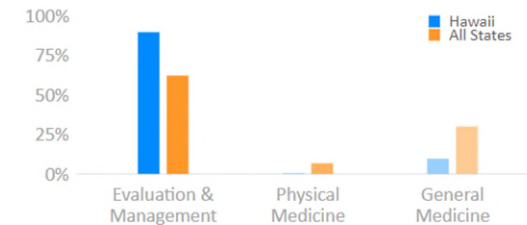


**14%** of claimants receiving a physician service in **Hawaii** had a telemedicine encounter in Q3 2021

Telemedicine as a Percentage of Physician Payments  
By Type of Service for Hawaii



Telemedicine Payment Distribution  
By Type of Service based on Q3 2021



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[https://www.ncci.com/SecureDocuments/AES\\_Content/MINT\\_3Q\\_2021\\_Edition\\_posting.html](https://www.ncci.com/SecureDocuments/AES_Content/MINT_3Q_2021_Edition_posting.html)



- Faster time to treatment
- Reduction in the average time to return to work
- Reduce the number of times in which the emergency room is the first visit
- Reduce small but frequent costs such as mileage and parking reimbursement for in-person visits
- Coordination for claims specialists



# Benefits for Workers' Compensation Insurers



## Live Visit

Injury



Drive to ER

Injured Worker & Co-Worker

4 to 8 Hour ER Visit



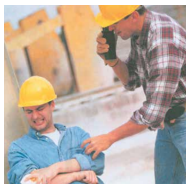
Drive Home

Injured Worker  
Taxi/Uber  
Family Member

- ~~Return to work~~
- Head home for the day
- Seek further medical care

## Telehealth

Injury



Video Chat



- Return to work
- Head home for the day
- Seek further medical care



# Disadvantages for Workers Compensation Insurers



- Drug testing
- False statements about their injury
- Missed injuries

# Benefits for Injured Workers



- Speed
- Rehabilitation advantages
- Workers in rural locations
- Workers with language barriers
- Access to clinical data





# Challenges for Injured Workers



- Reduce the options for in-person visits
- Could lead to injured workers retaining attorneys
- 
- Less rapport with the physician(s)
- Uncomfortable with technology

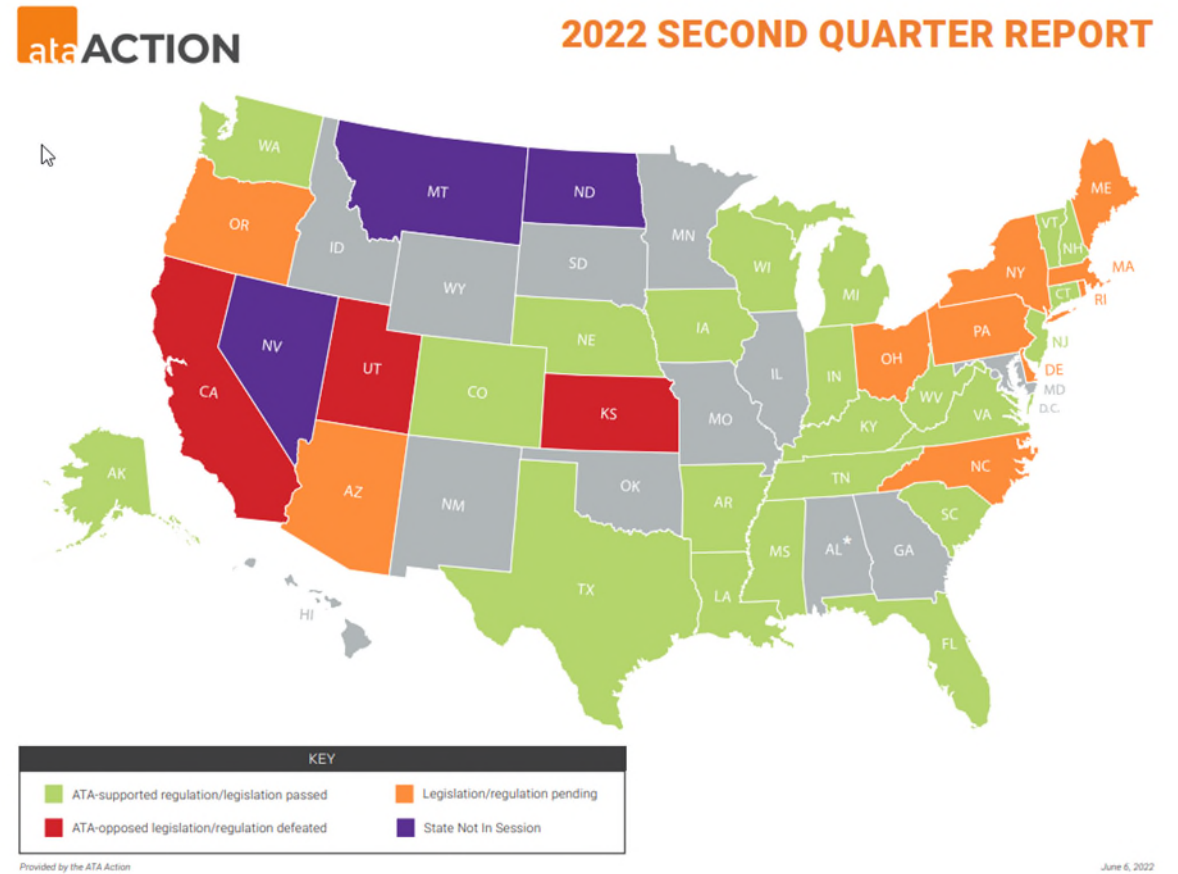
- WC costs small compared to all healthcare costs
- Large healthcare programs have a significant influence on telehealth practices for WC
- Examples from pandemic
  - Waivers
  - Reimbursement
- Differences in laws across states regarding the licensing of physicians, privacy policies, and prescribing guidelines

# Sources for Regulatory and Legal Information



- American Telemedicine Association (ATA) 2022 legislative tracker monitors the state legislation the ATA supports, supports with amendments and opposes. The map shows states where ATA-supported legislation has passed, states where ATA-supported legislation has momentum, and states where ATA-opposed legislation has been defeated

<https://www.americantelemed.org/wp-content/uploads/2022/05/Second-Quarter-2022-Report.pdf>



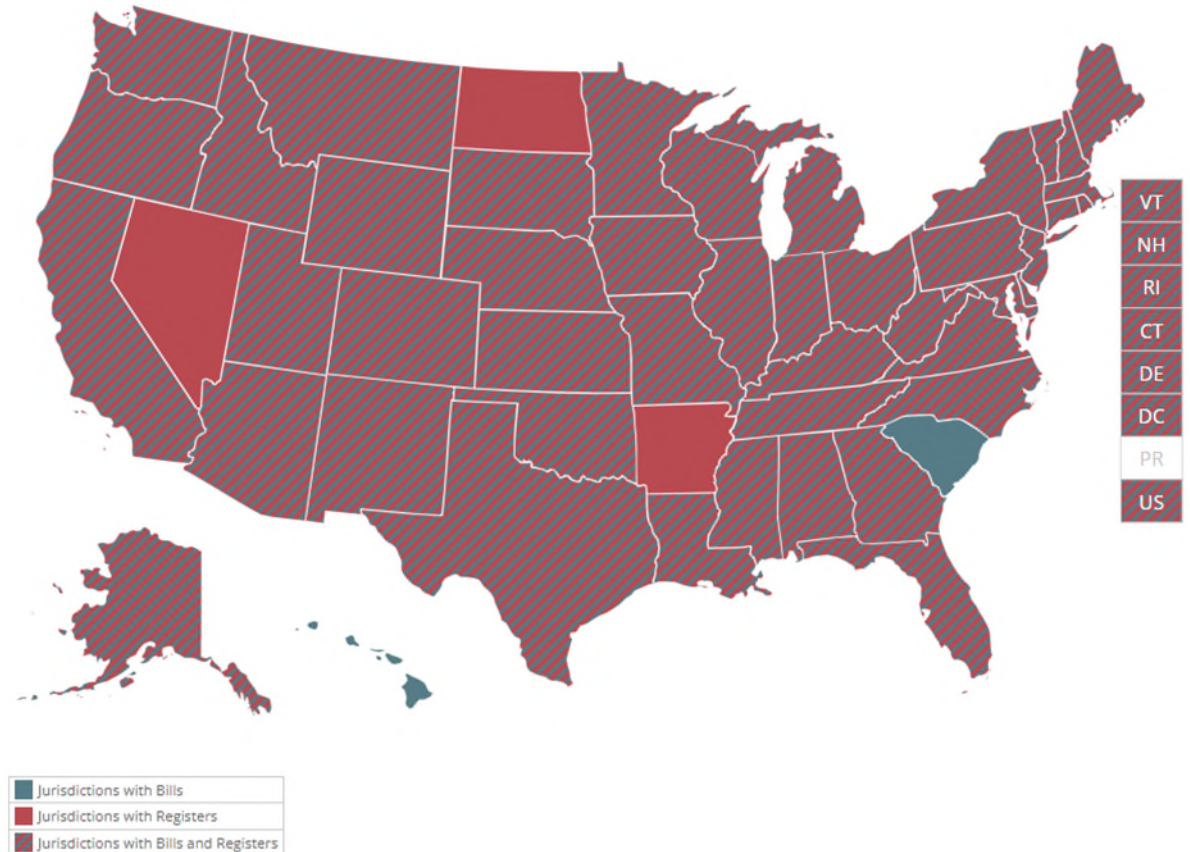
# Sources for Regulatory and Legal Information



- The Center for Connected Health Policy (CCHP) also tracks telehealth legislation and regulation using an interactive 50 state tracking tool that provides information on each jurisdiction, bill number, bill sponsor, introduction date, last legislative action and more
- <https://www.cchpca.org/pending-legislation/>

## Telehealth Legislation & Regulation

Utilize the interactive 50 state legislation and regulatory tracking tool, located below, to browse telehealth legislation and regulation across the nation for the current legislative session.





- Similar to WC Insurer Perspective to reduce costs
- Lower rates or experience modification factor
- Self-insured employers
  - May realize the benefits even earlier
  - Promote the telehealth tools internally
  - Develop a physician network with extensive experience in treating the company's most common injuries

# Starbucks Telehealth Program



- Over 33,000 stores across the globe with over 370,000 employees
- Starbucks worked with its WC partners Sedgwick, Genex Services and Concentra
- Informational bag to first aid kits
- Training on what type of injuries and diagnoses were suitable for telemedicine
- Videos created for clinicians
- Safety videos created for Starbucks employees



**Why Employers Looking to Effectively Implement Telemedicine into Their Workers' Comp Program Could Take a Page Out of Starbucks' Book**





# Employer Perspective



- Time away from work traveling to and from doctor visits
- Co-workers
- Privacy considerations
- Injured worker's increased satisfaction

- Effect on the severity, delay in treatment, and length of treatment an injured worker will receive. These all affect an actuary's work.
- Non-catastrophic injury
- Hands-on approach not necessarily needed
- Mechanism of injury, e.g., visible symptoms





- Most common type of injuries that can involve telehealth
- Most familiar type of injuries in this realm are back strains and sprains, neck strains and sprains, and tendinitis and carpal tunnel syndrome from repetitive use.
- Dependent on Grade I, II, or III

# Rechecks and Postoperative Checks



- Looking at contusions and abrasions, review of labs results or MRIs, physical therapy, and wounds not needing sutures.
- Cases that are progressing and laterality can be used to measure the injury relative to the same body part (e.g., left hand versus right hand).
- Range of motion exercises and strength tests are viable check-ins for healthcare professionals easily performed via telehealth.



# In-Person Contact Not Required or Wanted



- Claims from bloodborne pathogen (BBP) exposures may be handled best without direct contact with the injured worker.
- Non-physical injuries such as mental and behavioral health claims



# Closing Thoughts



- Evolution and Comfort
- Actuaries Research
- Help the Insurance Industry and Healthcare Providers

# Health Care Claim Trends

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Josh Hammerquist, FSA, MAAA



# Polling Question



What about trend are you most interested in hearing about?

- ✔ Overall trend levels
- ✔ Impact of inflation
- ✔ Trends by service category
- ✔ Trends by geography
- ✔ I just came for telehealth

# National Health Expenditures 1960 to 2020

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# Polling Question



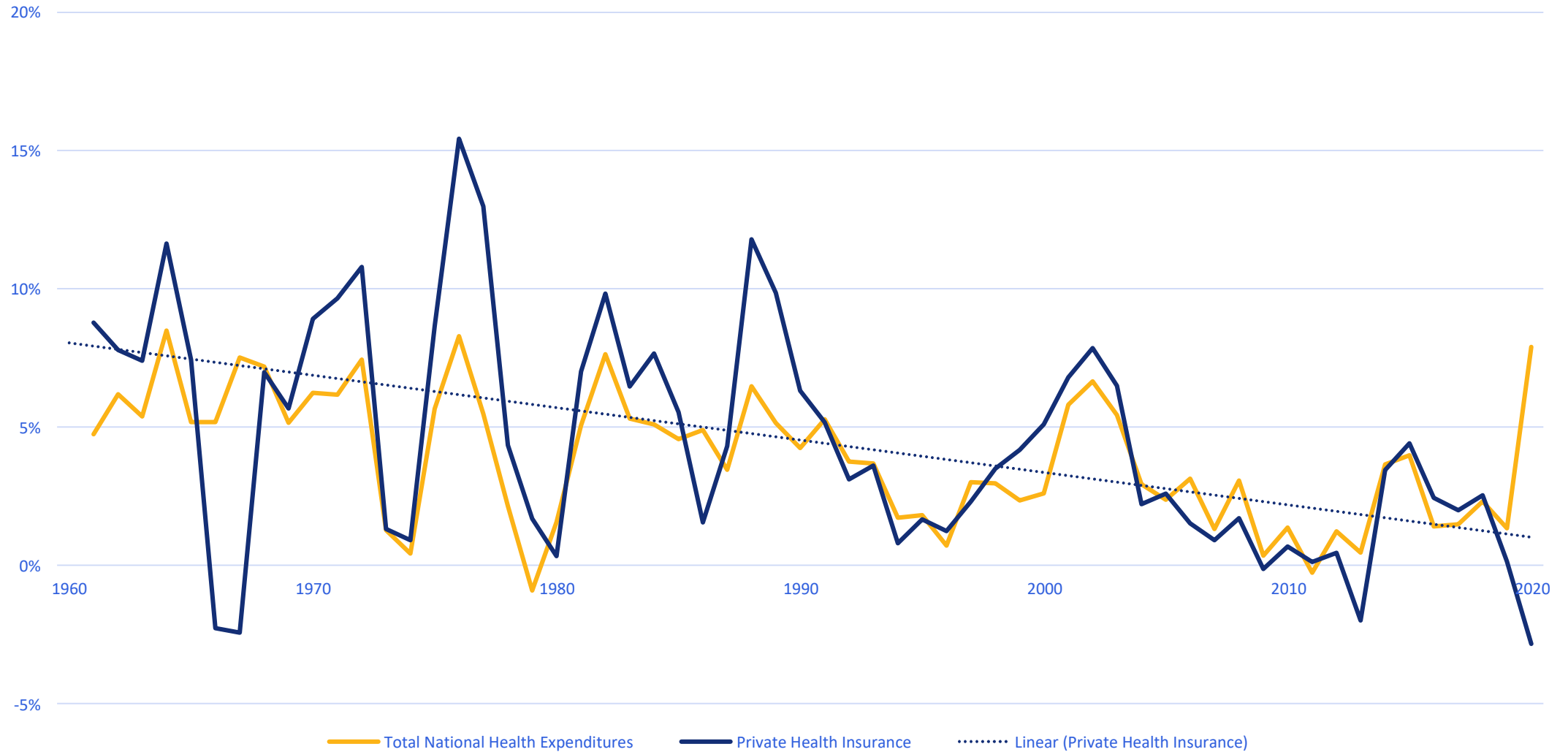
In the last 60 years, has the rate of change in U.S. health spending relative to inflation been:

- ✔ Increasing
- ✔ Decreasing
- ✔ Relatively flat





# Change in National Health Expenditures per Capita Adjusted for CPI-U

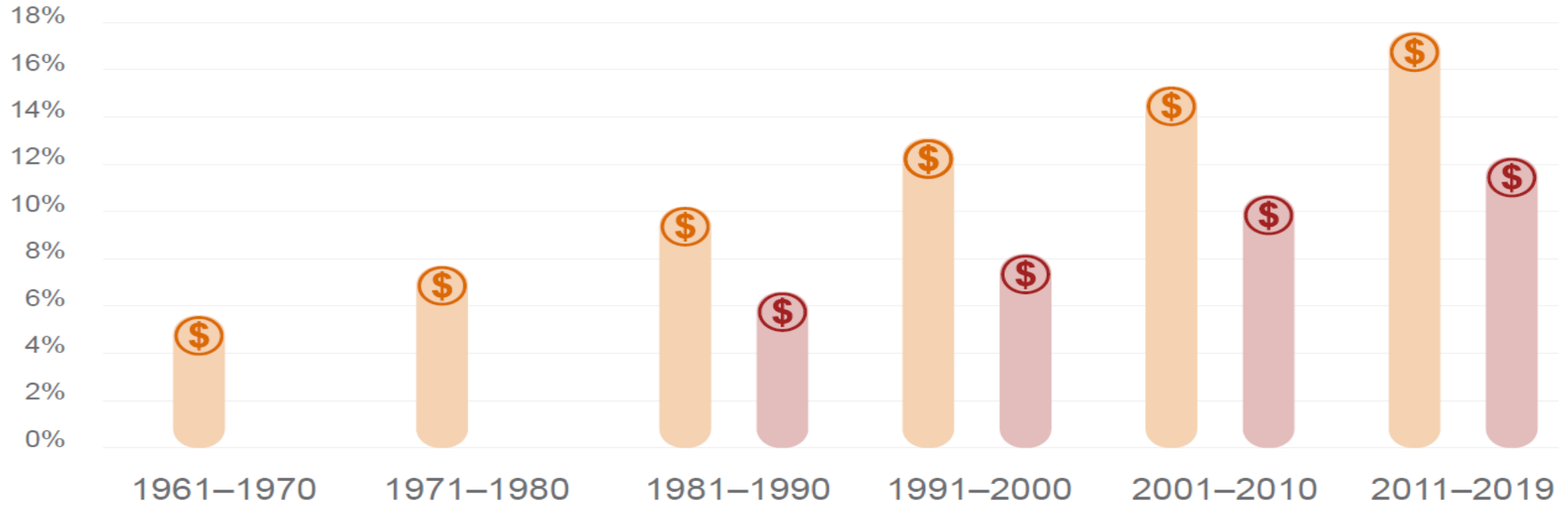




# Historical Health Spending vs. GDP



Healthcare expenditures as shares of GDP and wages have doubled since the 1980s

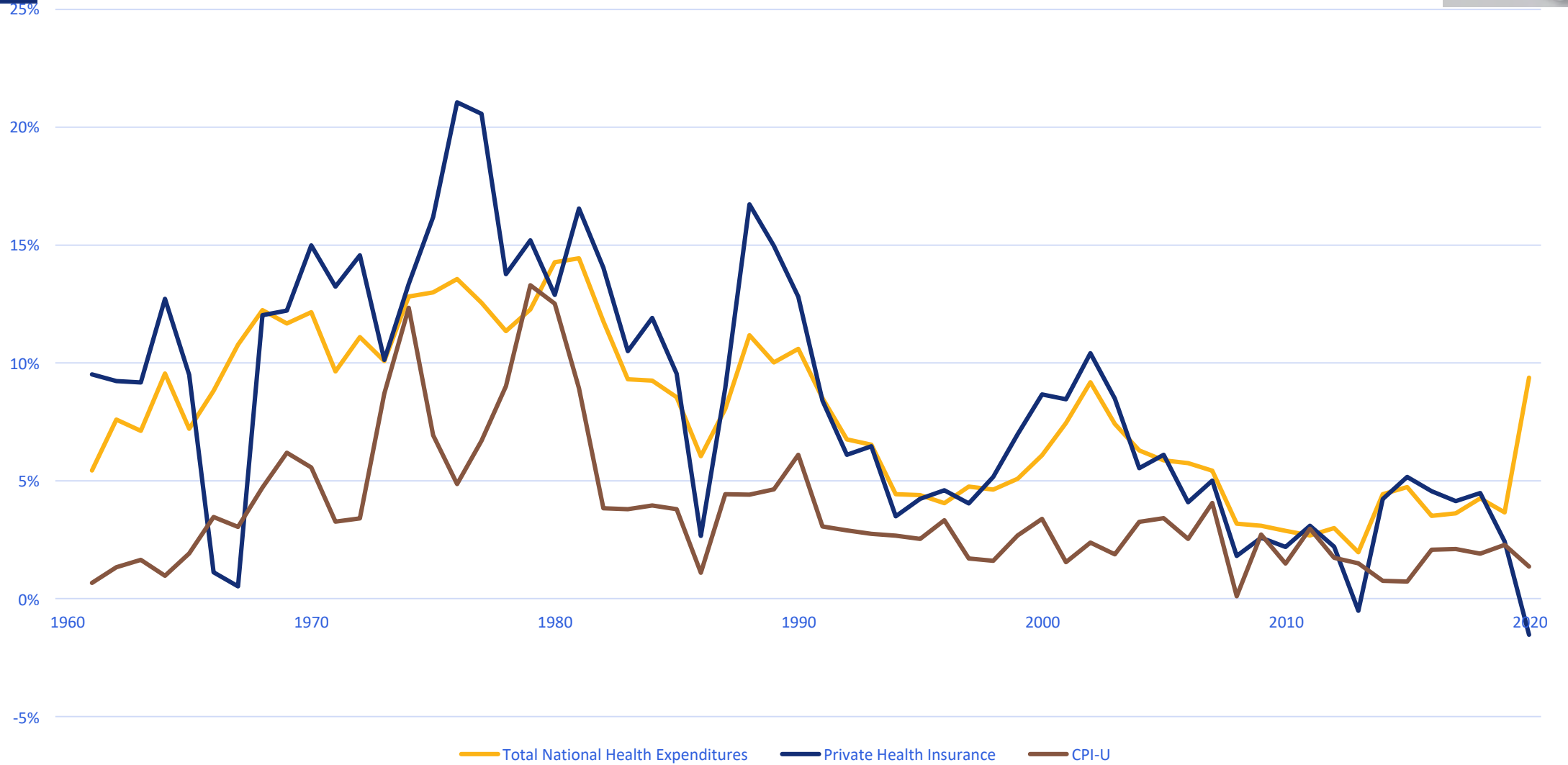


\$ National health expenditures as a share of GDP    
\$ Employer health spending as a share of wages

Note: Employer health spending data are available starting in 1988, so they're not included in this figure before the 1980s.  
Source: PwC Health Research Institute analysis of CMS national health expenditure data and Bureau of Economic Analysis data<sup>11</sup>



### Change in National Health Expenditures per Capita and CPI-U





# Polling Question



Over the last 20 years, has the growth in prescription spending been:

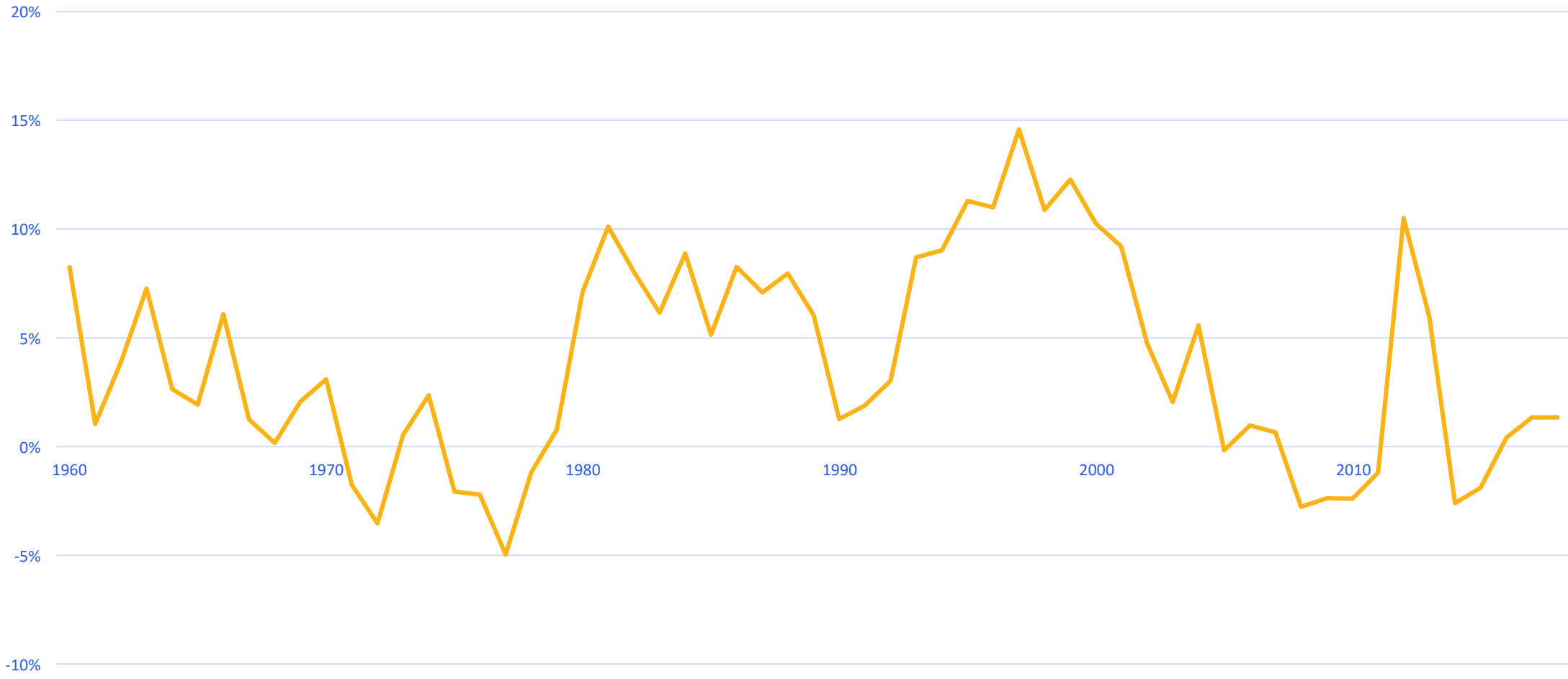
- ✔ Increasing
- ✔ Decreasing
- ✔ Relatively flat



# Pharmacy Spending



Change in Total Prescription Drug Expenditures per Capita Adjusted for CPI-U



# Unified Rate Review Template Analysis 2014 to 2022

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# Polling Question



Which is the typical split between unit cost and utilization?

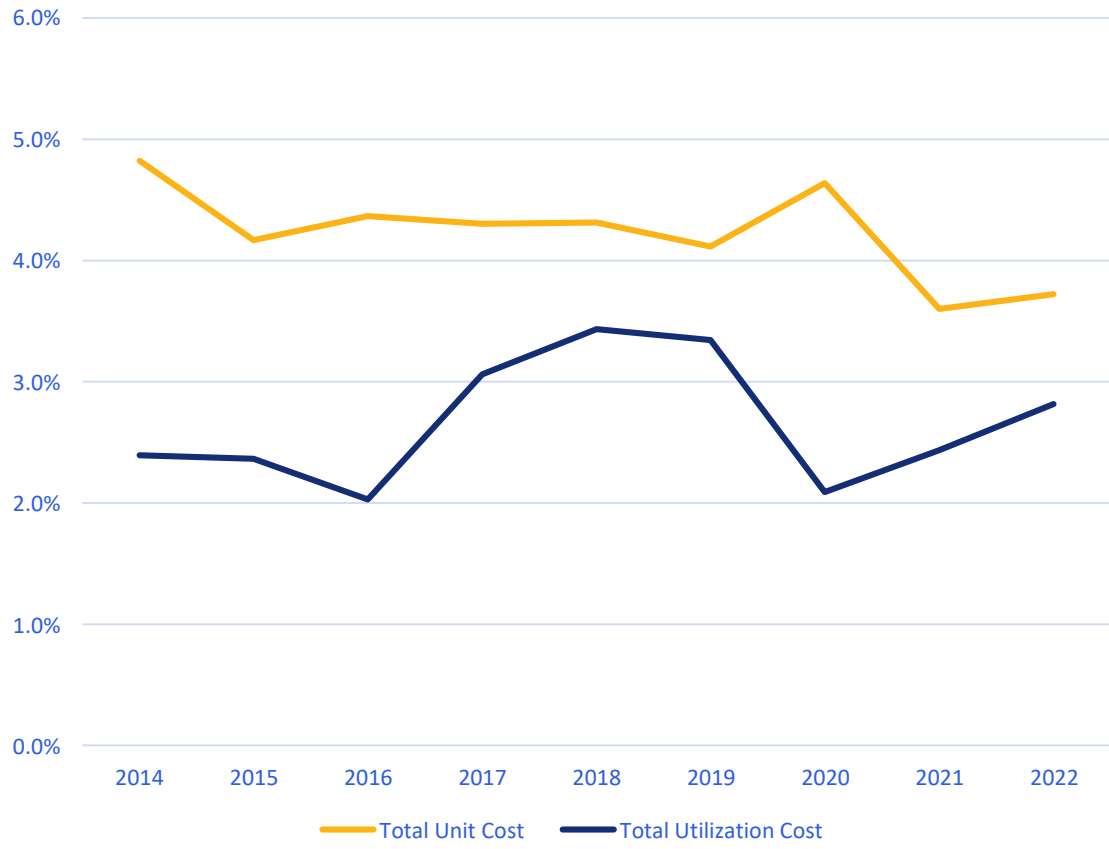
- ✔ 65% Unit Cost / 35% Utilization
- ✔ 50% Unit Cost / 50% Utilization
- ✔ 35% Unit Cost / 65% Utilization



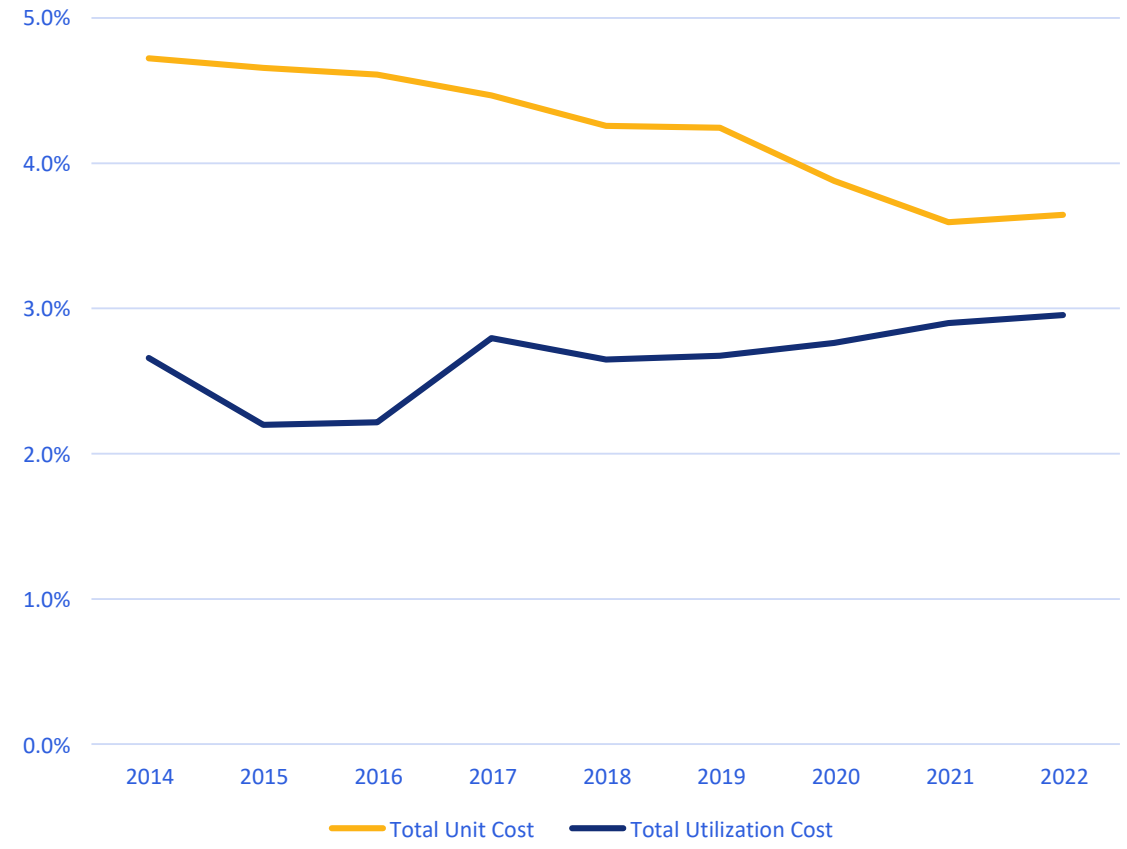
# Unit Cost vs. Utilization



### Individual



### Small Group







# 2022 Unit Cost vs. Utilization



## Individual

Benefit Category	Unit Cost Allocation
Inpatient Hospital	72%
Outpatient Hospital	56%
Professional	45%
Other Medical	52%
Capitation	82%
Prescription Drug	75%
Total	63%

## Small Group

Benefit Category	Unit Cost Allocation
Inpatient Hospital	83%
Outpatient Hospital	58%
Professional	45%
Other Medical	48%
Capitation	83%
Prescription Drug	78%
Total	65%



# 2022 URRTs - Trends by Category

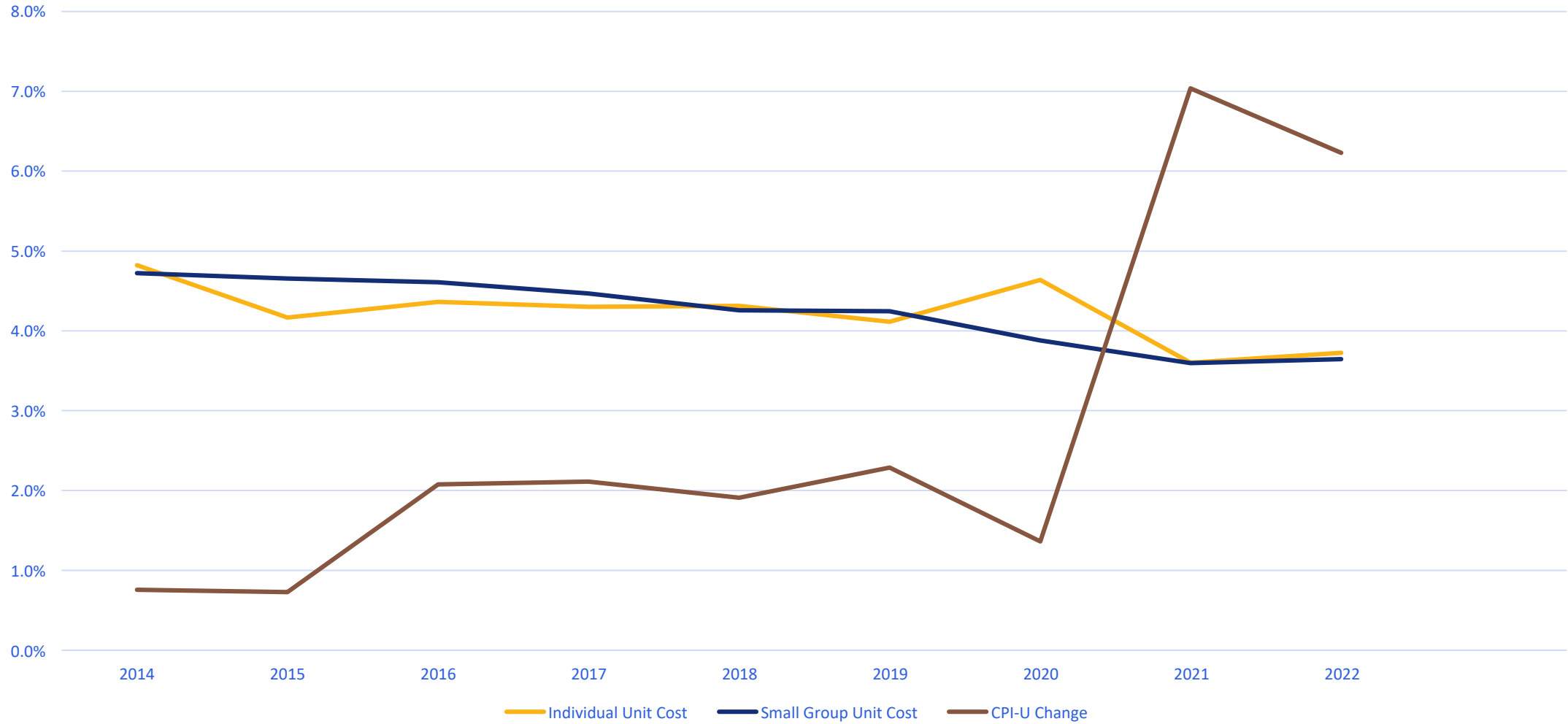
(excluded if IP=OP=Prof)



Individual 366				Small Group 305			
Benefit Category	Unit Cost	Utilization	Total	Benefit Category	Unit Cost	Utilization	Total
Inpatient Hospital	3.6%	1.7%	<b>5.3%</b>	Inpatient Hospital	3.8%	1.1%	<b>5.0%</b>
Outpatient Hospital	3.9%	3.7%	<b>7.8%</b>	Outpatient Hospital	3.8%	3.2%	<b>7.1%</b>
Professional	1.9%	3.0%	<b>4.9%</b>	Professional	2.5%	3.9%	<b>6.5%</b>
Other Medical	2.4%	4.1%	<b>6.6%</b>	Other Medical	2.7%	2.8%	<b>5.6%</b>
Capitation	0.6%	4.2%	<b>8.8%</b>	Capitation	2.2%	2.2%	<b>4.5%</b>
Prescription Drug	6.3%	2.4%	<b>8.8%</b>	Prescription Drug	6.3%	2.0%	<b>8.4%</b>
<b>Total</b>	<b>3.7%</b>	<b>2.8%</b>	<b>6.6%</b>	<b>Total</b>	<b>3.8%</b>	<b>2.6%</b>	<b>6.5%</b>



# Unit Cost vs CPI-U





# Polling Question



How much does the average trend vary by region (West, South, Northeast, Midwest)?

- +/-3%
- +/-2%
- +/-1%
- minimal variance



# Trends by Region 2022 URRT



<b>Region</b>	<b>Unit Cost</b>	<b>Utilization</b>	<b>Total Trend</b>
<b>West</b>	2.8%	2.7%	5.6%
<b>South</b>	4.3%	2.5%	6.9%
<b>Northeast</b>	3.8%	2.9%	6.8%
<b>Midwest</b>	3.7%	3.4%	7.3%



# Trends by State 2022 URRT



Highest 5 states: Average 9.7%

DE, MA, RI, SC, WY

Lowest 5 states: Average 4.8%

IN, LA, MT, OR, TN

# Trend Setting Considerations

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# Analyzing Trend



- ❖ Allowed vs Paid
- ❖ Service Category
- ❖ Ability to analyze by key contributors:
  - ❑ Cost – Contract analysis
  - ❑ Utilization – Days, Admits
  - ❑ Intensity or mix of services – Change in Avg Cost Per Unit
- ❖ Credibility Concerns
- ❖ State/Region/Nationwide