

Continuum of Virtual Care Options: As a Mechanism for Improving Equity

2021 Colorado Health Literacy Coalition Conference

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WHO IS TALKING TO US?



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- Background
- Education
- History in telehealth



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GOALS

- Why all of a sudden “all this about telemedicine”
 - A bit of a history of telemedicine
- Telemedicine exploded during pandemic – what now?
- An overview of models that may reduce disparities in care
 - Open up for questions



Why all of a sudden “all this about telemedicine”

COVID, COVID, COVID

Rapid shift from in person to virtual care in the Spring of 2020

Both federal government and states alike made revolutionary changes in telemedicine policies in order to preserve access to healthcare services

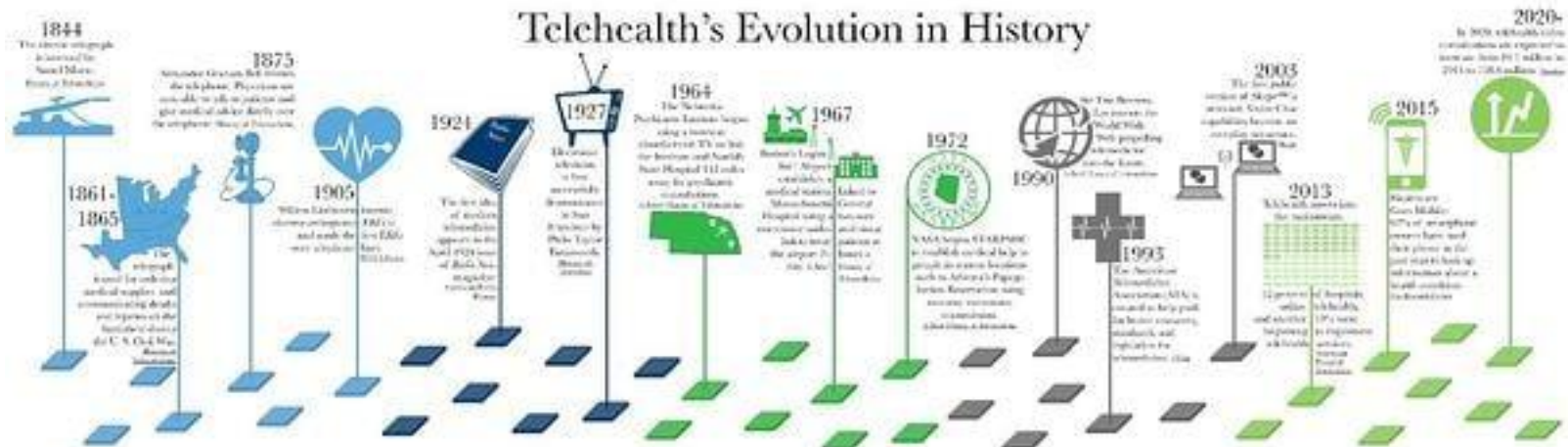
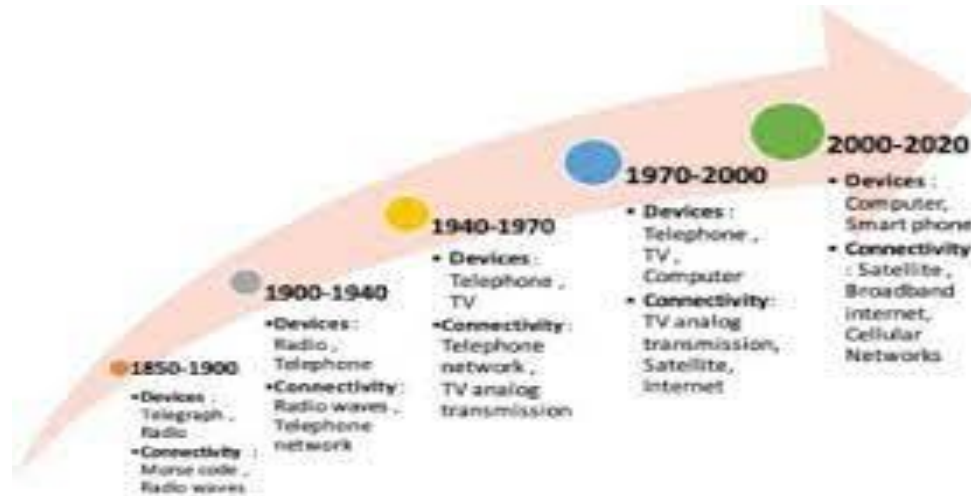
Changes made were intended to be temporary -relaxed reimbursement, allowable telehealth modalities, types of care eligible, types of providers, originating sites

In response, providers moved rapidly to stand up infrastructure, train providers and patients

Many patients and, for that matter, providers, had never used telehealth prior to the PHE, over the months that followed, there is no question it allowed for access to many crucial care services, kept many providers in business, etc.

What now? And what barriers or challenges remain that need to be addressed?

Brief History of Telemedicine



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Continued Challenges

- **Technology**
 - **Broadband or lack thereof**
 - **Up-to-Date Smartphones or Laptops with camera, etc.**
 - **Data Plan**
- **Translation**
- **Tech Literacy and IT Support**
- **Existing Culture of Care**
 - **Is the care the same?**
 - **Did this rapid scale have “anything to do with me”?**
 - **Do they really want to do this and will it “stick”**
- **Historic Discrimination and Mistrust**
 - **Can I trust that they now can see inside my home?**
- **Equity Stratifiers associated with (or lower) Telehealth Use**



What are Equity Stratifiers for telehealth

What should every telehealth program measure so that they can

- 1) **Monitor** for equity and
- 2) **Detect** disparities
- 3) **When** they occur



What is an equity stratifier?

An equity stratifier refers to a characteristic such as a demographic, social, economic, racial or geographic descriptor that can identify population subgroups for the purpose of measuring differences in health and health care that may be considered unfair or unjust.

CIHI.org



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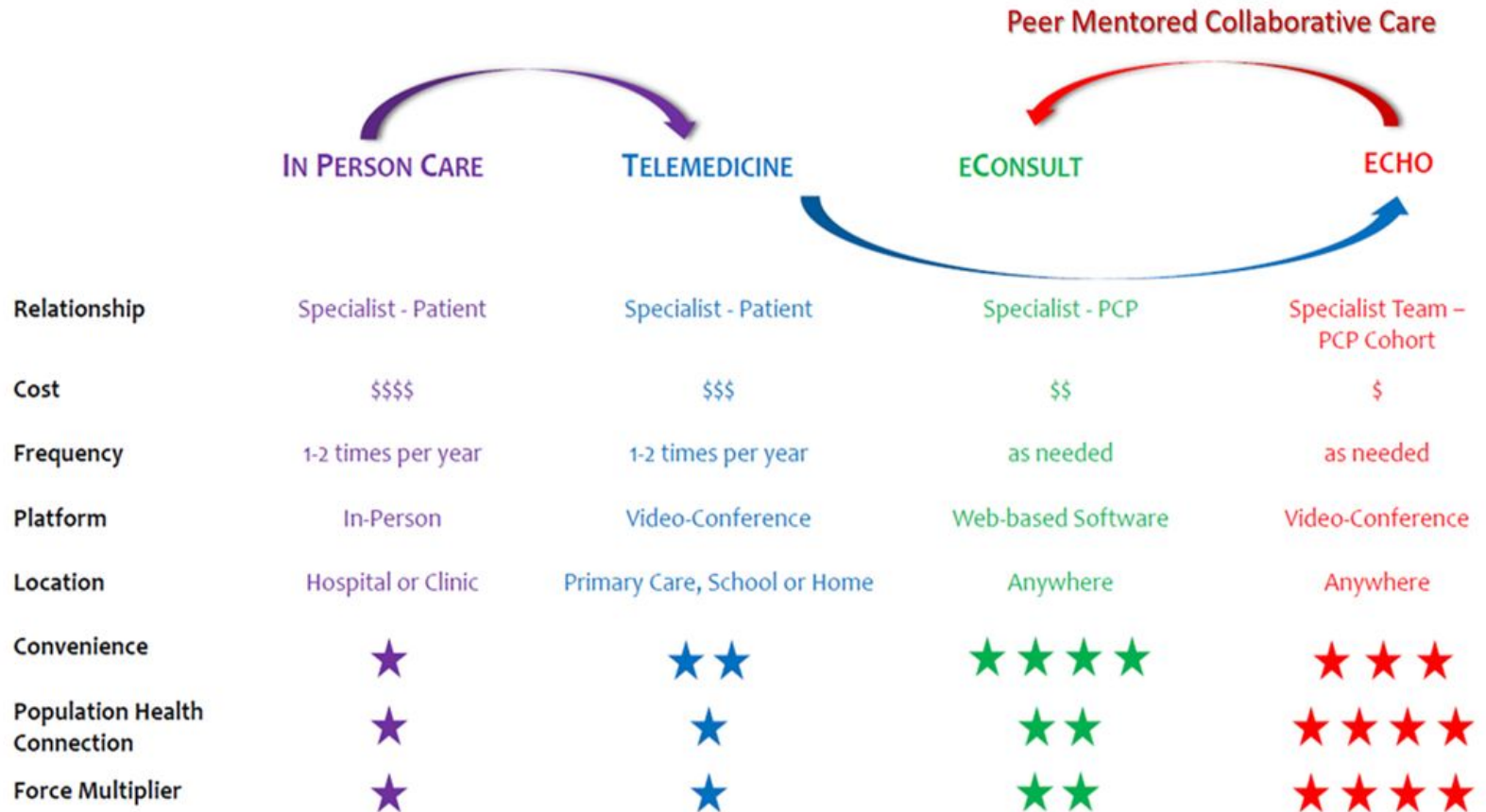
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Equity Stratifiers	Operational Definition	Measure	Comments	A c c e p t	M o d i f y	D e l e t e
Race						
Ethnicity						
Social Vulnerability Index						
Language Proficiency						
Language Preference						
Payor Group						
Age*	Age in Years					
Sex*	Sex assigned at birth	Female, Male				
Gender*	Lived gender	Female, Male, Gender Diverse				
Income*	Relative Income	Income Quintiles				
Education*	Educational Attainment	Highest self-reported household educational attainment using 5 categories: • Less than high school • High school completion • Post-secondary school completion below bachelor's degree • Bachelor's degree completion • Post-secondary school completion above bachelor's degree				
Location*	Urban and rural/remote place of residence (Consider a measure of travel burden for complementary analysis)	Statistical Area Classification type (SACtype) defined as • Urban (SACtypes 1, 2, 3) • Rural/remote (SACtypes 4, 5, 6, 7, 8)				

Spectrum of Care Approach

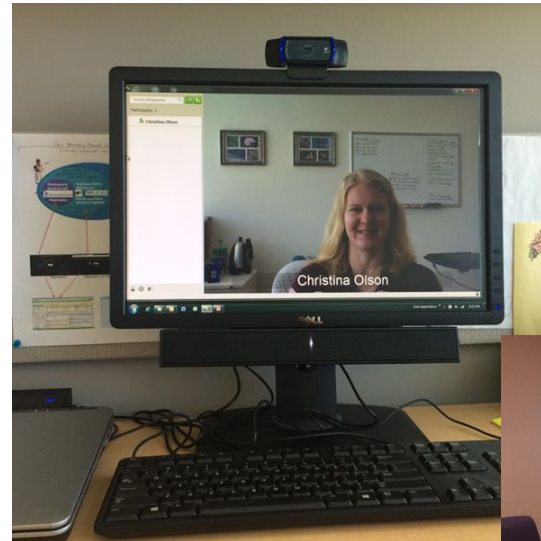
more tools in provider's toolkit to allow for right care, right place, right time.



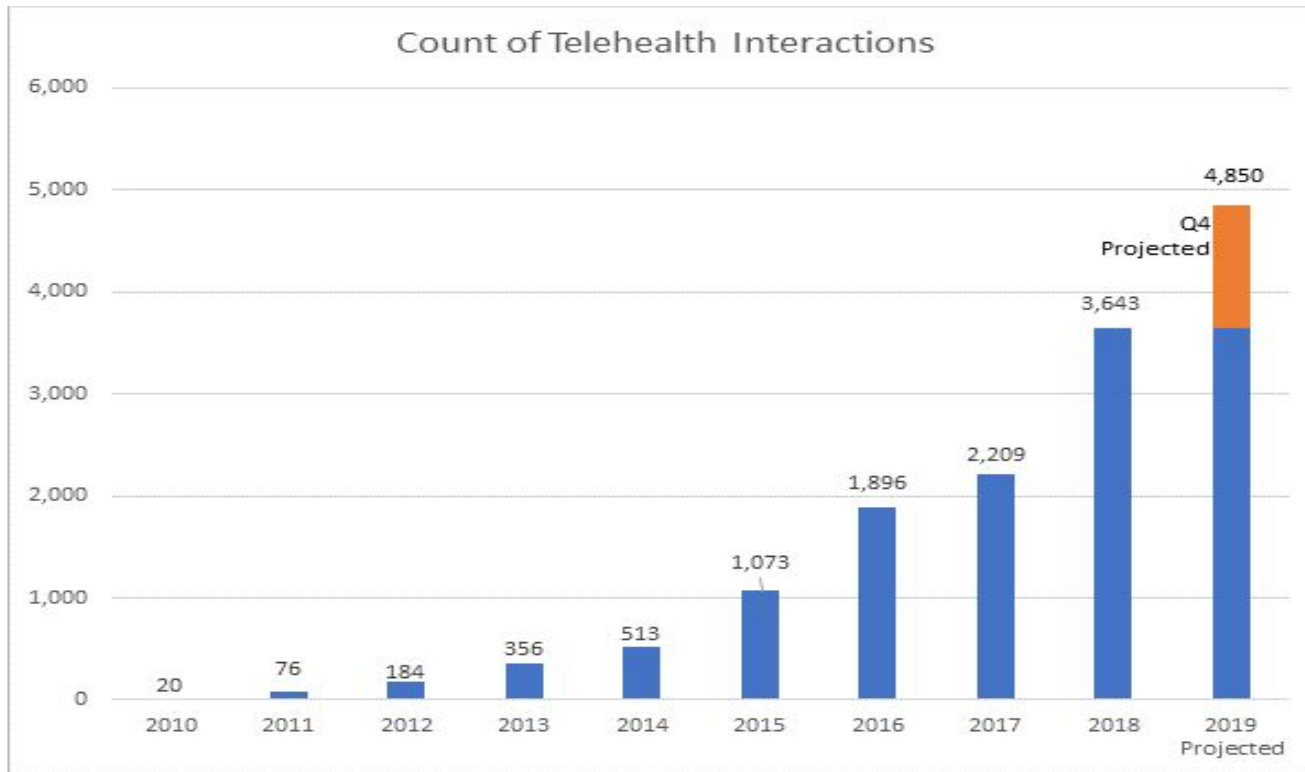
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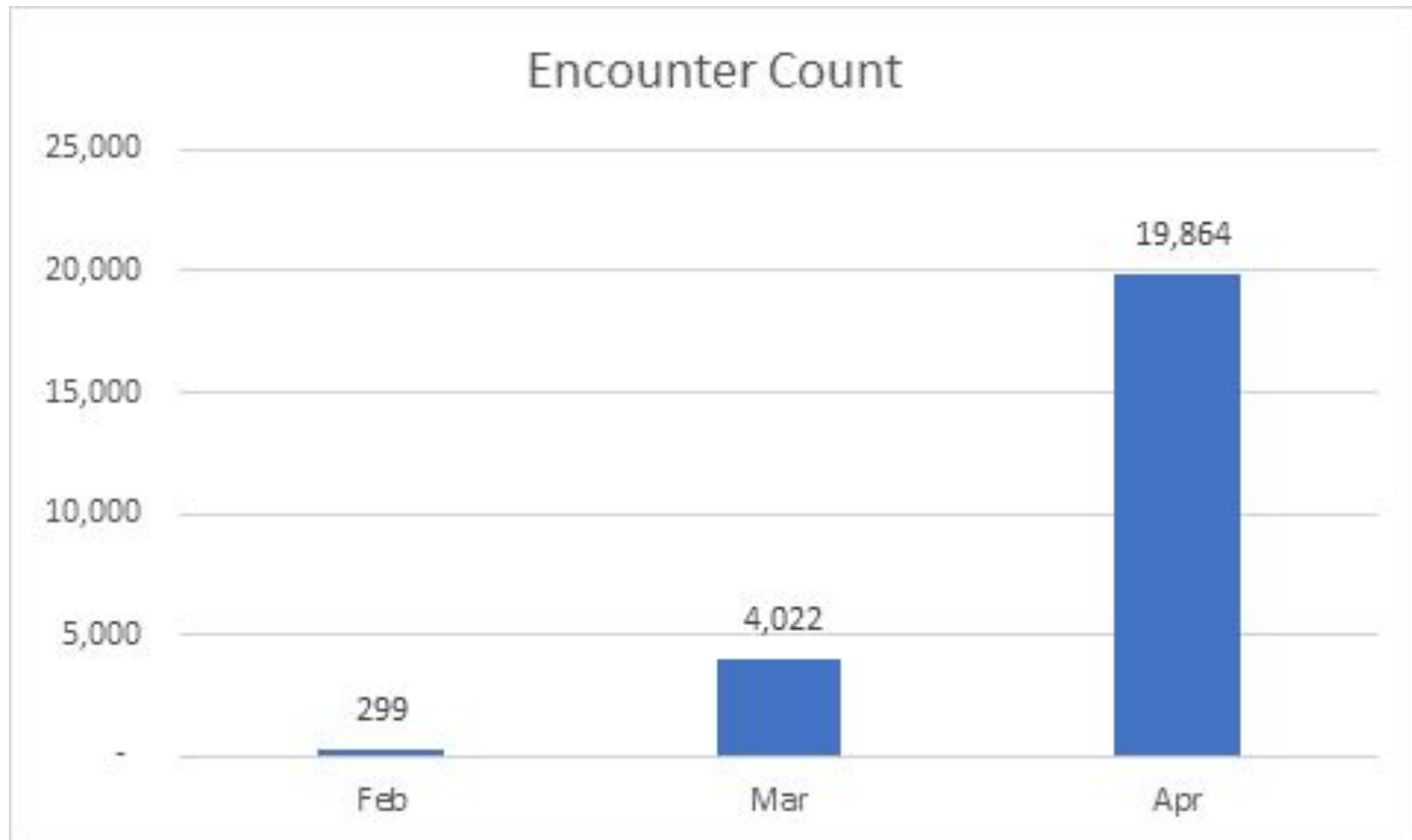
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Growth



Rapid Growth in Response to COVID-19 Pandemic

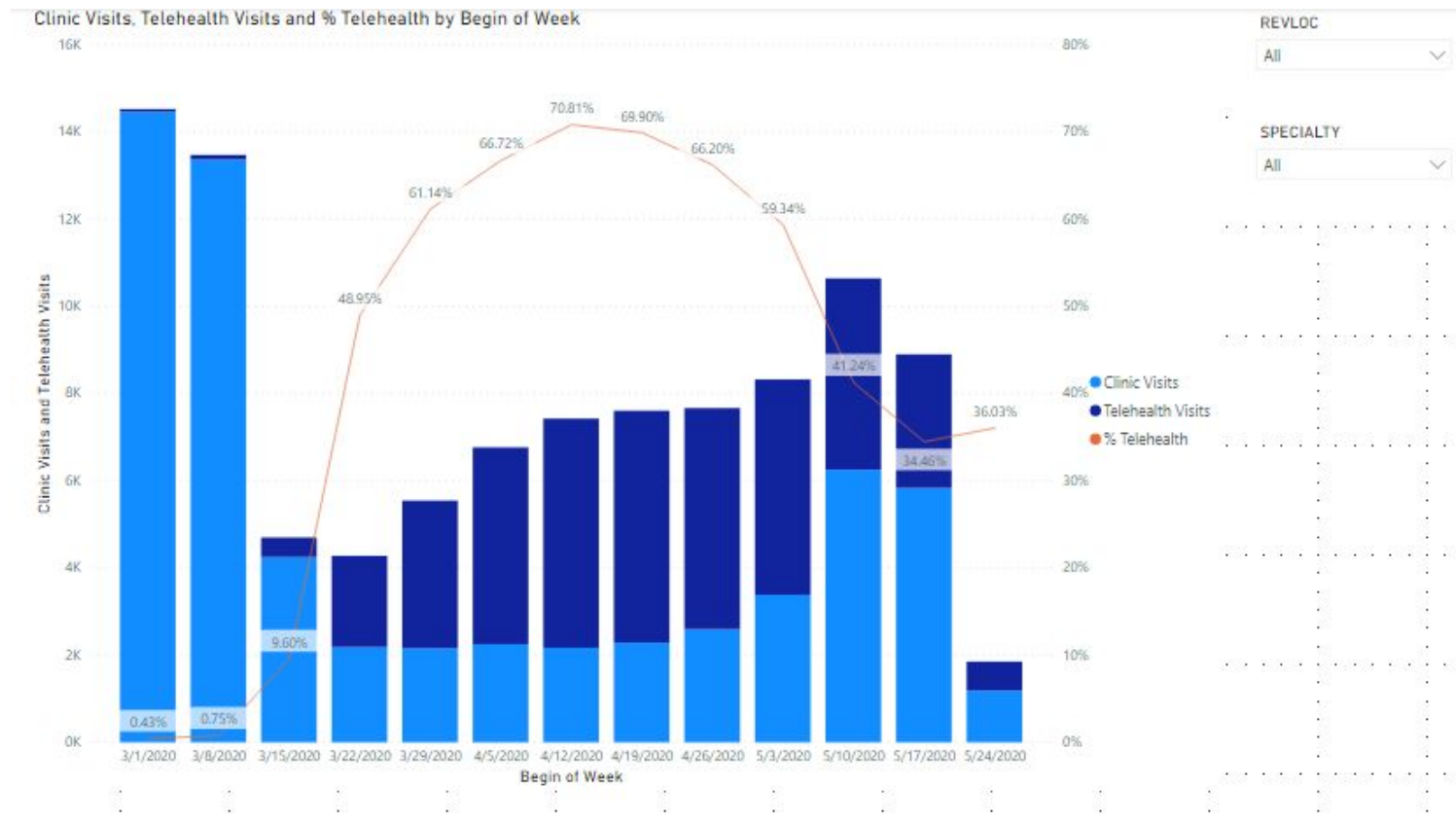


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Rapid Growth in Response to COVID-19 Pandemic



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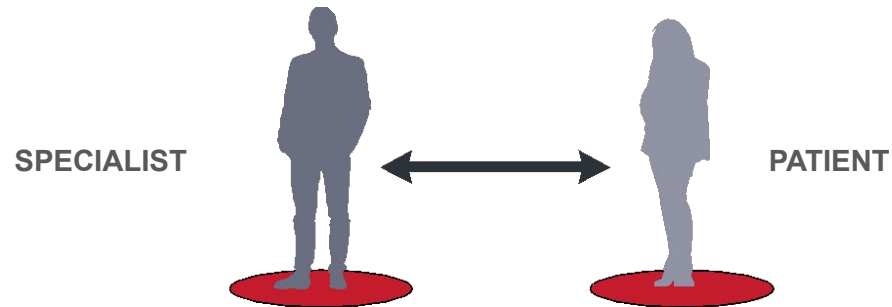
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Making a Difference

	 NOC ED/ UC PSYCH TRIAGE	 FETAL CARDIOLOGY	 PCMH PARTNERSHIPS	 CoYOTI COLLEGE DIABETES CARE
Before	• 52% transfer, then discharge • 92% transfer to Anschutz • >8 hour LOS	• 0 local fetal cardiology appts • 500 mi & \$580 per trip to Anschutz	• Avg travel distance 690 miles • 1.68 days missed school/ work per visit • \$570 per trip	• 8.5 hours of work missed per appt • 8.8 hours of school missed per appt
After	• Reduced transfers • Shorter LOS (5.5 vs 8.3 hr) • Lower pt charges (\$3.5k vs \$8.6k)	• Travel time & cost ~90% less • 100% correct risk stratification for delivery location	• Avg travel distance 62 mi¹⁴ • Travel time 70 min • > 1 million miles saved (72 months)	• 2.6 hours of work missed per appt at Anschutz • 2.4 hours of school missed per appt • More visits per patient



**KNOWLEDGE HELD BY ONE HAS
THE POWER TO CHANGE LIVES.**



**KNOWLEDGE SHARED BY MANY HAS
THE POWER TO CHANGE THE WORLD.**





ANNUAL REVIEW | FY 2021 (July 1, 2020 - June 30, 2021)

ECHO COLORADO leverages the knowledge and experience of geographically-diverse communities for workforce development and improved health for all. Our virtual ECHO series increase the capacity of health professionals by enabling specialists and front line clinicians to meet in a collaborative focused on a particular clinical or public health-related topic. The result is the spreading of knowledge that positively impacts health equity across the state and beyond.

Located on the University of Colorado Anschutz Medical Campus, ECHO Colorado is a part of the Peer Mentored Care Collaborative (PMCC). The PMCC is focused on strengthening relationships between community-based primary care providers and academic medical center-based specialists to assure communication of best practices, increased care coordination and improved collaboration.

A SAMPLE OF FY21 ECHO SERIES

- Implementing a Successful Telehealth Program
- Endocrinology and Diabetes for Adult Primary Care
- Hospital-based Medication for Addiction Treatment
- Rheumatology in Primary Care
- Pediatric Psychiatry: Core Essentials
- Autism and Developmental Disability Case Review
- Transgender Health: Comprehensive Approaches in Primary Care
- Adolescent Reproductive Health
- Common Urologic Conditions in Primary Care

PARTICIPANTS

3,917

SESSIONS OFFERED

618

PARTICIPANTS/SESSION

Avg ~25

SESSIONS ATTENDED

15,601

OFFERED IN FY 2020

31
SERIES

60
COHORTS

320
SESSIONS

OFFERED IN FY 2021

35
SERIES

174
COHORTS

594
SESSIONS

PROGRAM GOALS

- Increase the capacity of health professionals in Colorado and beyond
- Promote professional collaboration
- Empower participants to serve as a local resource
- Increase access to specialty care

POPULATIONS SERVED

39% of participants served medically underserved populations

81% served rural or frontier communities

55% served the Medicaid population

Data not captured for all series



"The ability to collaborate remotely with health care professionals from a variety of backgrounds is really important to disseminating the right information and ensuring that Coloradans are getting the best care."

~ Governor Jared Polis addressing the value of ECHO Colorado's response to the pandemic

ECHO COLORADO

| EXTENSION FOR COMMUNITY HEALTH OUTCOMES

| ECHOCOLORADO.ORG



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Granger Petersen, PhD, MSW¹; Suzuho Shimasaki, DrPH, MPH¹; Erin Bishop, MPH¹; L. Charolette Lippolis, DO, MPH; Ellen Brilliant²; John F. “Fred” Thomas, PhD¹
(1) University of Colorado Anschutz Medical Campus; (2) American Academy of Pediatrics, Colorado Chapter

ECHO Colorado is a statewide ECHO program based out of the CU Anschutz campus that partners with community organizations to provide a wide array of trainings and practice support focused on increasing the capacity of the health and public health workforce to manage care locally.

American Academy of Pediatrics, Colorado Chapter is a professional association of pediatricians and pediatric medical specialists that supports practice, policy and research in physical and behavioral health for children in the state of Colorado.

Mental health issues often begin in childhood, with 20% of children experiencing mental health issues and 8% of children experiencing mental issues severe enough to impede functioning. Given there is a shortage of pediatric focused mental health professionals the United States, primary care physicians are often responsible for the identification and management of mental health issues for children. Many have not had the specialized training required to effectively treat these issues.

Model Following a needs assessment by the American Academy of Pediatrics (AAP), Colorado Chapter a six-session series was developed for Primary Care Providers (PCPs) to increase their self-efficacy in diagnosing and treating pediatric patients presenting with common mental health conditions. A key component of successful model development and implementation was utilizing a community-based child psychiatrist experienced in both integrated care and **principles** throughout the process.

included pediatric PCPs including: pediatricians, nurse practitioners, physician assistants and other clinical professionals from many different regions and counties across the state of Colorado. Participants worked in urban, rural and frontier environments, as well as in many different types of

Impacts of the learning series were measured using an online retrospective pre/post survey that included self-efficacy ratings for each learning objective, as well as questions around participant engagement, anticipated practice changes,

Practices of Care	Treatment Issues	
Assessment	ADHD	Caution: Misdiagnosis
Diagnosis	Anxiety	Depression
Treatment		PTSD, trauma
Management		

Wilcoxon signed rank tests were used to analyze changes in knowledge in the four areas of mental and behavioral health care practice and additional overall changes in the four areas of practice were analyzed within the six mental and behavioral health treatment areas prevalent in adolescents.

29 participants

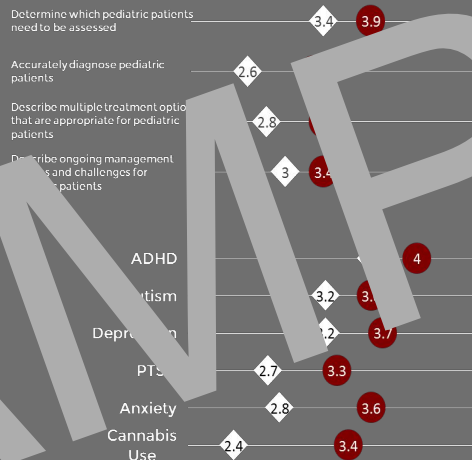


24
respondents

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The majority of respondents shared an intent to make changes to improve their professional practice. Anticipated barriers included lack of skillset, knowledge, time, and lack of support from colleagues and management.



Respondents reported increases between 0.4 (13%) and 0.9 (42%) in the four target skill areas. The largest increase was in accurate diagnosis by knowledge of treatment of patients needing to be assessed, and describing management responses. Knowledge of skills regarding the six targeted areas of pediatric mental and behavioral health increased between 0.4 (11%) and 1.0 (42%) points. The largest increase was regarding Cannabis Use followed by Anxiety and PTSD. The areas of Depression, ADHD,

86% of respondents agreed that participation in the ECHO was a valuable use of their time, made them better at their profession, and contributed to their professional network.

"I go to all the knowledgeable experts who contributed information about their personal experiences whether it was best practice guidelines or how things worked better for them in a clinical setting. It's very helpful to go and listen when I see similar cases."

"Thank you for providing this series. I learned a lot of valuable information that will help me better care for patients. It was great 'meeting' other providers across the state. Thanks for providing really responsive IT help....did a great job facilitating as well."

There was a significant ($p < .05$, $r > .5$) increase in participant knowledge across all four areas of children's mental and behavioral health care in total scores and across five of the six treatment issues. Due to a small sample size, Cannabis Use was unable to be tested for significance.

Given access to appropriate training and collaborative relationships with child psychiatrists and other pediatric behavioral health specialists, PCPs can and should deliver mental health services to children and adolescents in the primary care setting to keep with the medical home model. This study demonstrates a successful application of the ECHO model to equip PCPs with the skills and knowledge necessary to effectively deliver child and adolescent behavioral health services. Based on the large number of registrants that resulted in a waitlist for this series and the feedback we received from participants who wanted

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™
Colorado Chapter



Mood and Anxiety ECHO: An Innovative Approach to Building Primary Care Providers' Capacity to Manage Common Behavioral Health Conditions

Alex Reed, PsyD, MPH¹, Granger Petersen, PhD, MSW¹, Suzuho Shimasaki, DrPH, MPH¹, John F. Thomas, PhD¹

¹) University of Colorado Anschutz Medical Campus

PROJECT GOALS

The Extension for Community Health Outcomes (ECHO) Colorado developed and conducted five cohorts of a six-session series focused on providing Primary Care Providers (PCPs) and Registered Nurse participants with best practices to better manage common behavioral health conditions through their own practice and community.

BACKGROUND

PCPs provide over half of the mental health treatment in the United States¹, most commonly depression and anxiety. While PCPs frequently treat patients with mood and anxiety disorders, more than half of primary care patients with depression and anxiety² and thus may be missed or not treated adequately. Given this complexity, PCPs' confidence in recommending evidence-based treatments differ.



Participants represented urban, rural, and frontier environments, as well as many different types of practice settings.

1. Siegel et al. Nemeroff CW, Siegel D, et al. The de facto US mental and addictive disorders service system: Epidemiological Catchment Area perspective. 1-year prevalence rates of disorders and services. Arch Gen Psychiatry. 1995;52:975-90.

2. U.S. Dept. of Health and Human Services. (2005). Report of a Surgeon General's working meeting on the integration of mental health services and primary health care. Rockville, MD. Available at: www.surgeongeneral.gov/files/mentalhealthservices/mentalhealthservicesPCPs.pdf. Accessed December 2016.

METHODS

Curriculum

The Colorado Academy of Family Physicians, the Colorado Rural Health Association, and ECHO Colorado partnered to develop a multi-cohort, six-week ECHO series.

Session topics included:

1. Assessment and treatment of suicide
2. Non-pharmacological options for depression management
3. Screening and treatment of generalized anxiety
4. Screening and treatment of PTSD
5. Treatment of panic disorder in primary care
6. Initial management of bipolar disorder

Evaluation

Impacts of the learning series were assessed using an online retrospective pre/post survey. The survey assessed participant self-efficacy, satisfaction, anticipated practice changes, and anticipated barriers for implementing such changes.

1. ECHO Colorado Care Collaborative
2. Data were analyzed in SPSS 25 and pre/post scores were compared using the Wilcoxon Signed Rank test.
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FINDINGS



157
Registrants



73
Approved
Registrants



71
Participants



36
Survey
Respondents

Pre and Post Self-Efficacy Ratings

Using a Likert scale of 1-5, "no ability" to "expert", participants rated their ability to perform key learning objectives both before and after participation in the series. Total scores were averaged to show overall change.



*All improvements were statistically significant (p < .001)

100%

agreed or strongly agreed that participation in the series diminished their professional isolation.

88% agreed

or strongly agreed that participation in the series improved their professional satisfaction.

72% reported

they would make changes to their professional practice or professional guidelines as a result of participating in this series.

PARTNERSHIPS

ECHO Colorado does not succeed alone. Our partners are the foundation for our success and our reach. This project would not be possible without the dedicated support and commitment of the following partners:

- Colorado State Innovation Model
- University of Colorado Department of Family Medicine



DISCUSSION

Successful Application of the ECHO Model

This study demonstrates an effective application of the ECHO model in increasing PCPs' self-efficacy and capacity for treating mood and anxiety disorders in the primary care setting. The demand for this series has continued to grow as PCPs look for additional opportunities to work more collaboratively with behavioral health providers and has resulted in large numbers of registrants and a growing waitlist for this series. Since the series inception ECHO Colorado has offered two more cohorts using this curriculum but has expanded the audience to include behavioral health providers in addition to PCPs to create greater opportunities for peer-to-peer learning around integrated care.

Next Steps

- Survey the PCPs and BHPs for additional behavioral health training needs and develop specific ECHO series
- Develop community health trainings for population



ACKNOWLEDGMENTS

We would like to thank all of the participants of this program. This project was funded in part by The Colorado Health Foundation.

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<https://echocolorado.org/>

COVID-19 Just-in-Time ECHO for Primary Care

Registration, Participation, & Polling Data

Granger Petersen, PhD, MSW
ECHO Colorado, *Evaluation Principal Professional*

Al Chiappone, MPH, MSW
ECHO Colorado, *Evaluation Specialist*



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Participation & Registration at a Glance: All Sessions

*Total Participation

**Unique Total Participation

Registered Participants: **8,754**

Registered Participants: **521**

Non Registered Participants: **1,511**

Total Registrants: **671**

Team Members: **1,330**

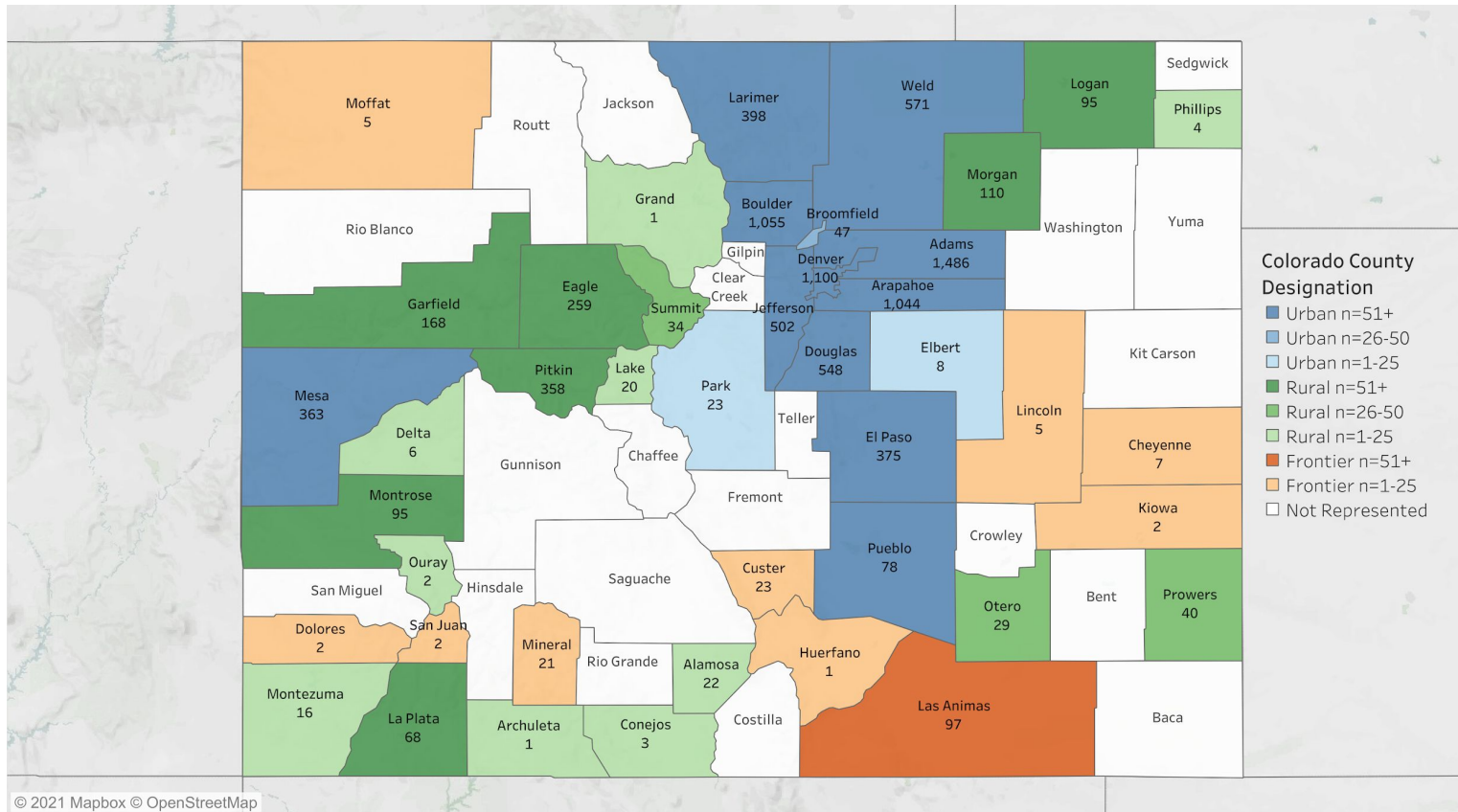
Total: **11,595**

*Total Participation is calculated by summing the counts for each category across all sessions. An individual that attends multiple sessions will be counted for each session they attend.

**Unique Total Participation is the number of registered participants that attend all sessions with individuals only being counted once across all sessions.

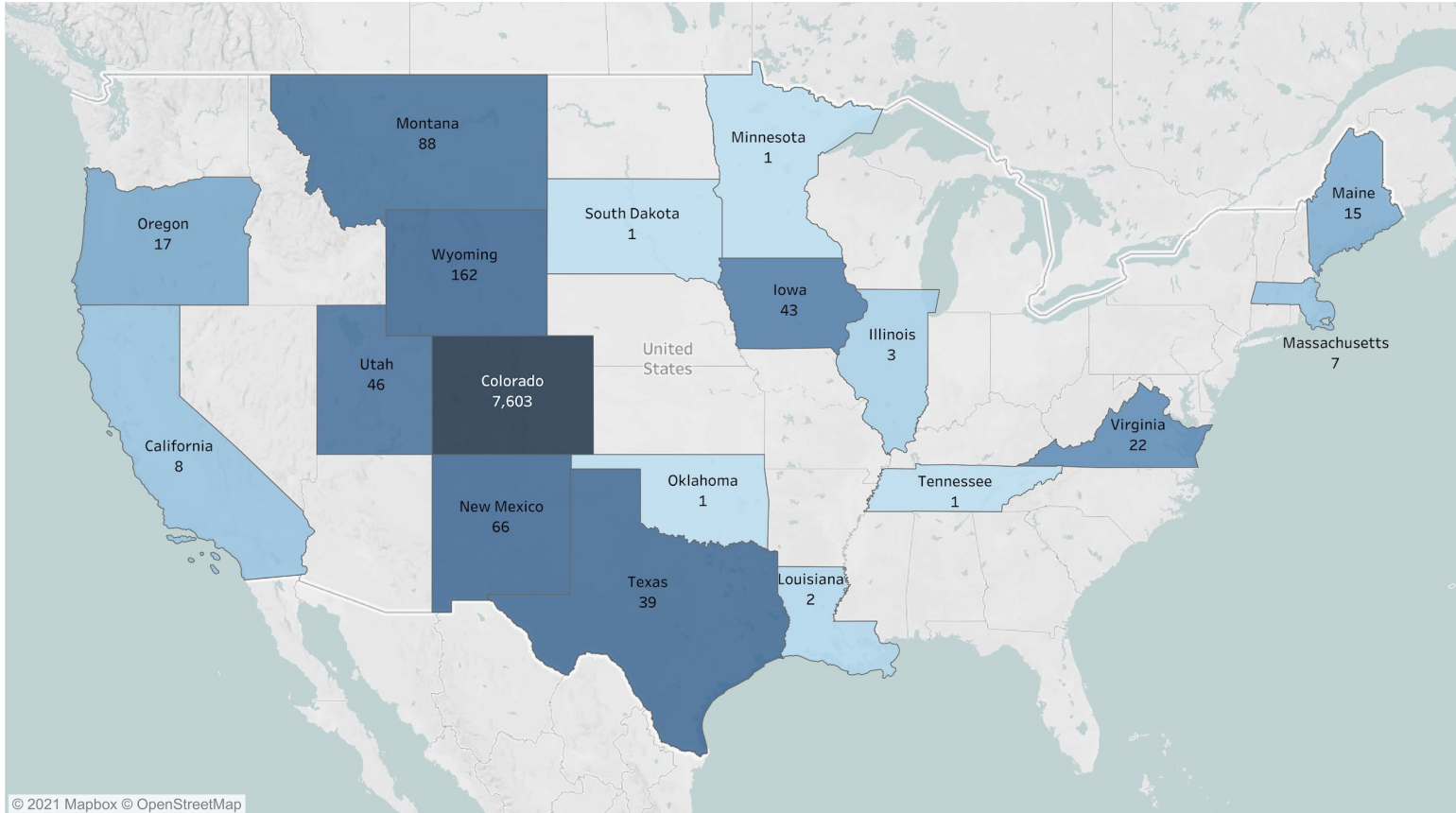


Total Participation by County Designation: All Sessions (n=9094)



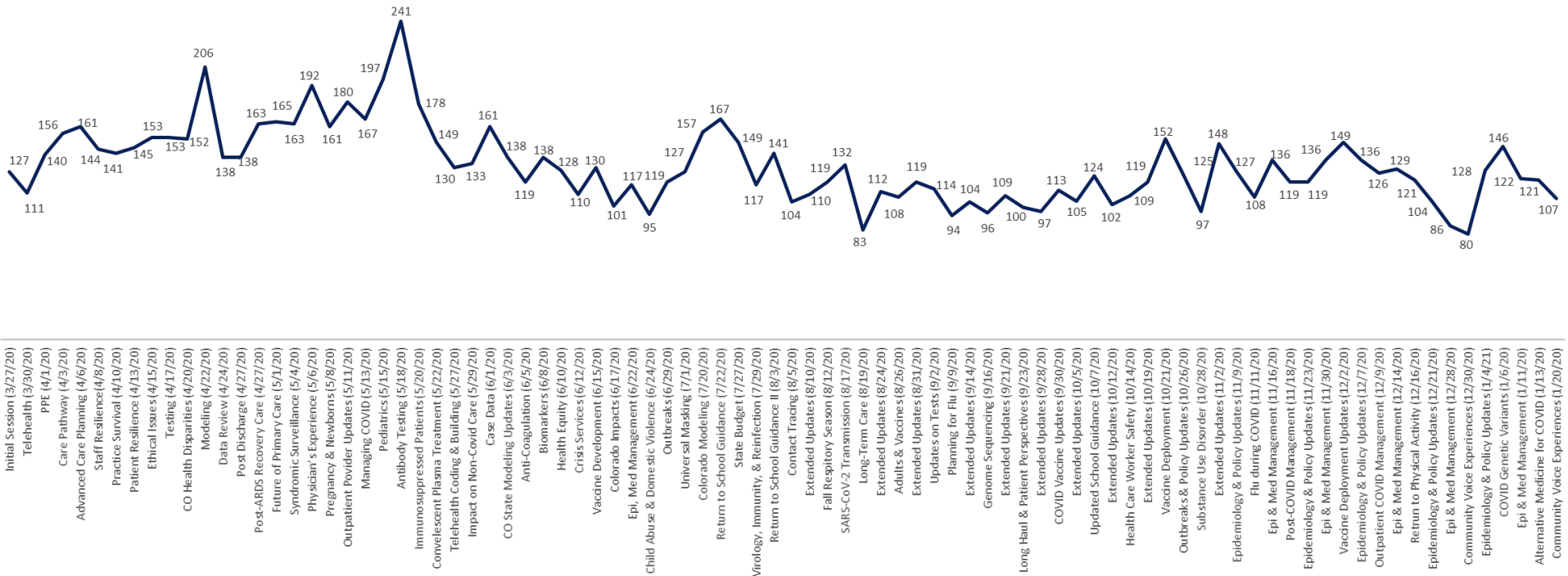
Note: Only participants that stated they practiced in the state of Colorado were included. Participants listed either no counties, one county, or multiple counties.

Total Participation by State: All Sessions

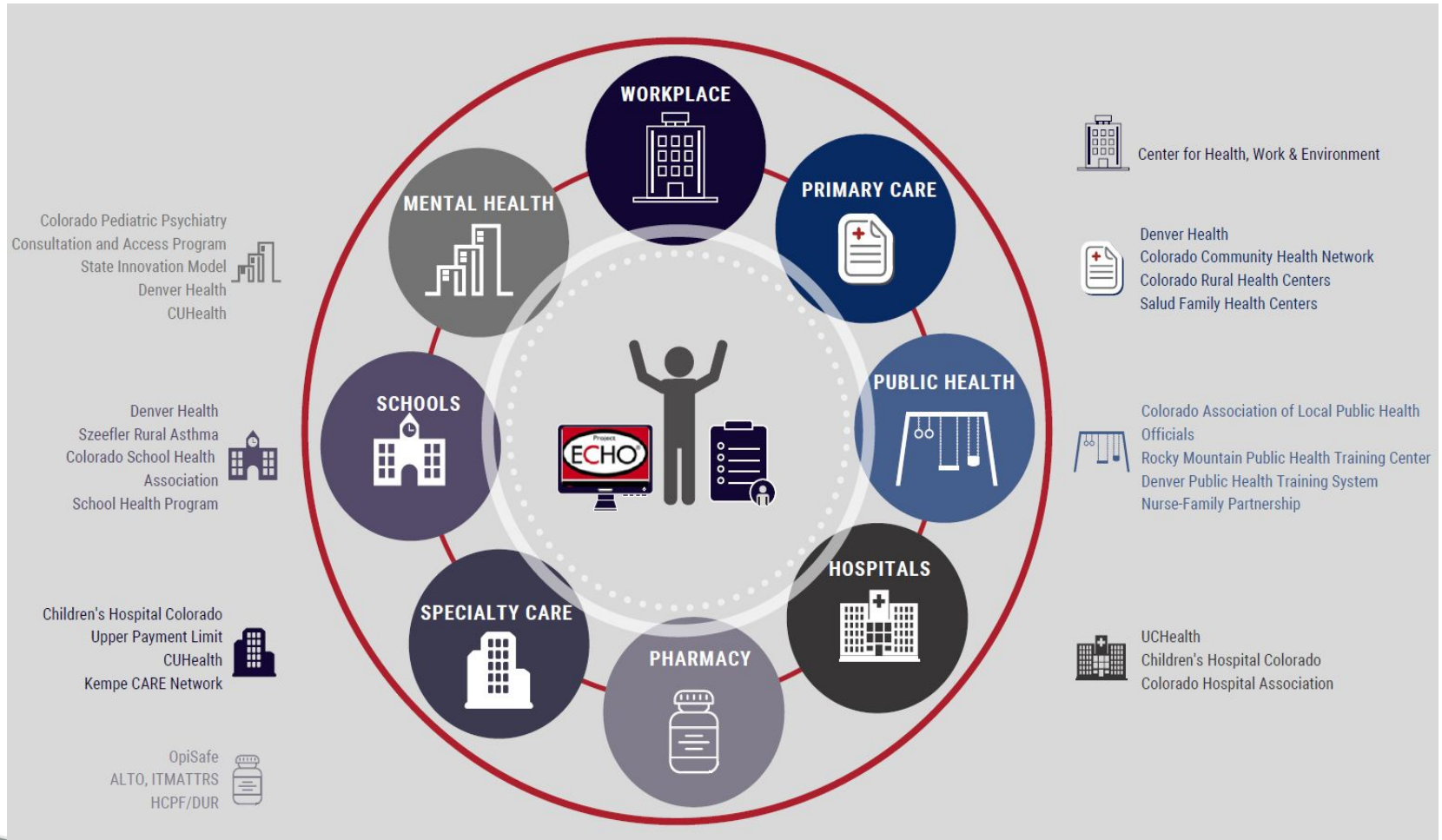


Note: Not all participants provided a state of practice

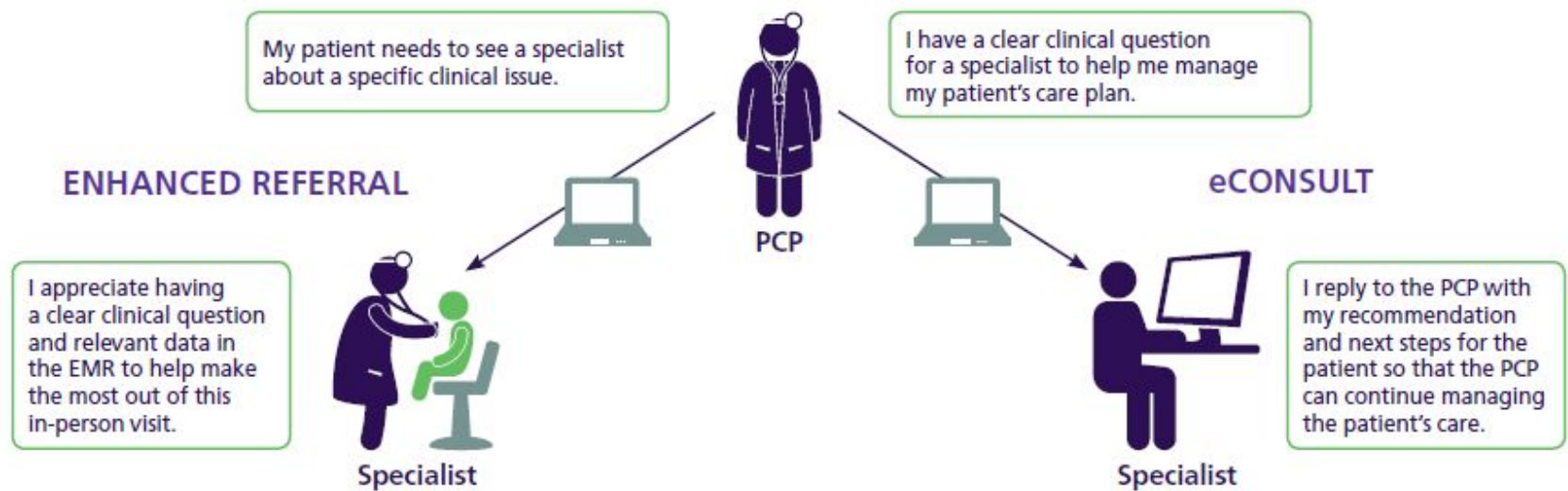
Attendance Across Sessions



ECHO's Impact in CO



What are eConsults?



Background: Challenges at the Interface of Primary Care and Specialty Care in AMCs



- 1.) Demand for specialty care has risen rapidly in the United States in recent years, with referrals to specialists more than doubling, resulting in access issues to specialty care.
- 2.) Increasing referral rates have also been accompanied by a decrease in the quality of communication and coordination between primary care providers (PCPs) and specialists.

eConsult Volume

- Over 10,000 total eConsults placed between April 1, 2018 and June 30, 2021
 - Represents ~10% of visit types over that time period
- 26 participating adult health specialties
- 21 participating child health specialties



eConsult Volume – Adult Health

- **73% completed**
 - Care maintained in the primary medical home
- **17.5% converted**
 - Preidentified patients that would benefit from specialty care
- **9.5% declined**
 - Reflects the “right sizing” of care

Insufficient information, please revise and resubmit E-consult if appropriate.	115
Logistical question, please call the clinic to discuss.	187
Too complex, please convert to Enhanced Referral and notify patient.	202
Unclear question, please revise and resubmit E-consult if appropriate.	105



PCP Satisfaction – Adult Health

- 95% of PCPs have been highly satisfied with the eConsult responses they have received from the specialists
- In the absence of an eConsult
 - 25% of PCPs would have sent a standard referral
 - 65% of PCPs would have “curbside consulted” the specialist via in-basket, phone, or email
- 100% of PCPs believe specialists’ responses have advanced their clinical knowledge and practice
- 95% of PCPs find eConsults to be easy to use
- 95% of all PCPs find eConsults to be extremely valuable



Specialties Utilized – Adult Health

eConsults placed to specialty				
Endocrinology	20.4%		Sleep Medicine	1.5%
Cardiology	9.4%		Obstetrics / Gynecology	1.5%
Pharmacy	8.7%		Orthopedic	0.9%
Dermatology	8.0%		Medical Oncology	0.7%
Gastroenterology	7.6%		Allergy	0.7%
Neurology	6.9%		Hematology	0.7%
Rheumatology	6.1%		Ophthalmology	0.7%
Infectious Disease	5.8%		Pain Clinic	0.5%
Hepatology	4.2%		Stroke	0.2%
Nephrology/Renal	4.2%		UroGynecology	0.2%
Urology	3.3%		Survivorship	0.2%
Psychiatry	2.7%		Physical Medicine Rehabilitation	0.1%
Ears Nose Throat	2.7%		Palliative Care	0.1%
Pulmonary	1.9%		Wound Care	0.0%

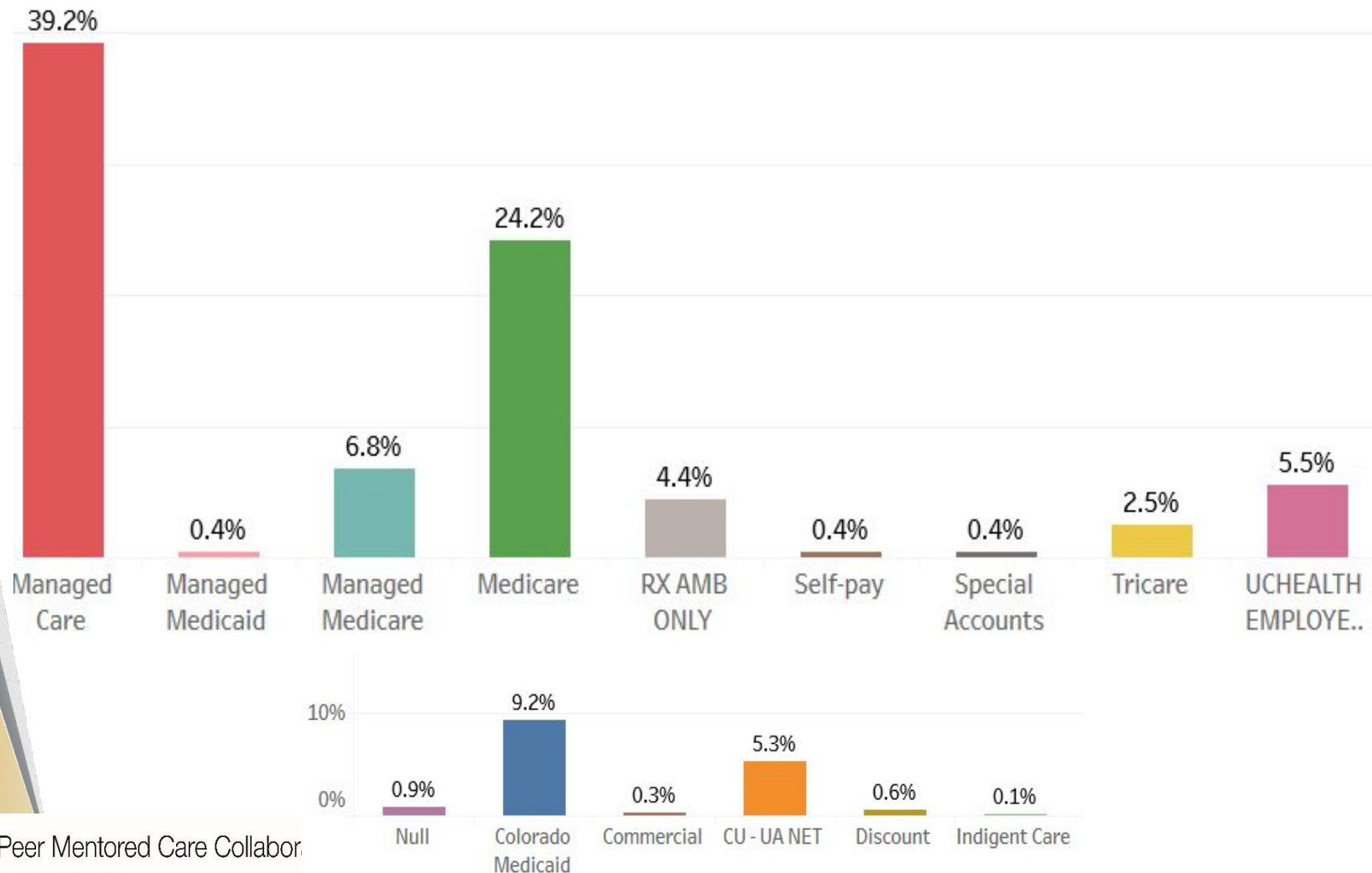


Patient Demographics – Adult Health

- Language (96% English; 2% Spanish)
- Average age = 52
- 63% female, 27% male
- 89% non-Hispanic, 10% Hispanic
 - 9 different races reported
- 50 different counties reported
 - 13 of which have 10 or more patients



eConsult by Payer Type – Adult Health



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Outcomes – Adult Health

- Only 5% of patients for whom eConsults completed were seen onsite in the corresponding specialty within 30 days of eConsult for any diagnosis
 - 2% for same diagnosis as eConsult
- 1% of patients seen in ED within 30 days of eConsult for any diagnosis
 - 4 total patients seen in ED for same diagnosis as eConsult



Outcomes – Adult Health

- Total Cost of Care Analyses
 - eConsults were associated with a 9.35% reduction in PMPM total cost of care over the subsequent three months
 - This suggests, that for those members with an eConsult, there was a \$240 cost savings per month
 - Over \$100,000 in travel savings alone



Impact on Access – Adult Health

- 14 of 21 specialties analyzed had shorter wait times from eConsult conversion to time of new appointment by an average of 8 days
- 70% of scheduled visits are completed
- Only a 4% no show rate for converted eConsults



Project Impact

- 2-3 business day turnaround time = quicker access to specialty care
 - Most of these visits would have otherwise been scheduled for 30+ days out
- eConsults keep the patient's care within their Primary Care Medical Home
- Right care, right time, right place



eConsult Volume – Child Health

- 1,865 eConsults placed
 - 86% completion rate
 - 14% routed back to PCP with recommendation of in person visit
- 253 PCPs have placed an eConsult
- eConsults placed on patients in 29 counties



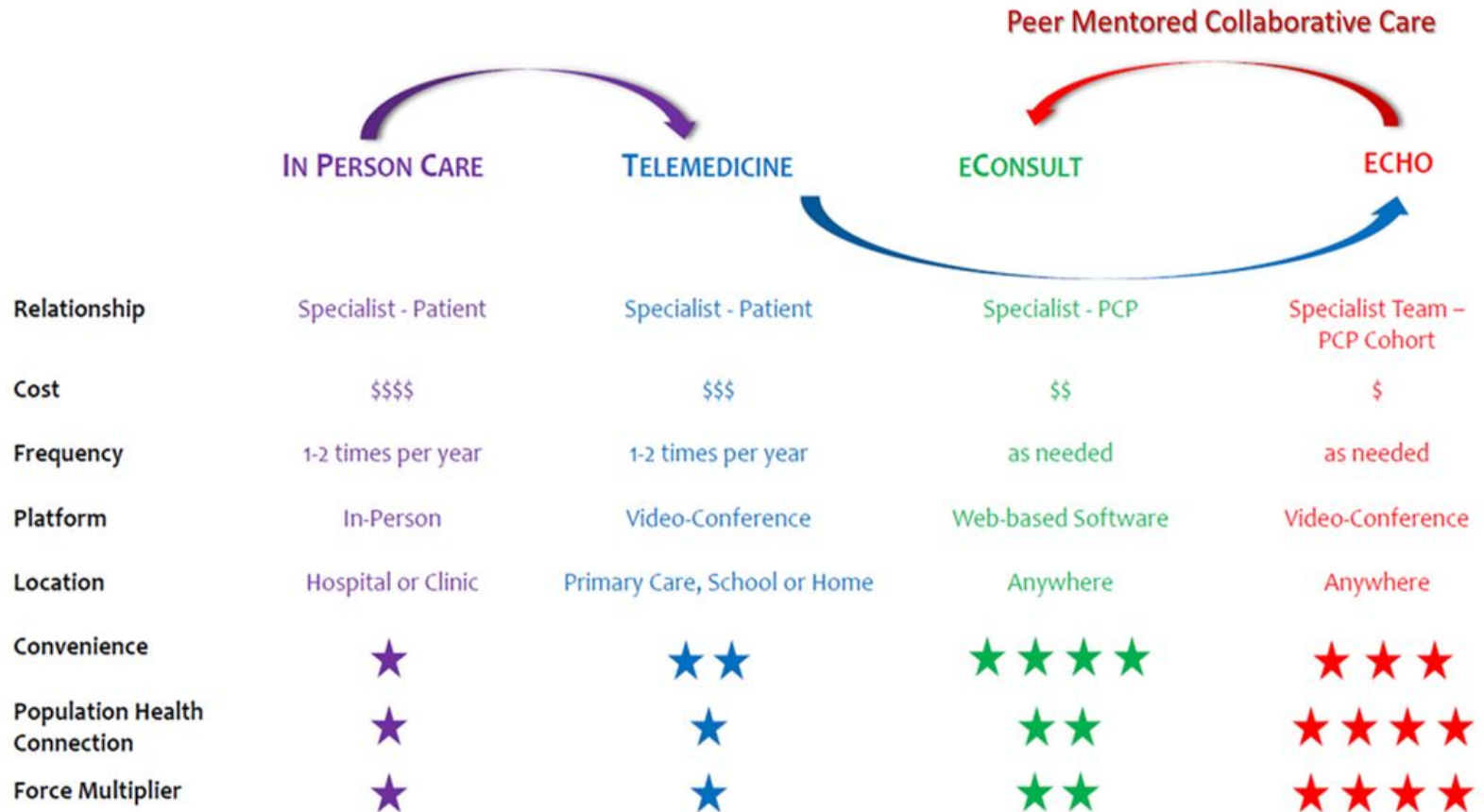
eConsult Volume – Child Health

Specialty	Total eConsults placed to specialty
DERMATOLOGY	21.4%
ENDOCRINOLOGY	17.9%
NEUROLOGY	7.9%
ORTHOPEDICS	7.8%
GI	7.2%
CARDIOLOGY	6.0%
UROLOGY	5.3%
DEV PEDS	4.2%
HEM/ONC	4.2%
ADOLESCENT GYNECOLOGY	3.1%
RHEUMATOLOGY	3.1%
NEPHROLOGY	2.7%
ALLERGY AND IMMUNOLOGY	2.1%
OPHTHALMOLOGY	2.0%
PSYCHIATRY	1.6%
PULMONARY MEDICINE	1.6%
OTOLARYNGOLOGY	1.6%
PHARMACY	0.3%
ADOLESCENT MEDICINE	0.1%
CHILD PROTECTION	0.1%



Spectrum of Care Approach

more tools in provider's toolkit to allow for right care, right place, right time.



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Call to Action

- PHE demonstrates telehealth is here to stay
- Preliminary data has illustrated overall positive effects
- We need advocacy for the changes to be made permanent
- Effort to deal with the issues that remain that can exacerbate disadvantages mentioned earlier
- Adoption of expanded models that emphasize home based care and patient centered medical homes



Readings

Eberly LA, Kallan MJ, Julien HM, et al. Patient Characteristics Associated With Telemedicine Access for Primary and Specialty Ambulatory Care During the COVID-19 Pandemic. *JAMA Netw Open*. 2020;3(12):e2031640. doi:10.1001/jamanetworkopen.2020.31640.

<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2774488>

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RAND. *Growth of Telehealth During Pandemic Occurred Mostly in More Affluent and in Metropolitan Areas*.

<https://www.rand.org/news/press/2021/03/15.html>

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Thank you

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