

# LFC Higher Education Subcommittee

## Presentation on Project ECHO

**Dr. Sanjeev Arora**

Tuesday September 21, 2021

# Presentation Overview

1. Overview of Project ECHO
2. Effectiveness of ECHO telementoring networks (examples)
3. Current Programming
  - a. Healthcare + COVID-19 response
  - b. Education
  - c. Current Budget
4. Legislative Request for FY2023--\$4 million additional funding to support expansion of existing key programs and the development of new programs
  - a. Healthcare (expansion HCV, diabetes, substance use disorder, development of new programming for palliative care, geriatrics, alcohol use disorder)
  - b. Education (expansion of programming for social-emotional wellbeing and child literacy)
5. Questions

# The ECHO Model

**A**  
**Amplification** - Use *Technology* to leverage scarce resources



**B**

Share **Best Practices** to reduce disparity



**C**  
**Case Based Learning** to master complexity



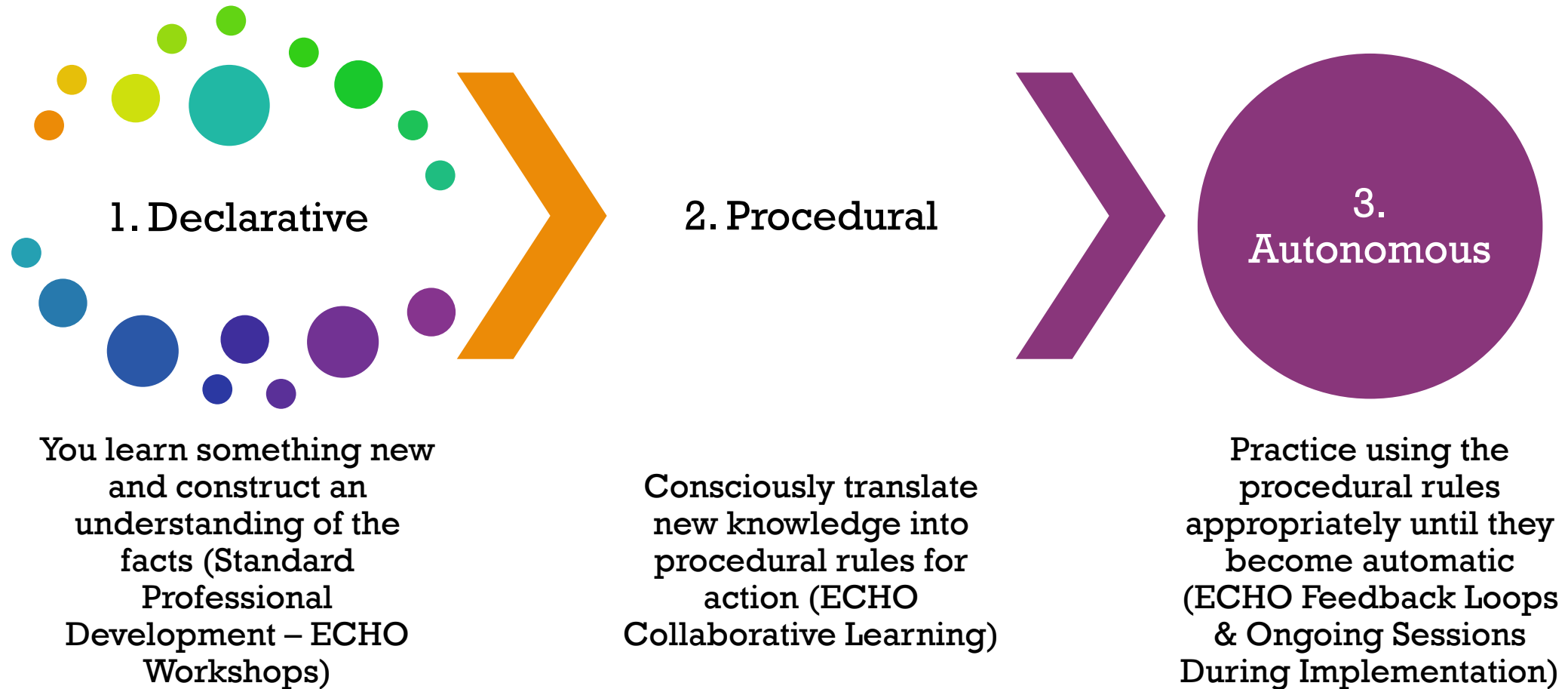
**D**

Web-based **Database** to *Monitor Outcomes*





# ECHO: Translating Research to Practice through engaging the three stages of expert knowledge acquisition\*

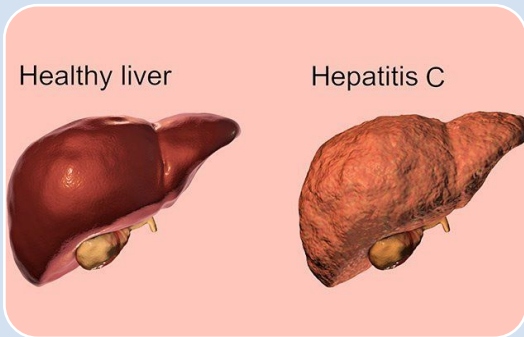


# Social benefit and economic impact of expanding access to best-practice care: Hepatitis C

- Expanding access to hepatitis C screening and treatment at the earliest stages of the disease does not only decrease human suffering; it provides considerable long-term economic value and benefit to society as a whole.
- A 2016 study in the *American Journal of Managed Care* found that the value of expanded testing only is constrained by the early availability of treatment to diagnosed patients:
  - Screening all individuals in the population generates \$0.68 billion in social value if diagnosed patients in stages F3-F4 of the disease are treated.
  - If all diagnosed patients in stages F0-F4 are treated, value generated jumps to \$824 billion.
- While costs of expanded treatment may be higher in the short term, the long-term social value of expansion of treatment is exponential.

Linthicum MT, Gonzalez Y, Mulligan K, et al. Value of Expanding HCV Screening and Treatment Policies In the United States. *Am J Man Care* 22 (May 2016); Special Issue: HCV.

# In New Mexico, limited access to specialists strains the ability of patients to get the care they need, when and where they need it



With screening and early detection, hepatitis C can be cured safely and cost effectively

According to the American Diabetes Association, diabetes costs New Mexico more than \$2 billion in healthcare costs a year.

An estimated 44% of those with mental health issues in New Mexico currently receive professional care

Access to specialty care in areas such as dermatology, rheumatology and many others does not exist in rural communities

**Our mission is to democratize  
implementation of best practices for  
healthcare and education to  
underserved people.**



# Project ECHO NM Hub Programs

•Bone Health

•Cancer Survivorship

•Chronic Pain

•Climate Change and Human Health

•Community Health

•COVID-19 Response

•Dermatology

•Endocrinology

•Education

•First Responder Resiliency

•Hepatitis C Community

•HIV and HIV Prevention

•Indian Country Programs

•IHS Community Health

•Medicaid QI and Hospitalization Avoidance (MQIHA)

•Medication Assisted Treatment

•Mental Health & Resiliency

•Miner's Wellness

•NM Community Health and Peer Support Workers

•Reproductive Health

Perinatal Health

•Rheumatology

Cancer and Palliative Care

# Active New Mexico COVID-19 Project ECHO Programs:

## Weekly

- COVID-19 Infectious Disease Office Hours – 13,172 total attendances, 6,697 NM attendances
- Critical Care for the COVID-19 Patient – 2,827 attendances, 1,448 NM attendances

## Biweekly

- MQIHA program for NM nursing homes (includes COVID-19 curriculum)

## Monthly

- ECHO COVID-19 Global Conversations Series
- ECHO COVID-19 Global Learning Collaborative

# Project ECHO COVID-19 Special Edition Programs

## Best Practices in Adoption of Telehealth

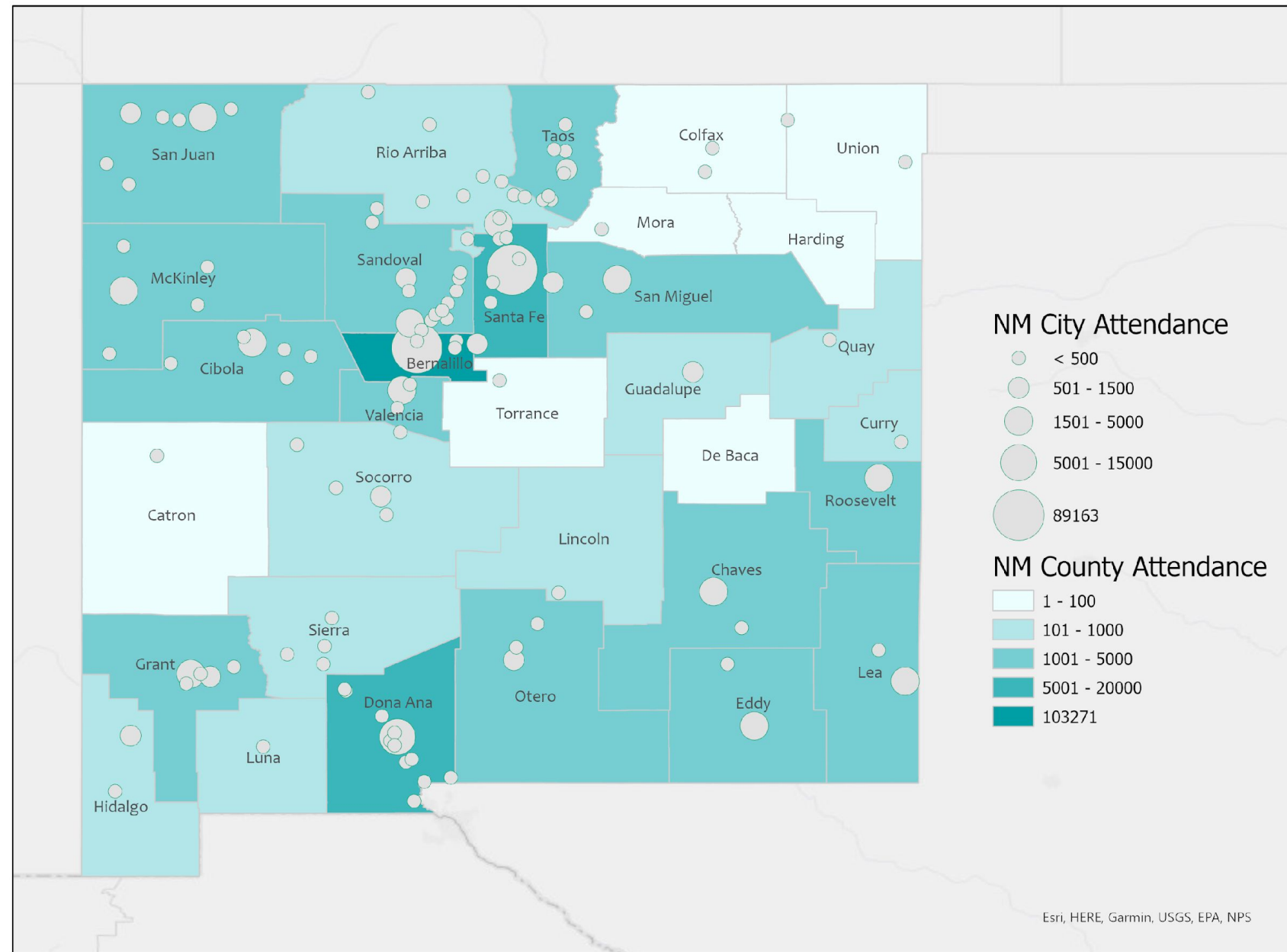
- COVID-19 Expert Panels
- 3 Sessions with 2412 attendees

## State of NM COVID-19 Program

- Collaboration with NM HSC, NM DOH, NMMS and NM PCA - 1475 attendees

# Project ECHO Learners in New Mexico

- 145,612 New Mexicans have attended an ECHO program or session since 2003
- June 1, 2018-June 1, 2021: 42,589 New Mexicans have attended an ECHO program or session at the UNM Hub

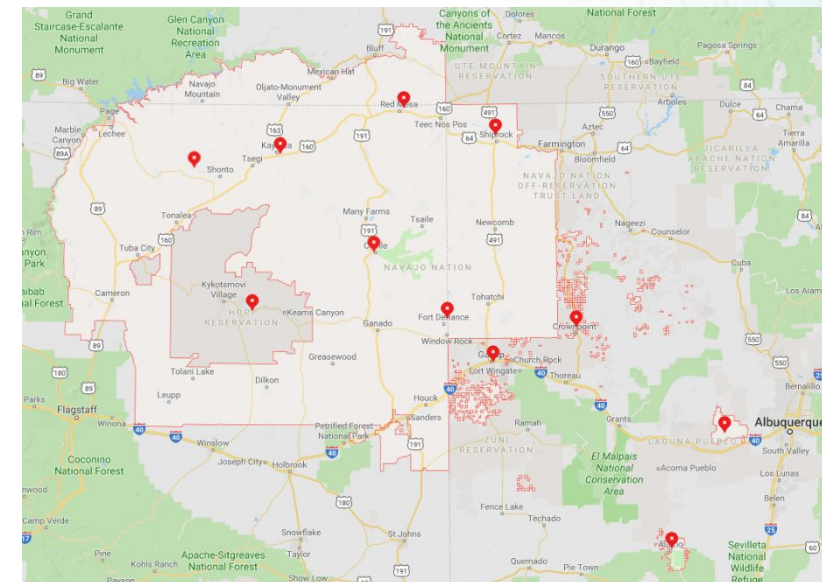


# Indian Country HCV Participating Sites



- Bimonthly HCV TeleECHO Session
- Collaboration with Northwest Portland Indian Health Board
- In 2018, 92.3% HCV prescriptions were from facilities participating in an ECHO program\*

## Navajo Area Participating Sites



\*Leston J, et al. Telehealth and hepatitis C treatment for indigenous communities in the United States. Rev Panam Salud Publica. 2020;44:e13. <https://doi.org/10.26633/RPSP.2020.13>

# NMCD Hepatitis C Elimination Project

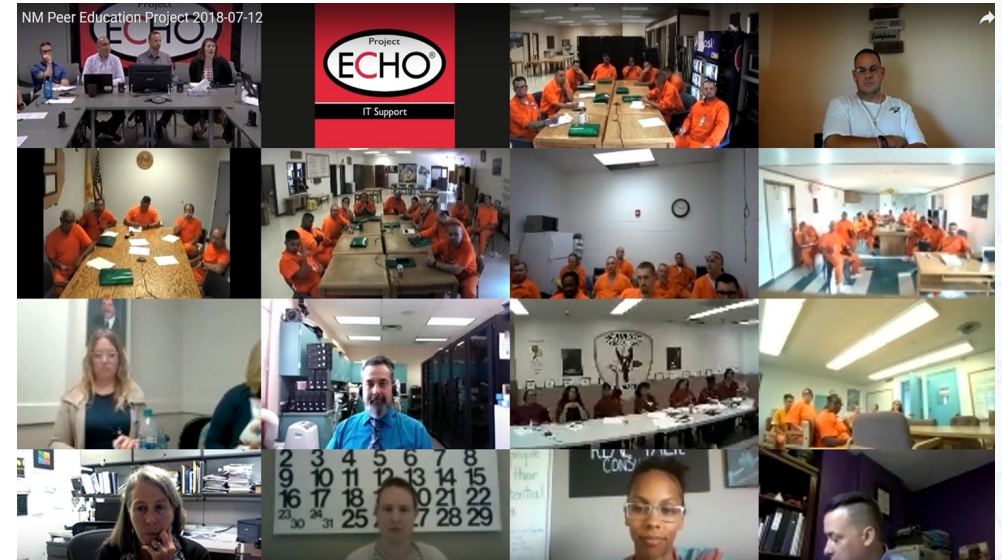
- Funding from the state legislature & approved by the Governor, goal to eliminate HCV in the entire prison system
- Program implemented by Project ECHO, NMCD and Wexford (NMCD Healthcare provider)
- Estimated 2,500 NMCD inmates infected with HCV
- Only 133 HCV infected persons treated last year
- Currently treating 50 inmates per month
- Goal to treat a minimum of 600 people per year

# NM Prison Peer Education Project

*Prisoner Health is  
Community Health*



*The New Mexico Peer Education Project*



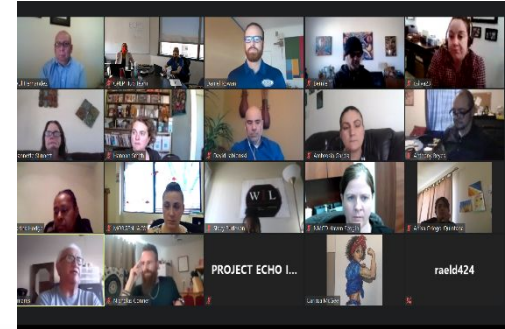
## NM PEP TeleECHO Session

- Started in 2009 to increase HCV education in state prisons
- Over 700 peer educators have completed 40-hour training
- Peer educators trained over 7,000 incarcerated individuals in 40 hour workshops and 6,000 at intake

# NM Community Peer Education Project

Collaboration between ECHO & NMCD that provides peer-led transitional support

- 5800 Inmates State Prisons
- 15,000 individuals on supervision
- 3,000 annually or 250 monthly released from prison
- Over 800 referrals for service
- Referral to healthcare or behavioral health services #3 (#1 housing/#2 employment)
- Over 100 referrals for healthcare services
- CPEP links recently released inmates from jails and prisons to medicaid services
- Partnership with Just Health Network to increase medicaid services



## Peer education initiative for prisoners goes mainstream

*Corrections project that started in jails enters community realm*

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**BY MATTHEW REISEN**  
JOURNAL STAFF WRITER

In 2009 a ground-breaking initiative quietly began peer education behind bars — pairing former prisoners with current ones — to reduce recidivism in New Mexico.

The project was so successful that in 2020, Probation and Parole requested the program be replicated for those on the outside.

Project ECHO recently partnered with the New Mexico Corrections

Department to start the Community Peer Education Project, or CPEP, which is fully funded by the department.

Project ECHO has its roots in health care, using videoconferencing and technology to bring expertise from top health care professionals to medical workers in underserved communities around the world.

Much like the Peer Education Project, CPEP utilizes Project ECHO's methodology to have former probationers and parolees guiding others through the system, providing resources and giving them a shoulder to lean on.

See **PRISON** >> **A3**



# First Responder Resiliency and Community Health Worker ECHO Programs

- First Responder Resiliency ECHO 

\*Educating Firefighters, Law Enforcement, Paramedics and *all* frontline clinicians regarding skills to prevent burn-out, increase resiliency, psychological first aid, self care, coping, etc.

Table 2. Participants' confidence <sup>1</sup> and agreement <sup>2</sup> with statements about resiliency, First Responders Resiliency (FRR) ECHO Survey, 28 September–11 November 2020, N = 45.

Confidence in Using Skills	Mean Score (Before)	Mean Score (After)	p-Value
Using the elements of psychological first aid	2.64	3.17	<0.01
Practicing self-care	2.93	3.26	<0.01
Responding to and caring for patients who may be positive for or are suffering from SARS-CoV-2 (COVID-19) <sup>3</sup>	2.37	2.93	<0.01
Recognizing and managing emergencies related to severe mental illness (e.g., psychosis, depression, etc.) as a first responder	2.64	3.02	<0.01
Incorporating trauma-informed care into your response to emergencies as a first responder	2.40	2.86	<0.01
Recognizing and responding to a coworker struggling with mental health issues	2.77	3.14	<0.01
Recognizing and responding to a coworker struggling with substance use issues	2.56	2.98	<0.01
Recognizing and accessing rural-specific resources to address mental health and substance use in the community	2.57	3.02	<0.01

- Community Health Worker Programs:

\*CHW Opioid

\*Vaccine Equity

\*Cancer Survivorship

\*IHS

# Improving Perinatal Health ECHO

In the past two years the IPH ECHO program has coordinated content focused on:

- Long-Acting Reversible Contraception (LARC)
- AIM Obstetric Hemorrhage Bundle
- AIM Severe Hypertension in Pregnancy Bundle
- COVID-19 Pandemic and vaccination in pregnancy
- Other urgent content needs of member units

Upcoming efforts:

- Implementation of the AIM Substance Use Disorder bundle
- Longitudinal follow-up of previously implemented AIM bundles

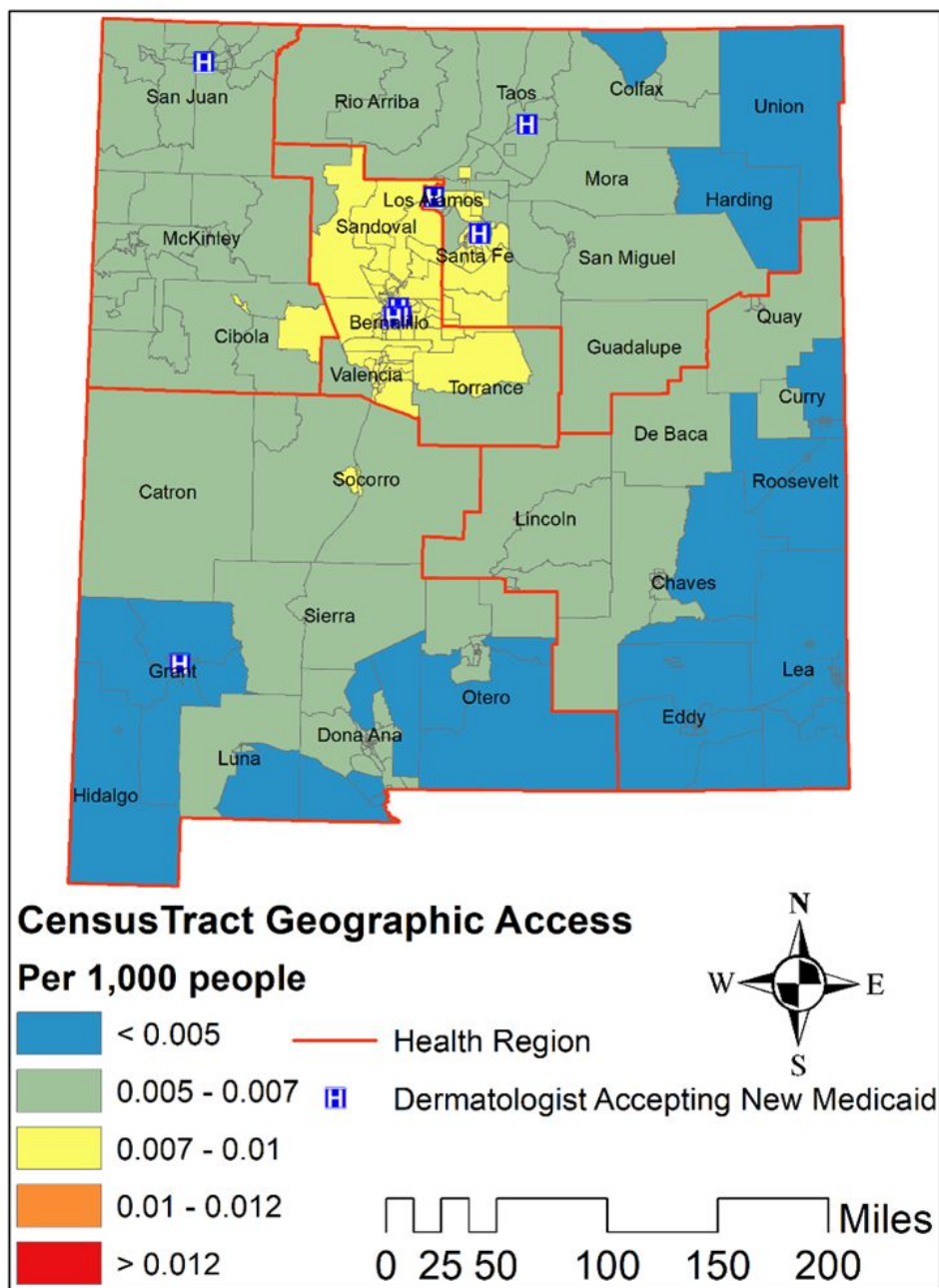
# Project ECHO<sup>®</sup> - Dermatology

John Durkin, MD, FAAD

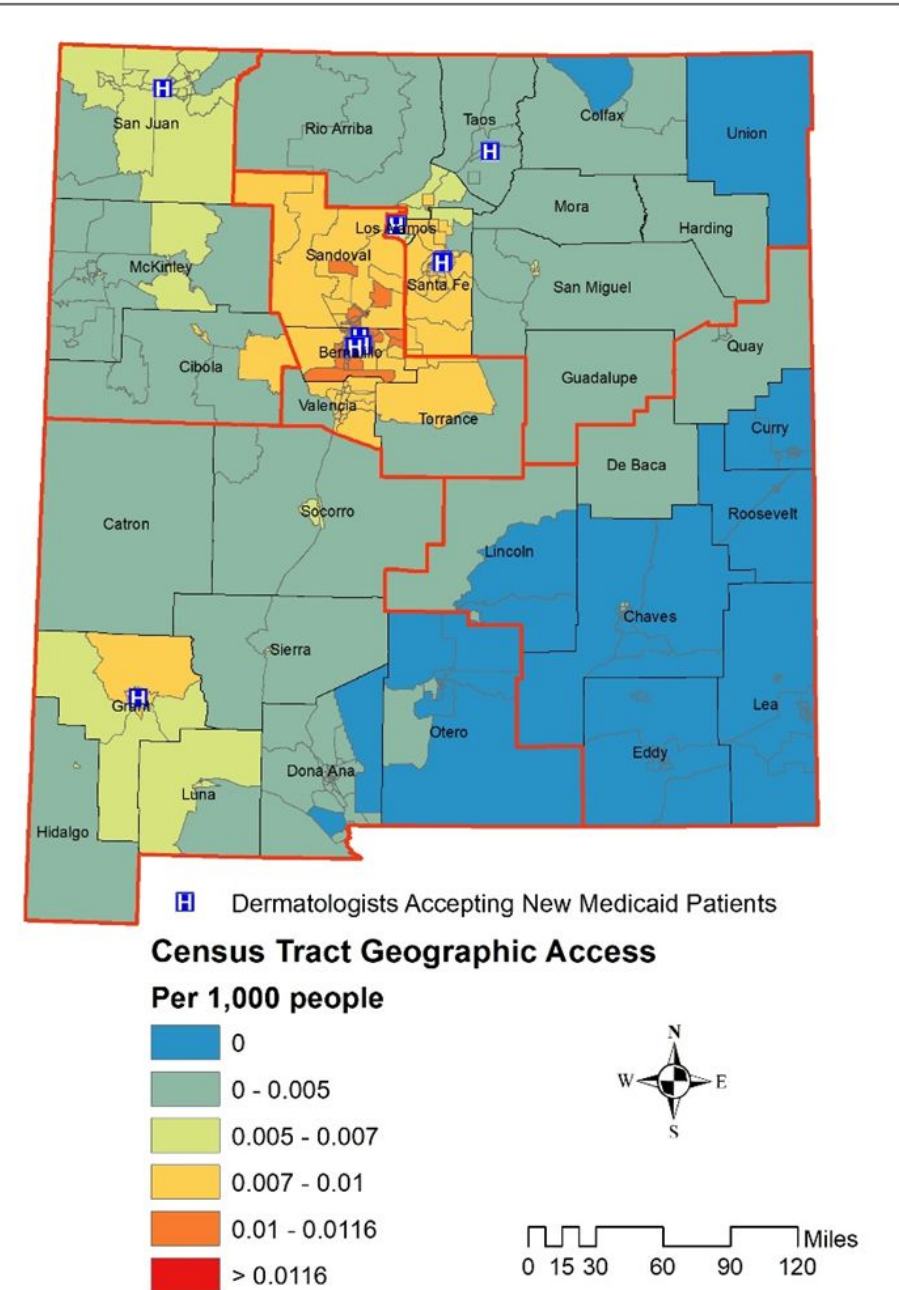
Department of Dermatology- UNMHSC

- Aims to improve access to dermatologic care by providing evidence-based approaches and training to primary care providers
- Focuses on expanding access to care, improving care for the benefit of the community, and decreasing overall healthcare costs by decreasing referrals for common conditions including but not limited to acne vulgaris, actinic keratosis, seborrheic keratosis, and hidradenitis suppurativa.
- **There are only approximately 33 board certified general dermatologists that serve a population of over two million persons Patients may experience long wait times and have to travel a great distance to see a dermatologist. Early access care improves outcomes and decreases morbidity and mortality. The program utilizes the ECHO Model to focus on the goal of decreasing wait times, travel expenses, and referrals to see a specialist by training and supporting primary care dermatology healthcare professionals.**

No access
<1/4 of dermatologist needed
1/4 of dermatologist needed
1/2 of dermatologist needed
>1/2 of dermatologist needed



new Medicaid patients with no time constraint



new Medicaid patients with 3-hour constraint

# Miners' Wellness TeleECHO Program

Jointly held by the University & a community hospital in NM twice a month  
Recognized by the American Thoracic Society as an innovation in fellowship education in 2019 & 2020 Rural  
COVID-19 innovation by HRSA Rural Health Information Hub



About 25  
attendees per  
session

Clinical providers  
Respiratory therapists  
Benefits counselors  
Attorneys  
Mine safety officers  
Home health professionals

75-minute format	
10 min	Introduction & Announcements
15 min	Didactic
20 min	Didactic Q&A
10 min	Case Presentation
20 min	Case Discussion and Q&A

# Impact and Effectiveness:

## ECHO Program Outcomes in Healthcare

# ECHO Publications by Outcome Levels

Based upon: **Moore's Seven Level Outcomes Model**

7. Community health

6. Patient health

5. Competence

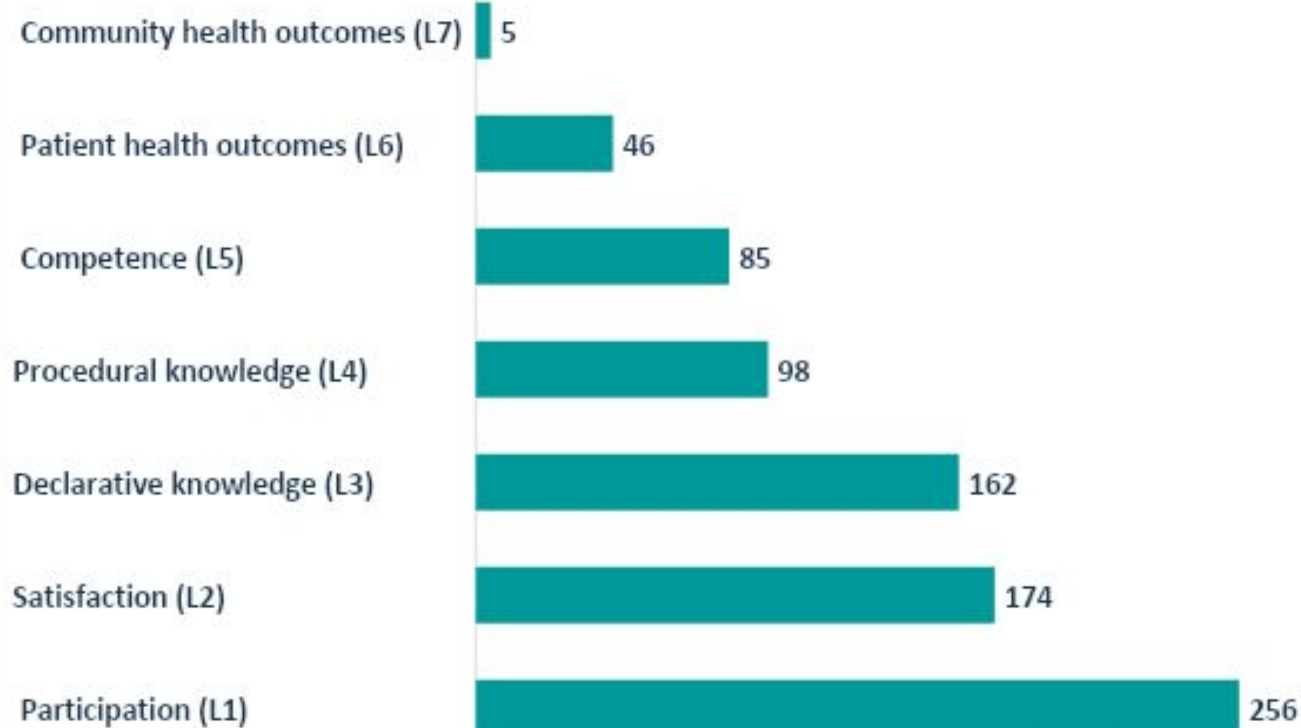
4. Procedural knowledge

3. Declarative knowledge

2. Satisfaction

1. Participation

Peer-reviewed publications by Moore's Level  
(N=328)



# ECHO Patient Outcomes: Highlights

## Patient Management

- Participation in a Veterans Health Administration ECHO program for pain management education was associated with increased utilization of physical medicine services and initiation of nonopioid medications among patients with chronic noncancer pain (*Pain Medicine*, June 2015)

## Geriatrics/Eldercare

- Patients discharged to skilled nursing facilities participating in an ECHO Care Transitions program had shorter lengths of stay, lower 30-day hospitalization rates, and lower 30-day health care costs compared with those in matched skilled nursing facilities delivering usual care (*American Journal of Medicine*, October 2017).

## Mental/Behavioral Health

- Patients of rural primary care provider teams participating in behavioral health ECHO programs showed decreases in the number and severity of symptoms associated with their diagnosed mental health disorders (*Journal of Rural Mental Health*, 2019).

## Opioid Use Disorder

- A rural primary-care network in New York state used ECHO to train community providers on evidence-based OUD treatment: as a result more of these patients accessed medication-assisted treatment with buprenorphine, with a 180-day retention rate of 80.7% (*Substance Abuse*, June 2021).



# ECHO-AGE

## Beth Israel Deaconess Boston

- 2:1 Matched Cohort Study
- 11 nursing homes received ECHO intervention.  
Matched with 22 controls
- Residents in ECHO Age facilities were 75% less likely to be physically restrained
- Residents were 17% less likely to be prescribed antipsychotics

Gordon S.E., Dufour A.B., Monti S.M., et al. *J Am Med Dir Assoc.* 2016;17(6):553-6.

# VA SCAN-ECHO for Liver Disease

## University of Michigan

- 513 patients who had a liver SCAN-ECHO visit were found within the cohort.
- Patients who had completed a virtual SCAN-ECHO visit were more likely younger, rural, with more significant liver disease, and evidence for cirrhosis.
- Propensity adjusted mortality rates using Cox Proportional Hazard Model showed that a SCAN-ECHO visit was associated with a hazard ratio of 0.54 (95% CI 0.36-0.81,  $p = 0.003$ ) compared to no visit.

**Virtual Consultations through the Veterans Administration SCAN-ECHO Project Improves Survival for Veterans with Liver Disease** Su. GL, Glass L, et al; Hepatology . 2018 May 5. doi: 10.1002/hep.30074

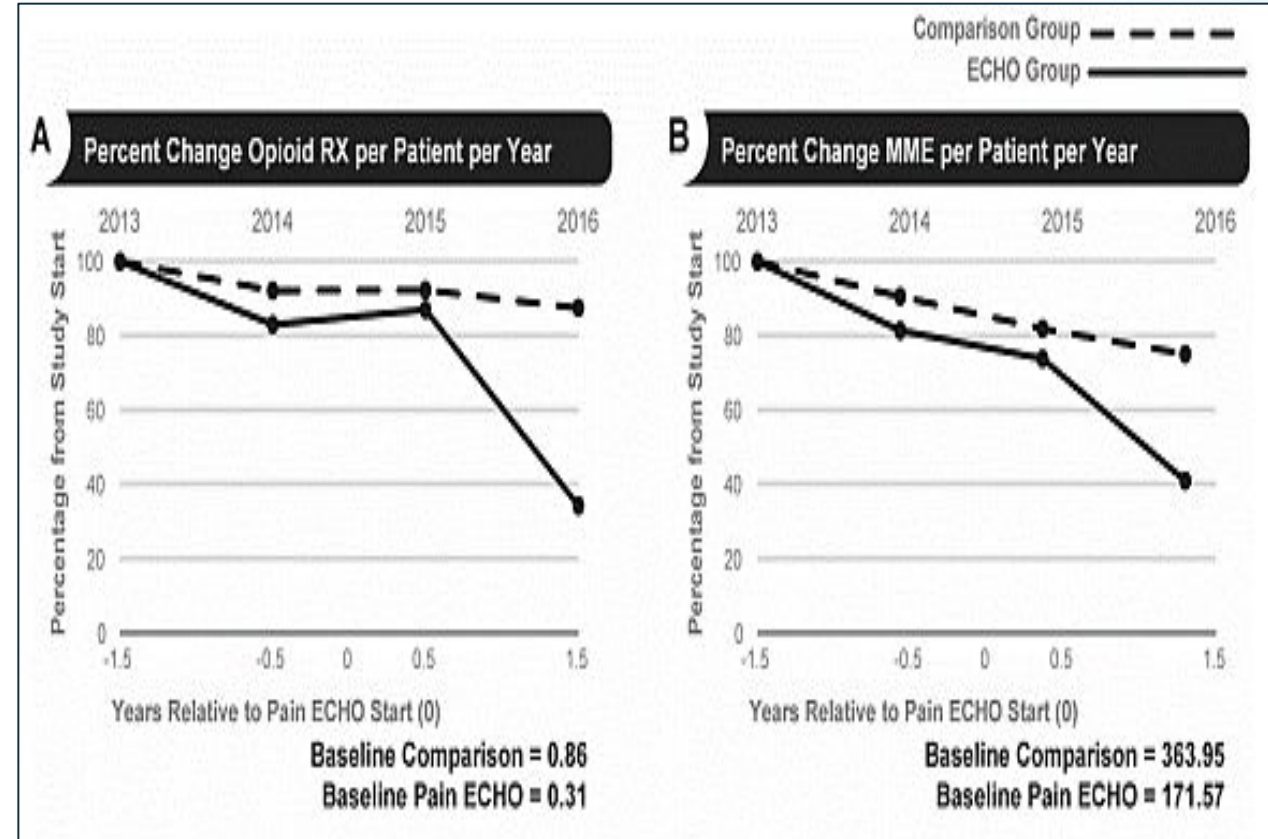
# VA-ECHO (HepC)

- Treatment methods for patients ( $N=6431$ ) whose PCPs were exposed to the Veterans Affairs ECHO Program (VA-ECHO) by participating in  $>1$  session ( $N=376$ ) versus a control group of patients ( $N=32,322$ ) whose PCP was unexposed ( $N=3797$ ).
- **Goal:** Assess the association between VA-ECHO exposure and the patient's treatment plan for Hepatitis C.
- **Exposed patients received higher rates of antiviral treatment compared to unexposed patients** (adjusted hazard ratio, 1.20; 95% confidence interval, 1.10-1.32;  $p < .01$ ). 21.4% of cases presented during VA-ECHO were given provider-initiated antiviral medication, compared to 2.5% of unexposed patients.
- Crude sustained virological rates were similar for PCPs compared to typical rates observed for specialists.

Beste, L. A., Glorioso, T. J., Ho, P. M., Au, D. H., Kirsh, S. R., Todd-Stenberg, J., ... & Ross, D. (2017). Telemedicine specialty support promotes hepatitis C treatment by primary care providers in the Department of Veterans Affairs. *The American Journal of Medicine*, 130(4), 432-438.

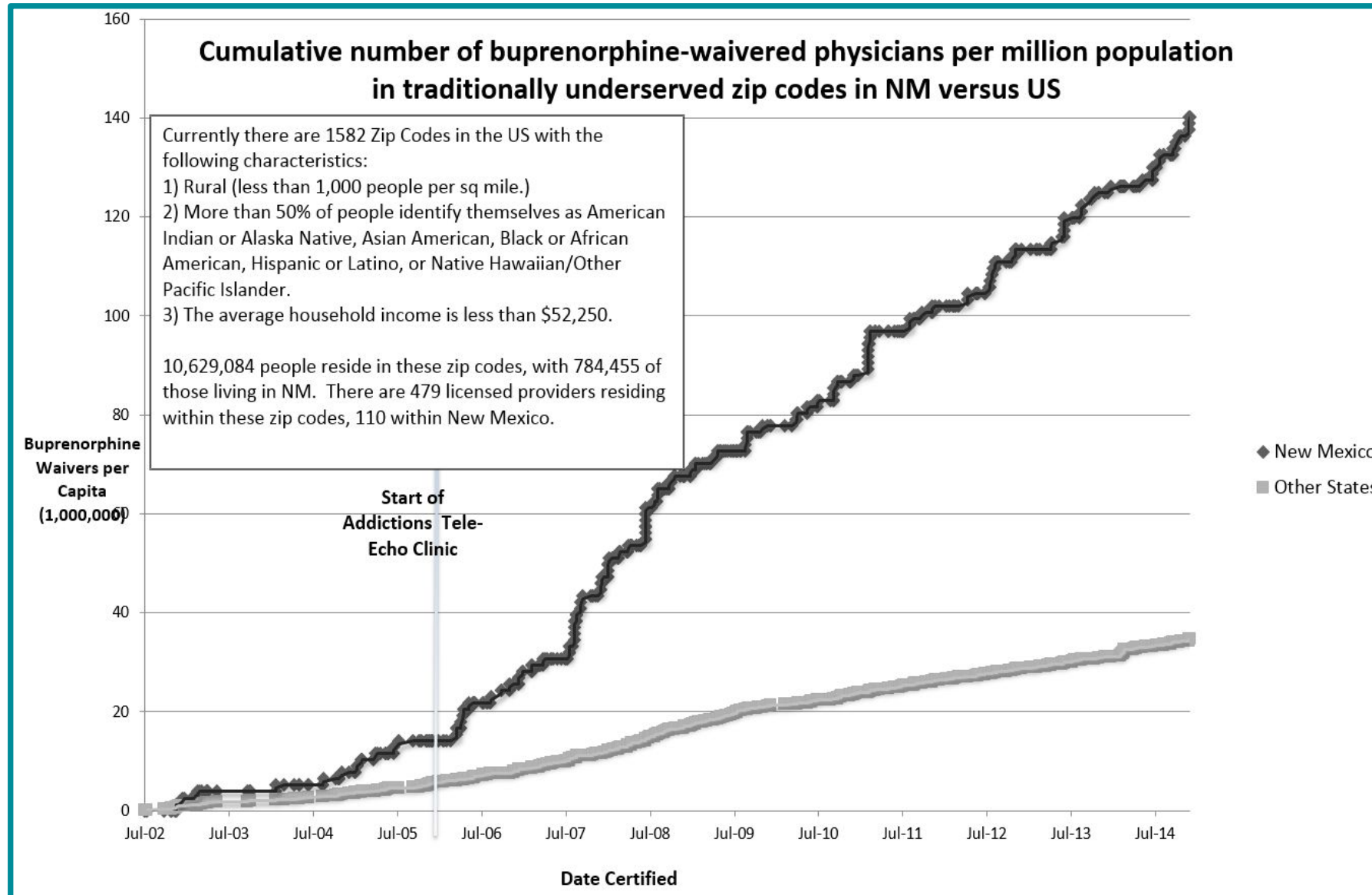
# ECHO Pain

- Intervention group (99 clinics participating in ECHO Pain); Control group (1283 clinics)
- **Method:** Rx counts for [de-identified] patients enrolled with PCC teams from FY 2013-FY 2016.
- The average annual decline of # of Rx/patient/year decreased 23% for ECHO Pain participants compared to 9.2% for non-participants ( $p=.004$ ).

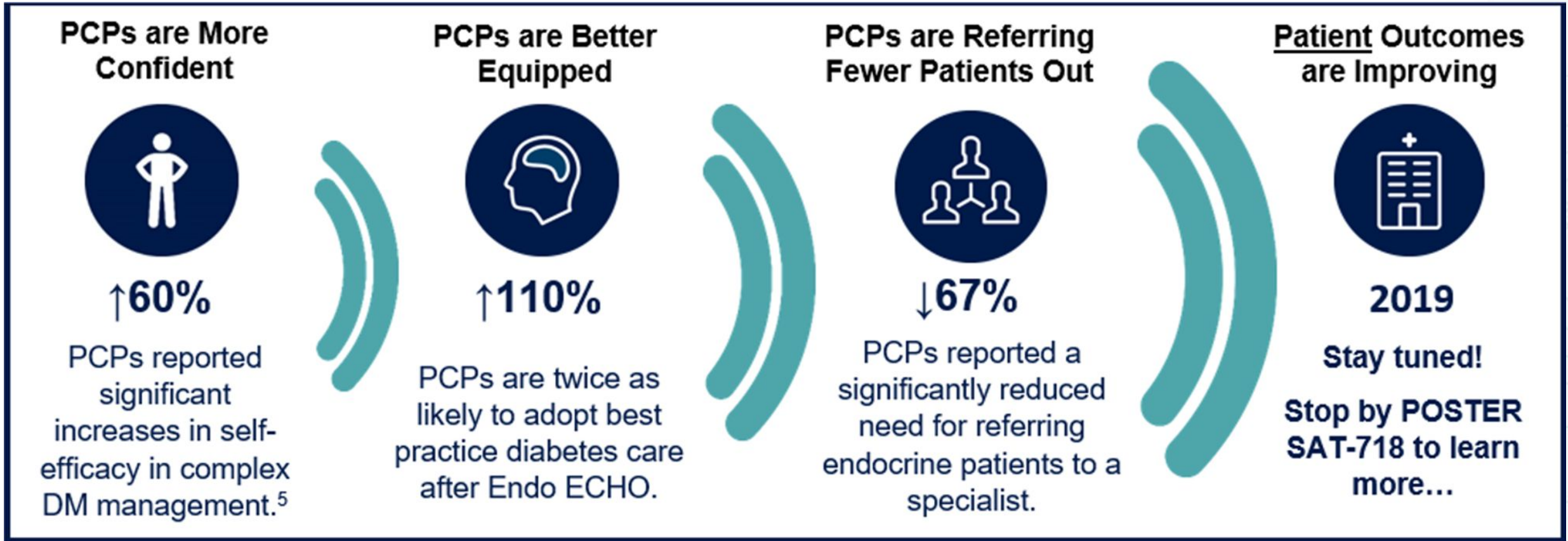


Katzman, J. G., Qualls, C. R., Satterfield, W. A., Kistin, M., Hofmann, K., Greenberg, N., ... & Arora, S. (2019). Army and Navy ECHO Pain Telementoring Improves Clinician Opioid Prescribing for Military Patients: an Observational Cohort Study. *Journal of general internal medicine*, 34(3), 387-395.

# Substance Use Disorder Treatment



# Diabetes ECHO Outcomes in NM



1. *Endocr Pract* 2018;24(1):40-46.

2. Endocrine Society Annual Meeting & Expo, Chicago, March, 2018.

# NM Medicaid database analysis

(Endo ECHO cohort vs propensity score matched “controls” in the community)



Endo ECHO cohort experienced increases in:

- Outpatient visits
- Prescription-related quality measures:
  - Metformin
  - Statins
  - ACE inhibitors
  - Antidepressants

*Endocr Pract* 2020; doi: 10.4158/EP-2019-0535. Online ahead of print.

# Cost-Effectiveness

Studies have demonstrated that **ECHO** programs can reduce healthcare costs for patients, facilities and insurers, and communities

## Veterans Administration ECHO (*Hepatology*, Dec 2018)

Chronic liver disease study

Patients with access to ECHO-trained doctors in their communities averaged **187 travel miles saved per person**

**Total program miles saved - 28,597**

## Geriatric Mental Health ECHO *Population Health Management*, Oct 2018

Geriatric Mental Health emergency room admissions study

**Average number of ER admissions decreased by 20%** for patients of ECHO-trained providers

Among ER-admitted patients, the **average cost per stay fell by 24%**

## ECHO Care Transitions *American Journal of Medicine*, Oct 2017

Skilled nursing facilities study

Patients discharged to skilled nursing facilities participating in ECHO Care Transitions had **shorter length of stay, lower 30-day hospitalization rates, and lower 30-day health care costs** compared to those in matched skilled nursing facilities delivering usual care

## UNM's HCV ECHO *Gastroenterology*, Dec 2017

UNM's HCV ECHO analysis

Showed an **incremental cost-effectiveness ratio of \$10,351 per quality-adjusted life year** of New Mexico HCV Patients with ECHO-trained providers with increased ability to screen and treat HSC infections



# Cost-effectiveness: ECHO for Opioid Use Disorder

- West Virginia has the highest rate of opioid use disorder in the country (12.9/1000 people) and a fatal overdose rate of 49.8/100,000 people, far above the national average (CDC *US Weekly Morbidity and Mortality Report* 2021). West Virginia's per capita cost of opioid use disorder and fatal overdose was most recently calculated at \$7,247 (*Drug and Alcohol Dependency*, 2021).
- In 2018, West Virginia's Project ECHO Program for Medication-Assisted Treatment trained 56 providers on MAT, who provided services to 196 patients (*Journal of Substance Abuse Treatment*, 2020). Other studies have shown that a high percentage of patients (80.1%) of MAT ECHO-trained providers are retained in MAT programs for 180 days or more, drastically improving their long-term health outcomes (*Substance Abuse*, 2021).
- Using a far more conservative treatment retention rate of 70%, West Virginia's cost savings from this single ECHO program could be calculated at \$994,288.

# NM ECHO for Education

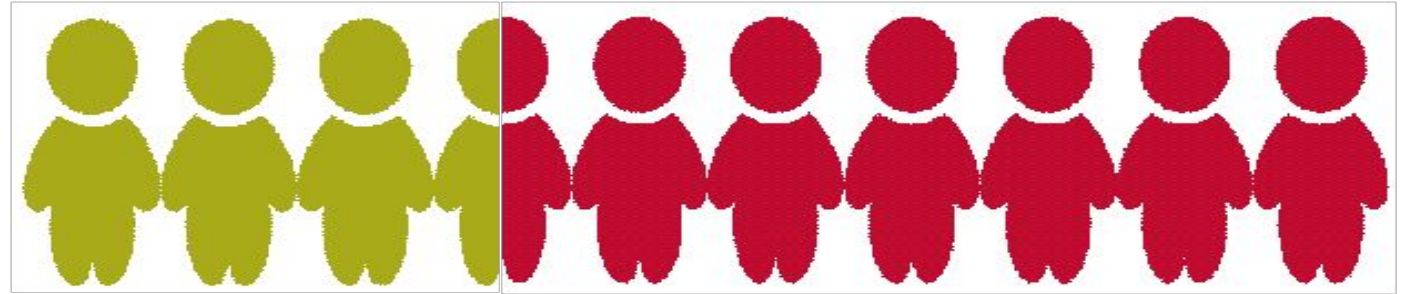


# In Reading

Source: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP) 2019

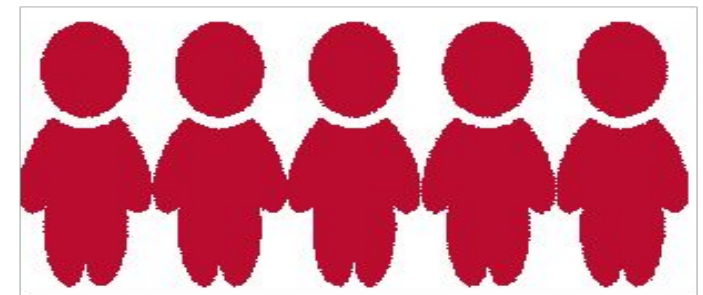
Only

35%



of children in America are **proficient readers** by the **end of 3<sup>rd</sup> grade**

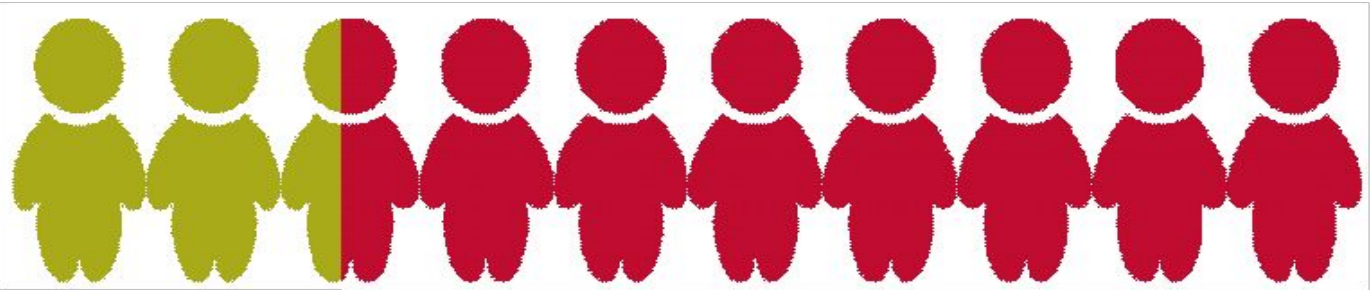
**75%** of **These students will NEVER catch up**



Source: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP) 2019

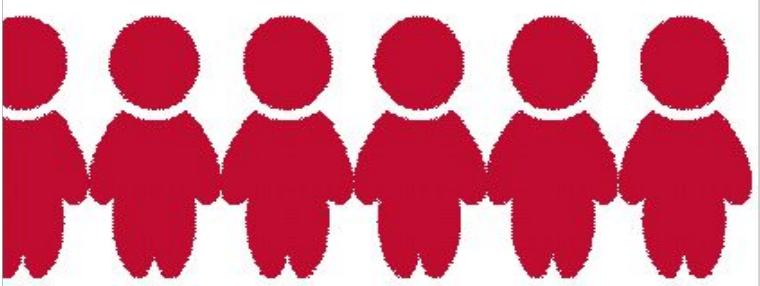
# In New Mexico only

# 24%



of children are **proficient readers** by the **end of 3<sup>rd</sup> grade**<sup>i</sup>

# 57% of NM students will **NOT** catch up



Close to **80%** of American children are **unprepared** to access a future in the sciences or technology at the end of their education <sup>37</sup>

## % Students At or Above Proficient by Grade Level

### MATH



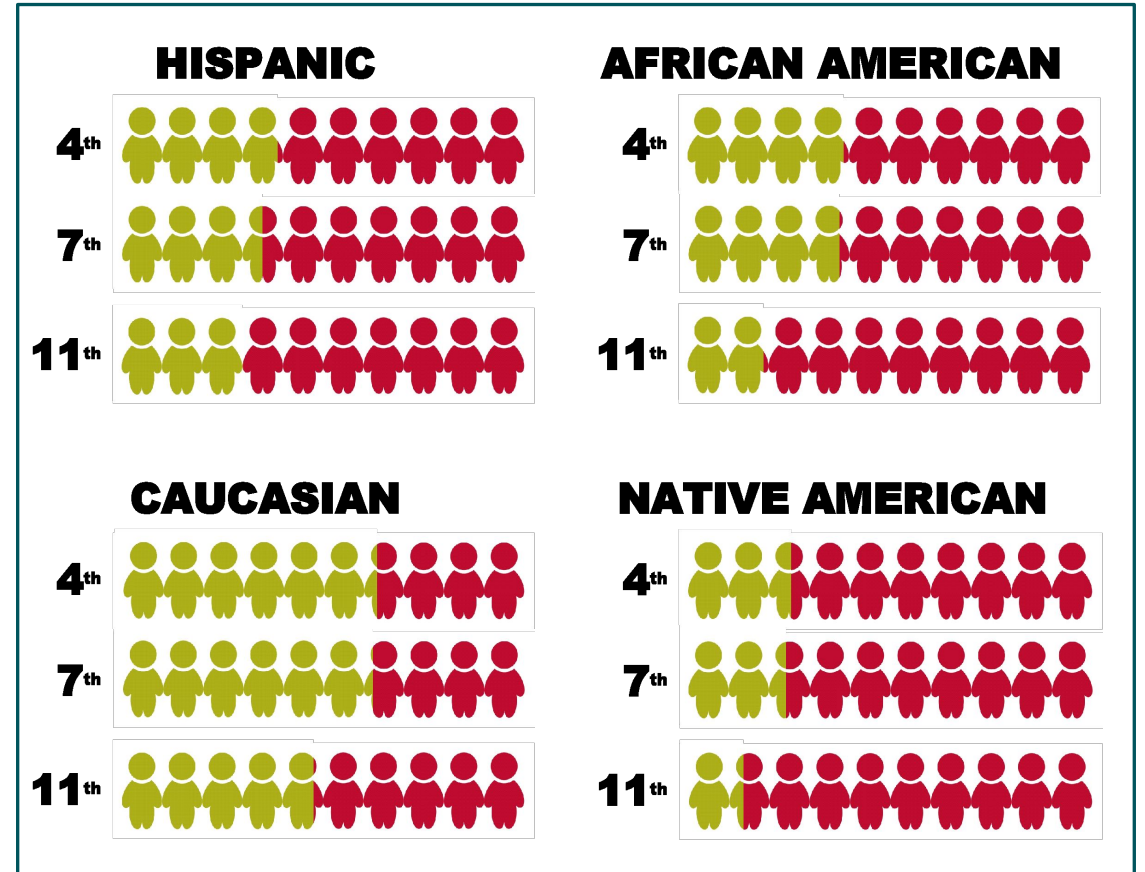
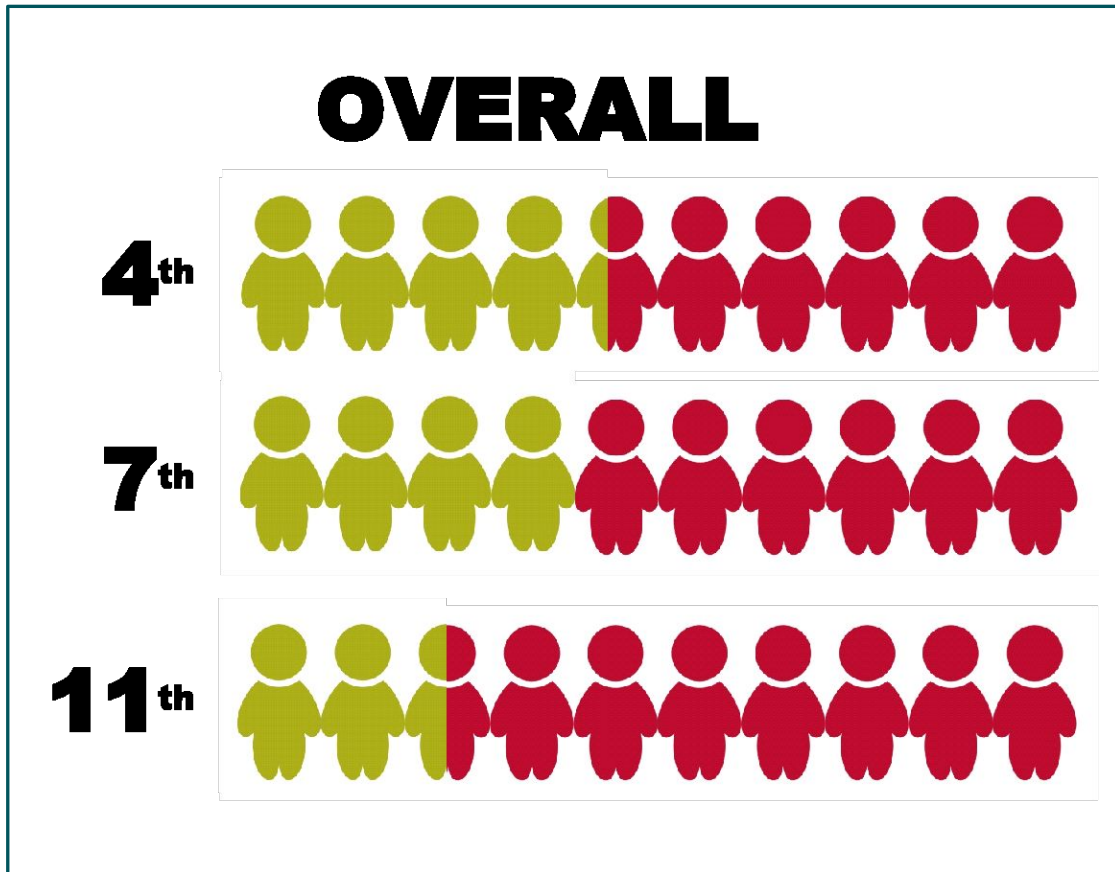
### SCIENCE



Source: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP) 2019 for Math, 2015 for Science

# New Mexico Science Proficiency by Grade

## 2019 State-level testing

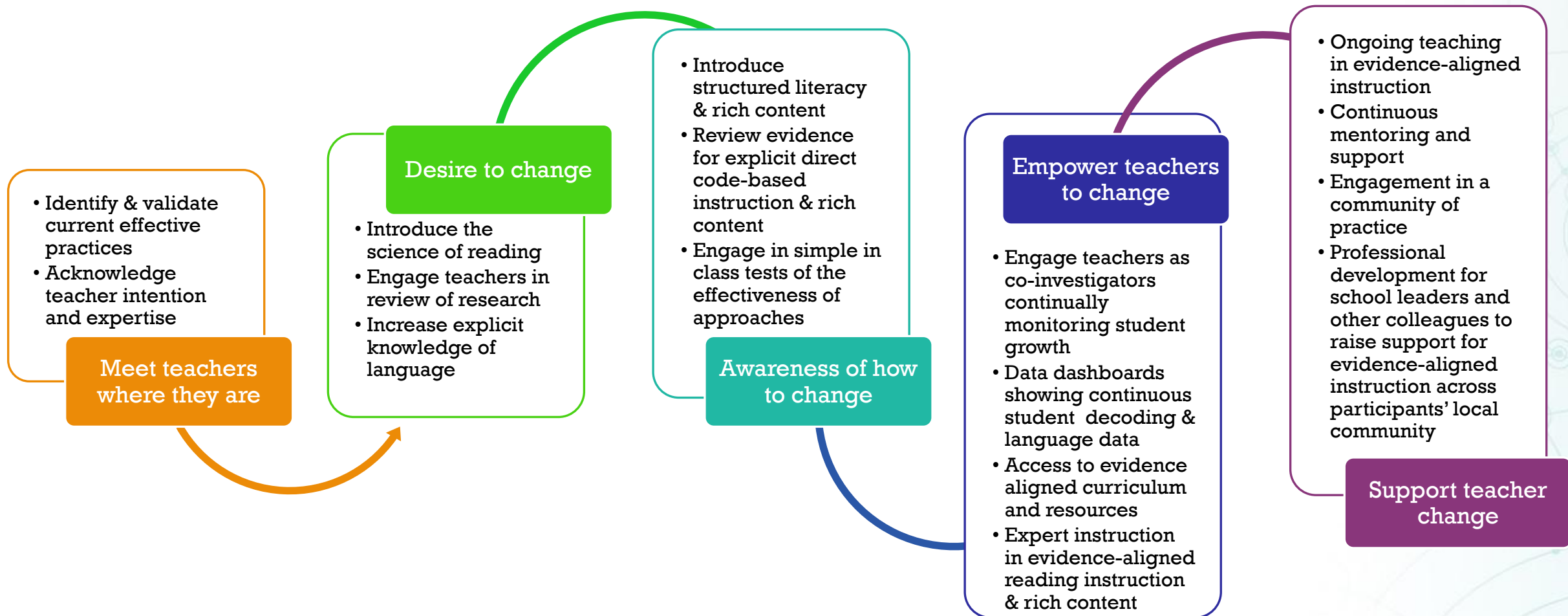


**PUBLIC EDUCATION IS THE ENGINE OF JUSTICE.**  
**IT HAS THE POWER TO REDUCE POVERTY,**  
**IMPROVE HEALTH, SOLVE CLIMATE CHANGE, STRENGTHEN**  
**ECONOMIES AND COMBAT RACIAL INEQUITIES**

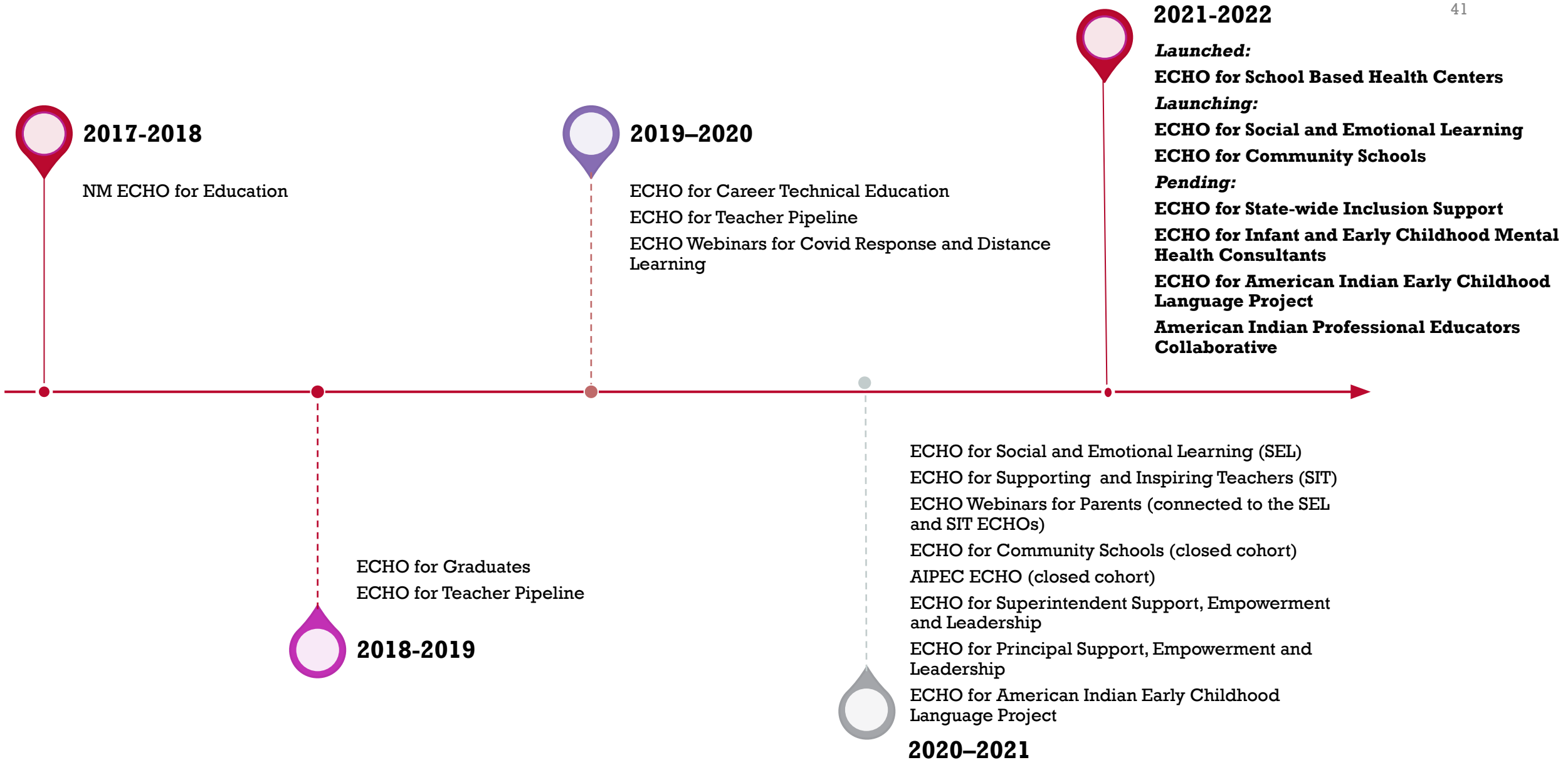


# Theory of Change: Teacher Transformation Model

(cohort programs)





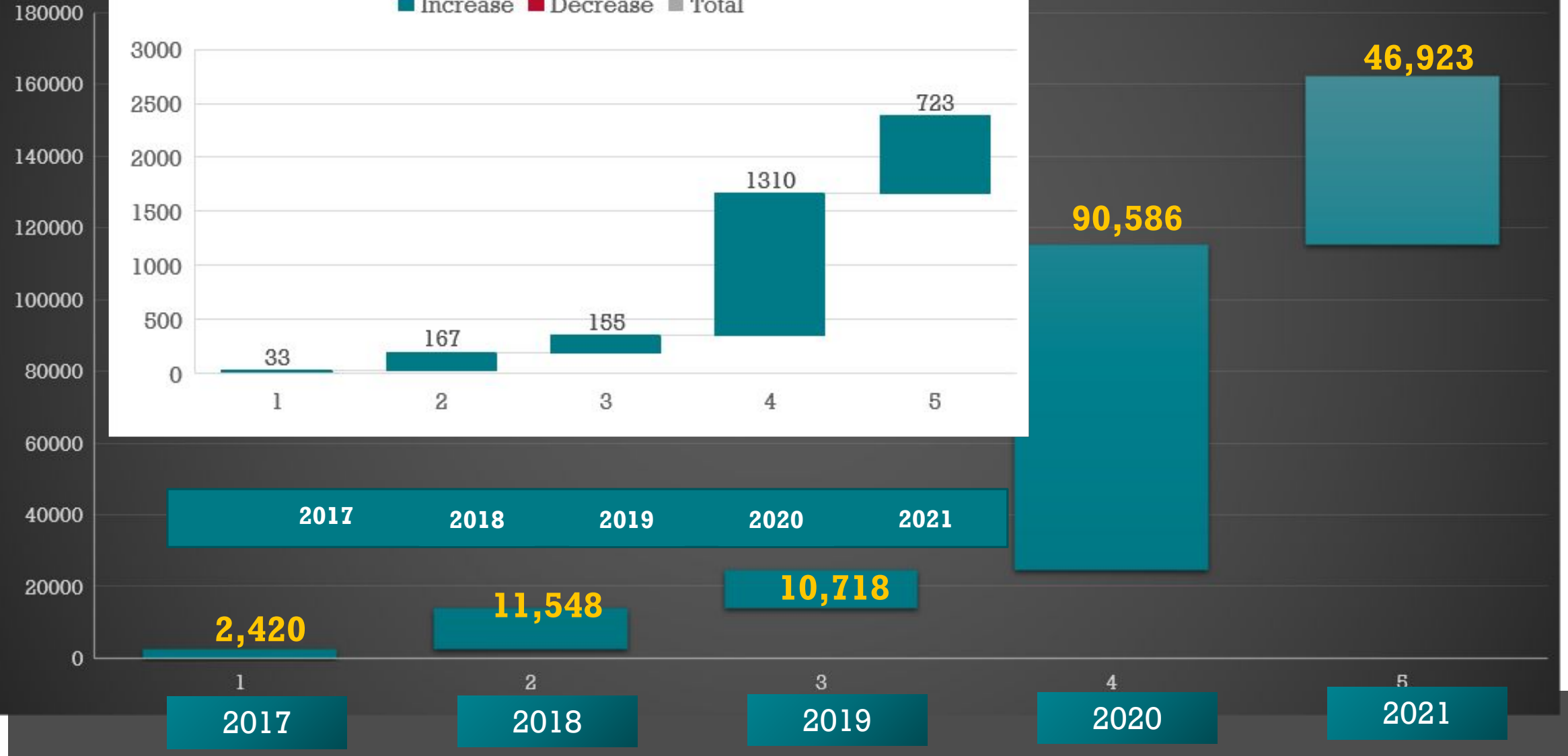


\$7

# Educators participating in NM Education ECHO Programs (unique)

PROGRAMS (estimated) 42

■ Increase ■ Decrease ■ Total



5 years

16 Programs

2,388 Educators

162,195 Students

# ECHO Education in New Mexico

# Anatomy of an ECHO for Education Session

Breakdown of weekly 60-minute sessions

## Expert instruction (20 minutes & 5 minutes Q&A)

- A 20 minute didactic presentation on a key issue in evidence-aligned literacy instruction or key teacher language knowledge for Tier 1 instruction

## Case-based and collaborative learning (20 minutes)

- Presentation of a problem of practice in literacy instruction by a participant or exploration of a shared challenge in literacy instruction, followed by collaborative problem solving by the community of practice and hub experts

## Implementation update OR Reflection on previous case (10 minutes)

- Brief data sharing by participants on their implementation of practices arising from the ECHO, OR participant(s) who previously presented cases report back to the group about the outcomes from implementing recommendations of the group. This section creates feedback loops for both implementation of practices learned and recommendations for problem solving.

# Legislative Request FY 2023

# Expansion of ECHO Programming For Healthcare

Diabetes Care

Bone Health

Behavioral Health Support

Hepatitis C Treatment Support

Chronic Pain Management

Substance Use Disorder

Opioid Use Disorder

Rheumatology

Perinatal Health

Dermatology

# Development of New Programming To Meet State Priority Needs

## Alcoholism and Treatment

- Leading cause of death in New Mexico
- Effective treatment exists
- New program would expand access to information on early diagnosis and effective treatments and approaches for providers around the state

## Palliative Care

- Outside urban settings, few patients in New Mexico have access to palliative care services
- This program would aim to train providers on approaches to palliative care to support broader access by patients throughout the state

## Geriatrics Care

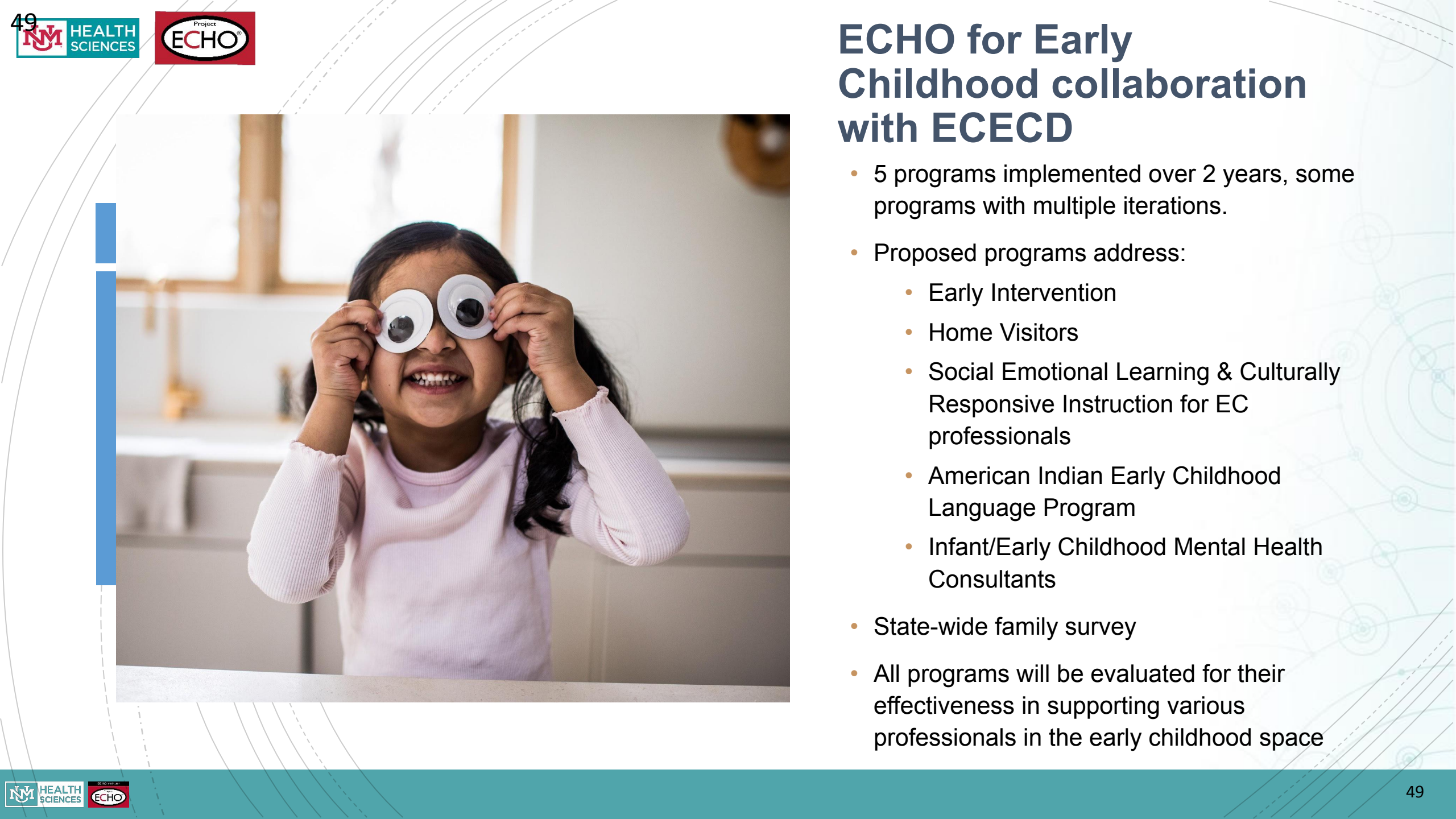
- New Mexico's population is aging and few have access to quality geriatric care.
- This program would support providers around the state and mentor them to be able to provide quality care to their aging patients



# Future Directions ECHO Education in New Mexico

ECHO Institute, UNM

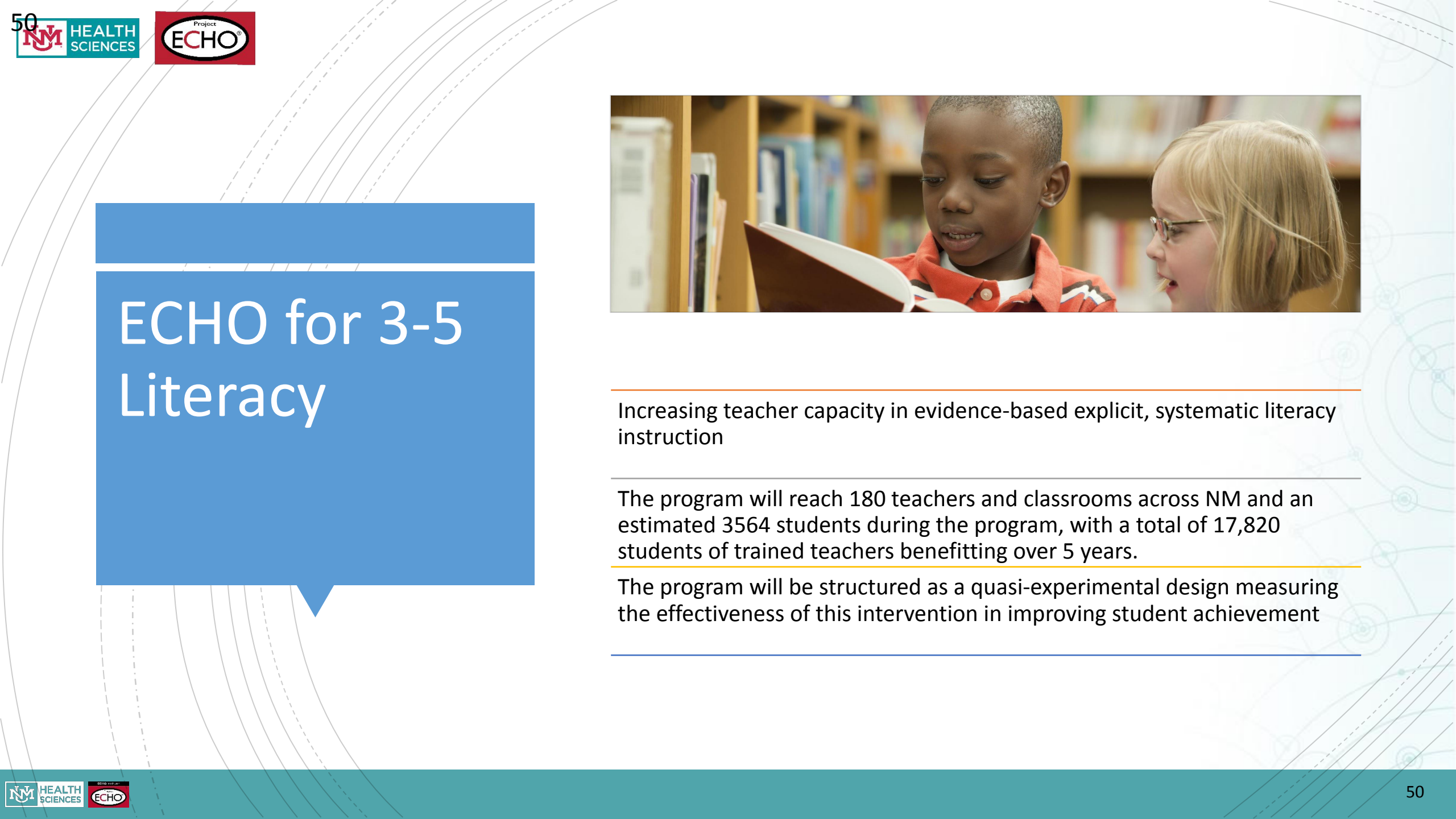




# ECHO for Early Childhood collaboration with ECECD



- 5 programs implemented over 2 years, some programs with multiple iterations.
- Proposed programs address:
  - Early Intervention
  - Home Visitors
  - Social Emotional Learning & Culturally Responsive Instruction for EC professionals
  - American Indian Early Childhood Language Program
  - Infant/Early Childhood Mental Health Consultants
- State-wide family survey
- All programs will be evaluated for their effectiveness in supporting various professionals in the early childhood space



# ECHO for 3-5 Literacy



Increasing teacher capacity in evidence-based explicit, systematic literacy instruction

The program will reach 180 teachers and classrooms across NM and an estimated 3564 students during the program, with a total of 17,820 students of trained teachers benefitting over 5 years.

The program will be structured as a quasi-experimental design measuring the effectiveness of this intervention in improving student achievement

# ECHO for STEM Equity

- Increasing teacher capacity in evidence-based, culturally responsive, effective, NGSS aligned science instruction
- The program will reach 240 teachers and classrooms across NM and an estimated 1,188 elementary students and 19,800 middle school students during the program, with a total of 104,940 students of trained teachers impacted over 5 years.



# Expansion of ECHO Programming For Education

1. Expansion of current programming where demand for more
  1. **ECHO for Social and Emotional Wellbeing:** An ECHO to support the implementation of Social and Emotional learning at the classroom and school level across New Mexico.
2. Development of New Programming to meet priority state needs in education
  1. **ECHO for STEM Equity:** Student achievement in science across New Mexico is low, and there are significant racial achievement gaps. This project would increase teacher capacity to provide evidence-based, culturally responsive, effective, NGSS aligned science instruction for 5th graders around the state, with a focus on closing achievement gaps while raising overall achievement levels.
  2. **ECHO for 3-5 Literacy:** Currently, only 24% of 3rd graders in New Mexico are reading proficiently. This program will train current 3rd – 5th grade teachers in evidence-based explicit, systematic literacy instruction aimed at improving student achievement in reading, writing and comprehension.

(will partner with PED for indigenous education)

# Questions