

How to Democratize Medical Knowledge and Bring Best-Practice Care to One Billion People by 2025

Project ECHO

At Project ECHO our mission is to democratize medical knowledge and help get best practice care to underserved people all over the world.

Our goal is to improve the lives of 1 billion people by 2025.

Supported by New Mexico Department of Health, Agency for Health Research and Quality, New Mexico Legislature, the Robert Wood Johnson Foundation, the GE Foundation and Helmsley Charitable Trust, BMS Foundation, NM Medicaid

ECHO works
to reduce cancer disparities
by
amplifying the impact of
cancer care specialists and experts

The Problem (in cancer and beyond)

Problem 1: Billions of people lack access to high quality healthcare at the right place at the right time

Problem 2: Medical knowledge is growing exponentially

CDC Report Shows Deaths from Cancer Higher in Rural America

We are creating new treatments, innovations, interventions and best practices to prevent and treat cancer. And yet disparities are growing... Inequalities in access to care are actually inequalities in access to knowledge.



Invasive Cancer Incidence, 2004–2013, and Deaths, 2006–2015, in Nonmetropolitan and Metropolitan Counties — United States
Surveillance Summaries / July 7, 2017 / 66(14);1–13



Moving Knowledge Instead of People

ECHO's Origin: HCV in New Mexico

- 70 million in the world infected with HCV
- In New Mexico estimated number was greater than 28,000 in 2004. By 2017, 53,000 patients have tested positive for HCV antibody
- In 2004 less than 5% of patients in NM had been treated
 - 2,300 prisoners were HCV positive (~40% of those entering the corrections system), none were treated

Rural New Mexico

Underserved Area for Healthcare Services

- 121,356 square miles
- 2.08 million people
- 47% Hispanic
- 10.2% Native American
- 19% poverty rate compared to 14.3% nationally
- 21% lack health insurance compared to 16% nationally
- 32 of 33 New Mexico counties are listed as Medically Underserved Areas (MUAs)
- 14 counties designated as Health Professional Shortage Areas (HPSA's)

(Statistics from 2013)

HCV Treatment 2004

Good news...

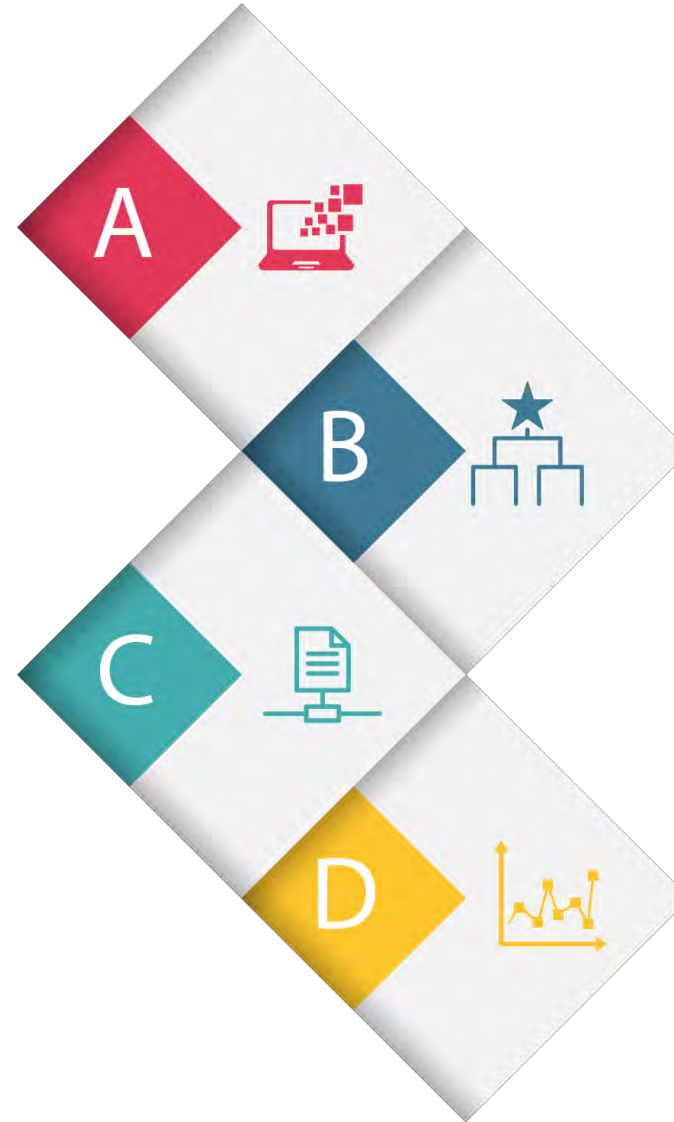
- Curable in 70% of cases

Bad news...

- Severe side effects:
 - anemia (100%)
 - neutropenia >35%
 - depression >25%
- No Primary Care Physicians treating HCV

The ECHO Model

Amplification – Use **T**echnology to leverage scarce resources



Share **B**est Practices to reduce disparity

Case Based Learning to master complexity

Web-based **D**atabase to **M**onitor **O**utcomes

What is Best Practice in Medicine

- Algorithms/Protocols/Guidelines
- Check Lists
- Process and Task Sharing
- **Wisdom Based on Experience**



ECHO Whale



PCA Espanola



Baton Rouge



Pecos Valley MC



DOH Las Cruces



SBRT-First Choice South Vc



Memorial HDX7000



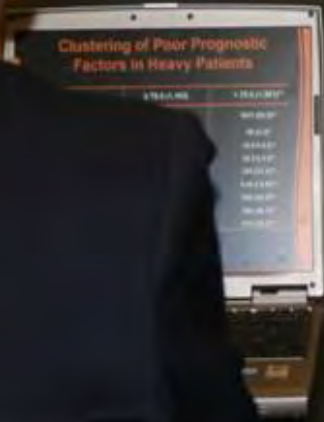
LAS VEGAS ECFH



Clustering of Poor Prognostic Factors in Heavy Patients

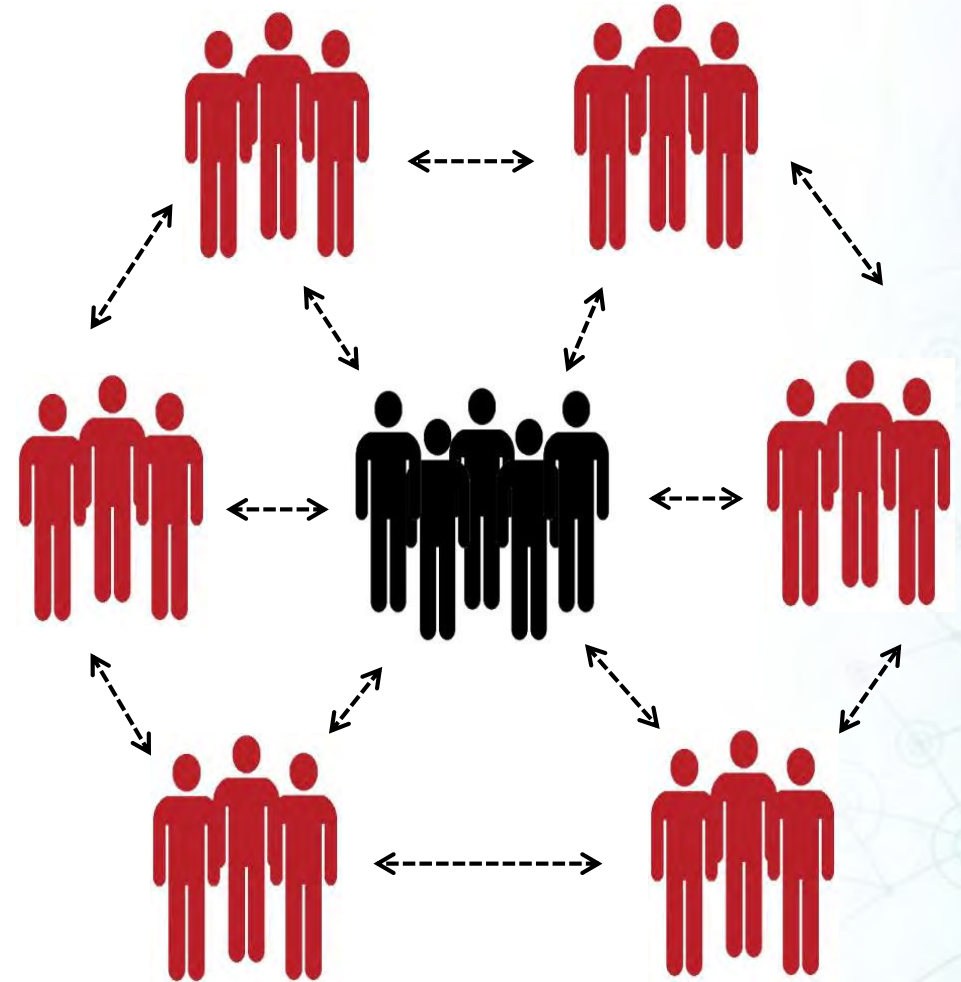
| | < 75.0 (1,145) | > 75.0 (1,261)** |
|--------------------------|----------------|------------------|
| Male, n (%) | 592 (51.6) | 1071 (84.5)** |
| Black Race, n (%) | 17 (1.5) | 30 (2.3)** |
| Age, years† | 51.0 ± 8.7 | 45.0 ± 8.8** |
| BMI, kg/m ² † | 33.0 ± 6.7 | 35.0 ± 6.8** |
| Diabetes, n (%) | 194 (17.0) | 353 (27.6)** |
| Log AST/ALT ratio† | 3.10 ± 3.77 | 3.48 ± 3.64** |
| HEV AFP, n (%) | 262 (22.9) | 500 (39.3)** |
| HEV, n (%) | 543 (47.5) | 588 (46.3)** |
| Problems, n (%) | 205 (18.0) | 333 (26.3)** |

*Mean ± SD
**P < .001 by Fisher's exact test or Wilcoxon rank-sum test
†Continuous variables are presented as mean ± SD



ECHO IS: Dynamic Learning Loops

- Interactive, Engaging Learning Environment
- Co-management of Cases
- **Learning by doing** – guided practice
- Learning from didactics
- Learning from each other
- Collaborative Problem Solving



ECHO vs. Telemedicine

TeleECHO™ Clinic



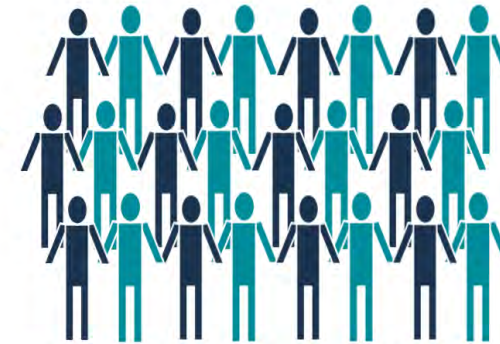
Expert hub team

ECHO supports
community based
primary care teams



Learners at spoke site

Patients reached with specialty
knowledge and expertise



Traditional Telemedicine



Specialist manages patient remotely



Technology Facilitates Knowledge Sharing

- **Standard Videoconferencing Hardware** (camera, microphone, screen, computer, internet access)
- **ZOOM**
 - Videoconferencing Software
 - Video Recording System
- **ECHO BOX**
 - Online ECHO archive of all shared resources and materials
- **iECHO** – Electronic TeleECHO Program Management Solution

Project ECHO Clinicians

HCV Knowledge Skills and Abilities (Self-Efficacy)

scale: 1 = none or no skill at all 7= expert-can teach others

| Community Clinicians N=25 | <u>BEFORE</u> Participation MEAN (SD) | <u>TODAY</u> MEAN (SD) | Paired Difference (p-value) MEAN (SD) | <u>Effect Size</u> for the change |
|--|---|---------------------------|--|---|
| 1. Ability to identify suitable candidates for treatment for HCV. | 2.8 (1.2) | 5.6 (0.8) | 2.8 (1.2) (<0.0001) | 2.4 |
| 2. Ability to assess severity of liver disease in patients with HCV. | 3.2 (1.2) | 5.5 (0.9) | 2.3 (1.1) (< 0.0001) | 2.1 |
| 3. Ability to treat HCV patients and manage side effects. | 2.0 (1.1) | 5.2 (0.8) | 3.2 (1.2) (<0.0001) | 2.6 |

Project ECHO Clinicians

HCV Knowledge Skills and Abilities (Self-Efficacy)

| Community Clinicians N=25 | <u>BEFORE</u> Participation MEAN (SD) | <u>TODAY</u> MEAN (SD) | Paired Difference (p-value) MEAN (SD) | <u>Effect</u> <u>Size</u> for the change |
|---|--|---|--|---|
| 4. Ability to assess and manage psychiatric co- morbidities in patients with hepatitis C. | 2.6 (1.2) | 5.1 (1.0) | 2.4 (1.3) (<0.0001) | 1.9 |
| 5. Serve as local consultant within my clinic and in my area for HCV questions and issues. | 2.4 (1.2) | 5.6 (0.9) | 3.3 (1.2) (< 0.0001) | 2.8 |
| 6. Ability to educate and motivate HCV patients. | 3.0 (1.1) | 5.7 (0.6) | 2.7 (1.1) (<0.0001) | 2.4 |

Project ECHO Clinicians

HCV Knowledge Skills and Abilities (Self-Efficacy)

| Community Clinicians N=25 | <u>BEFORE</u> Participation MEAN (SD) | <u>TODAY</u> MEAN (SD) | Paired Difference (p-value) MEAN (SD) | <u>Effect Size</u> for the change |
|--|---|---------------------------|--|---|
| Overall Competence (average of 9 items) | 2.8* (0.9) | 5.5* (0.6) | 2.7 (0.9) (<0.0001) | 2.9 |

Cronbach's alpha for the BEFORE ratings = 0.92 and Cronbach's alpha for the TODAY ratings = 0.86 indicating a high degree of consistency in the ratings on the 9 items

Arora S, Kalishman S, Thornton K, Dion D et al: Hepatology. 2010 Sept;52(3):1124-33

Project ECHO

Annual Meeting Survey

| | Mean Score (Range 1-5) |
|---|---------------------------|
| Project ECHO® has diminished my professional isolation. | 4.3 |
| My participation in Project ECHO® has enhanced my professional satisfaction. | 4.8 |
| Collaboration among agencies in Project ECHO® is a benefit to my clinic. | 4.9 |
| Project ECHO® has expanded access to HCV treatment for patients in our community. | 4.9 |
| Access, <u>in general</u> , to specialist expertise and consultation is a major area of need for you and your clinic. | 4.9 |
| Access to <u>HCV specialist</u> expertise and consultation is a major area of need for you and your clinic. | 4.9 |

Project ECHO:

Views of Participating Providers, Health Workers, And Educators

1 = Strongly Disagree, 5 = Strongly Agree

| Benefit | Mean |
|---|------|
| Through the Project ECHO telehealth clinics, I am learning best-practice care in chronic disease. | 4.68 |
| I am connected with peers in the ECHO telehealth clinic whose opinion I respect for professional advice and consultation. | 4.55 |
| I learn with guidance from Project ECHO academic specialists in chronic disease management whose knowledge and skills I respect. | 4.73 |
| I am connected to and respected by the academic specialists in the ECHO telehealth clinic in which I participate. | 4.4 |
| I am developing my clinical expertise through participation in Project ECHO. | 4.48 |
| After gaining expertise in the clinical diseases addressed in Project ECHO, I am comfortable teaching others what I have learned . | 4.33 |

Source: "Partnering Urban Academic Medical Centers and Rural Primary Care Clinicians to Provide Complex Chronic Disease Care," Arora, et al., Health Affairs 2011

Project ECHO:

Participants' Views of Patient Benefits 1 = Strongly Disagree, 5 = Strongly Agree

| Patient Benefit | Mean |
|---|-------------|
| My participation in Project ECHO benefits patients under my care whom I co-manage with ECHO specialists. | 4.45 |
| The patients under my care whom I co-manage with ECHO specialists receive best-practice care . | 4.43 |
| My participation in Project ECHO benefits the patients under my care whom I do not co-manage with ECHO specialists . | 4.19 |
| I apply what I have learned about best practices through Project ECHO to all of my patients with similar chronic diseases . | 4.45 |
| I feel comfortable applying the principles I learned from Project ECHO to other patients in my practice with similar chronic disease, independently, without presenting them on the network. | 4.23 |

Source: "Partnering Urban Academic Medical Centers and Rural Primary Care Clinicians to Provide Complex Chronic Disease Care," Arora, et al., Health Affairs 2011

Hepatitis C

ORIGINAL ARTICLE

Outcomes of Treatment for Hepatitis C Virus Infection by Primary Care Providers

Sanjeev Arora, M.D., Karla Thornton, M.D., Glen Murata, M.D., Paulina Deming, Pharm.D., Summers Kalishman, Ph.D., Denise Dion, Ph.D., Brooke Parish, M.D., Thomas Burke, B.S., Wesley Pak, M.B.A., Jeffrey Dunkelberg, M.D., Martin Kistin, M.D., John Brown, M.A., Steven Jenkusky, M.D., Miriam Komaromy, M.D., and Clifford Qualls, Ph.D.

ABSTRACT

BACKGROUND

The Extension for Community Healthcare Outcomes (ECHO) model was developed to improve access to care for underserved populations with complex health problems such as hepatitis C virus (HCV) infection. With the use of video-conferencing technology, the ECHO program trains primary care providers to treat complex diseases.

METHODS

We conducted a prospective cohort study comparing treatment for HCV infection at the University of New Mexico (UNM) HCV clinic with treatment by primary care clinicians at 21 ECHO sites in rural areas and prisons in New Mexico. A total of 407 patients with chronic HCV infection who had received no previous treatment for the infection were enrolled. The primary end point was a sustained virologic response.

RESULTS

A total of 57.5% of the patients treated at the UNM HCV clinic (84 of 146 patients) and 58.2% of those treated at ECHO sites (152 of 261 patients) had a sustained viral response (difference in rates between sites, 0.7 percentage points; 95% confidence interval, -9.2 to 10.7; $P=0.89$). Among patients with HCV genotype 1 infection, the rate of sustained viral response was 45.8% (38 of 83 patients) at the UNM HCV clinic and 49.7% (73 of 147 patients) at ECHO sites ($P=0.57$). Serious adverse events occurred in 13.7% of the patients at the UNM HCV clinic and in 6.9% of the patients at ECHO sites.

CONCLUSIONS

The results of this study show that the ECHO model is an effective way to treat HCV infection in underserved communities. Implementation of this model would allow other states and nations to treat a greater number of patients infected with HCV than they are currently able to treat. (Funded by the Agency for Healthcare Research and Quality and others.)

From the Department of Internal Medicine (S.A., K.T., G.M., P.D., S.K., D.D., B.P., T.B., W.P., M. Kistin, J.B., M. Komaromy) and the Clinical and Translational Science Center (C.Q.), University of New Mexico; and Presbyterian Healthcare Services, Adult and Geriatric Behavioral Health Clinic (S.J.) — both in Albuquerque; and the Department of Internal Medicine, University of Iowa, Iowa City (J.D.). Address reprint requests to Dr. Arora at Project ECHO, 1 University of New Mexico, MSC07-4245, Albuquerque, NM 87131, or at sarora@salud.unm.edu.

This article (10.1056/NEJMoa1009370) was published on June 1, 2011, at NEJM.org.

N Engl J Med 2011;364:2199-207.
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Treatment Outcomes

| Outcome | ECHO | UNMH | P-value |
|-----------------------------|-------|-------|---------|
| | N=261 | N=146 | |
| Minority | 68% | 49% | P<0.01 |
| SVR* (Cure) Genotype 1 | 50% | 46% | NS |
| SVR* (Cure) Genotype 2/3 | 70% | 71% | NS |

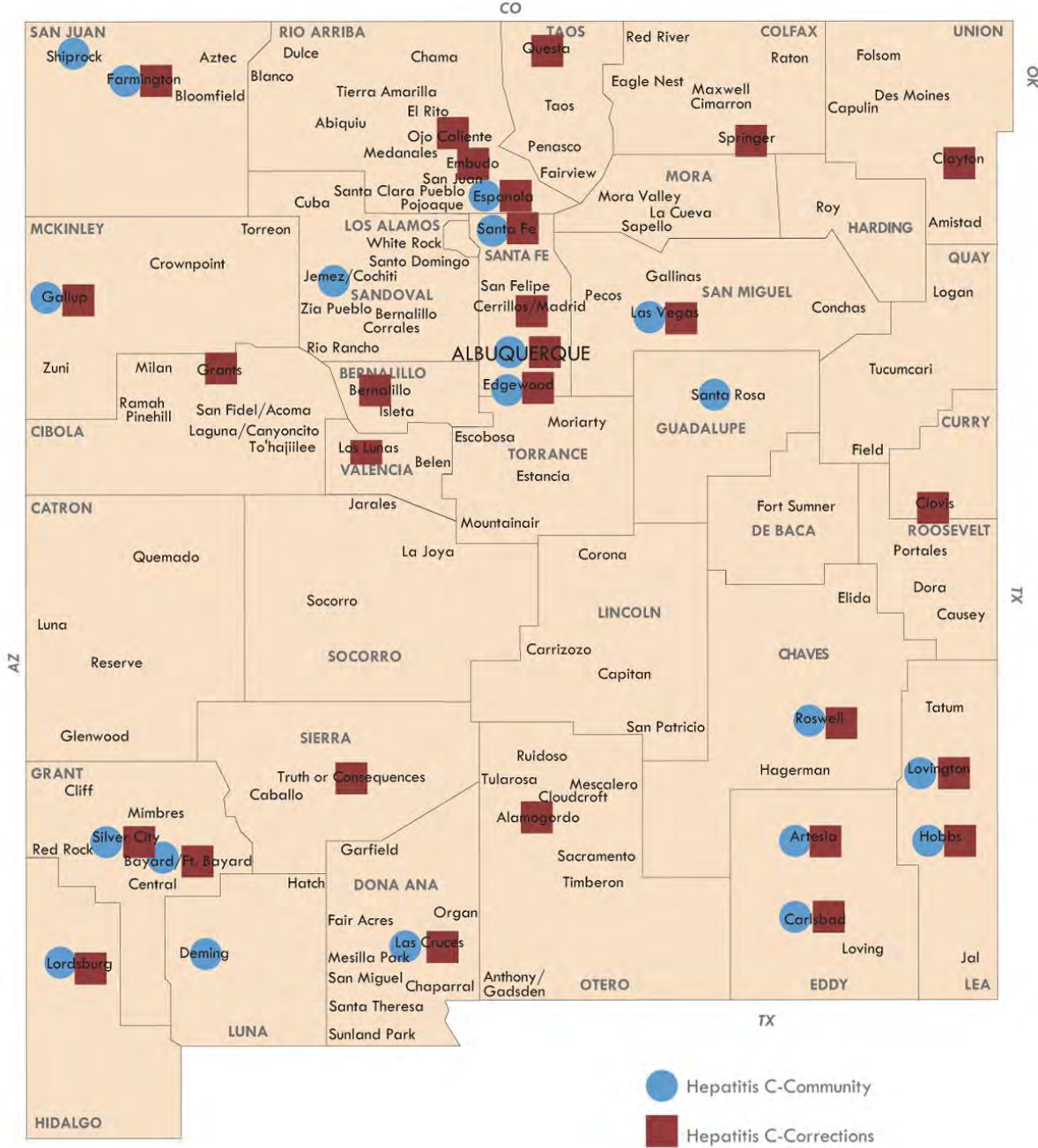
*SVR=sustained viral response

NEJM : 364: 23, June 9-2011, Arora S, Thornton K, Murata G

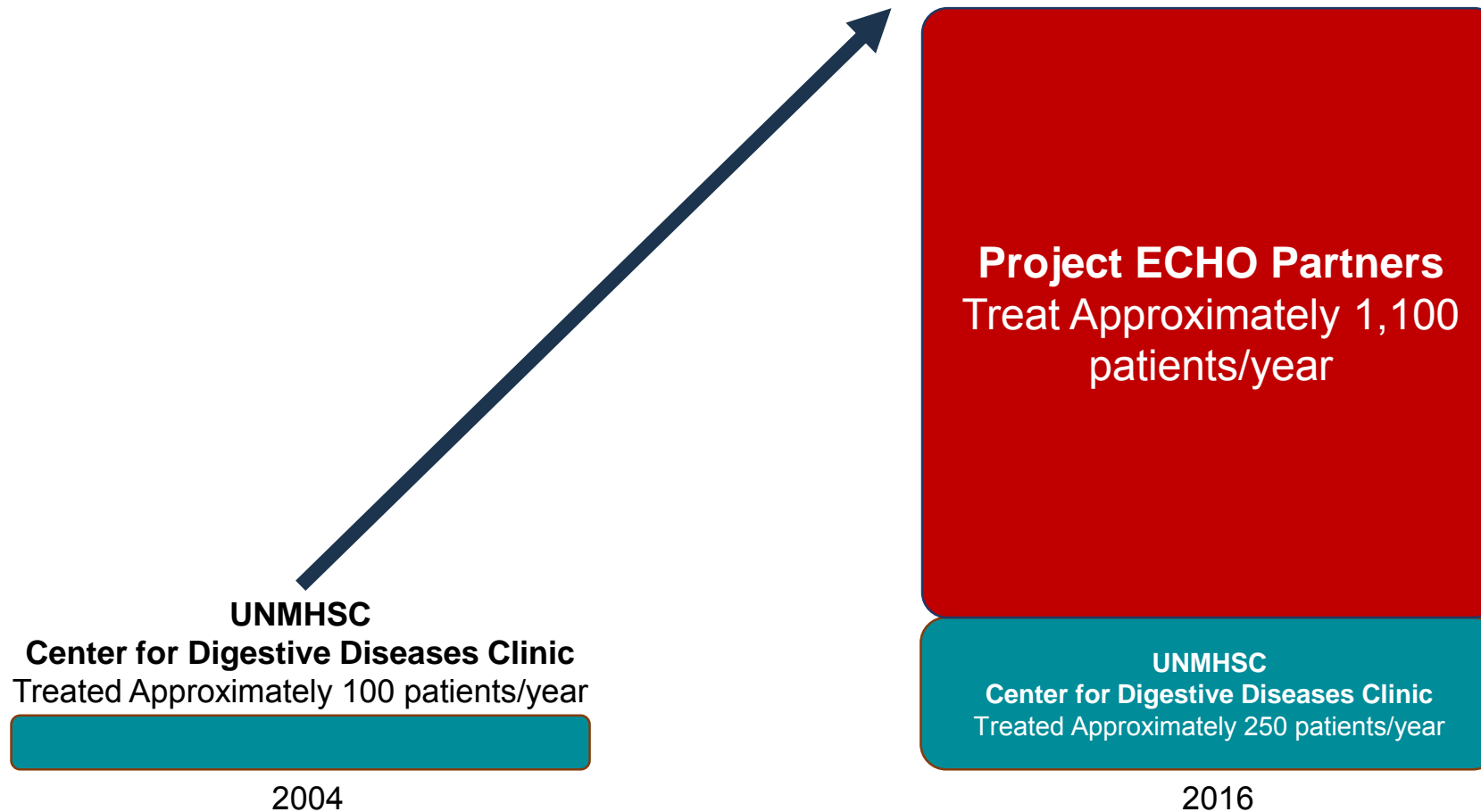
Conclusions

- Rural primary care Clinicians deliver Hepatitis C care under the aegis of Project ECHO that is as safe and effective as that given in a University clinic.
- Project ECHO improves access to hepatitis C care for New Mexico minorities.





Hepatitis C Treatment in New Mexico



Selection Criteria Beyond HCV

- Common diseases or issues
- Management is complex
- Evolving treatments and medicines
- High societal impact (health and economic)
- Serious outcomes of untreated disease
- Improved outcomes with disease management

Successful Expansion into Multiple Topics

| MON | TUE | WED | THURS | FRI |
|--|--|---|---|---|
| <u>Rheumatology</u> <ul style="list-style-type: none"> • Bankhurst | <u>HBV</u> <ul style="list-style-type: none"> • Gish | <u>Community Health Workers</u> <ul style="list-style-type: none"> • CHW Team | <u>CDC Good Health and Wellness in Indian Country</u> <ul style="list-style-type: none"> • Struminger | <u>Opioid Addiction</u> <ul style="list-style-type: none"> • Komaromy |
| <u>Tuberculosis</u> <ul style="list-style-type: none"> • Burgos | <u>Bone Health</u> <ul style="list-style-type: none"> • Lewiecki | <u>Endocrinology & Diabetes</u> <ul style="list-style-type: none"> • Bouchonville | <u>Chronic Pain and Opioid Management</u> <ul style="list-style-type: none"> • Comerci | <u>Nurse Practitioner/Certified Midwife Primary Care</u> <ul style="list-style-type: none"> • Van Roper |
| <u>Cardiology</u> <ul style="list-style-type: none"> • Achrekar, Anderson & Yatskowitz | <u>Crisis Intervention for Community Policing Agencies</u> <ul style="list-style-type: none"> • Duhigg | <u>Miners' Wellness</u> <ul style="list-style-type: none"> • Sood | <u>Prison Peer Education Program</u> <ul style="list-style-type: none"> • Thornton | <u>Integrated Addictions and Psychiatry (IAP)</u> <ul style="list-style-type: none"> • Komaromy |
| <u>Reproductive Health</u> <ul style="list-style-type: none"> • Singh | <u>Seizures and Spells</u> <ul style="list-style-type: none"> • Imerman | <u>Hepatitis C (HCV)</u> <ul style="list-style-type: none"> • Arora | <u>HIV/ HCV Corrections</u> <ul style="list-style-type: none"> • Iandiorio & Thornton | <u>Antimicrobial Stewardship</u> <ul style="list-style-type: none"> • Brett, Irizarry & Mercier |

ECHO “Sweet Spot”: DYNAMIC COMPLEXITY

This applies in medicine and beyond.

University of Rochester Geriatrics Project:

Reduced ED costs for those diagnosed with mental health conditions

- This mixed-methods study published Jan 2017 analyzed the effect of the ECHO GEMH (geriatric mental health) program on participant GEMH knowledge and confidence, and patient healthcare costs.¹
 - Between 2014 and 2016, 54 spoke sites in New York were enrolled in ECHO GEMH, which included approximately 154 participants.
 - Using health insurance claims data, **a 24% reduction in emergency department (ED) visit costs** was observed in patients with a mental health diagnosis after ECHO GEMH provider participation.
 - Interviews with a subset of participants showed that participation in ECHO GEMH noticeably increased knowledge and confidence in effectively treating geriatric mental health, especially from clinicians in rural communities and small cities.
 - Participants also self-reported improvements in patient health outcomes, and an increase in their sense of professional support.

¹Fisher E., et al (2017) Telementoring primary care clinicians to improve geriatric mental health care. Population Health Management. ePub ahead of print; January 20 2017 doi:10.1089/pop.2016.0087.

Department of Veterans' Affairs Hepatitis C ECHO: Proven Access to Effective Hepatitis C Treatment

- A study published in the April 2017 issue of *The American Journal of Medicine* proves the capacity of the ECHO model to expand access to effective hepatitis C treatment for veterans.¹
- Patients in the study whose primary care providers participated in the Veterans Affairs Extension for Community Health Outcomes (VA-ECHO) **received significantly higher rates of antiviral treatment (21.4%) than patients whose providers did not participate (2.5%).**
- No difference in adjusted rates of sustained virologic response was observed for patients whose primary care providers participated in VA-ECHO.

¹Beste L, et. al. Telemedicine Specialty Support Promotes Hepatitis C Treatment by Primary Care Providers in the Department of Veterans Affairs. *Am J Med* 130:4 (April 2017): 432-438.

ECHO for Care Transitions for Older Adults:

An effective solution to reduce costs and improve health outcomes

- A prospective cohort study published on May 25, 2017 in *The American Journal of Medicine* proves the **capacity of the ECHO model to reduce costs and improve health outcomes** for older adults who are transferred from hospitals to skilled nursing facilities.¹
- The ECHO-Care Transition (ECHO-CT) program connects an interdisciplinary hospital team with clinicians at skilled nursing facilities for older adults.
- Patients discharged from acute care in hospitals to skilled nursing facilities participating in the ECHO-CT program had **shorter lengths of stay** in those facilities, and their **30-day readmission rates were significantly lower** compared to patients discharged to matched skilled nursing facilities delivering usual care.
- The **30-day total healthcare cost for these patients was \$2,602.19 lower** than for those in matched skilled nursing facilities delivering usual care.

¹Moore A, et. al. Improving Transitions to Post-acute Care for Elderly Patients [Using a Novel Video-Conferencing Program: ECHO-Care Transitions](#). [published online ahead of print May 25, 2017] *Am J Med*.

Harvard Beth Israel Deaconess Medical Center:

Reduction in Physical Restraints and Antipsychotic Medication for Nursing Home Residents

- A prospective 2:1 matched-cohort study evaluating the effects of provider-participation in ECHO-AGE on reducing the use of physical and chemical restraints in Massachusetts and Maine nursing homes.
- Residents cared for by ECHO-AGE-enrolled facilities were **75% less likely to be physically restrained** and **17% less likely to be prescribed antipsychotic medication** compared to patients in facilities that did not participate in ECHO-AGE.
- Gordon S.E., et al. (2016) Impact of a videoconference educational intervention on physical restraint and antipsychotic use in nursing homes: Results from the ECHO-AGE pilot study. *Journal of the American Medical Directors Association* 17(6):553-6.

CHC Inc.: Demonstrates Changes in Prescribing Behavior of Providers Who Participated in Chronic Pain ECHO

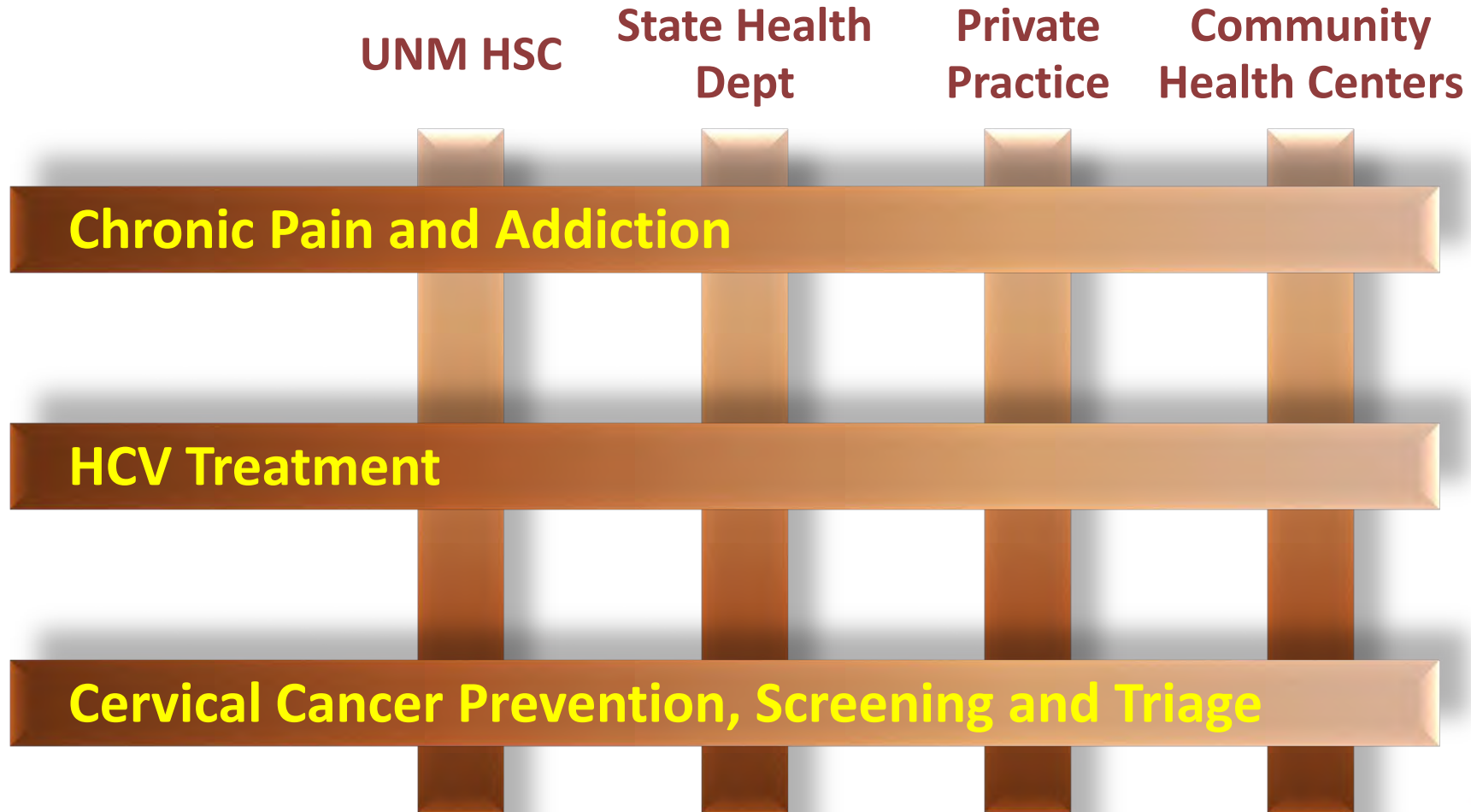
- A quasi-experimental design of providers from 2 federally qualified health centers (FQHCs) who participated in a chronic pain ECHO for 1 year were compared to referral and prescription patterns of a control group of FQHC providers.
- **Key finding:** Providers who participated in the ECHO program were more likely to refer patients to behavioral health and physical therapy for pain management and **were less likely to prescribe opioids or refer patients for surgical consults.**
- Anderson D., Zlateva I., Davis B., Bifulco L., Giannotti T., Coman E., et al. Improving pain care with Project ECHO in community health centers. *Pain Medicine*. 2017; 18(10):1882-9. Retrieved from: <http://www.ncbi.nlm.nih.gov/pubmed/29044409>.

ECHO Evidence Base - Conclusions

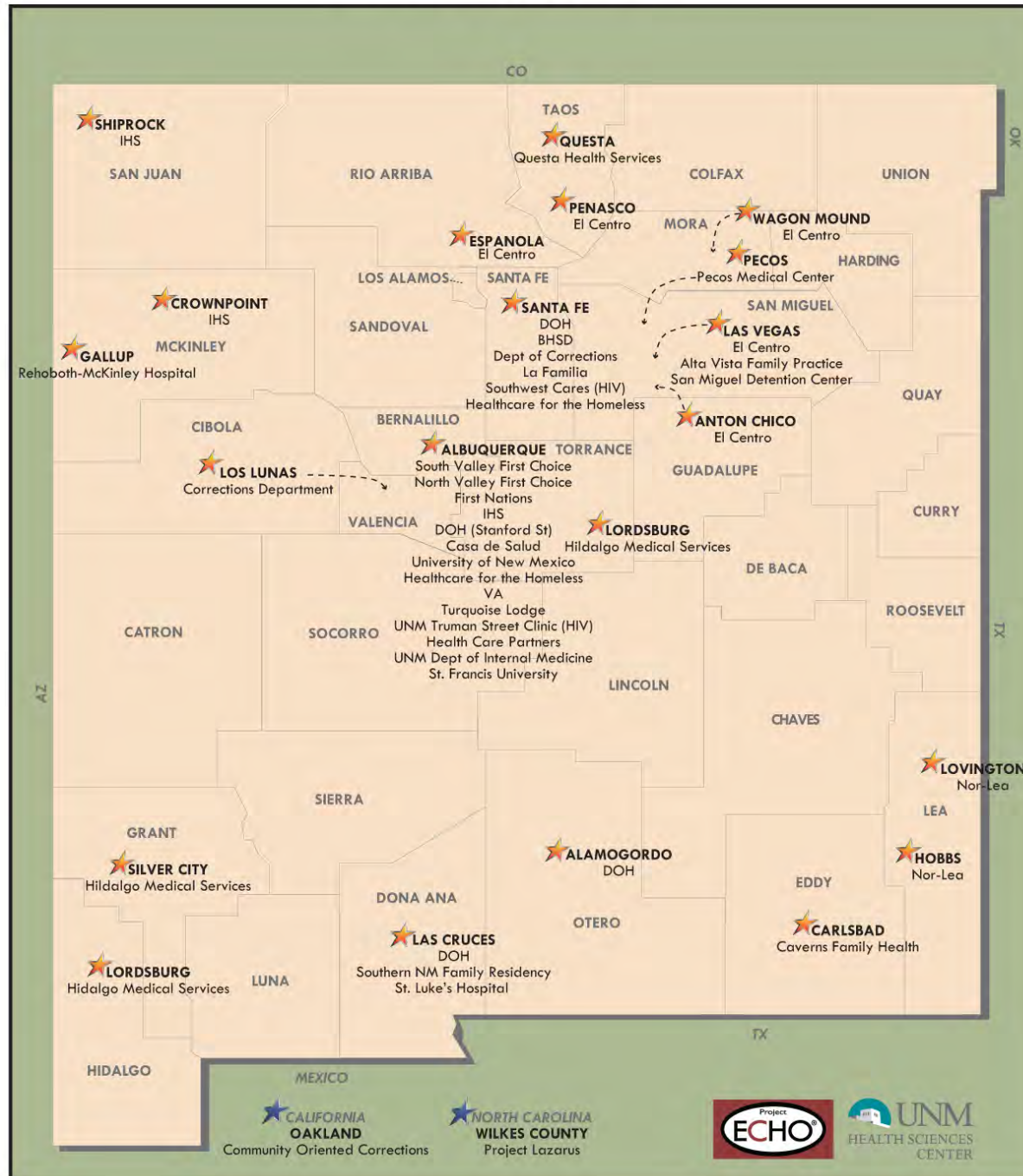
- **Participation:** Providers enjoy the all-teach all learn nature of the ECHO model and regular access to a community of practice. As a result, they keep participating in regular teleECHO sessions.
- **Self Efficacy and Knowledge Growth:** The ECHO model has been shown to be an effective tool for teaching best practice and increasing provider self-efficacy to treat complex diseases they are regularly faced with in the primary care setting.
- **Cost-Effective:** A growing body of research indicates that the ECHO model is cost-effective while improving or maintaining quality of care.
- **Patient Outcomes:** Increasing evidence indicates that when providers participate in teleECHO programs, patient outcomes such as reduced ER visits and more appropriate prescribing and referral patterns result.
- **Workforce Development:** Additional research is needed to help us understand the potential benefits of the ECHO model for provider retention, joy of work, and job satisfaction.

Bridge Building to reduce disparities in access

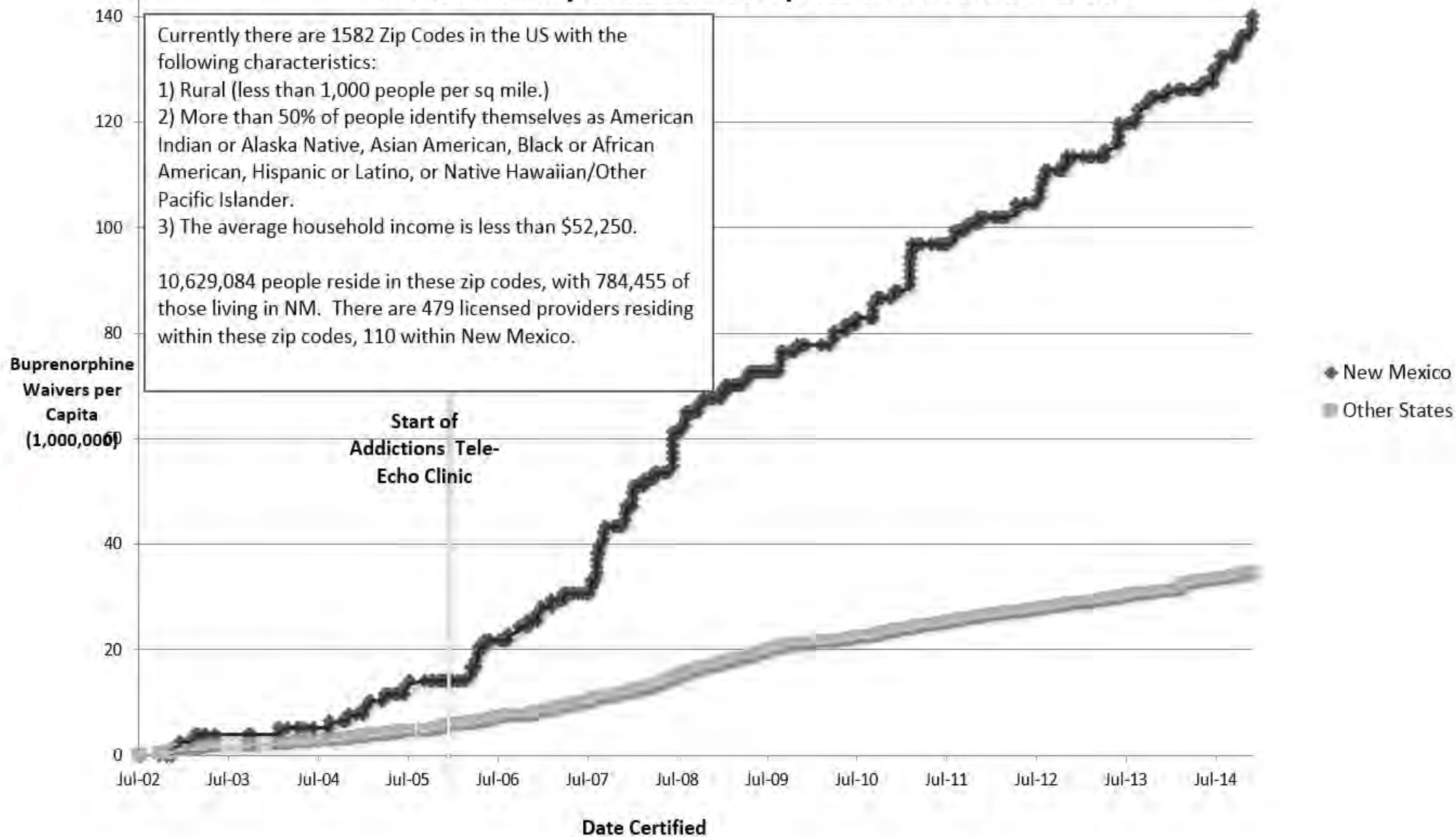
Pareto's Principle



IAP CLINIC PARTICIPATION SITES

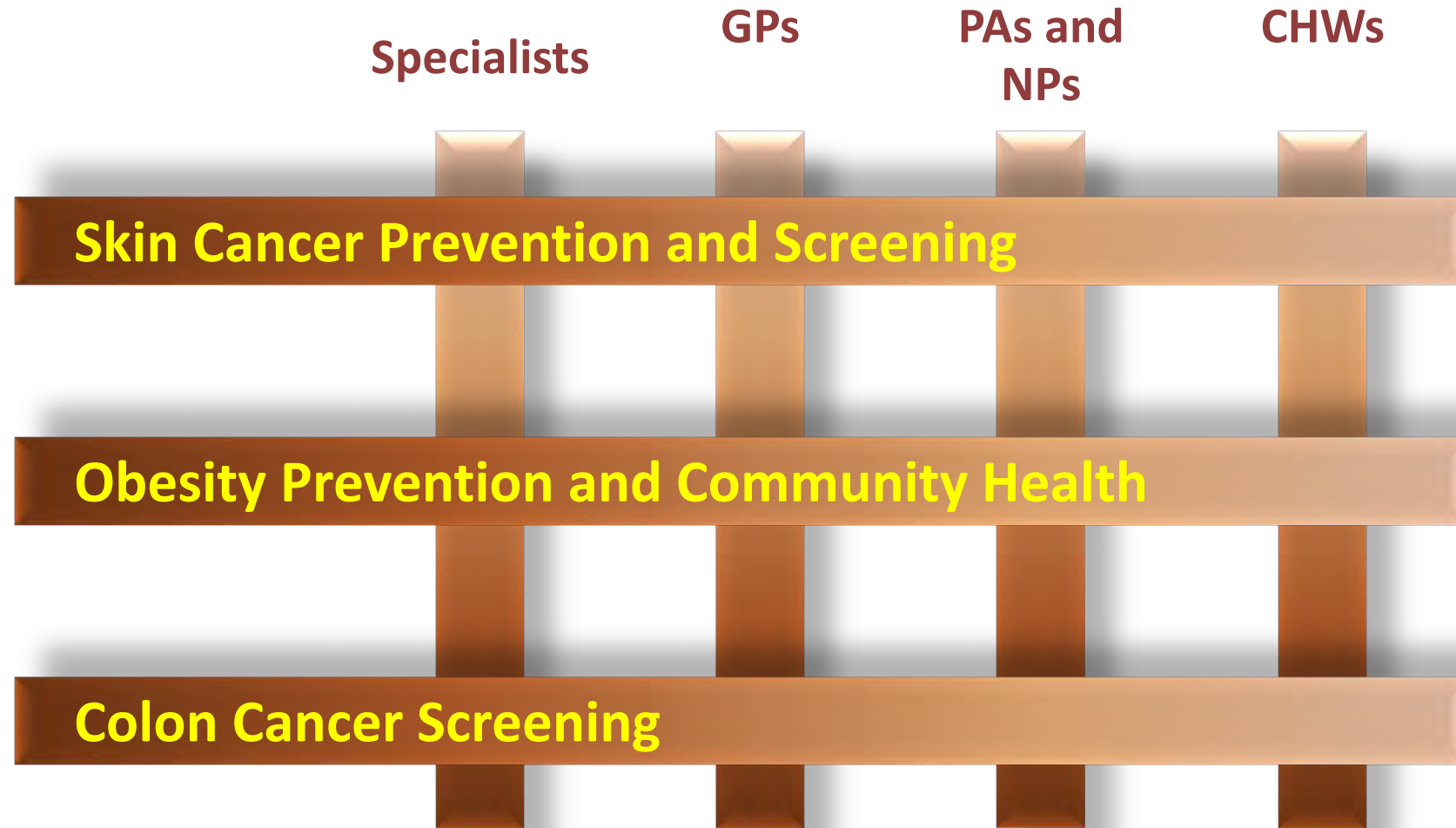


Cumulative number of buprenorphine-waivered physicians per million population in traditionally underserved zip codes in NM versus US

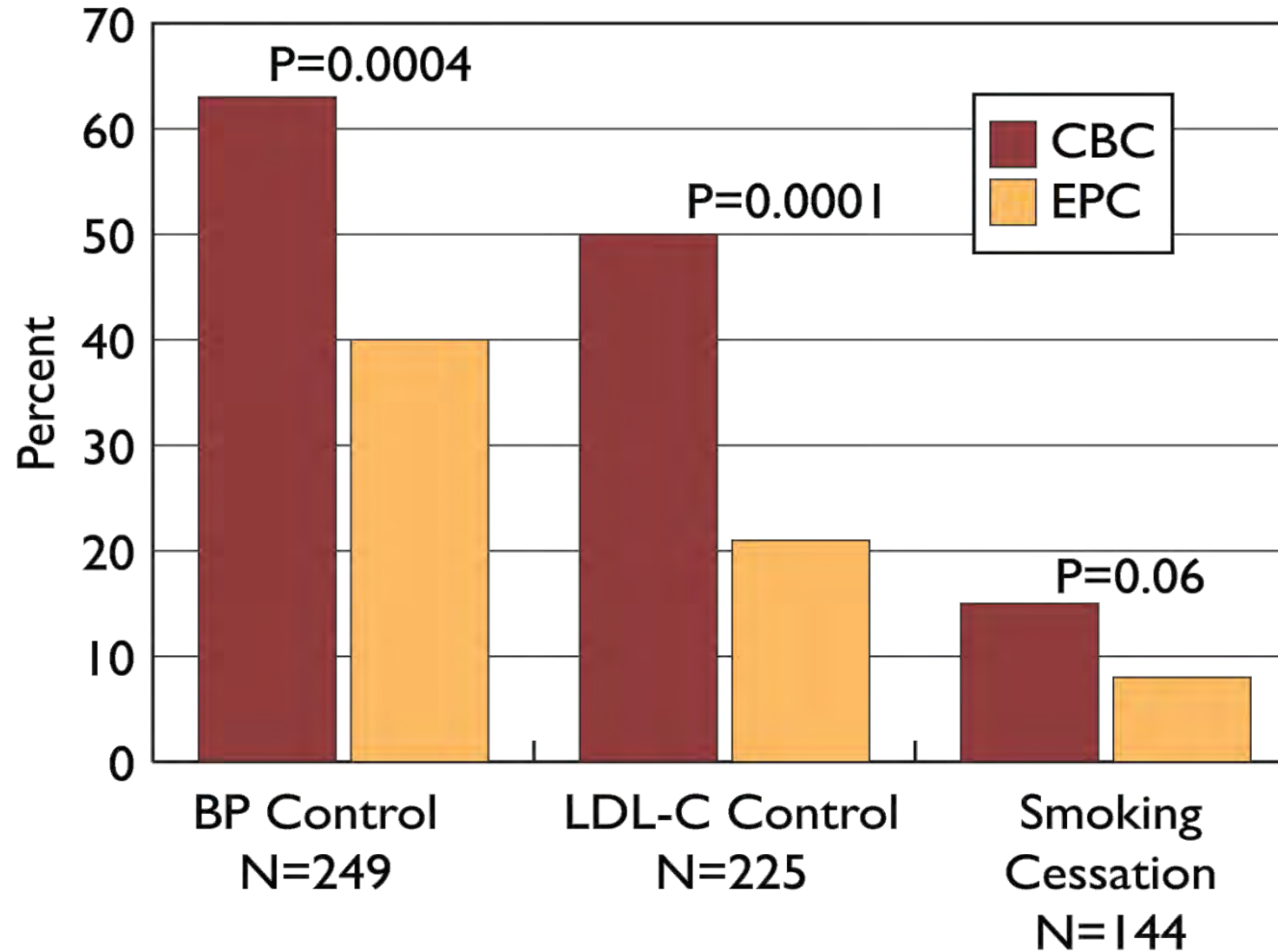


Force Multiplier

Expanding capacity by enabling all member of the team to improve
Prevention/Screening and Chronic Disease Management



Community Based Care for Cardiac Risk Factor Reduction was more Effective than Enhanced Primary Care



Becker Circulation.
2005;111:1298-1304.

Why is a CHW Intervention Effective?

- Live in Community
- Understand culture
- Appreciate economic limitations of patient and know community resources available to patient
- Often know family and can engage other social resources for patient
- Spend more time with patient

ECHO CHW Training

Multiple Tracks

- CHW Specialist Training
 - **CREW**: Diabetes, Obesity, Hypertension, Cholesterol, Smoking Cessation, Exercise Physiology
 - **CARS**: Substance Use Disorders
 - **ECHO Care™**: Complex Multiple Diagnoses
 - **Obesity Prevention**: Diet, Exercise, Motivational Interviewing

- Prison Peer Educator Training

Community Health Workers in Prison

The New Mexico Peer Education Program: Pilot training cohort, CNMCF Level II, July 27-30, 2009



First day of peer educator training

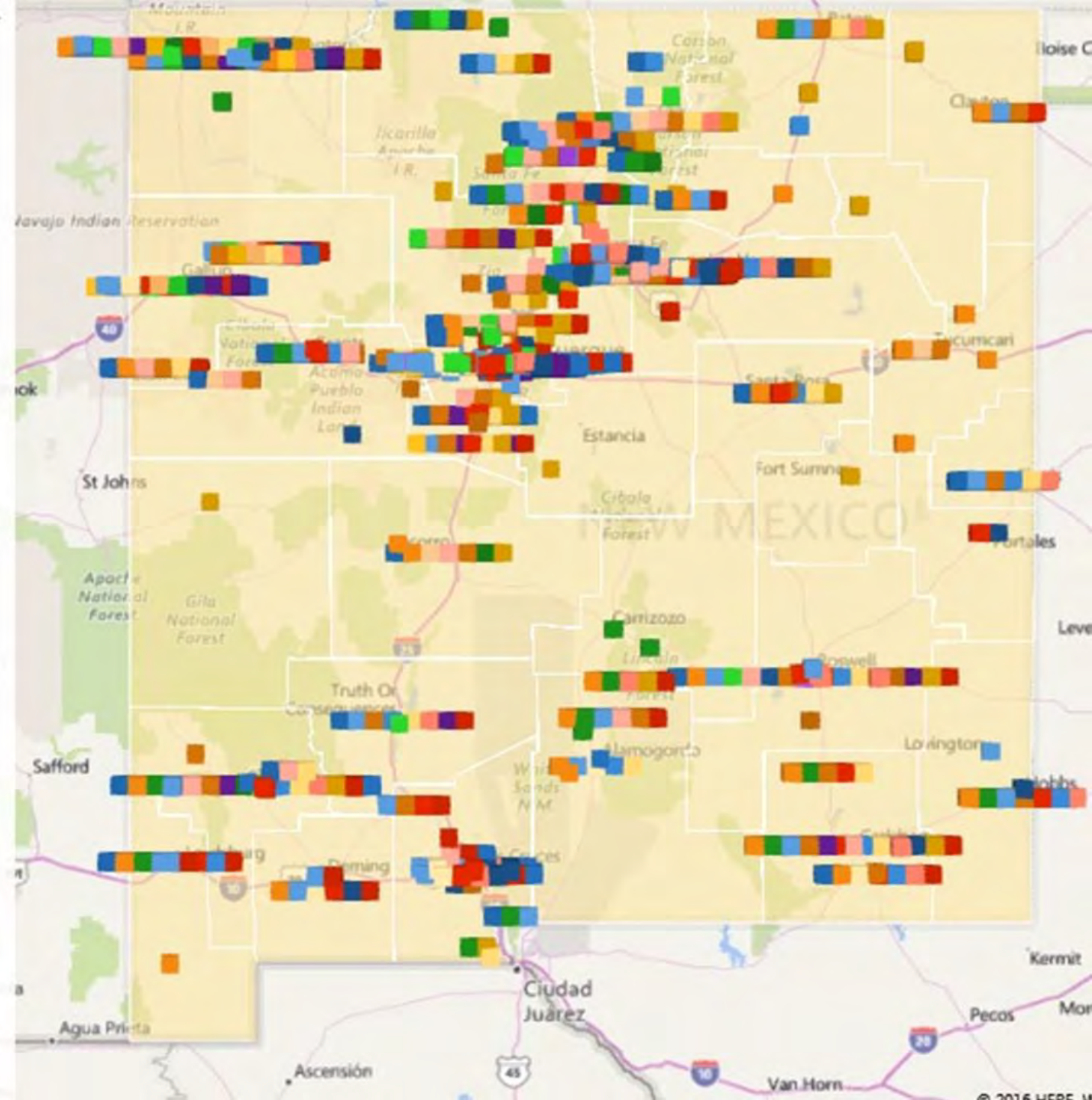
Photo consents on file with Project ECHO[®] and CNMCF

Potential Benefits of ECHO Model to Health System

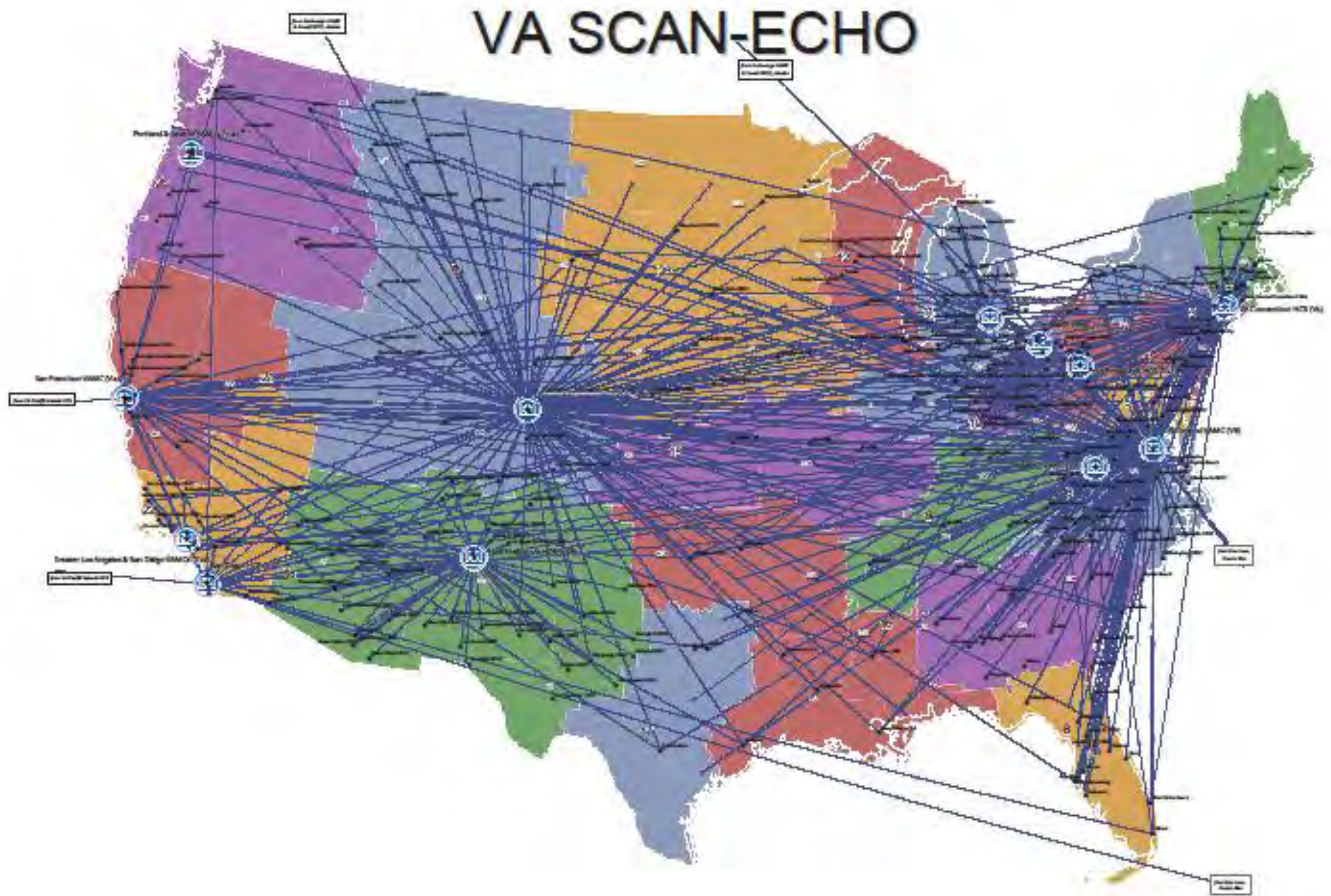
- Quality and Safety
- Rapid Learning and best-practice dissemination
- Reduce variations in care
- Access for Rural and Underserved Patients, reduced disparities
- Workforce Training and Force Multiplier
- **Democratize Knowledge**
- Improving Professional Satisfaction/Retention
- Supporting the Medical Home Model
- Cost Effective Care- Avoid Excessive Testing and Travel
- Prevent Cost of Untreated Disease (e.g.: liver transplant or dialysis)
- Integration of Public Health into treatment paradigm

ECHO Hubs and Spokes: State of New Mexico

- Addiction/Psychiatry
- Asthma/Pulmonary
- Autism
- Child and Youth Epilepsy Clinic (CYE)
- Child Psychology
- Childhood Obesity
- Chronic Pain and Headache
- CHW Care Competency
- Community Addictions Recovery Specialist
- Complex Care Clinic
- Dementia Care Clinic
- Diabetes and Cardiovascular Care
- Disease Prevention Program
- Endocrinology TeleECHO
- HCV
- HCV-HIS
- Heart Failure
- Hepatitis C - Community
- Hepatitis C - Correctional
- Hepatitis C - IHS
- Hepatitis C -Community
- High-risk Pregnancy
- HIV / AIDS (IHS)
- HIV/AIDS
- Integrated Addiction / Psychiatry
- New Mexico Peer Education Program
- Palliative Care
- Pediatric Obesity
- Psychiatry
- Rheumatology
- Women's Health/Genomics

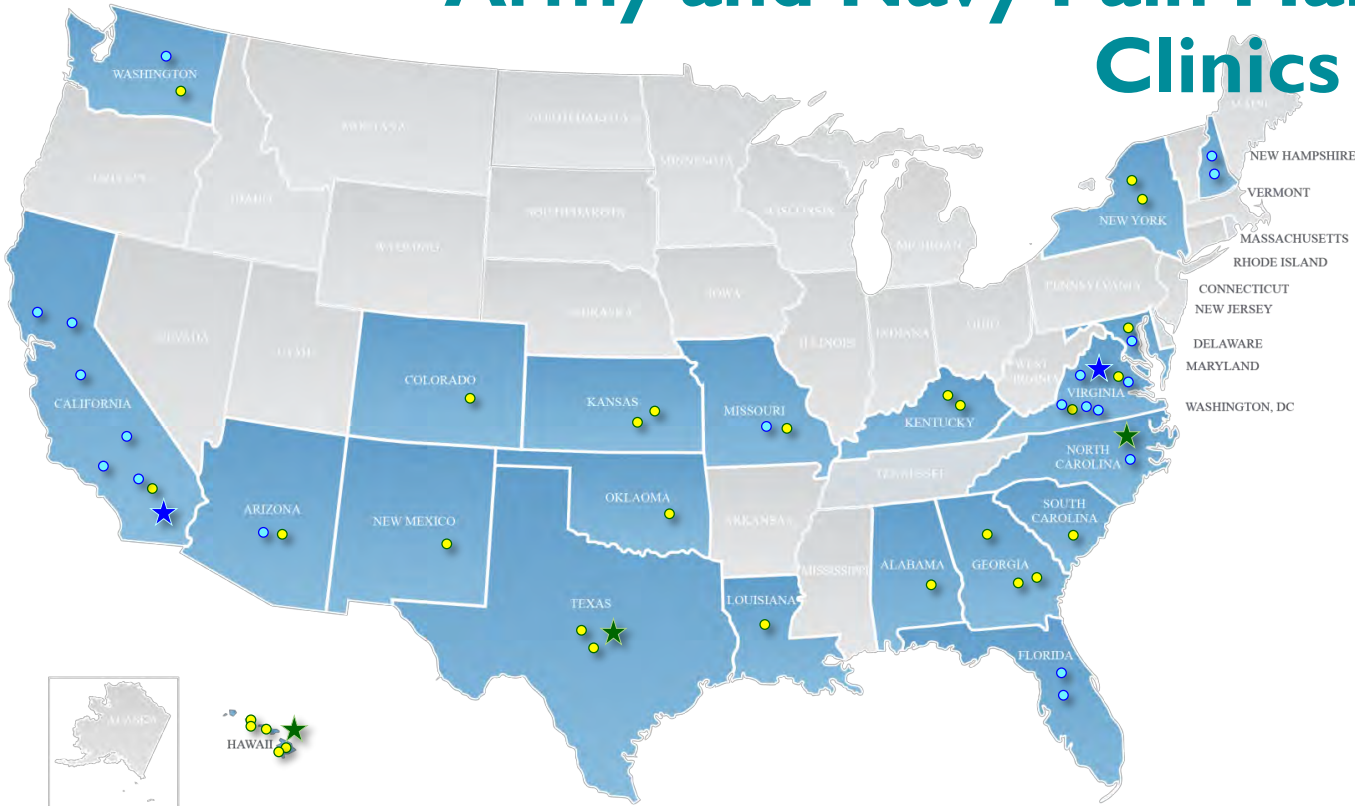


VA SCAN-ECHO



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Institute

Army and Navy Pain Management ECHO Clinics



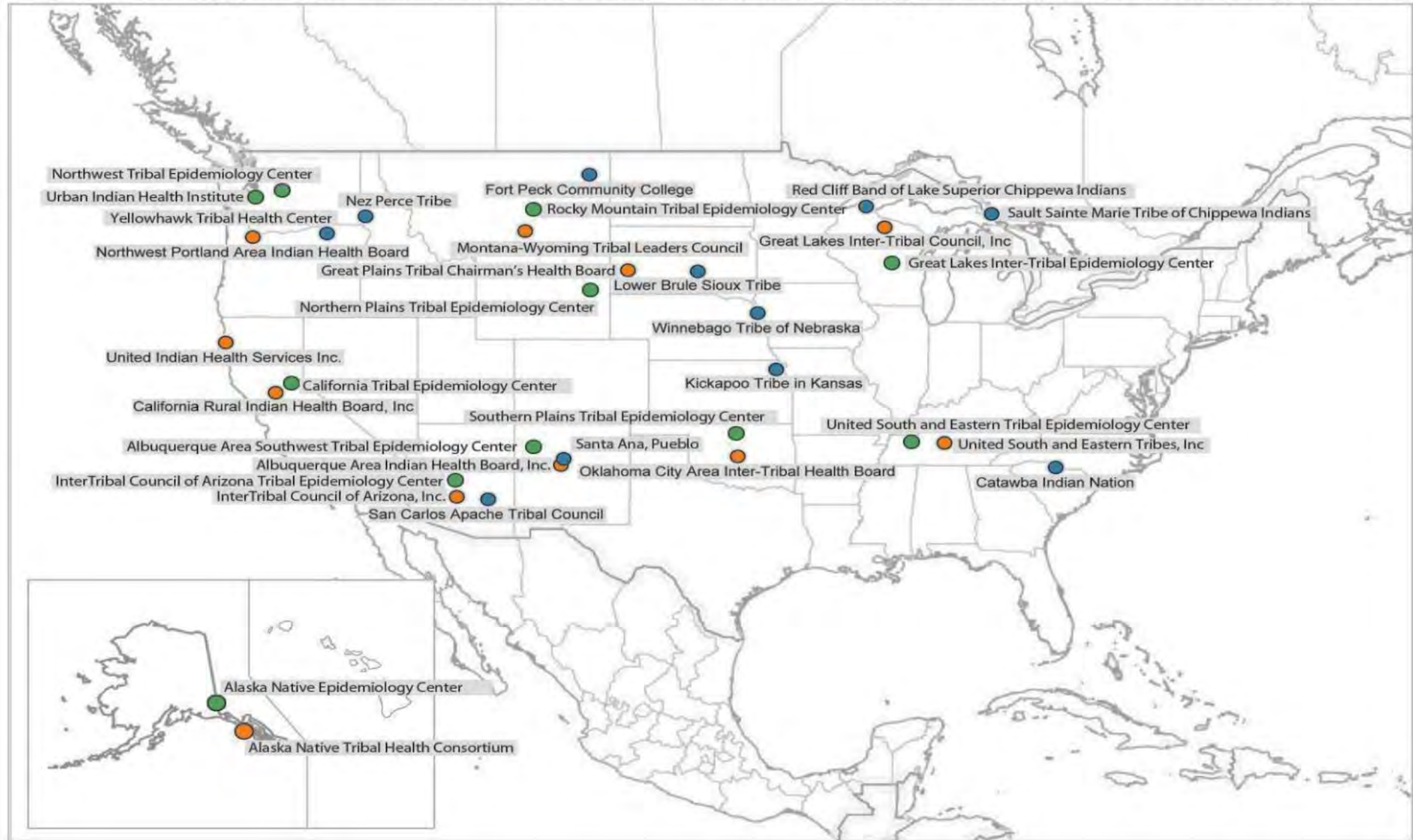
★ Army ECHO Hubs: Regional Health Command-Europe (RHC-E) – Landstuhl, Germany | Regional Health Command-Central (RHC-C)-Joint Base San Antonio-Brook Army Medical Center – TX | Regional Health Command-Pacific (RHC-P)-Tripler Army Medical Center – HI | Regional Health Command-Atlantic (RHC-A) – Ft. Bragg, NC

- **Belgium:**
 - Camp Casey
 - Supreme Headquarters Allied Powers Europe (SHAPE)
- **Germany:**
 - Grafenwoehr
 - Hohenfels
 - Katterbach
 - Landstuhl Regional Medical Center (LRMC)/FHC
 - LRMC/IMC
 - Stuttgart
 - Wiesbaden
 - Vilseck
- **Italy:**
 - Livorno
 - Vicenza
- **Japan:**
 - Camp Zama
- **South Korea:**
 - Camp Humphreys
 - Camp Carroll
 - Camp Walker
 - Brian Allgood Army Community Hospital/ 121st Combat Support Hospital
- **Alabama:**
 - Redstone Arsenal
- **Arizona:**
 - Fort Huachuca
- **California:**
 - Fort Irwin
- **Colorado:**
 - Colorado Springs
- **Georgia:**
 - Fort Gordon
 - Fort Benning
 - Ft. Stewart
- **Hawaii:**
 - Schofield Barracks (Family Medicine and Troop Medical Clinic)
 - Adult Medicine Patient Centered Medical Home (PCMH) Tripler
 - Family Medicine PCMH Tripler
 - Warrior Ohana PCMH
 - VA Pain Clinic
- **Kansas:**
 - Fort Leavenworth
 - Fort Riley
- **Kentucky:**
 - Fort Knox
 - Fort Campbell
- **Louisiana:**
 - Fort Polk
- **Maryland:**
 - Fort Meade
- **Missouri:**
 - Fort Leonard Wood
- **New Mexico:**
 - White Sands Missile Range
- **New York:**
 - Fort Drum
 - West Point
- **Oklahoma:**
 - Fort Sill
- **South Carolina:**
 - Fort Jackson
- **Texas:**
 - Fort Bliss
 - Fort Hood
- **Virginia:**
 - Joint Base Langley-Eustis
 - Fort Lee
- **Washington:**
 - Madigan Army Medical Center

★ Navy ECHO Hubs: Navy Medicine East (NME)- Naval Medical Center (NMC) Portsmouth, VA | Navy Medicine West (NMW)- Naval Medical Center San Diego (NMCSD), CA

- **Arizona:**
 - NH Yuma
- **California:**
 - NMCSD Naval Training Center
 - NHLemoore
 - NH Twentynine Palms
 - NH Camp Pendleton
 - Naval Air Facility El Centro
 - Naval Air Station North Island
- **Florida:**
 - Naval Hospital (NH) Jacksonville
 - Naval Air Station Jacksonville
- **Maryland:**
 - NHC Pax River
- **Missouri:**
 - Behavioral Health Clinic (BHC) Boone
- **North Carolina:**
 - NH Camp LeJeune
- **New Hampshire:**
 - BHC Portsmouth NH
 - Navy Safe Harbor
- **Virginia:**
 - NMC Portsmouth (Case Management, Pain Clinic, Psychiatry, Internal Medicine)
 - BHC Oceana
 - TriCare Prime Clinic (TPC) Chesapeake
 - TPC Virginia Beach
 - 633rd Medical Group-Langley

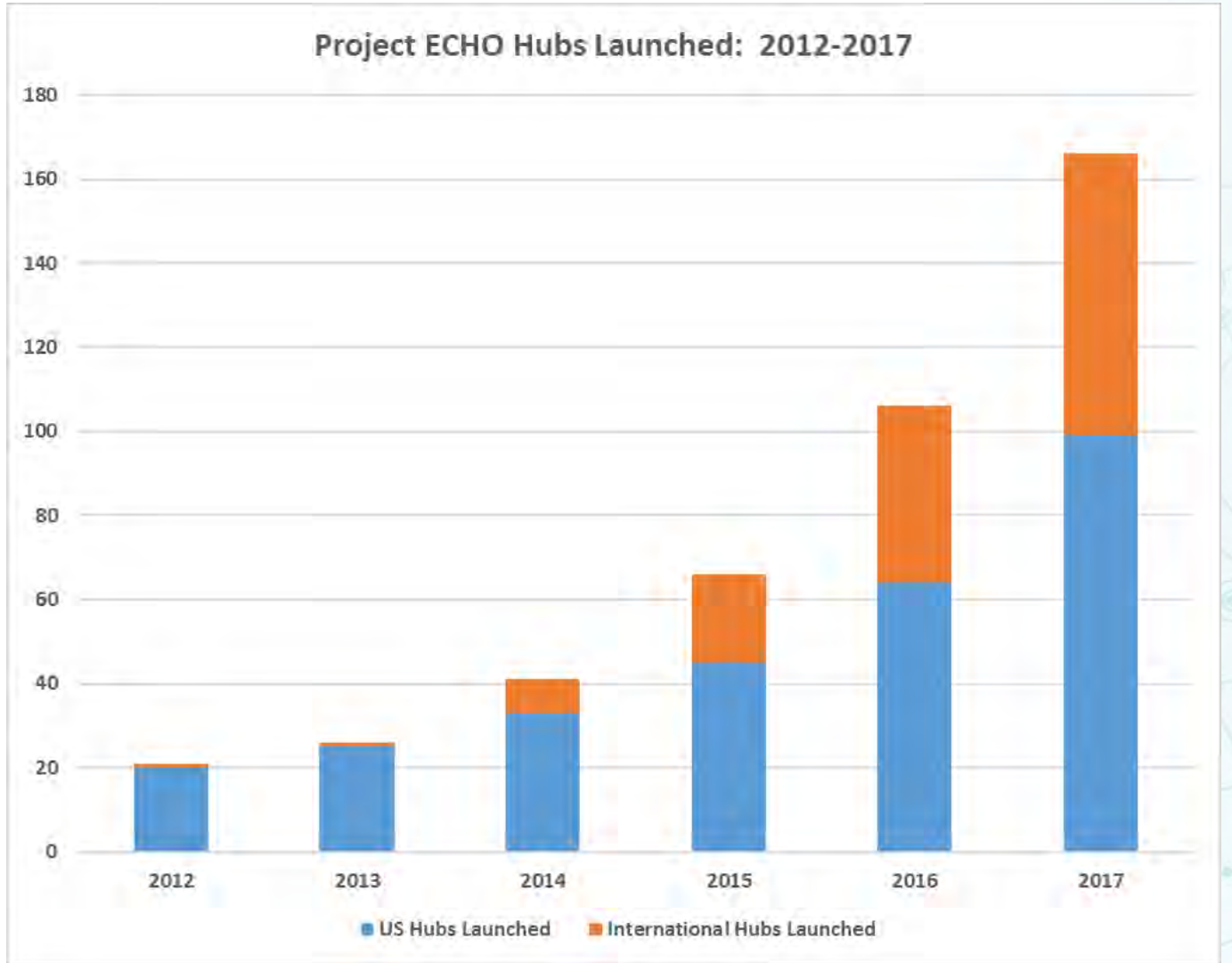
Comprehensive Approach to Good Health and Wellness in Indian Country Awards (DP14-1421PPHF14) **/22 awards



● Component 1 (11 awards) ● Component 2 (11 awards) ● Tribal Epidemiology Centers (10 awards)

**These awards are financed solely by Prevention and Public Health Funds.

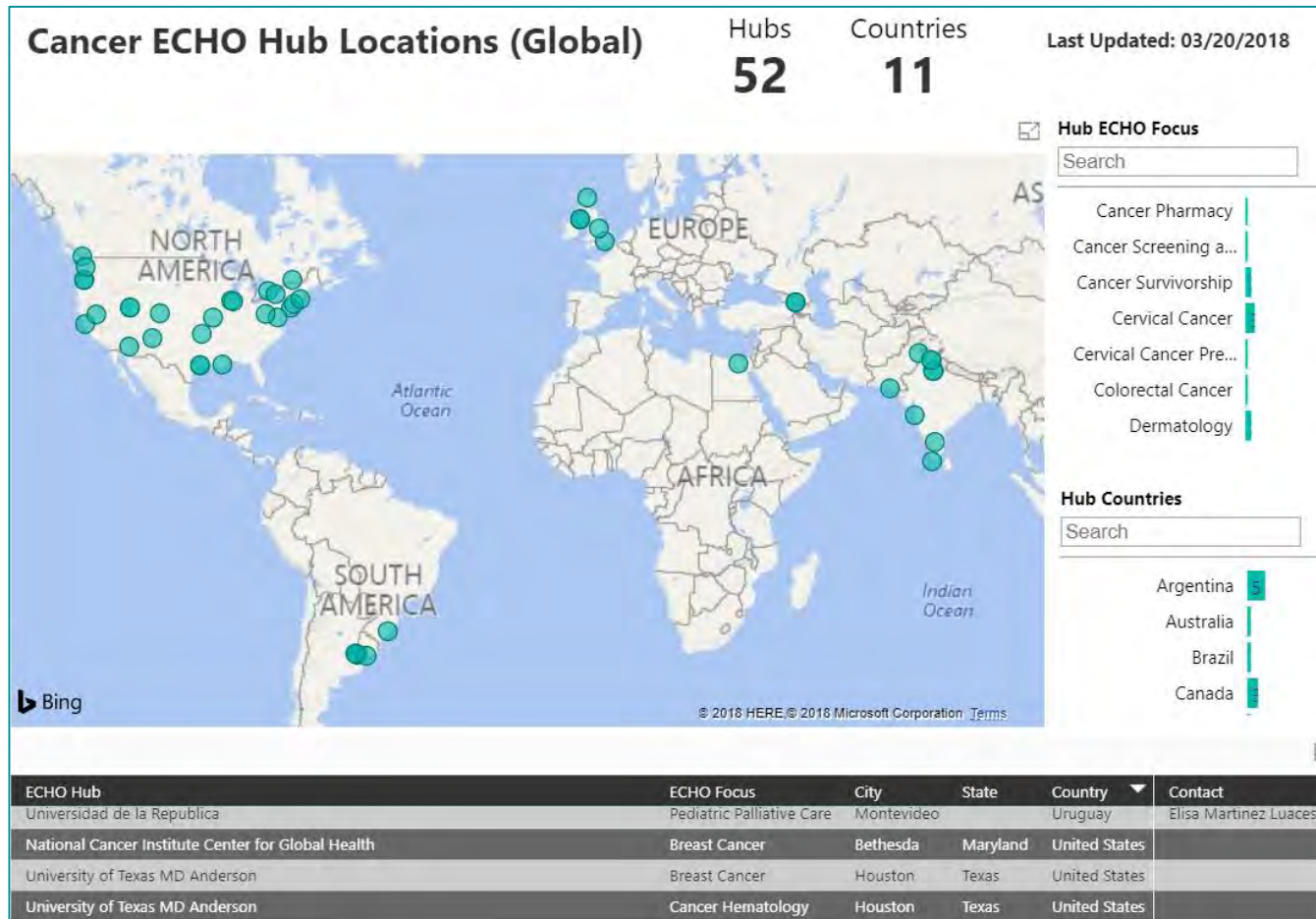
| Year | US Hubs | Int'l Hubs | Total Hubs |
|------|---------|------------|------------|
| 2012 | 20 | 1 | 21 |
| 2013 | 25 | 1 | 26 |
| 2014 | 33 | 8 | 41 |
| 2015 | 45 | 21 | 66 |
| 2016 | 64 | 41 | 105 |
| 2017 | 99 | 67 | 166 |



ECHO Reduces Disparities in Cancer

1. Prevention: Smoking Cessation, HPV vaccination, HCV Screening/Treatment, HBV Vaccination and Treatment, diet/nutrition counseling and obesity prevention, sun safety and skin cancer prevention
2. Screening and Early Detection: Dermatology, Breast, Cervical, Colorectal Cancer, Oral and Lung Cancer
3. Pathology Best Practices
4. Cancer Care Navigation
5. Updates in Treatment: Disseminating the science to the community to enhance implementation
6. Tumor Boards
7. Precision Medicine and Cancer Genomics
8. Pain and Toxicity Management
9. Survivorship
10. Palliative Care
11. Research Best Practices and Clinical Trial Navigation
12. Population Health: Effective Community Cancer Intervention and Prevention Program Management

Cancer ECHO Interactive Map



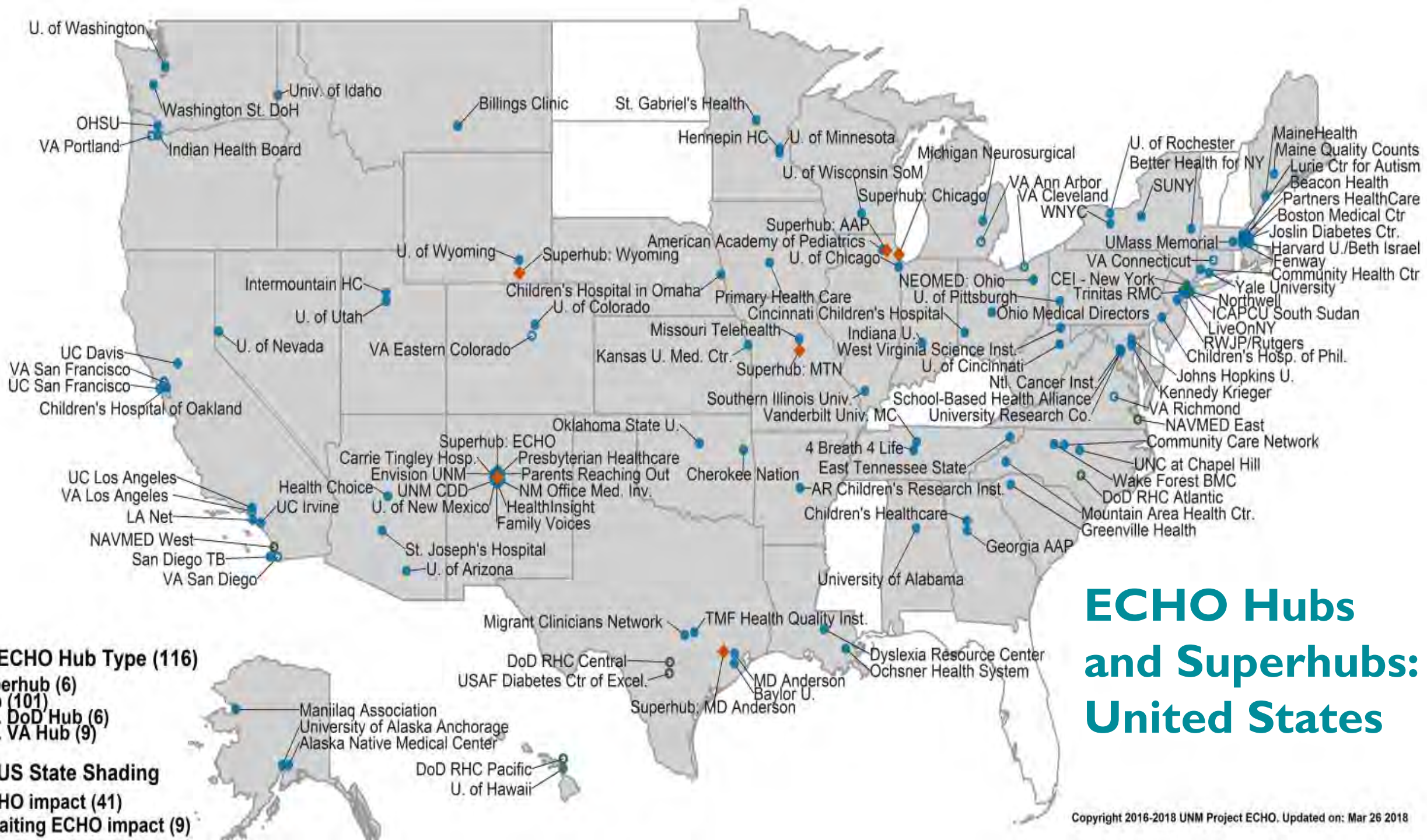
- Tracks hub launches and locations
- Filters based on location or ECHO focus (e.g. Cervical Cancer Prevention).
- Tool for potential partners / spokes to connect with active ECHO hubs

Cancer Dashboard Snapshot

The screenshot shows the Cancer ECHO dashboard. At the top left is the logo for the New Mexico School of Medicine and the Project ECHO logo. A search bar is located at the top right. Below the search bar are social media icons for Twitter and Facebook, and links for 'Contact Us' and 'Donate'. A navigation menu includes 'About ECHO', 'Locations', 'Initiatives' (which is highlighted), 'NM TeleECHO Clinics', 'Updates', 'Join the Movement', 'MetaECHO', and 'Superhubs'. The main heading is 'Cancer ECHO'. Below this is a breadcrumb trail: 'Home > Initiatives > Cancer ECHO'. The main content area features a section titled 'Revolutionizing Cancer Care Delivery' with a paragraph of text and a quote from Dr. Richard Wender, Chief Cancer Control Officer at the American Cancer Society. The quote states: 'If we want to decrease disparities in getting care to patients with cancer, our largest opportunity is in prevention and early detection. Project ECHO makes this dream possible. It's a highly effective, affordable and scalable platform.' Below the quote is a paragraph of text discussing cancer disparities in rural America.

- Learn more about the Cancer Initiative
- Read more about the effectiveness of ECHO for cancer care delivery
- Attend Training
- Start an ECHO

echo.unm.edu/cancer-echo/



ECHO Replication in US

- **4 Breath 4 Life** – Franklin, TN (Primary Care)
- **Alaska Native Medical Center of Alaska Native Tribal Health Consortium** – Anchorage, AK (**Palliative Care**)
- **American Academy of Pediatrics** – National Headquarters, Elk Grove Village, IL (Zika)
- **American Academy of Pediatrics – Georgia Chapter** – Atlanta, GA (Endocrinology/Diabetes, Pediatrics, **HPV**)
- **Arkansas Children’s Research Institute Hospital** – Little Rock, AR (Autism)
- **Baylor St. Luke’s Medical Center** – Houston, TX (**Advanced Liver Disease**, Cardiology, **HBV**, **HCV**, Infectious Disease)
- **Beacon Health Options** – Boston, MA (Opioid Medication-Assisted Treatment)
- **Better Health for Northeast NY** – Albany NY (Asthma)
- **Boston Medical Center** – Boston, MA (Addiction Medicine)
- **Billings Clinic** – Billings, MT (Behavioral Health for Corrections, Addictions/Psychiatry ECHO for Corrections)
- **Catholic Health Initiatives ST. Gabriel’s Health** – Little Falls, Minnesota (Opioid Use Disorder)
- **Cherokee Nation at Hastings Hospital** – Tahlequah, OK (**HCV**)
- **Children’s Healthcare of Atlanta** – Atlanta, GA (Child Abuse/Advocacy)
- **Children’s Hospital and Medical Center** – Omaha, NE (**Childhood Obesity**)

More ECHO Replication in US

- **Children's Hospital of Oakland** – Oakland, CA (Pediatrics)
- **Children's Hospital of Philadelphia** – Philadelphia, PA (Autism)
- **Cincinnati Children's Hospital Medical Center** – Cincinnati, OH (Autism, Sickle Cell Diseases)
- **Clinical Education Initiative** – New York, NY (HIV, **Sexually Transmitted Diseases**)
- **Community Health Center, Inc.** – Middletown, CT (Chronic Pain, Coaches International QI, HIV, **HCV**, Opioid Addiction – Buprenorphine)
- **Dyslexia Research Center** – Baton Rouge, LA (Dyslexia)
- **East Tennessee State University** – Baton Rouge, LA (Epilepsy)
- **Family Voices** – Albuquerque, NM (CHW)
- **Fenway Health** – Boston, MA (Transgender Health)
- **Harvard/Beth Israel Deaconess Medical Center** – Boston, MA (Gerontology – ECHO Age, Care Transitions)
- **Health Choice Integrated Care** – Flagstaff, Arizona (Medication Assisted Treatment)
- **HealthInsight** – Albuquerque, NM (Quality Improvement)
- **Hennepin Healthcare System** – Minneapolis, MN (Addiction Medicine, **HCV**)
- **Indiana University** – Bloomington, IN (Substance Use Disorder)

More ECHO Replication in US

- **Indiana University – Perdue University Indianapolis Fairbanks School of Public Health – Bloomington, IN (HCV, Primary Care)**
- **Intermountain Healthcare – Salt Lake City, UT (Liver Disease Management)**
- **Johns Hopkins University School of Medicine – Baltimore, MD (Sickle Cell Disease)**
- **Joslin Diabetes Center – Boston, MA (Endocrinology)**
- **Kennedy Krieger Institute – Baltimore, MD (Behavioral/Mental Health, Developmental Disabilities)**
- **LA Net – Long Beach, CA (Geriatrics)**
- **LiveOnNY – New York, NY (Organ Donation)**
- **Lurie Center for Autism – Lexington, KY (Autism)**
- **MaineHealth – Portland, OR (Endocrinology/Diabetes)**
- **Maniilaq Association – Kotzebue, AK (Addiction Medicine, Integrated Addictions and Psychiatry)**
- **Migrant Clinicians Network – Austin, TX (Zika)**
- **Missouri Telehealth Network/University of Missouri – Columbia, MO (Autism, Asthma, Chronic Pain, Endocrinology, Dermatology, HCV)**
- **MNI Great Lakes – Grand Blanc, MI (Osteoporosis)**
- **Mountain Area Health Education Center (MAHEC) – Asheville, NC (School Nurses, Primary Care, Chronic Pain)**

More ECHO Replication in US

- **National Cancer Institute Center for Global Health (NCI-CGH)** – Bethesda, MD (**Cancer Control Planning, Cervical Cancer Prevention**)
- **New Mexico Office of the Medical Investigator** – Albuquerque, NM (Grief Counseling, Medicolegal Death Investigation)
- **New Mexico Public Education Department** – Santa Fe, NM (Education)
- **New Mexico Public Education Department College and Career Readiness Bureau** – Santa Fe, NM (Education)
- **Northeast Ohio Medical Center DBA 'NEOMED: Ohio Alliance** – Rootstown, OH
 - Community Health Worker, Community Health – AmeriCorps HPAC Assistance, Cystic Fibrosis , Education for Service, Schizophrenia & Complex Psychosis
- **Northwest Portland Area Indian Health Board** – Portland, OR (**HCV**)
- **Northwell Health** – Great Neck, NY (Behavioral/Mental Health, Chronic Pain, Substance Use Disorders)
- **Ochsner Health System** – New Orleans, LA (**Liver Care, Liver Disease, Liver Disease Management**, Rheumatology)
- **Ohio Medical Directors Association (OMDA)** – Ohio (Geriatrics)
- **Oklahoma State University - Center for Health Sciences** – Tulsa, OK (Addiction Medicine, **Obesity**, Psychiatry)
- **Oregon Health and Science University/Health Share of Oregon** – Portland, OR (Psychiatric Medication Management, **Liver Care**)

More ECHO Replication in US

- **Parents Reaching Out** – Albuquerque, NM (Parent Advocacy for Children with Disabilities)
- **Partners HealthCare** – Boston, MA (Substance Use Disorders)
- **Partnership for Community Care Network** – Greensboro, NC (Substance Abuse in Pregnancy)
- **Primary Health Care, Inc.** – Urbandale, IA (Behavioral/Mental Health, Primary Care, Quality Improvement)
- **Robert Wood Johnson Partners/Rutgers** – New Brunswick, NJ (Autism, Endocrinology/Diabetes, **HCV**, Pediatrics)
- **San Diego Tuberculosis Control-Cure Tuberculosis** – San Diego, CA (Tuberculosis/TB)
- **School-Based Health Alliance** – Washington, DC (Adolescent Health)
- **Southern Illinois University** – Carbondale, IL (Hypertension)
- **St. Joseph's Hospital & Medical Center** – Phoenix, AZ (**HCV**)
- **SUNY Upstate NY** – Syracuse, NY (Pediatrics)
- **TMF Health Quality Institute** – Austin, TX (Behavioral/Mental Health)
- **Trinitas Regional Medical Center** – Elizabeth, NJ (IDD population intellectual and developmental disabilities)
- **UMass Memorial Medical Group** – Worcester, MA (**HCV**, Medication Assisted Treatment)
- **University of Alabama at Birmingham** – Birmingham, AL (Autism)
- **University of Alaska Anchorage** – Anchorage, AK (Autism and Traumatic & Acquired Brain Injury)

More ECHO Replication in US

- **University of Arizona** – Tucson, AZ, (Rheumatology)
- **University of California Davis** – Davis, CA (Pain Management)
- **University of California-Irvine** – Irvine, CA (Autism)
- **University of California Los Angeles** – Los Angeles, CA (Substance Use Disorder)
- **University of California at San Francisco** – San Francisco, CA (**HCV**)
- **University of Chicago** – Chicago, IL
 - Children and Youth with Epilepsy, **HCV**, Hypertension, **Risk Based Approach to Women’s Health**, Pediatric ADHD, **Pediatric Obesity and Comorbidities**, Geriatrics, Pilot on Free & Charitable Projects
- **University of Cincinnati College of Medicine** – Cincinnati, OH (Chronic Pain)
- **University of Colorado School of Public Health** – Denver, CO
 - Children/Youth with Epilepsy Behavioral/Mental Health, **Cancer Survivorship**, Care Coordination, Child Abuse, Complex Care, Epilepsy, Food Safety , **HCV**, Neurology, Pediatrics, Tuberculosis/TB, Diabetes, **Colorectal Cancer** (Pilot)
- **University of Hawaii** – Honolulu, HI (Endocrinology, Behavioral Health)
- **University of Idaho** – Moscow, ID (Addiction Medicine)

More ECHO Replication in US

- **University of Kansas Medical Center** – Kansas City, KA (ADHD, Asthma, Children and Youth Epilepsy, Pain Management, Pediatric Psychopharmacology)
- **University of Minnesota** – Minneapolis, MN (Pediatric Dental Health)
- **University of Nevada** – Reno, NV
 - Antibiotic Stewardship, Behavioral/Mental Health, Endocrinology/Diabetes, **Gastroenterology/HCV**, Pain Management, Rheumatology, Special Series, Sports Medicine
- **University of New Mexico, ECHO Institute** – Albuquerque, NM
 - Chronic Pain and Headache Management, Community Health Worker Training Initiatives, Complex Care, Endocrinology, Epilepsy Across a Lifespan, **HCV, HCV Corrections**, HIV, **IHS HCV**, IHS HIV, Integrated Addictions and Psychiatry, NM Department of Health TB, NM Peer Education Project, Nurse Practitioner/Certified Nurse-Midwife, Rheumatology, Improving Clinical Flow Pilot, Bone Health, Reproductive Health, **Hepatitis B, Miner's Health**
- **University of New Mexico - Center for Development and Disability** – Albuquerque, NM (Autism)
- **University of New Mexico: Envision** – Albuquerque, NM (**Obesity, Pediatric Nutrition**, Pediatrics, Pulmonary/Asthma)
- **University of North Carolina at Chapel Hill** – Chapel Hill, NC (Opioid Medication-Assisted Treatment)
- **University of Pittsburgh** – Pittsburgh, Pennsylvania (Autism)

More ECHO Replication in US

- **University Research Co., LLC - Center for Human Services** – Bethesda, MD (Quality Improvement, Zika, TB)
- **University of Rochester Medical Center** – Rochester, NY
 - Geriatric Health in Long Term Care, **Palliative Care**, **Sexually Transmitted Diseases**, Geriatric Mental Health in Primary Care, General Psychology, Eating Disorders
- **University of Texas MD Anderson** – Houston, TX
 - **Breast Cancer Management (Mozambique), Hematologic Oncology, Cancer Pharmacy (Zambia), Cancer Survivorship (Family Residents in TX), Community Cancer Survivorship (CHWs in TX), Cervical Cancer Management (Latin American), Cervical Cancer Management (Mozambique), Cervical Cancer Prevention, Head and Neck Cancer (Mozambique), Palliative Care for African Countries (PACA), Tobacco Education and Cessation in the Health System (TEACH)**
- **University of Utah Health** – Salt Lake City, UT
 - Behavioral Health, Chronic Pain & Headache Management, **HCV**, High Risk Obstetrics, **Liver Care**, **Liver Diseases**, Immune Disorders of the Gut, Internal Medicine/ Pediatrics Residency, Interprofessional Education (Medicine, Nursing, Pharmacy, Social Work, Wellness/Nutrition), UU Community Clinics Headache, **UU Community Clinics HCV**, Pregnancy Care, Post-partum Hemorrhage, Nursing Education, Burn and Soft Tissue Injury, **Gastroenterology**, **Identifying and Managing Patients at Risk for Cancer** (Pilot)

More ECHO Replication in US

- **University of Virginia Medical Center** – Charlottesville, VA (Vascular Medicine)
- **University of Washington** – Seattle, WA
 - Chronic Pain, **HCV**, HIV, HIV Public Health, Multiple Sclerosis, NW Heart Failure Collaborative
- **University of Wisconsin School of Medicine and Public Health** – Madison, WI (Pediatric Emergency Care)
- **University of Wyoming** – Laramie, WY
 - Assistive Technologies in Education, Autism, Behavioral Support, Early Childhood K-12 Counseling, Educational Leadership, Geriatrics, School Nurses, Secondary Transition, Waiver Services
- **UNM Carrie Tingley Hospital** – Albuquerque, NM (Cognitive Rehabilitation)
- **Vanderbilt University Medical Center** – Nashville, TN (Autism)
- **Wake Forest Baptist Medical Center** – Winston-Salem, NC (Bone Health)
- **Washington State Department of Health** – Seattle, WA (Tuberculosis/TB)
- **Western NY Collaborative/AKA Excellus Blue Cross BS** – Rochester, NY (Chronic Pain, Opioid Addiction-Buprenorphine)
- **West Virginia Clinical and Translational Science Institute – of West Virginia University** – Morgantown, WV
 - Chronic Pain, **HCV**, Medication Assisted Treatment, Chronic Lung Disease
- **Yale University** – New Haven, CT (Child Abuse)

More ECHO Replication in US

Veteran's Health Administration

- **9 hubs around the U.S. – Ann Arbor, Cleveland, Connecticut, Eastern Colorado, Los Angeles, Portland and Puget Sound, Richmond, San Diego, San Francisco**
 - Chronic Pain, Chronic Disease Prevention and Management
- **Department of Defense**
 - Army (4 hubs around the world)
 - **Eastern Region Medical Command** at Landstuhl RMC – Germany (Chronic Pain)
 - **Army - Regional Health Command- Atlantic** – Fort Bragg, North Carolina (Chronic Pain)
 - **Army - Regional Health Command - Central** – Fort Sam Houston, Texas (Chronic Pain)
 - **Army - Regional Health Command- Pacific** – Honolulu, Hawaii (Chronic Pain)
- **Air Force**
 - **United States Air Force Diabetes Center of Excellence** – San Antonio, Texas (Diabetes)
- **Navy (2 hubs)**
 - **NAVMED East** – Navy Medical Center Portsmouth (Chronic Pain)
 - **NAVMED West** – Naval Medical Center San Diego (Chronic Pain)

ECHO Hubs and Superhubs: Global

Key: ECHO Hub Type (189)

- ◆ Superhub (10)
- Hub (173)
- U.S. DoD Hub (7)
- U.S. VA Hub (9)

Key: Country Shading

- ECHO impact (28)
- Awaiting ECHO impact (142)



ECHO Replication Sites Worldwide

- **Adizes Institute** – Mexico (Business Consulting)
- **Aga Khan University & Hospital** – Karachi, India (**HCV**)
- **All Ireland Institute of Hospice & Palliative Care** – Dublin, Ireland (**Palliative Care**)
- **Ambience Public School** – Delhi, India (Teacher Mentorship)
- **Ambience Public School** – Gurgaon , India (**Preventive Health**)
- **Baycrest** – Toronto, Canada (Geriatrics)
- **Center for Disease Control – Guatemala** – Edificio, Guatemala (**HCV**)
- **Centre for Addiction and Mental Health (CAMH)** – Toronto, Canada (Behavioral Health)
- **Centre Hospitalier del Universite de Montreal** – Montreal, Canada (**HCV**)
- **Children's Health Queensland Hospital and Health Service** – Brisbane, Australia (ADHD, **Childhood Overweight and Obesity Prevention**, Foot Anomalies, Child Development, Refugee Health)
- **Children's Hospital of Eastern Ontario (CHEO)** – Ottawa, Canada (Pediatrics, Psychiatry)
- **Clinica Medica Internacional - AmorPro TB** – Juarez, Mexico (Tuberculosis/TB)
- **Consortio Ecuatoriano para el Desarrollo de Internet Avanzado (CEDIA)** – Cuenca, Ecuador (Endocrinology/Diabetes, Hypertension)
- **Georgian-French Joint Hepatology Clinic** – Georgia (**HCV**)

More ECHO Replication Sites Worldwide

- **Health and Social Care Board Northern Ireland (HSCNI)** – Belfast, Northern Ireland (**Dermatology for GP Trainees**, Endocrinology/Diabetes, Ophthalmology, Quality Improvement, **Pregnancy and a Cancer Diagnosis** (Pilot), **Head and Neck Cancer** (Pilot))
- **HealthNet** – Pakistan (**HCV**)
- **Highland Hospice - Scotland** – Inverness, United Kingdom (**Nurse Specialist-Palliative Care**)
- **Holland Bloorview Kids Rehabilitation Hospital (ATN Site)** – Toronto, Ontario (Autism)
- **Holy Family Hospital** – New Delhi, India (Cardiology)
- **Hospice UK** – London, United Kingdom (**Palliative Care**)
- **Hospital Británico Buenos Aires** – Buenos Aires, Argentina (Inflammatory Bowel Disease, **Gastroenterology**)
- **Hospital de Clínicas de Porto Alegre** – Porto Alegre, Brazil (**HCV**)
- **Hospital Eva Peron** – Buenos Aires, Argentina (**Dermatology**, Psoriasis)
- **Hospital for Sick Children (SickKids)** – Toronto, Canada (Pain Management)
- **Hospital Italiano** – Buenos Aires, Argentina (**HCV**)
- **Indian National Association for Study of the Liver** – Chandigarh, India (**HCV**)

More ECHO Replication Sites Worldwide

- Institute for Cytology and Preventive Oncology (ICPO) and Karuna Trust – Karnataka, India (**Cancer Screening and Prevention for Accredited Social Health Activists (ASHA) workers and Auxiliary Nurse Midwives (ANMs)**)
- Institute for Liver and Biliary Sciences – New Delhi, India (**Liver Disease**)
- Instituto Alexander Fleming – Buenos Aires, Argentina (**Colorectal Cancer**)
- Instituto de Oncology Angel H Roffo – Argentina (**Head and Neck Cancer**)
- Instituto de Rehabilitacion Psicofisica de Buenos Aires – Buenos Aires, Argentina (Pulmonary)
- Jamaica Ministry of Health – Mandeville, Jamaica (Chronic Disease Prevention and Management)
- Jaramogi Oginga Odinga Teaching & Referral Hospital – Kenya (HIV)
- Karuna Trust – Bangalore, India (Maternal and Child Health)
- Kazakh Medical University for Continuous Education – Almaty, Kazakhstan (HIV)
- Kyrgyz State Medical Institute of Postgraduate Education – Bishkek, Kyrgyzstan (HIV)
- Lair Centre – Vancouver, Canada (**HCV**)
- Liverpool Hospital – Liverpool, Australia (**HCV**)
- LV Prasad Eye Institute – Hyderabad, India (Ophthalmology)
- Ministry of Health and Public Hygiene – Abidjan, Cote d'Ivoire (HIV)

More ECHO Replication Sites Worldwide

- **Mrcheveli - Georgia – Georgia (საქართველო) (HCV)**
- **Namibia Ministry of Health and Social Services (MOHSS) – Windhoek, Namibia (HIV, Quality Improvement)**
- **National AIDS STI Control Program Kenya – Nairobi, Kenya (HIV, Quality Improvement)**
- **National Center for Tuberculosis and Lung Diseases – Georgia (საქართველო) (Tuberculosis/TB)**
- **National Institute for Mental Health and Neurosciences – Bengaluru, India**
 - Addiction Medicine, Behavioral/Mental Health, Integrated Addictions and Psychiatry, Opioid Addiction-Buprenorphine, Pregnancy, **Tobacco Cessation**
- **National Institute for Tuberculosis and Respiratory Diseases – India (Tuberculosis/TB)**
- **National Public Health Laboratory Services – Kenya (Antimicrobial Stewardship)**
- **National Tuberculosis, Leprosy and Lung Disease Program Kenya – Nairobi, Kenya (Tuberculosis/TB)**
- **Neolab – Georgia (საქართველო) (HCV)**
- **Northern Ireland Hospice – Belfast, NI (Palliative Care)**
- **Obra Social Ferroviaria (OSFE) – Argentina (Rheumatology)**
- **Post Graduate Institute of Medical Education and Research – Chandigarh, India (HCV)**
- **Reaching You - Ministry of Health and Population – Nasr City, Egypt (Cardiology, HCV, Pulmonary)**

More ECHO Replication Sites Worldwide

- **Royal College of Surgeons in Ireland** – Dublin, Ireland (Rheumatology)
- **Solidarity and Action Against The HIV Infection in India** – Delhi, India (Maternal and Child Health)
- **St. Luke's Hospice** – Sheffield, United Kingdom (**Palliative Care**)
- **Tajik Institute for Postgraduate Education of Medical Staff** – Tajikistan (HIV)
- **Tata Memorial Centre** – India (**Virtual Cancer Tumor Board, Cancer Clinical Trials**)
- **The Heartbeat Trust** – Dun Laoghaire, Ireland (Cardiology)
- **The Ministry of Health, Community Development, Gender, Elderly and Children** – Tanzania (HIV)
- **Trivandrum Institute of Palliative Sciences** – Thiruvananthapuram, India (**Palliative Care**)
- **Uganda Virus Research Institute HIV** – Entebbe Uganda (HIV)
- **Ummeed Child Development Center** – India (Autism)
- **Universidad Austral** – Buenos Aires, Argentina (**HCV**)
- **Universidad Central de Venezuela** – Ciudad Universitaria, Los Chaguaramos, Venezuela (Pediatrics, High Risk Pregnancy)

More ECHO Replication Sites Worldwide

- **Universidad de la República** – Montevideo, Uruguay
 - HIV, **HCV**, Anemia, Heart Failure, **Cancer of the Cervix**, Autism, **Pediatric Palliative Care**, **Adult Palliative Care**, Neurological Rehab, Autoimmune Diseases, Non-communicable Diseases)
- **Universidad Panamericana** – Mexico City, Mexico (Psychiatry)
- **University Health Network ('Ontario Pain')** – Toronto , Canada (Chronic Pain, **HCV**, Rheumatology)
- **Vietnam National Lung Hospital** – Hanoi, Vietnam (Tuberculosis/TB)
- **West/Northwest Hospitals Group** – Galway, Ireland (Endocrinology/Diabetes)

MD Anderson - ECHO Superhub for Oncology



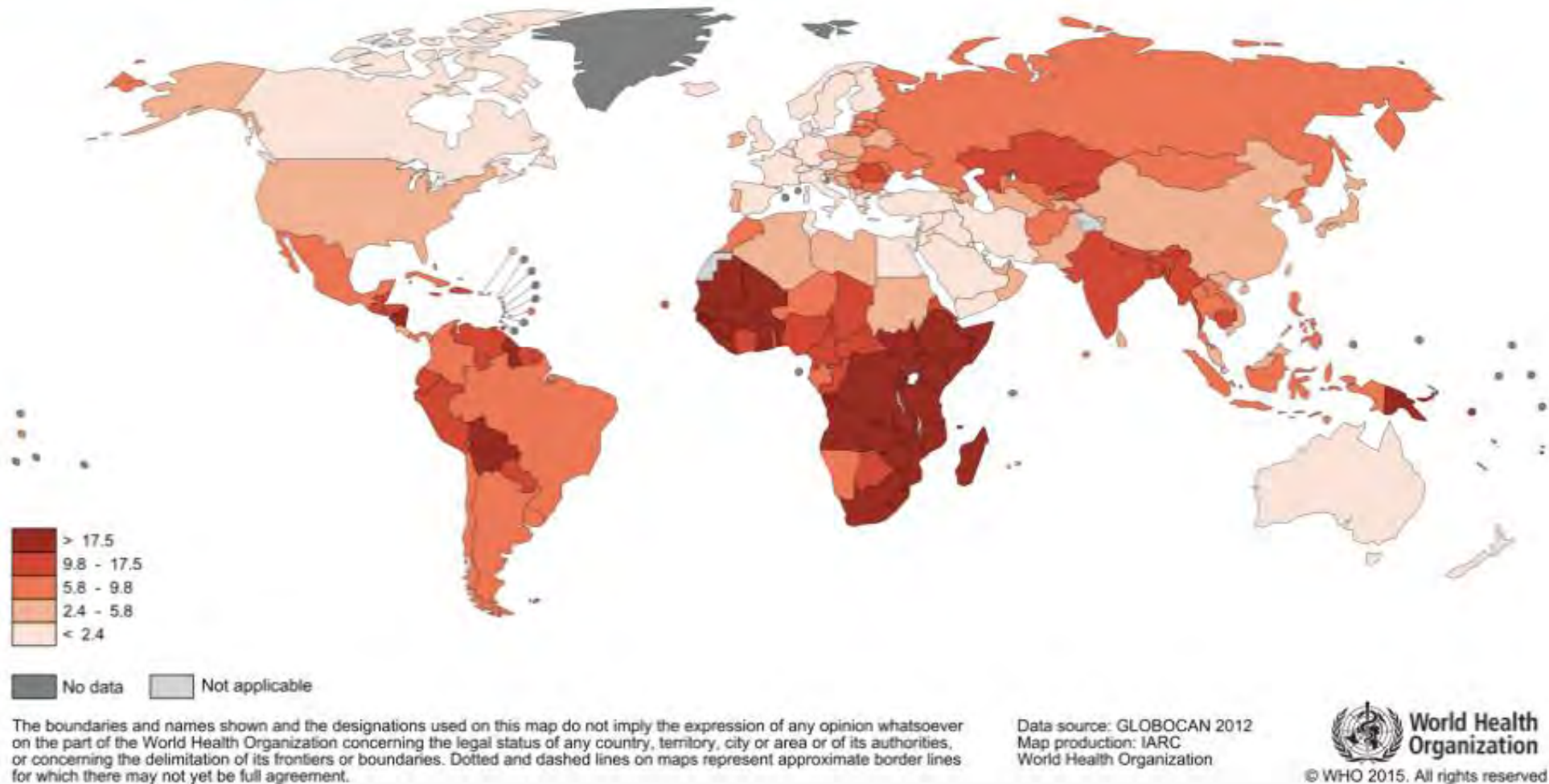
Recognizing a critical need to address disparities in cancer care, MD Anderson has been designated as an ECHO superhub for oncology by the ECHO Institute at the University of New Mexico Health Science Center (UNMHSC)

Project ECHO Programs at MD Anderson

- **Cervical Cancer Prevention - Rio Grande Valley**
- **Cancer Survivorship (Family Residents) – Texas**
- **Cancer Survivorship (CHWs) - Texas**
- **Hematologic Oncology**
- **Palliative Care - Africa**
- **Pharmacy – Zambia, Africa**
- **Mozambique, Africa – Cervical Cancer Management, Breast Cancer Management, Head & Neck Cancer**
- **Latin America – Cervical Cancer Management**
- **Tobacco Cessation - Texas**

Inequity of Cervical Cancer

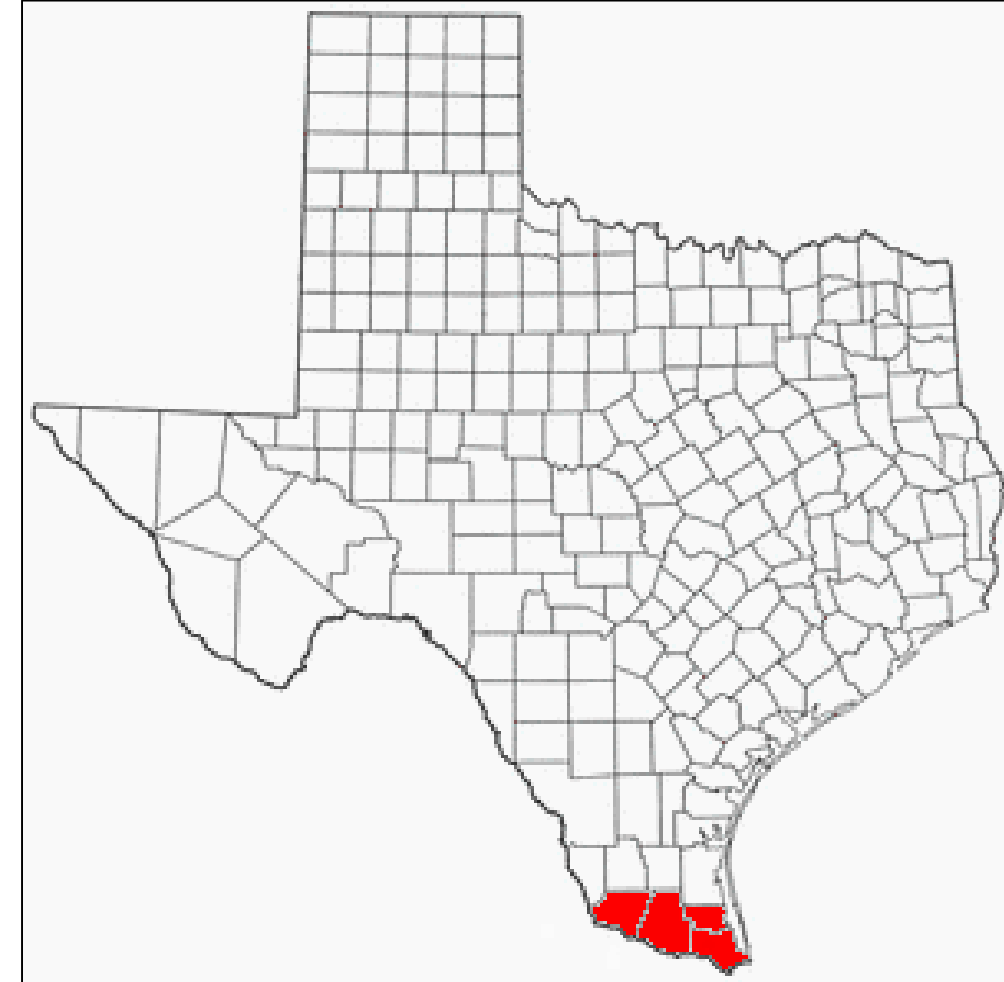
▲ Estimated Cervical Cancer Mortality Worldwide in 2012



85% of cervical cancer cases occur in the developing world

HCV on the Texas-Mexico Border

- Population of ~1.3 million
- 90% of population is Hispanic, 40% below the poverty line
- <10% of eligible women receiving cervical cancer screening
- No public hospital, 40% fewer providers than the rest of Texas
- LEEP treatment for uninsured patients for treatment of dysplasia only available one day per month (Ob-Gyn travels from UTMB-Galveston to McAllen)
- Cervical cancer rates are 30% higher compared with non-border counties in Texas



A world away from MD Anderson.....



Photo: Marie D. De Jesus, Houston Chronicle

Comprehensive Program for Cervical Cancer Prevention in Texas

Goal: Improve cervical cancer screening and prevention in low-resource areas of Texas

- **Program Strategy:** Multi-system partnerships to increase cervical cancer prevention capacity through
 - **Patient navigation:** Reduce loss to follow-up rates, increase number of women screened
 - **Patient education:** Cervical cancer prevention outreach at the community level
 - **Provider education:** In person hands-on training for colposcopy, biopsy and LEEP, mentoring of local providers, and telementoring using Project ECHO

Comprehensive program funded by: Cancer Prevention Research Institute of Texas, The University of Texas MD Anderson Cancer Center Moon Shots Program™, philanthropic funds, The Prevent Cancer Foundation, and The Raul Tijerina Foundation

THE UNIVERSITY OF TEXAS
**MD Anderson
Cancer Center**
Making Cancer History®

Cervical Cancer Prevention ECHO Curriculum

- Evidence based guidelines for management of abnormal screening tests
- HPV Vaccination
- HPV screening
- Colposcopy
- LEEP
- Cancer Management
- Guest lectures include: Management of cervical cancer in low-resource settings, fertility treatment in cancer survivors, breast cancer algorithms, family planning

THE UNIVERSITY OF TEXAS
MD Anderson
~~Cancer Center~~

Making Cancer History®

Outcomes: Comprehensive Program for Cervical Cancer Prevention in Texas

Program Level Metrics

- Number of women screened: 16,132
 - Number of women appropriately managed: 1,991 (Colposcopy for abnormal results)
 - 384 women treated with LEEP
 - 107 women diagnosed with CIN2/3 (thereby preventing cancer)
 - 6 women diagnosed and treated for early stage cervical cancer diagnosed through the program
- Number of women educated in cervical cancer screening and HPV vaccination: 10,703

ECHO Metrics

Provider Level Metrics

- Provider satisfaction
- Provider self-efficacy
- Provider knowledge on management of preinvasive disease

Process Metrics

- Attendance
- Number of cases presented
- Satisfaction with ECHO clinics

THE UNIVERSITY OF TEXAS
MD Anderson
~~Cancer~~ Center

Making Cancer History®

Tata Memorial Cancer Centre, Mumbai

Speaker View

ECHO India Project

NCG Virtual Tumor Board

admingoa

Guwahati medical college...

PARAS CANCER CENTER, P...

GCRI

cachar cancer hospital silc...

CMC

RCC-TVM

NH_HEALTHCITY

Pallium India Team

Malabar Cancer Centre, Th...

Narayana Superspeciality...

Dr.Pavithran Amrita Hospit...

RCC JIPMER Puducherry

MAX Saket

BASAVATARAKAM IND...

GKNMH COIMBATORE

Dr.M.Ashraf Teli; SKIMS,Sri...

Start Video

Invite

Participants 18

Share Screen

Chat

Record

Tata Memorial: Virtual Tumour Board ECHO

The screenshot displays a virtual tumour board meeting interface. At the top, a green status bar indicates "You are viewing TMH's screen" and "Options". The main content area is divided into several sections:

- Top Left:** "2) Volumetric for PET-CT" and "WB PET CT CA BRE 12/12/2016".
- Top Right:** "AIMS COCHIN".
- Center:** A large medical scan interface with three panels: "CT Transaxials" (top left), "PET Transaxials" (top right), and "FDG AVID HYPODENSE LESION IN SEG VII OF LIVER" (bottom). The scan shows a cross-section of the abdomen with a highlighted lesion in the liver.
- Right Side:** A vertical stack of video feeds. The top feed is labeled "ECHO India Project ECHO" and "Karan Rai; ECHO, India". Below it are feeds for "TMH", "Dr.Pavithran Amrita Hospit...", and "Narayana Cancer Institute".
- Bottom:** A control bar with icons for "Unmute", "Start Video", "Invite", "Participants" (18), "Share Screen", "Chat", "Record", and "Leave Meeting".

India's National Cancer Grid

- National Cancer Grid - network of major cancer centers, research institutes
- Dec 2016, launched the ECHO program
 - Connect 86 hospitals of the NCG
 - 20+ centers currently participate
- Weekly ECHO clinics with over 80 participants



Courtesy Swasth India & Dr. C S Pramesh, TMH



**NATIONAL
CANCER
INSTITUTE**



Asia-Pacific Economic Cooperation (APEC) ECHO





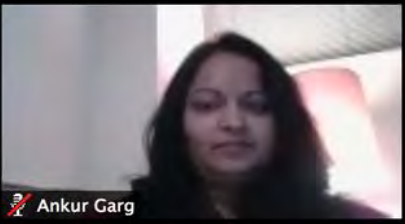




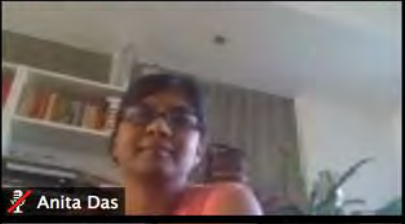



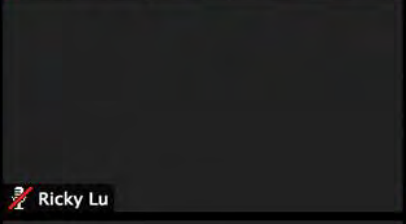


Vietnam Case Presentation

Video conference interface showing five participants:

- Bruce Struminger, MD [Pro...]
- Brenda Kostecky
- Steve Taplin
- Fanghui Zhao, China
- Vu Quoc Huy Nguyen

Meeting

Recording Speaker View Exit Full Screen

| | | | | |
|---|---|--|---|--|
|  Vu Quoc Huy Nguyen |  Bruce Struminger, MD [Project...] |  Brenda Kostecky |  Steve Taplin |  Ankur Garg |
|  Linda Van Le |  Leshia Hansen |  Dat Duong |  Woo Yin Ling |  Anita Das |
|  Sharon Daves & Lalida Ketgudee |  Suleeporn Sangrajrang |  Gina Ogilvie |  Ricky Lu |  Fanghui Zhao, China |
|  chiwan | Farah Denis | Chooing Lim | Mauricio Maza | Andrea Matos |
| Ebert Poquioma | Mauricio Navarro | Maria Luz Miraval & Mariell... | Dieu Linh Nguyen |  |



The “ECHO Act” (Expanding Capacity for Health Outcomes Act)

Passed House/Senate by unanimous vote, November-December 2016

Signed into law by President Barack Obama, December 2016

Asks the Secretary of Health and Human Services to study the impact of Project ECHO on:

Conditions Mental and substance use disorders, chronic diseases and conditions, prenatal and maternal health, pediatric care, pain management, and palliative care

Workforce Implementation of public health programs, including those related to disease prevention, infectious disease outbreaks, and public health surveillance

Public Health Health care workforce issues, such as specialty care shortages and primary care workforce recruitment, retention, and support for lifelong learning

Rural and Underserved Populations Delivery of health care services in rural areas, frontier areas, health professional shortage areas, and medically underserved areas, and to medically underserved populations and Native Americans



Utah

- Hatch(R)



Hawaii

- Schatz (D)

Co-sponsors



Texas

- Burgess(R)



California

- Matsui(D)



Louisiana

- Sen. Bill Cassidy (R)



New Mexico

- Sen. Martin Heinrich (D)
- Sen. Tom Udall (D)
- Rep. Michelle Lujan Grisham (D)



Massachusetts

- Sen. Elizabeth Warren (D)



Oklahoma

- Sen. James Inhofe (R)



Minnesota

- Sen. Al Franken (D)



Tennessee

- Sen. Lamar Alexander (R)



Mississippi

- Sen. Roger Wicker (R)



Texas

- Sen. John Cornyn (R)
- Rep. Kay Granger (R)



Washington

- Sen. Maria Cantwell (D)
- Sen. Patty Murray (D)



Montana

- Sen. Steve Daines (R)
- Sen. Jon Tester (D)



Virginia

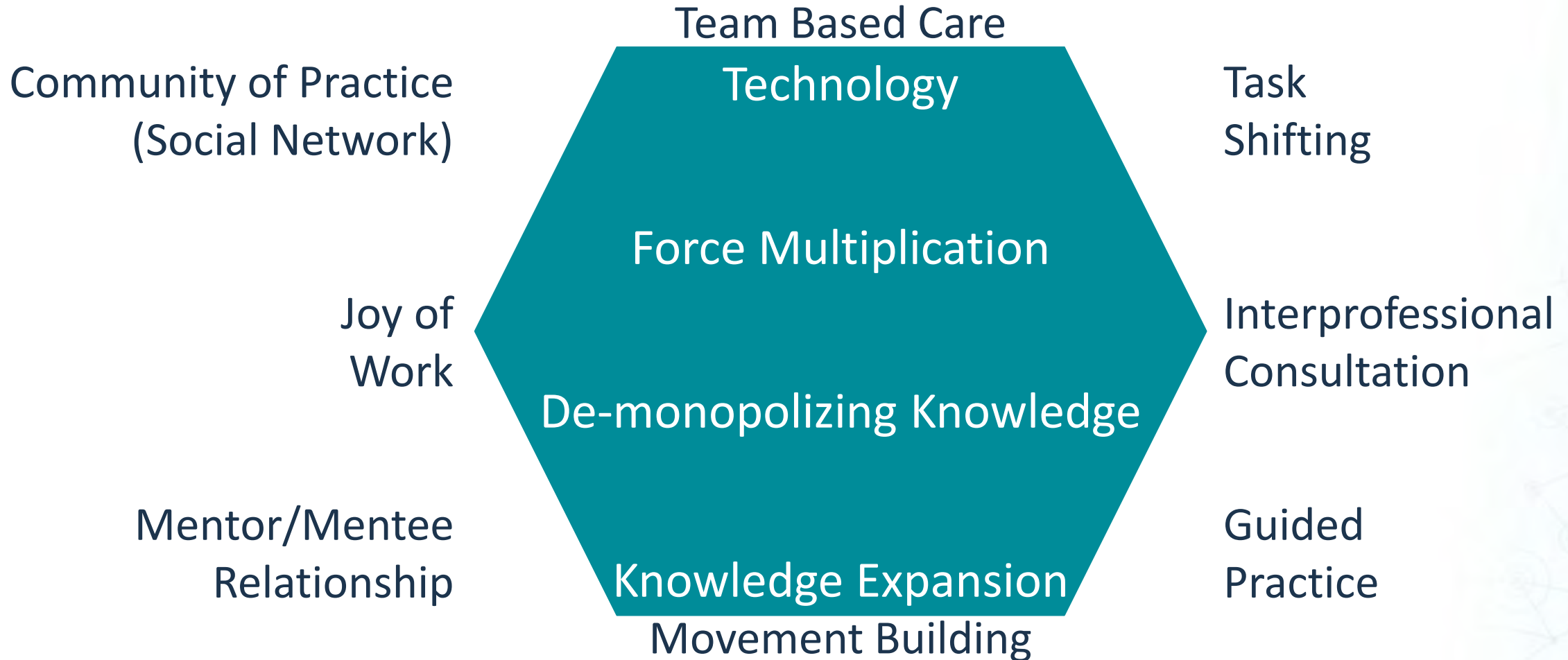
- Sen. Mark Warner (D)



Wyoming

- Sen. John Barrasso (R)

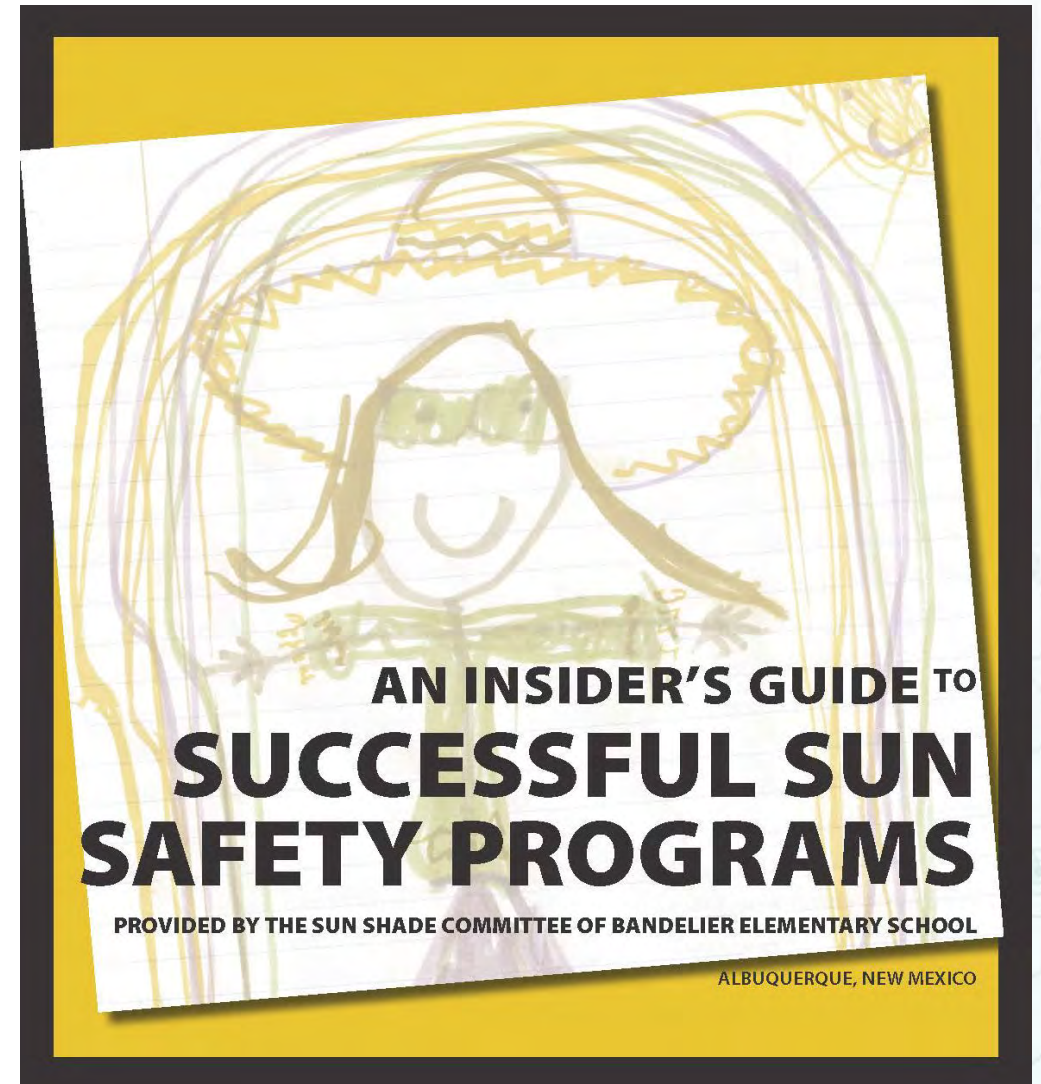
What Makes ECHO Work?



vs.

Organization Building

A note of gratitude



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University of New Mexico Health Sciences
Center

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 **@ProjectECHO**

 **UNMProjectECHO**