Report on Project ECHO®
A Great Investment for the State of New Mexico

The University of New Mexico Health Sciences (UNMHSC) serves as New Mexico’s flagship institution of higher learning through demonstrated and growing excellence in teaching, research, patient care, and community service. Project ECHO and its mission, vision, and activities closely align with each of the four cornerstones of UNMHSC.

**Teaching**

Project ECHO, through its multiple educational efforts, has provided continuing medical education at no cost to clinicians participating in Project ECHO’s teleECHO clinics. Community participants include clinicians from primary care, pharmacy, nursing, public health, social work, community health, psychology and behavioral health. They come from diverse settings, including Federally Qualified Health Centers, New Mexico Department of Health, Indian Health Service and postgraduate training.

Project ECHO clinics and programs are accredited through the Office of Continuing Medical Education at the University Of New Mexico, School Of Medicine. The national Accreditation Council for Continuing Medical Education (ACCME) has awarded UNM “accreditation with commendation” ensuring both physicians and the public that CME activities sponsored by ECHO meet "essentials and standards for accreditation" as specified by the ACCME. Evidence reflects that, as a result of the high quality educational programs at Project ECHO, clinicians gain improved knowledge and skills that are used to provide high-quality specialty care in common, complex conditions in the community setting.

**Research**

Research is an important component of Project ECHO’s work. The infrastructure for patient-level data analysis is currently being built. Published ECHO outcomes demonstrated equivalent patient care for hepatitis C virus (HCV) patients cared for by ECHO-supported community clinicians as compared to patients cared for by UNMHSC specialists. Peer reviewed articles have been published in the following journals: the New England Journal of Medicine, Health Affairs Journal, Hepatology, Academic Medicine, The Commonwealth Fund, Diabetes Education and Public Health Reports.

Project ECHO relies on the voluntary participation of community clinicians in the education and application of training with their patients. To date ECHO has reported on community clinician knowledge, self-efficacy, attitudes, preferences for learning, and application of knowledge and skills from ECHO in patient care. Papers are in development based on work in several teleECHO clinics including chronic pain, mental health, and rheumatology.
**Patient Care**

In each teleECHO clinic, community clinicians present patients under their care to the ECHO specialists and their peers. Based on self-reported data from these clinicians, we conservatively estimate that for each patient the clinician presents, an additional seven patients directly benefit. Community clinicians directly apply the knowledge and skills they gain from their participation in Project ECHO to patients with similar health conditions or diagnoses.

**Community Service**

The demonopolization of knowledge is one of the basic tenets of Project ECHO, and the spirit of service that this represents has become ECHO’s calling card. Further, Project ECHO significantly augments the ability for academic medical centers to meet the needs of the community for quality, timely and evidence-supported care for complex conditions. This mission is built on the commitment to share knowledge and respectfully interact with our partners in the community, and to keep the patient paramount in all care decisions and recommendations.

The sharing of specialty expertise is a powerful force for change. ECHO initiatives are discussed in the halls of the National Institutes of Health (NIH), the Centers for Disease Control and Prevention (CDC), the Department of Defense (DoD), the Institutes of Medicine and within national medical organizations and regulatory agencies as an innovative and disruptive healthcare model.

**Measuring the impact and value of Project ECHO to New Mexico over the past ten years**

A multifaceted initiative like Project ECHO has value that can be measured from a variety of perspectives, using a range of methods, which are delineated in this report.

**Method 1**  
**Snapshot View of ECHO’s Impact in New Mexico**

<table>
<thead>
<tr>
<th>Description</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No-cost CME/CE/CEU credits provided to NM community clinicians 2003-13</td>
<td>77,370</td>
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<tr>
<td>Total Community Health Workers trained through Project ECHO to date</td>
<td>416</td>
</tr>
<tr>
<td>Total number of community clinicians trained to provide buprenorphine treatment</td>
<td>784</td>
</tr>
<tr>
<td>Total number of Grand Rounds and outreach events provided across NM</td>
<td>3,530+</td>
</tr>
<tr>
<td>Total ECHO NM community clinician partners and participants</td>
<td>7,480+</td>
</tr>
<tr>
<td>Total NM Inmates given health education through ECHO</td>
<td>8,000</td>
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Method 2
Comparison of ECHO Revenue Sources

<table>
<thead>
<tr>
<th>Revenue Sources</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total NM State Funding to ECHO 2003-2015*</td>
<td>$19,750,200</td>
</tr>
<tr>
<td>Total NM MCO Funding to ECHO 2014-2015</td>
<td>$1,168,500</td>
</tr>
<tr>
<td>Total Revenue ECHO has brought to NM from non-state sources 2003-2015</td>
<td>$61,269,500</td>
</tr>
</tbody>
</table>

*includes DOH contracts and grants, state appropriations and Medicaid revenue

ECHO has brought nearly three times as much money into New Mexico from outside sources as it has received from New Mexico government sources over the past ten years.

Method 3
Cost Benefit Analysis: UNMH Specialty Care versus ECHO

Patient Level

<table>
<thead>
<tr>
<th>Cost / Benefit</th>
<th>Quantitative Analysis</th>
<th>Narrative Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefit: ECHO case presentation allows for local treatment and allows for an average of 4 visits to specialists to be averted per case.</td>
<td>Average cost per visit (statewide): Specialist consultation fee: $118  Transport: $91  Per Diem: $67  Overnight Stay: $33  Time Off Work: $176  Total Cost Per Visit: $486  Cost Savings Per Patient (4 visits): $1,943  Total Cost Savings Statewide: 2013 2014 2015 $1.9M $2.0M $3.6M</td>
<td>Local ECHO treatment has been shown to be equally effective to traditional specialist care, and the economic benefits are clear, with $7.5M of savings over 3 years for the people of New Mexico.</td>
</tr>
<tr>
<td>Benefit: ECHO “multiplier effect” – on average, local providers can apply knowledge gained in each ECHO case presentation to treating 7 other patients in the same manner.</td>
<td>Cost Savings Statewide based on “multiplier effect” (using above assumptions for specialist visits per case and cost per visit): 2013 2014 2015 $13.3M $14.0M $25.2M  Cumulative Cost Savings Statewide (cases presented at teleECHO clinics plus “multiplier effect”): 2013 2014 2015 $15.2M $16.0M $28.8M=&gt; $60 M saved in NM over 3 years</td>
<td>Patients of ECHO-participating local providers benefit even if their cases are not presented at a teleECHO clinic, as knowledge gained by clinicians may also apply to other patients’ treatment.</td>
</tr>
<tr>
<td>Benefit: More timely patient care.</td>
<td></td>
<td>Cases presented at teleECHO clinics are quickly given appropriate diagnoses and treatment regimens, and referrals for complex cases are fast-tracked.</td>
</tr>
<tr>
<td>Benefit: High level, culturally appropriate</td>
<td></td>
<td>Patients receive specialist-like care from a local, familiar, and trusted provider.</td>
</tr>
</tbody>
</table>
Benefit: Fast track for prior insurance authorizations. 

Cost: Concern about patient privacy and information.

Cost: Patient preference to see specialist in person may not be honored.

Insurance reimbursements requiring specialist authorization may be obtained through teleECHO clinics (no longer requiring an in-person specialist visit).

Project ECHO’s software is entirely HIPAA-compliant, and teleECHO clinic protocols mitigate the risk of divulging confidential client information.

While some patients may desire to travel and see a specialist due to a perception of better care, ECHO has demonstrated that patients treated using its model have equal health outcomes to those treated directly by specialists.

Conclusion: The quantifiable economic benefits of ECHO to New Mexico patients total over $60 million for the past three years alone, considering only the savings of receiving care locally rather than traveling to specialist offices. In addition to this, the quality of life benefits from receiving timelier and culturally appropriate care multiply the positive effect on ECHO. The costs to patients in the ECHO model are minimal.

Provider/Health Professional Level

<table>
<thead>
<tr>
<th>Cost / Benefit</th>
<th>Quantitative Analysis</th>
<th>Narrative Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefit: Improved professional and clinic reputation.</td>
<td>National certification in specialty: Rheumatology (28) Chronic pain (6) Rheumatology clinic participants: 202 Mandatory state certification for DEA license in Pain &amp; Opioid education (3,581) Development of relationships with other local providers/health professionals. National media exposure of provider and clinic.</td>
<td>Long-term participation in teleECHO clinics/programs builds providers’ knowledge base, ability to effectively treat patients and builds relationships with other local health professionals, leading to improved clinic reputation. Patients appreciate receiving specialty-level care by providers in their own communities. Several rural providers have been featured in peer-reviewed and other professional journals and in documentaries about rural healthcare that have received national exposure.</td>
</tr>
<tr>
<td>Benefit: No cost continuing education credits for professional development and state licensure.</td>
<td>Average fully loaded cost per continuing education credit: $70 ECHO continuing education credits provided and estimated total cost savings to providers: 2012 2013 2014 2015 9,789 12,559 9,025 10,654 $685k $879k $632k $746k Survey responses indicate improved professional development results from didactic and case presentations.</td>
<td>ECHO provides continuing education credits to health professionals at no cost, which is a significant benefit to rural and remotely located providers. The total value of these credits over the past 5 years has exceeded $3.5 million. Participants apply in their practices what they have learned during ECHO didactic and case presentations. Some participants use curricular materials to teach staff and students in their community, and for patient education.</td>
</tr>
</tbody>
</table>
**Benefit: Personal satisfaction and fulfillment**

ECHO is an engaging social network that participants find personally fulfilling. Health professionals report high levels of satisfaction developing collegial relationships with UNM HSC faculty, specialists and other providers. They enjoy participating in ECHO research, enjoy teaching others and report satisfaction serving the underserved.

**Cost: Time spent participating in ECHO programs has no monetary or productivity value.**

Value of a provider is based on Relative Value Units (RVUs). For example, an average of 20 RVUs is typically required of a family practice provider in an 8 hour day.

**Cost: Perceived competition with local specialist**

The value of a provider to an employer is based on revenue billed through RVUs. Activities like professional development or continuing education, although required for state licensure, is uncompensated. As a result, providers who value ECHO utilize personal time to join, usually over their personal lunch hour.

Conclusion: While providers sacrifice their time to participate in teleECHO clinics, ECHO has found the benefits, both in terms of direct economics and long-term provider improvement, to be compelling to clinicians of all levels. Increased knowledge (and the CME credit that goes with it), better reputation, and deeper connectedness to specialists and the medical community have led providers statewide to embrace ECHO.

### System Level

<table>
<thead>
<tr>
<th>Cost / Benefit</th>
<th>Quantitative Analysis</th>
<th>Narrative Analysis</th>
</tr>
</thead>
</table>
| **Benefit:** ECHO has attracted significant out-of-state funding, leveraging state appropriations. | Total state funding to ECHO (inception – 2015): $20.9M  
Total other funding to ECHO (inception – 2015): $61.3M  
Leverage multiple: 2.9X | Project ECHO has attracted the attention of major national healthcare funders, resulting in over $60 million in funding to New Mexico that would not likely have otherwise come to the state. |
| **Benefit:** ECHO’s grant funding has brought significant F&A funding directly to UNM HSC, as well as paying for the time of UNM HSC faculty. | F&A to UNM HSC:  
2005-2012 $1.86M  
2013 $442k  
2014 $737k  
2015 $1.05M  
UNM HSC faculty time paid by ECHO:  
2005-2012 $3.97M  
2013 $883k  
2014 $1.15M  
2015 $1.67M | Of the funding discussed above, over $11.7 million has gone directly to UNM HSC, either for administrative expenses or to pay faculty. |
| **Benefit:** ECHO improves utilization of UNM HSC specialists. | | By empowering local providers to maximize effectiveness in treating patients (both cases are presented at teleECHO clinics and others with similar diagnoses) specialist time is reserved for those patients with the most need for specialist consultations. |
This leads to more efficient patient care and better time utilization. By eliminating some appointments with patients who may have trouble with the logistics of visiting Albuquerque, it also reduces the number of no-shows at specialist clinics.

| Benefit: ECHO allows patients with complex conditions to receive integrated care. | Physicians with multiple specialties, including mental health, join teleECHO clinics, allowing local providers to understand the full spectrum of care needed for their patients. |
| Benefit: UNMHSC and New Mexico reputation. | As academic medical centers and governments worldwide learn about and implement ECHO, the reputations of UNMHSC and the state as a whole continue to grow as a hub for world class medical research and innovation. |
| Cost: Possibility of reduced revenue to UNMHSC medical specialists and hospital. | There may be concerns that ECHO’s effectiveness in reducing expensive in-person specialist visits may reduce revenues at the UNMH and among its medical faculty. ECHO has not found, however, that UNMHSC faculty or hospital facilities are underutilized due to ECHO. |

Conclusion: Some of ECHO’s greatest benefits are in the reputational boost and funders’ attention it has drawn to New Mexico over the past ten years. Every legislative dollar appropriated to ECHO has resulted in approximately three additional dollars of new money finding its way to the state. The improved utilization and efficiency of specialists is also a transformative benefit. Although specialists may lose specific revenue opportunities as fewer patients require in-person consultations, ECHO improves the specialist care model’s efficiency by reducing no-shows and unnecessary consultations and increasing access to specialists for those who are in real need, especially those in the remote and underserved populations that ECHO serves.

Method 4

Cost-Savings Achieved Downstream

Costs are reduced when best practice care is provided in a timely, coordinated approach. When specialty care is not available, costly and life-threatening complications occur from complex conditions that go untreated or inadequately treated.

In a clinical trial published in the New England Journal of Medicine in 2011, the coordinated HCV care delivered under the ECHO model was shown to be as safe and effective as that given in a university clinic.
In a cost-effectiveness study presented by ECHO at the AASLD conference in November 2013, HCV care through ECHO was demonstrated to save an average of $1,352 per patient when compared against care via UNM, which equaled $350,000 for the 261 patients in the research cohort (J Wong and S Arora, 2013). The same study found that, when compared to no specialist care, ECHO increased quality-adjusted life expectancy by 3.8 years overall and also generated lower lifetime costs and higher quality-adjusted life expectancies for 62% of the 261 patients.

A new team-based delivery model, ECHO Care, demonstrates that providing intensive high-touch care to the most complex “super-utilizers” in NM reduces short-term expenses including ER visits and hospitalizations and re-admissions. Longer-term health complications which threaten to bankrupt our healthcare system are also impacted.

### Method 5

#### Value of Disease Prevention to New Mexicans

It is important to think about the value of disease prevention to individuals, families, communities and the state of NM health system broadly. Many of ECHO’s programs have significant preventive value:

**ECHO Community Health Workers (CHWs) Specialist Training Programs**

- Trains CHWs, promotoras, Community Health Representatives and medical assistants to serve as either community diabetes or addiction specialists.

- These specialists serve a wide variety of functions in the community and within health clinics, both on tribal lands and in rural and underserved communities.

- These programs use the ECHO model to empower CHWs to assist in the prevention, screening and treatment of significant diseases, with the resulting prevention of downstream complications like overdoses, diabetic retinopathy and blindness, amputation, kidney failure and dialysis, etc.

- Our CHWs and their supervisors have indicated that the training they received through Project ECHO at UNMHSC has assisted in more fully integrating them into the clinical chronic disease team.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>ECHO* N=261</th>
<th>UNMH N=146</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minority</td>
<td>68%</td>
<td>49%</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>SVR* (Cure) Genotype 1</td>
<td>50%</td>
<td>46%</td>
<td>NS</td>
</tr>
<tr>
<td>SVR* (Cure) Genotype 2/3</td>
<td>70%</td>
<td>71%</td>
<td>NS</td>
</tr>
</tbody>
</table>
“It seems like there’s a high use of intravenous drugs out there right now which can spread disease, and it seems like it’s at a high rate right now and I think that us knowing more to let our families know and communities know is going to help us fight because education is the key.” - Peer Educator, Western New Mexico Correctional Facility

**ECHO’s Prison Peer Educator Program (NMPEP)**

- A train-the-trainer model using CHWs to train a core group of inmates within the prison system to educate other inmates on infectious diseases such as HIV, hepatitis, and many others.

- The goals of PEP are to increase knowledge of key health issues, increase general health literacy, reduce risky behaviors, and increase job readiness in peer educators upon release.

- 420 inmates have been trained as trainers and have provided abbreviated 10-hour health workshops and 2-hour hand-washing and HCV prevention classes to 8,000 prisoners entering the NM Corrections system since 2009.

“*I made lifelong friendships with all of the trainees and trainers. ECHO was one of the best experiences I’ve had within the 15 years of my employment! Thanks for the opportunity!*” ~CHW Training Attendee

**Buprenorphine Education and Training**

- Educates and trains providers in prescribing and support buprenorphine treatment.

- Patients who have opioid addiction have much higher rates of recovery if they are treated with buprenorphine/naloxone than other medications available in the office-based setting. Since 2006, Project ECHO has offered 20 buprenorphine training initiatives across the state, and has trained 375 community physicians, 135 mid-level providers and a total of 769 individual providers in prescribing and supporting buprenorphine treatment.
In addition to the value of these innovative ECHO CHW training programs in terms of disease prevention and the social and economic value that such prevention has in families and communities, it is important to mention that both the CHW initiatives and the prison peer educator program have produced substantial value in terms of workforce development, health system capacity building and also by sponsoring the hope of a better life for underprivileged individuals. For example, NMPEP peer educators are encouraged to contact the ECHO training team upon their release, and are using their experience as health educators to pursue both jobs and additional training opportunities, often within the field of health and health education.

Method 7
Value of Professional Development for Community Partners

ECHO’s community partners serve patients in rural and underserved communities across NM. The value ECHO provides these clinicians can be measured in a variety of ways:

- Total numbers of CME, CE and CEU credits provided through Project ECHO at no cost.
• Certificates, trainings and other special opportunities for gaining knowledge, expertise and capacity.

• Survey data, focus groups and other testimonials from providers which demonstrates that ECHO has been invaluable for them in their ability to effectively care for their patients.

<table>
<thead>
<tr>
<th>N=17</th>
<th>Mean Score (Range 1-5)</th>
</tr>
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<tbody>
<tr>
<td>Project ECHO has diminished my professional isolation.</td>
<td>4.3</td>
</tr>
<tr>
<td>My participation in Project ECHO has enhanced my professional satisfaction.</td>
<td>4.8</td>
</tr>
<tr>
<td>Collaboration among agencies in Project ECHO is a benefit to my clinic.</td>
<td>4.9</td>
</tr>
<tr>
<td>Project ECHO has expanded access to HCV treatment for patients in our community.</td>
<td>4.9</td>
</tr>
<tr>
<td>Access, in general, to specialist expertise and consultation is a major area of need for you and your clinic.</td>
<td>4.9</td>
</tr>
<tr>
<td>Access to HCV specialist expertise and consultation is a major area of need for you and your clinic.</td>
<td>4.9</td>
</tr>
</tbody>
</table>

• Reduction in isolation and creation of communities of practice are achieved not only through the teleECHO clinics and special training opportunities (usually in Albuquerque, almost always at no cost), but also via the over 3,500 Grand Rounds and other ECHO outreach and medical education events provided in local communities by UNM HSC experts. This experience is widely available for UNM HSC clinicians, but rarely available in small rural communities.

• Typically, pain and opioid education in medical schools constitutes an average of 9 hours of a four-year curriculum, resulting in poor pain management expertise. New state mandates require clinicians with DEA license to receive 5 hours of mandatory pain and opioid training. In response to this need, Project ECHO has trained over 3,500 diverse clinicians holding a DEA license. Evaluation results demonstrate significant improvements in knowledge and self-efficacy.
Community clinicians who participate in ECHO gradually become local experts, and receive referrals from other providers in their clinics, in their community and in surrounding communities. This referral system provides the satisfaction of peer recognition of expertise, in addition to off-loading complicated patients from other practices and triaging the patients who need to be seen at UNMH for immediate care.

In these ways, ECHO has been a contributing factor in supporting rural providers remaining in their communities, providing continuity of medical care and stability and economic development for small towns.

Method 8
Value of Enhanced Visibility for New Mexico

ECHO has brought positive attention to our state via press coverage, TV and video documentaries and the hundreds of visitors who have attended monthly ECHO Orientation events. Since 2010, a total of 1,254 people have come to Project ECHO in Albuquerque to learn about ECHO’s mission, model and adapting it to their local community needs. Of these, 900 people visited us from outside NM, and 354 from within. The name recognition ECHO has developed, and the association with UNM and the Health Sciences Center, is beneficial to the state.

The abundant positive coverage ECHO has received in many different venues has contributed to the reputation of our state among policy makers, legislators, health systems, medical providers. Project ECHO has become a well-known and highly respected name in healthcare innovation, and has received numerous awards.
Method 9
Value of ECHO Replication

The ECHO model is now being adopted as an effective method of improving healthcare across the country and around the world. There are now 66 ECHO hubs in 12 countries and many additional organizations and governments are preparing to launch ECHO initiatives in 2016. Governments see ECHO as a logical, cost-effective way of leveraging scarce healthcare resources to provide lower-cost higher-quality care for their citizens.

Conclusion: ECHO is a High-Return Investment for New Mexico

New Mexico’s largest University and Health Sciences Center has grown Project ECHO, which continues to increase in value and impact in critical areas (teaching, research, patient care, and community service) and New Mexico:

- Education
- Economic Development
- Workforce Development
- Healthcare Delivery, Access and Capacity

For the past decade, Project ECHO has been an investment producing high returns and improving the lives of New Mexicans.