

Connected Care for Improving Treatment of Chronic Headache (CCITCH)

Request ID: 16479547

Submitted in response to Pfizer LGIC Request for Proposals:

*Engaging Interdisciplinary and Interprofessional Teams
in the Care and Management of Chronic Pain Patients*

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While 350,000 Utahns suffer from migraine headache—more than asthma and diabetes *combined*—, **primary care providers (PCPs) remain under-supported as the front line of chronic headache care.** Even though headache is a very common chief complaint, PCPs experience barriers to success in managing headache including: lack of time to develop competence/comfort, lack of appropriate education and/or training, and lack of consistent access to specialist consultation. As a result, patients may be misdiagnosed, inappropriately treated, or forced to enter an over-crowded referral stream.

The *first key innovation* of this proposal is to leverage a successful academic telehealth infrastructure (Project ECHO™) in the service of headache care. Through weekly tele-conferences, an *interdisciplinary, interprofessional* team of University specialists will connect with *primary care providers (PCPs)* to engage in case-based learning.

The *second key innovation* is to build on a pilot project that improved headache outcomes by providing electronic medical record (EMR)-based *diagnostic and decision support*.

We will use Project ECHO and EMR-based tools to *implement and sustain best-practice headache care* across our PCP network. We will *continuously survey* our process to optimize it, and *codify our knowledge* with the intent of *scaling our work to other health networks, and other disease states*.

Specifically, we aim to:

- a. increase primary providers’ competence and self-efficacy in diagnosing/treating headache,
- b. increase use of a validated migraine diagnosis tool (ID Migraine™),
- c. decrease opiate prescription rates for headaches, and
- d. improve integration of hospital-based team members with community providers thereby increasing patient access to specialty-level care.

I. PROPOSAL

a. Overall Goals & Objectives

The goal of the Connected Care for Improving Treatment of Chronic Headache (CCITCH) program is to improve and advance the standard of care for patients with migraine chronic headaches) by offering weekly video-conferenced continuing medical education (CME) sessions lead by University of Utah specialists for front-line community-based primary providers.

CCITCH will utilize the Project ECHO (Extension for Community Healthcare Outcomes) educational method. The mission of Project ECHO is to improve patient access to best-practice “specialty” care by enhancing primary providers’ capacity to treat chronic, common, and complex diseases. In this model, an interdisciplinary, interprofessional team of headache specialists—including embedded family practitioners—at the University of Utah (U of U) will use videoconferencing technology to conduct weekly sessions with primary providers (physicians and advanced practice clinicians) in the U of U’s 10 community clinics across the Salt Lake Valley (**Figure 1**). The multipoint conferencing system will allow providers and staff at all 10 clinics to connect on a regular schedule simultaneously for the educational, consultative clinic from their home clinics.

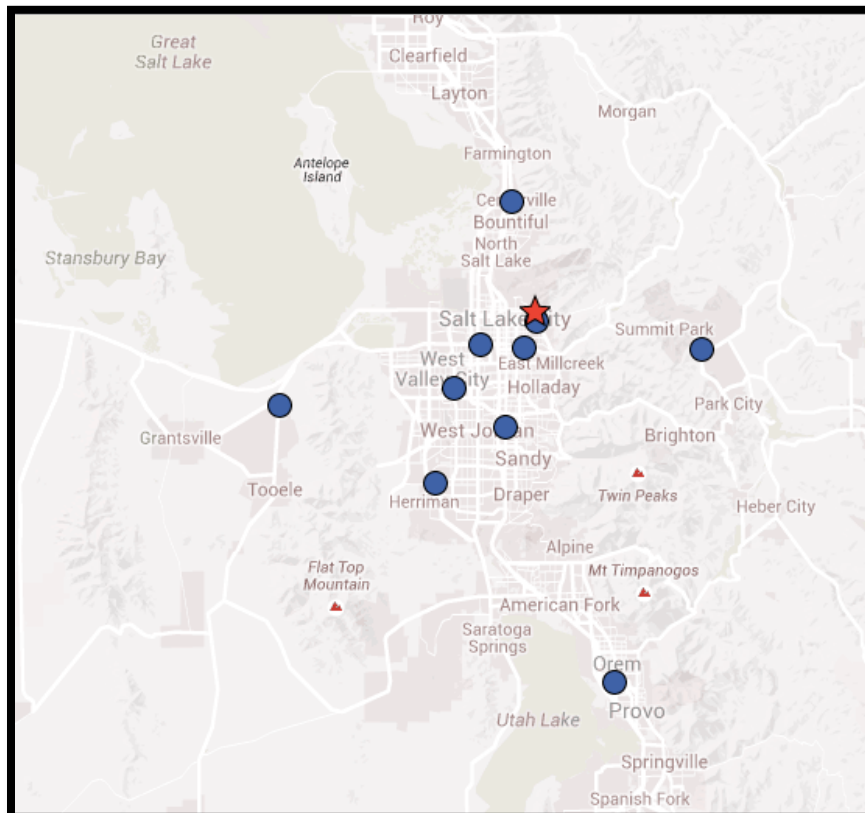


Figure 1. Map of University of Utah Community Clinics

The weekly sessions will focus on case-based learning with cases being presented by community providers, in addition to including brief didactic presentations that help inform disease management.

Specifically, the CCITCH program's goals are to:

1. create interdisciplinary and interprofessional “knowledge networks” focused on cost-effective, best-practice care of patients with chronic headache,
2. measure outcomes of education efforts, and
3. develop and disseminate guidelines based on what we learn, in order to allow scaling to larger geographical units and other disease states.

b. Technical Approach

CCITCH will utilize existing Project ECHO video-conferencing infrastructure to connect an interprofessional team of University of Utah specialists with primary providers in the University community clinics to provide education and consultation in the management of patients with chronic headache. This is not traditional “telemedicine” where the specialist assumes the care of the patient, but instead a guided-practice model where the primary care clinician retains responsibility for managing the patient. In addition, the program will provide in-person in-services and workshops offering hands-on training related to the management of chronic headache. The tele-conferences, in-services, and workshops will all offer CME credit.

Project ECHO is a collaborative model of clinical education and care management that empowers clinicians everywhere to provide better care to more people. The ECHO model™ does not actually provide direct care to patients. Instead, it dramatically increases access to specialty treatment in underserved areas by providing *leveraged education consultative support*. Front-line clinicians gain the knowledge and support they need to manage patients with complex conditions by interacting with a small group of specialists on a regular basis. Unlike conventional telemedicine, which is a one-on-one interaction, the ECHO model reaches dramatically more patients, by interacting with a group of their providers (**Figure 2**).

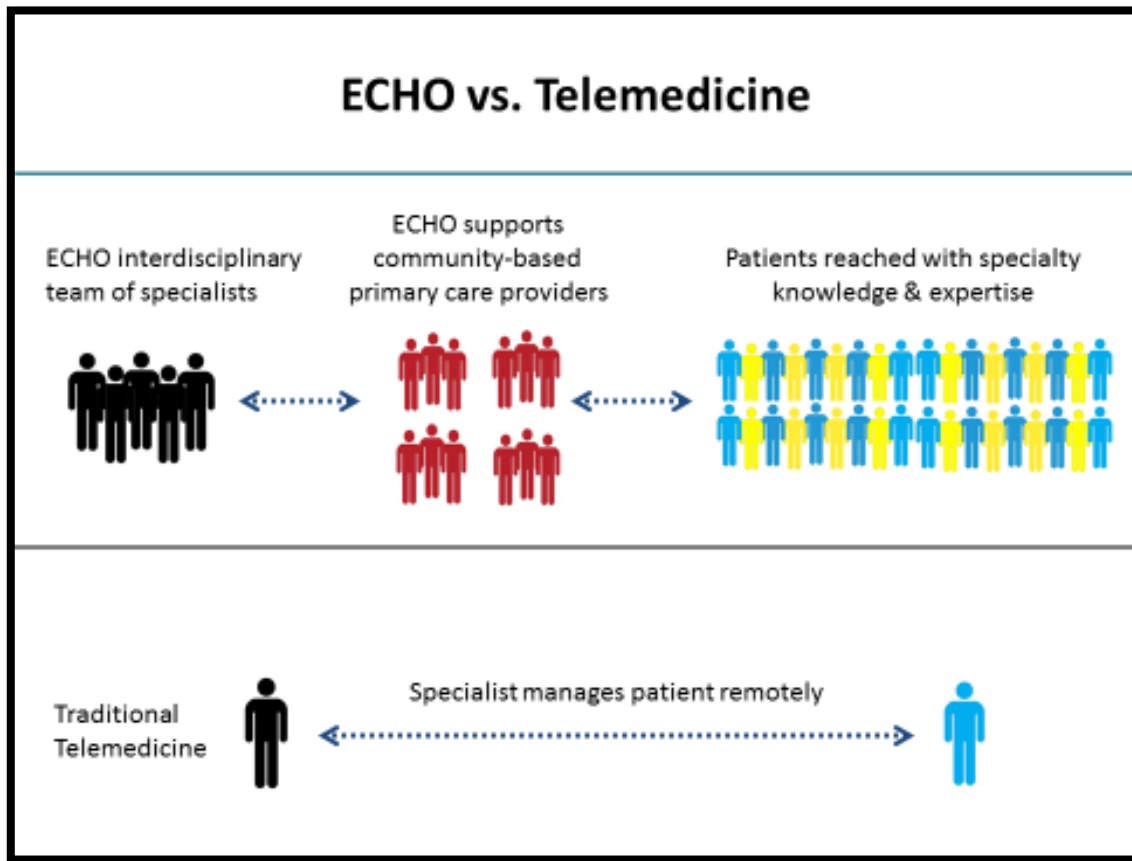


Figure 2. Project ECHO model force multiplication versus traditional telemedicine

A typical ECHO session begins with a brief 15-30 minute didactic presentation, followed by approximately 90 minutes of case presentations and discussion. The sessions will be led by an interdisciplinary, interprofessional team, including experts in diagnosis and management, pathophysiology, psychosocial factors, physical therapy, and pharmacotherapy (the latter including opioid management and detoxification). Prior to the session, community providers will complete and submit case presentation information in our shared electronic medical record (EMR) under a non-billable encounter to the clinic coordinator who will then prepare the case presentations for review. During the session, providers present cases, and receive individualized mentorship and education regarding each case. Providers benefit from hearing not only their own cases, but those of others – an additional element of leverage in the ECHO model. Providers and support staff may attend sessions for educational purposes, regardless of whether or not they are presenting a case.

Participation in the Chronic Headache ECHO requires downloading the secured videoconferencing software (available to community sites at no cost, as this is already funded through U of U Hospital funds) as well as Category 1 CME through the Accreditation Council for Continuing Medical Education. All 10 community clinic sites are already equipped with videoconferencing hardware and have internet access.

As the ECHO model expands, it is helping to address some of the health care system's most intractable problems, including inadequate or disparities in access to care, rising costs, systemic inefficiencies, and unequal or slow diffusion of best practices. Across the United States and globally, policymakers are recognizing the potential of ECHO to exponentially expand workforce capacity to treat more patients sooner, using existing resources. At a time when the health care system is under mounting pressure to do more without spending more, this is critical.

Project ECHO was founded at the University of New Mexico in 2004 by Sanjeev Arora, a liver disease specialist. He was frustrated that thousands of New Mexicans with hepatitis C (HCV) could not get the treatment they needed because there were no specialists where they lived. The clinic where he worked was one of only two in the entire state that treated HCV. Dr. Arora was determined that all patients in need of treatment should get it. He created Project ECHO so that primary care clinicians could treat hepatitis C in their own communities. Since then, ECHO has expanded to over 40 sites around the world (including the U.S. Department of Defense health care system) who serve as "hubs" or knowledge centers for nearly 30 disease states.

Weekly case-based learning is supplemented with formal, brief didactic presentations (**Figure 3**) on topics germane to chronic headache. The CCITCH Headache Curriculum will include coverage of the following topics (in addition to didactic needs brought up by case discussion):

- relevant pathophysiology of headache disorders (trigeminovascular system, central sensitization, pain matrix, descending pain modulation, opiate induced hyperalgesia);
- relevant pharmacology of headache treatment: mechanisms and dosing of triptans, nonsteroidals, antiemetics, and diverse prophylactic drugs (including antiepileptics, cardiovascular drugs, antidepressants among others);
- use of procedures and devices in headache – including knowledge to distinguish validated treatments from those that are experimental and /or may be harmful. Includes discussion of botulinum toxin, nerve blocks, sphenopalatine ganglion blocks, nerve stimulation, TMS, among others;
- clinical phenotypes of headache, including the many phenotypes of migraine, recognizing red flags for secondary headache, distinguishing cluster headache and other trigeminal autonomic cephalalgias from migraine, diagnosing post-traumatic headache, among others;
- behavioral management of headache, including managing expectations, treating concomitant affective and anxiety disorders, strategies for dealing with catastrophizing, strategies for dealing with 'difficult patients', help in engaging mental health professionals;
- medication overuse, including relevant pathophysiology (see also above), behavioral and pharmacological interventions for opioid, barbiturate, and non-steroidal anti-inflammatory drug overuse, strategies for tapering and detoxification; and
- team care of headache: learning to work in an interprofessional, interdisciplinary team – at local sites and over distributed care networks.

The curriculum is devised to effectively educate providers in a best-practice model, and the practical application with guidance of a specialist in the field, leads to outcomes that mirror those that would be given by the specialist him/herself. This is seen by the study published in the *New England Journal of Medicine*, “Outcomes of Treatment for Hepatitis C Virus Infection by Primary Care Providers” (Arora et al. 2011). Now that the model’s effectiveness in the best-practice treatment of HCV infection has been demonstrated empirically, we are able to tailor this model to target the specific needs of a given region and monitor the effectiveness of its implementation.

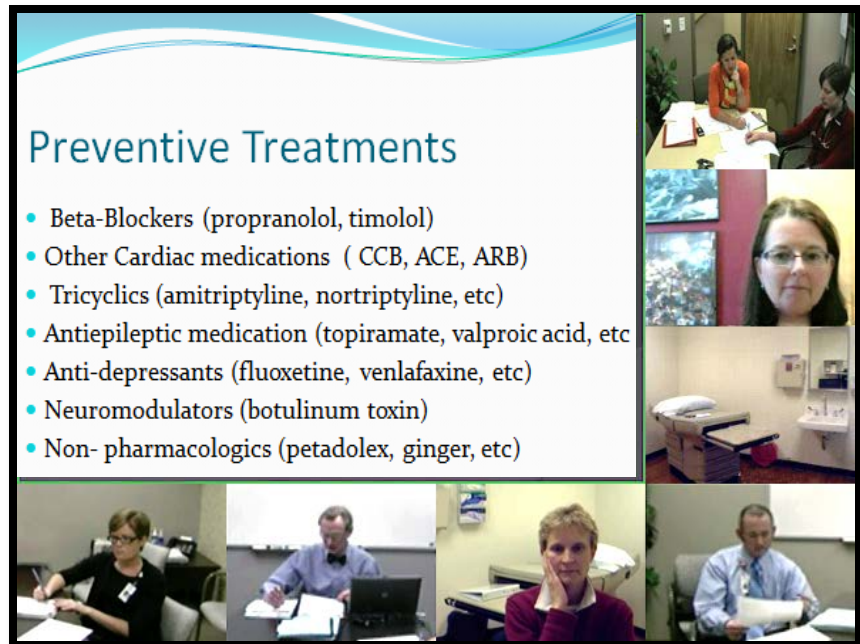
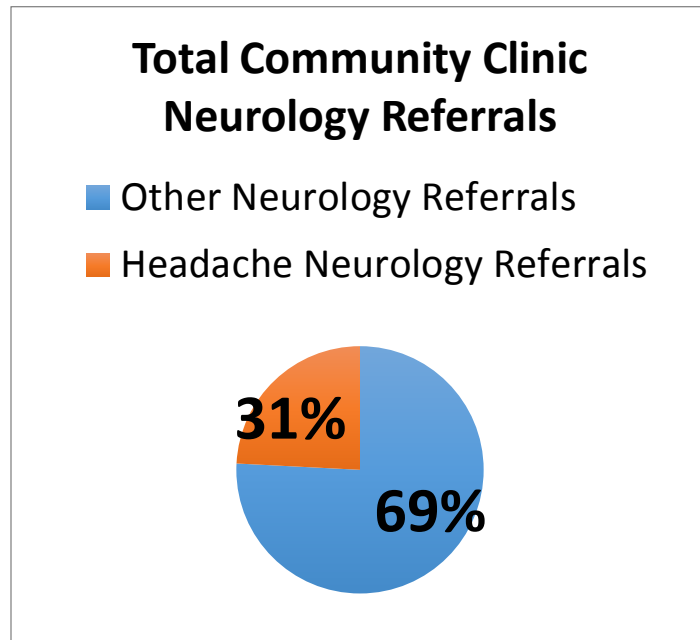


Figure 3. Sample of didactic presentation during ECHO.

c. Assessment of Need

Headache is a massive public health burden in Utah. Based on national and international epidemiological work (Lipton et al *Headache* 2001), 12% of the Utah population - 350,000 Utahns suffers from migraine – this is more than those who suffer from diabetes and asthma *combined*. Moreover, there is an epidemic in post-traumatic headache, which affects more than half of blast-injured veterans (Theeler et al *Headache* 2013) – exact numbers are not available for Utah but are likely substantial as the state has a large military and veteran population. Finally, opioid use, which is a significant determinant of headache chronification (Bigal et al *Headache* 2008) is a severe problem in Utah, which has one of the highest rates of opiate overdose in the country (Grey TC, University of Utah Dept of Pathology, *personal communication*

Currently, the University of Utah Neurology Department receives referrals from the entire state of Utah as well as the 5 intermountain states as a tertiary care center. Headache referrals comprise at least 20% of these referrals. The community clinics comprise 31% of Headache referral requests. Clearly with the implementation of this grant, resources for diagnosis and treatment of headache are accessible and will not require a 6 month wait to be seen for definitive care.



The U of U is the only United Council for Neurologic Subspecialties (UCNS)-accredited headache program in the Mountain West (**Figure 4**). This, in conjunction with a high demand for this subspecialty service (more on this below), drives an immense referral load for headache care at the U of U. There is currently a 513-patient waiting list for headache referrals. There is a total of 1.5 full-time equivalent (FTE) delivering specialty headache care in our system (see Biosketches for Susan Baggaley, Kathleen Digre, and K.C. Brennan) with a total capacity to see 34 new patients a month. Given the epidemiology (12% of the population has migraine) *headache is primary care, and it is a public health problem*. However, neither our clinical infrastructure nor most across the country are capable of delivering specialty headache care to such large numbers, using conventional models. *Leveraged, connected care is a possible solution*.

Another component to our interdisciplinary team is the advantage of a Pediatric neurologist in headache care with Dr. Lynne Kerr who is also UCNS certified in headache. She will also provide expertise to the primary care clinicians as an expert.



Figure 4. Map of UCNS-accredited headache subspecialty programs.

In 2012, an average of 21 Utah adults died each month as a result of prescription pain medications (Figure 5.; 12.7 per 100,000 adults; <http://www.useonlyasdirected.org/wp-content/uploads/2014/07/Prescription-Pain-Medication-Deaths-In-Utah-2012.pdf> accessed 10/1/2014). During the same year, prescription pain medications caused more deaths than all other drug categories, including heroin and cocaine combined. “Use Only as Directed” is a public health campaign that has focused on trying to reduce opioid related deaths in Utah (<http://www.useonlyasdirected.org/use-only-as-directed-launches-2014-campaign/>). It was funded to varying degrees over the last few years, but it addresses the problem of opioid misuse/abuse from a patient/public health perspective. It does not particularly address the need to educate health care providers and change the paradigm of treating chronic pain from “inside.”

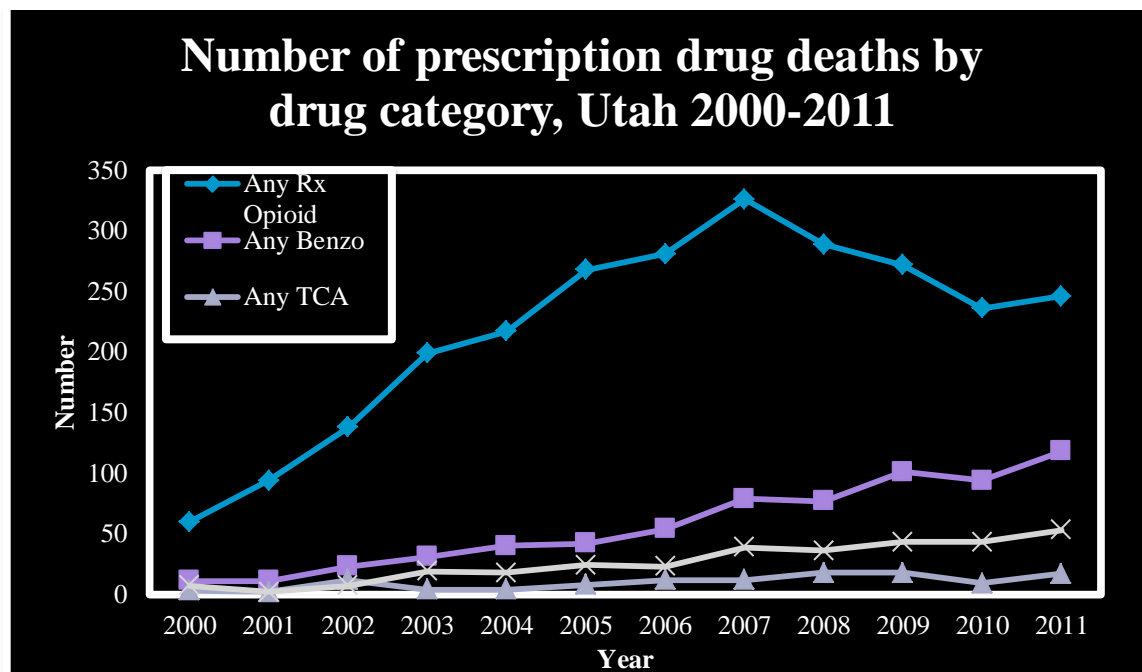


Figure 5. Opioid vs. Benzodiazepines and Tricyclic Anti-depressants in Drug Overdose (Utah)

In an internal 2014 survey of 70 University of Utah Community primary care providers and trainees:

- 84% felt the chronic non-cancer pain is a burden in their practice
- Fewer than 50% of practitioners felt comfortable *tapering* opioids
- 100% of responding practitioners felt opioids were over utilized for chronic non cancer pain
- 100% would follow a standardized approach in prescribing opioids if it were available

Perceived obstacles for improved pain care from the same survey top reasons for discomfort are:

- lack of psychiatric support (63% of respondents),
- inability to consult pain management (63%),
- uncomfortable with inherited pain regimen (48%), and
- no clear etiology of pain (48%).

In follow-up surveys investigating providers' ongoing needs, additional education and access to pain specialists were consistently highlighted as on-going opportunities to address the problem of appropriate opioid use.

In a pilot program, we have demonstrated the potential success of the CCITCH approach. Baseline EMR diagnostic codes and corresponding prescribing data in 10 primary care clinics from ~50,000 encounters over a two-year period (2008-2010) were analyzed to determine diagnosis and treatment patterns across the network. Most coding for headache was nonspecific (symptom) coding; predictably without specific diagnoses inappropriate treatment was used – opioids were particularly prominent. To respond to this problem we implemented –

directly into the electronic medical record – a validated 3-item tool, ID Migraine™ (Lipton et al. 2003) to assist care community primary care providers in diagnosing migraine (**Figure 6**).

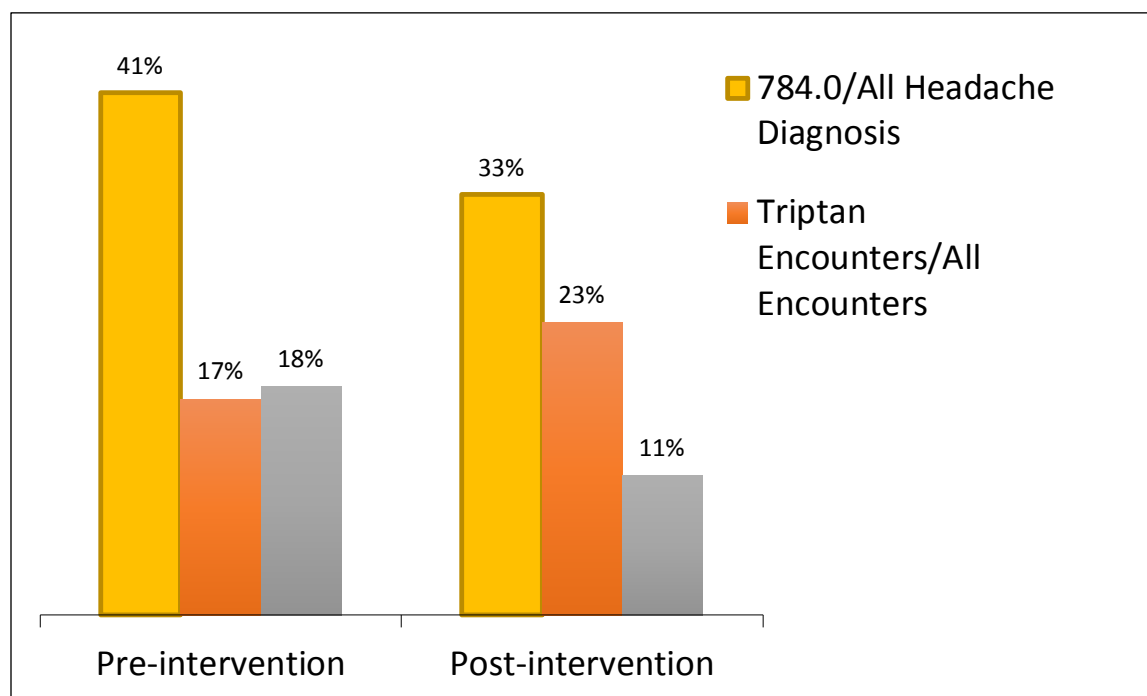


Figure 6. Change in headache diagnosis and triptan encounters with implementation of ID Migraine.

A pilot study in 2 clinics over a 6 week period, showed a 33% decrease ($p=0.03$; Binomial test) in nonspecific (784.00) coding, a 23% increase ($p=0.04$) in migraine specific prescription treatment (triptans) and an 11% decrease ($p=0.03$) in opiate prescriptions. *This successful pilot has gained national recognition, leading to platform presentations at the American Headache Society and the American Academy of Neurology annual meetings (abstracts: Brennan et al, Headache 2014; Brennan et al, Neurology 2014).* This speaks to the pervasiveness of the problem we face, and the potential utility of developing solutions in Utah that are scalable to other health systems. *Locally, the successful pilot has led to a system-wide clinic roll-out; the metrics and instruments it generated will form an essential part of the CCITCH toolkit.*

In addition to the dissemination and implementation of the ID-Migraine™ tool in the community clinics, *we have piloted the model of multi-directional learning* by embedding a primary care provider in the Headache Clinic. Dr. Karly Pippitt (key personnel on the proposal) became part of the Headache clinic team, seeing patients for ½ day per week, but also critically *servicing as a bridge between two clinical cultures* – building trust and driving the process forward. While the CCITCH/ECHO model does not explicitly include embedded interdisciplinary providers (this is a parallel effort) it incorporates the lessons we learned during the embedding process: the CCITCH team, and every CCITCH session, is *interdisciplinary and interprofessional*, incorporating headache specialists, pain specialists, mental health providers, and primary care providers to deliver the best possible care education.

d. Design & Methods

The first key innovation of CCITCH is that it will leverage the infrastructure and expertise of an already successful Project Echo to deliver connected headache care. ECHO has been operating at the University of Utah (U of U) since October 2011. It is part of a larger network of ECHOs (44 sites across the United States and around the world) that began at the University of New Mexico in 2004. Currently, Utah Echo (U ECHO) offers tele-conferences in several disciplines, including hepatitis B and C management, advanced liver care, immune disorders of the gut, and behavioral health. Each discipline's ECHO tele-conference is offered for Category 1 CME credit, is led by an interdisciplinary, interprofessional team of specialists, and is administratively managed by the U ECHO office. U ECHO is experienced in creating, marketing, implementing, and evaluating educational programs like CCITCH.

U ECHO enjoys strong administrative support from the U of U Health Care group. It is financially supported by the U of U Hospital, the U of U Medical Group, and a Centers for Disease Control and Prevention grant (for the hepatitis tele-ECHO, specifically). Of note, U of U Health Plans, a University-based insurance payer, is collaborating with U ECHO to develop a plan to allow eventual reimbursement of CCITCH activities for both specialists and primary providers. We are optimistic that *if we demonstrate success with our proposal, insurance-based support could make CCITCH a scalable and self-sustaining program.*

The CCITCH model capitalizes on our existing administrative infrastructure for providing high-quality, maximally efficient educational experiences (Project ECHO), clinical expertise committed to connected care, and previous experience in collaboration between U of U specialists and primary providers to manage chronic headache. The guiding principles are:

- minimal disruption to current workflow (e.g., early morning before clinic, lunch hour, during previously-scheduled administrative meeting times),
- utilize champion(s) at each clinic; train nurses/aides to assist with administrative components; flexible learning modules (recorded didactic sessions),
- *practical, actionable* knowledge dissemination – conventional didactics only when necessary; prioritization of individual case based approaches with group discussion, and
- ongoing assessment, measurement, and revision to maximize outcomes.

e. Evaluation

The first key innovation of this proposal is the ECHO infrastructure; the second is our use of our EMR to both survey and implement behavior and system change. CCITCH is designed as a self-assessing program, engaged in continuous process improvement during implementation. A key component of success is achievement of learner objectives:

- a. increase primary providers' competence and self-efficacy in diagnosing/treating headache,
- b. increase use of a validated migraine diagnosis tool (ID Migraine™),
- c. decrease opiate prescription rates for primary headaches, and

d. improve integration of hospital-based team members with community providers thereby increasing patient access to specialty level care.

The project will be evaluated using the metrics below, as well as by its potential for *sustainability*, *scalability* (particularly to chronic pain), and *transferability* (to other sites/institutions).

We will use a mixed methods approach, combining quantitative analysis (e.g. surveys, comparison of EMR data metrics, referral note extraction) and qualitative analyses (e.g. clinical observation, focus groups) to evaluate the impact of CCITCH. Three areas will be addressed, as outlined below.

1. Diagnosis and treatment

In our needs assessment, we identified two goals for improvement: 1) decrease the number of patients with a non-specific headache diagnosis (ICD 784), and 2) improve headache treatment by decreasing the use of opiates and increasing the use of triptans. To address these goals, we implemented an EMR-based migraine diagnostic tool. In a pilot in 2 clinics, providers and staff were trained on incorporating this tool into the patient workflow, and provided data for their clinics' prescription practices for opioids and triptans. We built an EMR query that pulls weekly data by clinic on the number of headache visits, number of non-specific headache diagnoses, and number of prescriptions for opioids and triptans for each headache visit. In the pilot we realized a 33% decrease in non-specific headache diagnosis ($p=0.03$), 23% increase in triptan prescriptions ($p=0.04$), and 11% decrease in opiate prescriptions ($p=0.03$). We will use these numbers as our expectation for all clinics with providers participating in CCITCH.

While the headache diagnosis tool, and an embedded treatment tool, are available across all University of Utah clinics in our health care system, in-person training at each individual clinic is not practical. Project ECHO is a way for us to leverage the expertise of members of our interdisciplinary team to provide training that is scalable. Clinic-specific data for the 2 months prior to CCITCH involvement (baseline) and 6 months after CCITCH (post-intervention) will be used to calculate percent change and linear trend in the metrics used in the pilot (non-specific headache diagnoses, headache visits with triptans, and headache visits with opioids). These data will be obtained using the EMR query that was built for the pilot. Statistical tests will include a pre/post test of proportions, and the slope coefficients of the trend lines will be tested to see if they are significantly different from zero. We will also compare to similar data from clinics not participating in CCITCH as a control for any temporal trends in percent change and linear trend over the 20-month data collection period.

2. Knowledge, self-efficacy, and competence

Knowledge and self-efficacy will be assessed as part of the CME process for CCITCH. Based on the learning objectives for training sessions, we will develop questions to assess both knowledge and self-efficacy. A validated, theory-based, 12-item tool for implementation of new

clinical behaviors based on continuing professional development will be used to guide question development (Legare et al. 2003; see **Appendix**). Responses are provided with a Likert-scale, and we will compare the pre- and post-CCITCH median scores.

Competence will be assessed by research team observation of providers who have participated in CCITCH compared with those who have not participated. Two opportunities for this exist: 1) extraction of relevant information from the referral notes to the neurology-based headache clinic (referral competence), and 2) on-site observation of primary care providers (clinical competence). To evaluate referral competence, we will randomly sample referral notes from CCITCH participant providers and control providers. Extracted data will include at a minimum the following data for 6 months prior to referral: class of medication (e.g. beta blocker, calcium channel blocker, tricyclic antidepressant, SSRI, anticonvulsant, triptan, opiate); dose and length of trial for each medication; imaging history; other behavioral approaches to headache management that are noted. Comparison to evidence-based guidelines developed by the US Headache Consortium for medication trials (Ramadan et al. 2014;), imaging (Frishberg et al. 2014), and behavioral recommendations (i.e., the gold standard; Campbell et al. 2014) will be completed to assess appropriateness of work-up for each of these areas prior to referral to the neurology-based headache clinic. The proportion of completeness will be described for CCITCH and control providers, with a test of proportions to evaluate statistical significance. To evaluate clinical competence, we will send a research team clinician to observe providers in their own clinics. Observers will assess specific skills relevant to CCITCH training material, such as use of a headache-only visit, use of the EMR tools, and use of medication trials by drug class. Additionally, there may be a subjective evaluation of the conversation with the patient about headache management. Again, the number of these tools used by CCITCH and control providers will be described and compared with a test of proportions or an overall chi-squared test across all categories of tools.

3. System effects

Having primary care providers more engaged in managing chronic headache – as a result of having improved knowledge, self-efficacy, and competence – should result in fewer referrals to the neurology-based headache clinic. This will be measured by total number of patients in the queue, as well as by median wait time from referral to appointment. We anticipate that both of these numbers will decrease over the course of this project by 15%. A related metric may be that some primary care clinics will identify a headache champion (a primary care clinician with expertise in headache) who functions as a resource to other clinicians in the primary care setting prior to accessing the neurology-based headache clinic. Providers who participate in CCITCH will be surveyed to describe the extent of this occurring.

Additionally, we anticipate that engaged providers will be invested in the Learning Health System, actively participating by suggesting refinements to the existing EMR tools, clinical workflow, and topics for CCITCH sessions. We will track these over the course of the project, and assess the number of suggestions, rate of suggestions, and number of individuals engaged in the Learning Health System. We will also conduct provider and staff focus groups to better

understand how CCITCH participants may be leading changes in their local clinics. Thematic analysis, using a phenomenology frame, will be used to identify common themes (through open coding) and understand how themes inter-relate.

Dissemination

Our study team sees dissemination and the spread of large-scale learning to be a high priority. We know that it is imperative in health care innovation that: (1) we need to find or create practices that are better than the prevailing ones; (2) we need to make those improvements ubiquitous quickly; (3) failure to deploy improved technologies and practices widely and quickly is a form of waste; and (4) the charge is to learn more regarding the spread of innovations. We are driven as learning organizations and leaders in the field to embrace this perspective as we seek to enhance performance and provide high quality care at the lowest cost. To that end, we have adopted an established theoretical framework—the Agency for Healthcare Research and Quality Dissemination Planning Tool (AHRQ-DPT)—as the foundation for our dissemination planning. The AHRQ-DPT tool allows us to thoughtfully and systematically target key stakeholders or end users with particular interest in the results of our research. In this way, we provide tools and place results in a way that maximally meets their needs and is readily accessible to them. The plan will include the six elements laid out by the AHRQ-DPT as follows:

1. Research findings and products—*What is going to be disseminated?*
2. End users—*Who will apply it?*
3. Dissemination partners—*Individuals, organizations, networks used to reach end users.*
4. Communication—*How do you convey the research outcomes?*
5. Evaluation—*How do you determine what worked?*
6. Dissemination work plan—*Where do you start?*

The University of Utah team members involved in the creation of this proposal are experienced in presenting in local, national, and international forums, in addition to publishing in a range of formats. We will focus on using our outcomes to create a practical guide for developing and implementing interdisciplinary and Interprofessional care teams. We will develop a strategy to disseminate this knowledge through internal mechanisms (such as grand rounds), as well as external avenues (such as the Project ECHO network and the American Headache Society).

Additionally, we'll collaborate with the Consortium for Education and Research in Chronic Pain and Independent Grants for Learning & Change to identify national and international forums for presenting and publishing.

Specifically, we will:

1. Disseminate information, links to training, and outcomes internally through *Pulse* (University of Utah Health Care Intranet). *Goal: Recruit participants, identify synergies.*
2. Submit abstracts to American Headache Society, International Headache Society, American Academy of Neurology annual meetings (pilot project was featured in platform presentations at AHS, AAN). Also submit to American Academy of Family

Physicians, American Medical Association (key constituencies). *Goal: increase awareness, identify collaborations for scaling.*

3. Submit manuscripts to *Headache, Cephalalgia, Neurology* journals. *Goal: increase awareness, facilitate NIH, PCORI grant submission for scaled projects.*
4. Attend/present at Consortium meeting at program close
5. Post curriculum/didactics as well as links to resources to website (<http://healthcare.utah.edu/echo/>; <http://medicine.utah.edu/neurology/>; <http://medicine.utah.edu/dfpm/>)
6. Develop white paper, guidelines/ best practices for scaling to other disciplines/ transferring to other institutions/facilities

f. Work Plan & Deliverables Schedule (see also Appendix: Work Plan & Deliverables Schedule)

January 20, 2105 strategic meeting with key personnel to identify weekly didactic session assignments as foundation for sessions beginning March 2015. See Section 1 b for details on didactic. In addition, begin marketing of program to the community clinic clinicians. Faculty meeting, individual clinic visits to educate and promote project ECHO format and ensure administrative staff is able to log on to site for clinicians. Establish time line for each clinic to be visited in person from headache team member for improved engagement. Perpetual flyers and e-mail reminders will be sent to each clinician as a marketing piece of program.

The program will launch March 10, 2015. Pre-assessment data will be collected prior to this date for knowledge assessment. Ongoing assessment of this program including, but not limited to attendance, engagement and changes in diagnosis and treatment of patients with headache/migraine diagnoses will be evaluated through baseline data warehouse statistical analysis. We will adjust the needs of program based on the providers feedback and ongoing assessments.

Six, 12 and 18 month assessments will be distributed to the participants in the community clinics and evaluation of diagnostic and treatment values will be reviewed. Finally, the data analysis at completion will be compiled with statistical analysis and outcomes will be available for review and publication.

At the completion of the CCITCH program, we will deliver:

1. a summary of outcomes (clinical-, educational-, and process-related) emphasizing the impact of Interprofessional and interdisciplinary collaboration
2. a plan for sustainability (including recommendations for the development of a chronic headache/pain advisory board that connects providers, community groups, and patients)
3. guidelines on developing and implementing connected care teams to manage common and chronic conditions (including a plan for scalability/transferability)

II. ORGANIZATIONAL DETAIL

a. Leadership & Organizational Capability (see also – Letters of Support)

University of Utah Health Care (UUHC)

The UUHC is located on the main campus of the University of Utah in Salt Lake City Utah. The University of Utah is an internationally recognized academic and research institution with an extensive health sciences center encompassing four hospitals and numerous specialty clinics as well as the School of Medicine and the Colleges of Health, Nursing, and Pharmacy. The University Medical Center is the only major tertiary care referral center for the Mountain West. UUHC is the only referral center for the Neurosciences in the region. The area of the Mountain West served by UUHC Hospitals and Clinics represents approximately 20% of the landmass of the continental United States and is populated by approximately eight million people. The UUHC Network includes 10 community clinics, the Utah Diabetes Center, the Cardiovascular Center, the John A. Moran Eye Center, and the University Neuropsychiatric Institute.

Biomedical Research Informatics Service Core (BRISC)

BRISC will provide data management for this project through the Research Electronic Data Capture (REDCap) data management system. Only de-identified data will be collected for the purpose of monitoring educational impact and quality control. They will support the creation of data collection instruments, data verification, and validation and analysis of data sets for the program. REDCap is a 21 CFR part 11-capable application which is housed within the protected environment of the University of Utah Center for High Performance Computing. The BRISC will provide all REDCap support, including data backups and disaster recovery services.

University of Utah Project ECHO History and Leadership

U ECHO was the third site to “replicate” Project ECHO as a hub. U ECHO was initiated by Dr. Terry Box (see **Budget Narrative** and **Utah Biosketches**) in October 2011 with a Hepatitis C ECHO clinic. Currently U ECHO has providers at 48 sites (**Figure 1**) from nine states (Utah, Wyoming, Montana, Idaho, Nevada, Colorado, Oregon, California, Nebraska) participating in ECHO clinics, including the IDG pilot program. Participating providers at these sites include generalist and specialist MDs, DOs, PAs, NPs, fellows, residents, nurses, and pharmacists representing private practices, federally qualified health centers, rehabilitation facilities, Indian Health Services, and general and teaching hospitals.

Videoconferencing Equipment

Utah Project ECHO utilizes a mobile Polycom HDX 7000 Series videoconferencing unit with a 60” LG LCD television to broadcast the sessions to providers that have logged into the HIPAA-compliant network bridge managed by the Utah Telehealth Network (see below). The unit works in high-definition (1080p) to viewers and employs a superior audio-capturing device to send high-quality audio. In addition, the unit also contains content-sharing capabilities, making it easy to display images, such as de-identified radiographic imaging and labs, PowerPoint presentations used during didactic sessions, and other updates/guidelines. This multi-point videoconferencing system allows for face-to-face conversation between all participants. With a

capacity for 50 participants in a single virtual clinic environment, the bridge provides an efficient mechanism for continuing education.

Utah TeleHealth Network (UTN)

UTN has been coordinating telehealth activity in Utah since 1996. UTN's hub, located at the University of Utah Health Sciences Center, includes a high definition video bridge, streaming/recording/production equipment, telepresence management system, and a firewall transversal system for secure videoconferencing, and a staff of 10. UTN supports point-to-point and multi-point conferences as well as an encrypted desktop videoconferencing solution (Cisco Jabber). UTN works with the U ECHO program coordinator to set up, test, and certify videoconferencing connections for new participants. UTN will record each conference and produce it as video-on-demand content for later viewing.

Primary Children's Hospital

Primary Children's Hospital (PCH) is the only tertiary referral pediatric center in the Mountain West. With over 150 faculty and strong research programs in most of its divisions, it also serves as one of six national Vanguard centers for the National Children's Study. PCH has a 250-bed state-of-the-art children's hospital located on the University of Utah campus. It also serves as the community hospital for children in the Salt Lake City area. PCH has a 43 bed neonatal intensive care unit (NICU), 46- bed pediatric intensive care unit, and a 26-bed SSOU housed in the ED. The ED evaluates ~ 40,000 infants and children each year. The facility treats annually 160,000 ambulatory patients and over 13,000 admitted patients. PCH provides over \$12 million in charity care to the region.

Division of Pediatric Neurology

The Division of Pediatric Neurology is the primary source of Pediatric Neurology clinical service in the seven-state region of the Mountain West, serving an estimated > 1 million children. Neurology at PCH is served by 14 full-time faculty and 4 nurse practitioners. On the average, the Division currently sees 845 unique inpatients annually and 6735 unique outpatients per year (of which an estimated 32% are new patients). Pediatric Neurology clinics are held in the PCH outpatient clinics within the PCH hospital building, and in the Clinical Neuroscience Center. PCH is run by Intermountain Health Care, although all attending physicians and researchers are University of Utah Faculty, and the Pediatric Neurologists all have joint appointments in the Department of Neurology. The fact that PCH is jointly operated by IHC and the University of Utah emphasizes the collaborative relationship between the two health care systems, which is a major strength of CCITCH.

Utah TeleHealth Network

The Utah Telehealth Network (UTN) has been coordinating telemedicine activity in Utah since 1996. UTN supports network and videoconferencing services for hospitals, clinics, physician offices, health departments and over 400+ videoconferencing users throughout the intermountain west. UTN's hub, located at the University of Utah Health Sciences Center,

includes a high definition video bridge, streaming/recording/production equipment, telepresence management system, and a firewall transversal system for secure videoconferencing, and a staff of 10. UTN supports point-to-point and multi-point conferences as well as an encrypted desktop videoconferencing solution (Cisco TelePresence Jabber).

b. Staff Capacity (see also – **Budget Narrative** and **Utah Biosketches**)

Staff listed below reside in the United States of America.

Susan Baggaley, APRN-C, FNP (FTE 0.15) – Principle Investigator/ Lead Mentor

Ms. Baggaley has over 21 years of experience treating complex headache patients; prior to that she had 5 years of experience in primary care. Her skill set and experience thus encompasses the full scope of this proposal. Ms. Baggaley will serve as the primary specialist mentor in the CCITCH clinics. She will review and recommend management/treatment for patients presented in ECHO clinics. She is responsible for overall leadership of the project, including strategy, training, analysis, reporting, and public relations. She will collaborate with the rest of the leadership team in the management and execution of the project.. Baggaley will serve as the primary specialist mentor in the ECHO clinics. She will review and recommend management/treatment for patients presented in ECHO clinics. Additionally, Ms. Baggaley will be available for supporting community providers on an emergency basis. Lastly, Dr. Boynton will conduct occasional site visits.

Leah Willis, MS (FTE 0.25) – Project Manager

Ms. Willis currently serves as the Business Operations Manager for Project ECHO at the University of Utah. She oversees five ECHO clinics (Hepatitis C, Liver Care, Immune Disorders of the Gut, Psychiatry, and Interdisciplinary Internal Medicine/ Pediatrics Residency ECHO), and is experienced in developing, implementing, and evaluating ECHO clinics, including monitoring patient outcomes. Additionally, Ms. Willis is a skilled project manager with experience in NIH-, CDC-, and VA- funded projects in clinical research, post-graduate and faculty education programs, and biomedical informatics. Ms. Willis will have oversight of all program-related outreach, strategic development, funding requests and management, non-clinical staff, ECHO sites, outcomes monitoring (including data storage in ECHO's secure, HIPAA-compliant database, REDCap), and distribution of educational materials. She will be integral in developing and maintaining relationships with statewide and national academies, providers in the Mountain West, and funders. Ms. Willis will be responsible for all administrative functions, including ensuring compliance to CME standards and human subjects research regulations through the Institutional Review Board.

Karly Pippitt, MD (FTE 0.1) – Co-Investigator/ Contributing Faculty

Please see budget justification.

Scott Junkins, MD (FTE 0.1) – Co-Investigator/ Contributing Faculty

Please see Budget justification.

References

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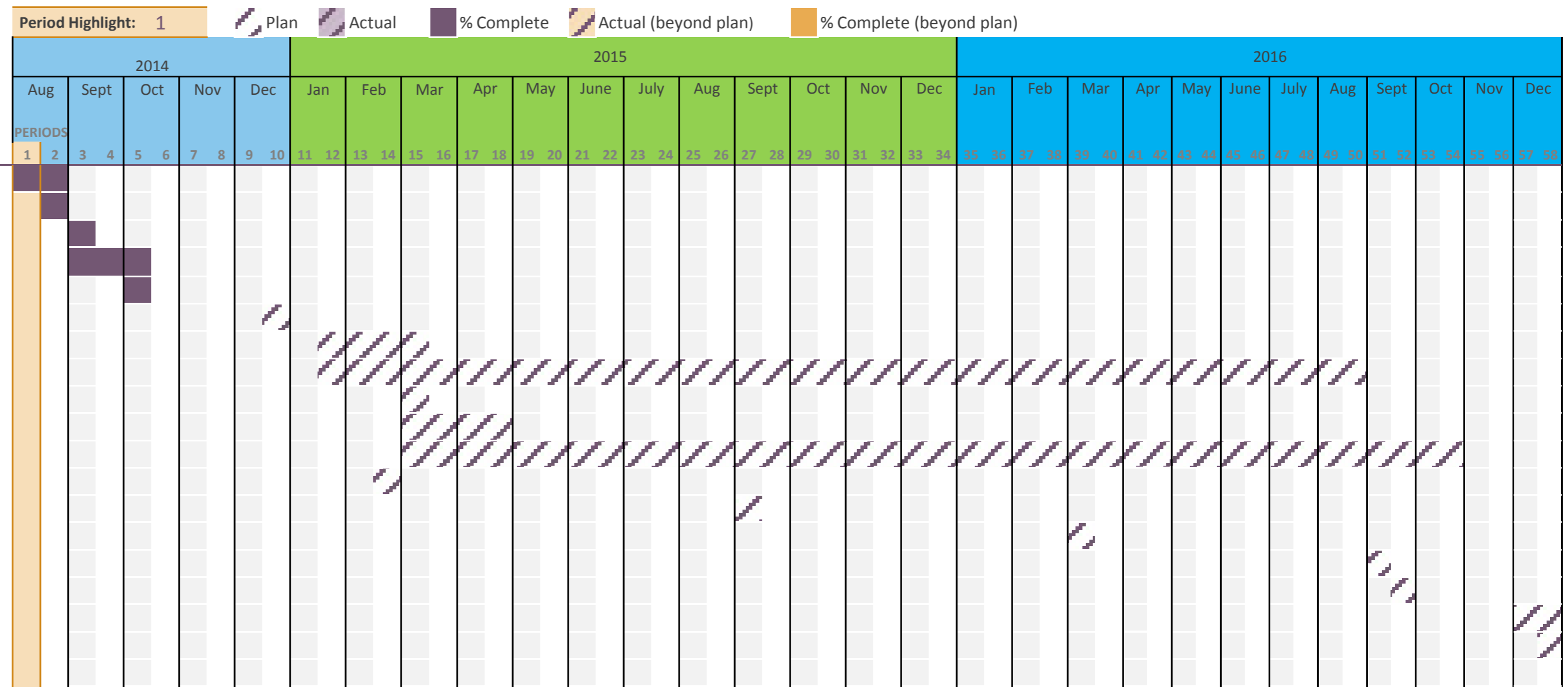
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Matchar DB, Young WB, Rosenberg JA, et al. Evidence-based guidelines for migraine headache in the primary care setting: Pharmacological management of acute attacks. Available from the American Academy of Neurology [online]. Available at: <http://www.aan.com>. Accessed 10/14/2014.

Ramadan NM, Silberstein SD, Freitag FG, Gilbert TT, Frishberg BM. Evidence-based guidelines for migraine headache in the primary care setting: pharmacological management for prevention of migraine. Available at: <http://tools.aan.com/professionals/practice/pdfs/gl0090.pdf>. Accessed 10/12/2014.

U ECHO "Connected Care for Improving Treatment of Chronic Headache (CCITCH)" Planner

ACTIVITY	PLAN START	PLAN DURATION	ACTUAL START	ACTUAL DURATION	PERCENT COMPLETE
Plan/Write Pfizer Education LOI	1	2	1	2	100%
LOI Deadline	2	1	2	1	100%
LOI Approval and Request to Submit Full Grant Proposal	3	1	3	1	100%
Plan/Write Pfizer Education Full Grant Proposal	3	3	3	3	100%
Pfizer Education Full Grant Proposal Submission	5	1	5	1	100%
Pfizer Education Notification of Awards & Approval of Grant LOA	10	1	0	0	0%
Schedule Educational Series Curriculum	12	4	0	0	0%
Marketing/Outreach	12	39	0	0	0%
Headache ECHO Launch	15	1	0	0	0%
Initial Attendee Self-Assessment (subject to change per attendee start date)	15	4	0	0	0%
Period of Performance	15	40	0	0	0%
Face-to-Face Project Launch Meeting	14	1	0	0	0%
6 Month Attendee Self-Assessment (subject to change per attendee start date)	27	1	0	0	0%
12 Month Attendee Self-Assessment (subject to change per attendee start date)	39	1	0	0	0%
18 Month Attendee Self-Assessment (subject to change per attendee start date)	51	1	0	0	0%
Final Attendee Self-Assessment	52	1	0	0	0%
Data Analysis, Review, and Publication	57	8	0	0	0%
Face-to-Face Convocation and Final Report/Reconciliation Temp	58	1	0	0	0%





October 1, 2014

Re: Pfizer IGLC Request ID# 16479547 "Connected Care for Improving Treatment of Chronic Headache (CCITCH)

To Whom It May Concern:

It is my pleasure to write this letter in support of the University of Utah's Project ECHO submission to Pfizer's Independent Grants for Learning and Change titled "Connected Care for Improving Treatment of Chronic Headache (CCITCH)". The University of Utah Project ECHO has been a partner with the University of New Mexico Project ECHO® for the past three years. Dr. Terry Box and his team have replicated the ECHO model™ in Hepatitis C, Liver Care, Behavioral Health, and Immune Disorders of the Gut at the University of Utah with great success. I am looking forward to a continued collaboration with Dr. Box and his team during their expansion into Headache and Chronic Pain.

Project ECHO® (Extension for Community Healthcare Outcomes) is a care delivery model that builds capacity to safely and effectively treat chronic, common, and complex diseases in rural and urban underserved areas, and to monitor the outcomes of this treatment. Project ECHO® brings together expert interdisciplinary specialists to co-manage treatment with primary care clinicians. This is not "telemedicine" where the specialist assumes the care of the patient, but instead a guided practice model where the primary care clinician retains responsibility for managing the patient, operating with increasing independence as their skills and self-efficacy grow. This increases access to specialty care in rural and urban underserved areas without having to recruit, retain and fund additional clinicians.

We will collaborate with the University of Utah Project ECHO in the following ways 1) use of our ECHO™ model and IT architecture, and 2) use of our established curriculum and evaluation tools. Additionally, CCITCH as proposed fits impeccably into the already established and evidence-based Project ECHO® model that is currently replicated at more than 40 sites around the United States and the world.

I look forward to working with Dr. Box and University of Utah's Project ECHO on this exciting project and please do not hesitate to contact me if you have any questions or would like any additional information on Project ECHO®.

Kind Regards,

Dr. Joanna Katzman
Director for Chronic Pain & Headache Management Clinic
University of New Mexico, Project ECHO®



David Entwistle
Chief Executive Officer

October 7, 2014

Pfizer's Independent Grants for Learning and Change
Consortium for Education and Research in Chronic Pain
California Academy of Family Physicians
Healthcare Performance Consulting, Inc.
Interstate Postgraduate Medical Association
Nurse Practitioner Healthcare Foundation

Re: Pfizer IGLC Request ID# 16479547 "Connected Care for Improving Treatment of Chronic Headache (CCITCH)

Dear Grant Selection Committee:

On behalf of University of Utah's Health Care (UUHC) system it is my pleasure to write a letter in support of Utah Project ECHO's proposal to Pfizer's Independent Grants for Learning and Change titled "Connected Care for Improving Treatment of Chronic Headache (CCITCH)".

University of Utah's Project ECHO (Extension for Community Healthcare Outcomes) has been involved in educating and providing specialist support to community providers since 2011. They have proven through their Hepatitis C and Liver Care ECHO Clinics that it is possible to effectively educate providers at all levels, increase their comfort level in treatment of these illnesses, and thereby heighten patient and provider satisfaction. By disseminating the knowledge of specialists at an academic medical center to providers in the community we amplify the capacity to treat patients affected by chronic pain. In addition to the invaluable support and knowledge network this educational program provides, I understand that because of the case-based learning process and frequent didactics that continuing medical education will also be offered to attendees for each session attended. For these reasons, UUHC has committed financial support to Project ECHO's administrative core.

In conclusion, I fully support the efforts of Utah Project ECHO in collaboration with the proposed interdisciplinary team as they seek funding to support a program designed to enhance the capacity to treat common and complex issues related to chronic pain and headache.

Sincerely,

David Entwistle
CEO, University of Utah Healthcare



October 1, 2014

Pfizer's Independent Grants for Learning and Change
Consortium for Education and Research in Chronic Pain
California Academy of Family Physicians
Healthcare Performance Consulting, Inc.
Interstate Postgraduate Medical Association
Nurse Practitioner Healthcare Foundation

Re: Pfizer IGLC Request ID# 16479547 "Connected Care for Improving Treatment of Chronic Headache (CCITCH)

To Whom It May Concern:

On behalf of University of Utah TeleHealth Services, it is our pleasure to write a letter in support of Utah Project ECHO's proposal to Pfizer's Independent Grants for Learning and Change RFP titled "Connected Care for Improving Treatment of Chronic Headache (CCITCH)".

University of Utah's Project ECHO (Extension for Community Healthcare Outcomes) has been involved in educating and providing specialist support to community providers since 2011. They have proven through their Hepatitis C and Liver Care ECHO Clinics that it is possible to effectively educate providers at all levels, increase their comfort level in treatment of these illnesses, and thereby heighten patient and provider satisfaction.

TeleHealth Services was created to provide centralized direction, coordination, and support of the services provided by our practitioners utilizing technology. Project ECHO extends this capacity through their educational service offerings for primary care providers throughout the Mountain West. By disseminating the knowledge of specialists at an academic medical center to providers in the community Project ECHO amplifies the capacity to treat patients affected by chronic pain. TeleHealth will provide continuing financial support of Project ECHO's administrative and management staff.

In conclusion, we fully support the efforts of the interdisciplinary headache care team in collaboration with University of Utah Project ECHO as they seek funding to support a program designed to enhance the capacity to treat common and complex issues related to chronic pain and headache.

Sincerely,

Edward Kimball, MD
Medical Director of TeleHealth
University of Utah Health Care

Nate Gladwell, RN, MHA
Director of TeleHealth
University of Utah Health Care



UNIVERSITY OF UTAH
HEALTH CARE

Medical Group

October 8, 2014

Pfizer's Independent Grants for Learning and Change
Consortium for Education and Research in Chronic Pain
California Academy of Family Physicians
Healthcare Performance Consulting, Inc.
Interstate Postgraduate Medical Association
Nurse Practitioner Healthcare Foundation

Re: Pfizer IGLC Request ID# 16479547 "Connected Care for Improving Treatment of Chronic Headache (CCITCH)

Dear Grant Selection Committee:

As Executive Medical Director of the University of Utah community clinics, which play an integral role in this proposal, I am pleased to support University of Utah's Project ECHO submission to Pfizer's Independent Grants for Learning and Change titled "Connected Care for Improving Treatment of Chronic Headache (CCITCH)".

By disseminating the knowledge of specialists at an academic medical center to providers in the community we amplify the capacity to treat patients affected by chronic pain. In addition to the invaluable support and knowledge network this educational program provides, I understand that because of the case-based learning process and frequent didactics that continuing medical education will also be offered to attendees for each session attended.

We anticipate that the innovations proposed in this application could result in significant cost savings by reducing unnecessary travel, specialty consultation, and unnecessary use of opiate prescriptions; cost savings would also result from an avoidance of hospitalization. Further, this initiative will help us address our significant shortage of neurological health professionals.

The clinic faculty and staff will work with the Project ECHO team to link the community clinic providers with the specialty care facilitated by the ECHO team.

In conclusion, I fully support the efforts of Utah Project ECHO in collaboration with the University of Utah as they seek funding to support a program designed to enhance the capacity to treat chronic and complex issues related to headache care.

Sincerely,

A handwritten signature in cursive script that reads "Susan Terry".

Susan Terry, MD
Executive Medical Director
University Community Physicians Practice Group



CLOUGH SHELTON, MD
Professor and Chief
801-585-5450

General Otolaryngology

MARC E. ERROR, MD
801-585-1626
BRYAN R. MCRAE, MD
801-585-1626
KEVIN F. WILSON, MD
801-585-6580
KELLY E. MCGUIRE, PA-C
CHRISTINE M. PACKARD, PA-C

Pediatric Otolaryngology

J. FREDRIK GRIMMER, MD
801-662-5666
JEREMY D. MEIER, MD
801-662-5666
HARLAN R. MUNTZ, MD
801-662-5666
ALBERT H. PARK, MD
801-581-7515
MARSHALL E. SMITH, MD
801-662-5663

Rhinology

JEREMIAH A. ALT, MD, PhD
801-585-1280
RICHARD R. ORLANDI, MD
801-581-7515

Head and Neck Oncology

LUKE O. BUCHMANN, MD
801-585-1626
JASON P. HUNT, MD
801-587-3888
MARCUS M. MONROE, MD
801-585-7143
DEVIN C. TRACY, PA-C

Otology/Neurotology

RICHARD K. GURGEL, MD
801-585-1280
CLOUGH SHELTON, MD
801-585-5450

**Facial Plastic &
Reconstructive Surgery**

P. DANIEL WARD, MD
801-585-3223

Laryngology

JULIE M. BARKMEIER-KRAEMER, PhD
801-585-7143
KATHERINE A. KENDALL, MD
801-585-1280
MARSHALL E. SMITH, MD
801-662-5663

Oral Maxillofacial Surgery

BRYCE J. D. WILLIAMS, DDS
801-587-3888

Research

JULIE M. BARKMEIER-KRAEMER, PhD
801-585-7143
MICHAEL R. DEANS, PhD
801-585-7143

Locations:

University Hospital - Clinic 9
(801) 587-UENT (8368)
Primary Children's Hospital
(801) 662-1740
Hearing & Balance Center
(801) 595-1700
Huntsman Cancer Institute
(801) 587-4566
LDS Hospital Voice Clinic
(801) 408-4972
Redstone Health Center
(801) 587-UENT (8368)
Primary Children's-Riverton
(801) 662-1740
South Jordan Health Center
(801) 587-UENT (8368)
Surgical Specialty Center
(801) 587-UENT (8368)
Stansbury Health Center
(801) 587-UENT (8368)

October 6, 2014

Pfizer's Independent Grants for Learning and Change
Consortium for Education and Research in Chronic Pain
California Academy of Family Physicians
Healthcare Performance Consulting, Inc.
Interstate Postgraduate Medical Association
Nurse Practitioner Healthcare Foundation

Re: Pfizer IGLC Request ID# 16479547 "Connected Care for Improving Treatment of Chronic Headache (CCITCH)"

Dear Grant Selection Committee:

As Executive Medical Director of the University of Utah's South Jordan and Farmington Health Centers, I enthusiastically support the University of Utah's Project ECHO submission to Pfizer's Independent Grants for Learning and Change titled "Connected Care for Improving Treatment of Chronic Headache (CCITCH)". The South Jordan Health Center is a >200,000 sf multidisciplinary community health care facility about 20 miles southwest of our main health campus that focuses on primary and secondary specialty care. The Farmington Center is a nearly identical facility under construction 20 miles to the north. Together, they are integral in translating the University of Utah's expertise into a patient-focused and community-level health care delivery.

By disseminating the knowledge of specialists at an academic medical center to providers within University of Utah's Community Clinics, we amplify the capacity to treat patients affected by chronic headache. Improving access to headache specialists in the format of Project ECHO will expedite appropriate diagnosis and treatment at the primary care level. This will also help with the barriers commonly seen within the specialty care referral process, i.e. wait times. Furthermore, this initiative will help us address our significant shortage of neurological health professionals through collaborative efforts with our primary care partners. This project is truly a win for all involved – especially for patients. It will speed their diagnosis and expedite their appropriate health management and return to function.

All Correspondence to:

Otolaryngology Administrative Offices
50 North Medical Drive 3C120
Salt Lake City, Utah 84132
Phone (801) 581-7514
Fax (801) 585-5744

In conclusion, I enthusiastically support the efforts of Project ECHO in collaboration with University of Utah Community Clinics and Specialty Clinics. It is a perfect match for our health care system's focus on treating patient's within their communities by their primary care providers. The proposal will make possible a program designed to enhance the capacity to treat common and complex issues related to headache care.

Respectfully,

A handwritten signature in black ink, consisting of a stylized 'R' with a horizontal line extending to the right.

Richard R. Orlandi, MD, FACS
Professor, Otolaryngology – Head and Neck Surgery
Executive Medical Director, South Jordan Health Center
Executive Medical Director, Farmington Health Center



UNIVERSITY OF UTAH
HEALTH SCIENCES

Sean J. Mulvihill, MD
Associate Vice President for
Clinical Affairs
CEO, University of Utah
Medical Group

October 6, 2014

**Pfizer's Independent Grants for Learning and Change
Consortium for Education and Research in Chronic Pain**
California Academy of Family Physicians
Healthcare Performance Consulting, Inc.
Interstate Postgraduate Medical Association
Nurse Practitioner Healthcare Foundation

Re: Pfizer IGLC Request ID# 16479547 "Connected Care for Improving Treatment of Chronic Headache (CCITCH)

To Whom It May Concern:

As CEO of University of Utah's Medical Group (UUMG) which consists of more than 1,100 physicians it is with pleasure that I support the University of Utah's Project ECHO submission to Pfizer's Independent Grants for Learning and Change titled "Connected Care for Improving Treatment of Chronic Headache (CCITCH)." At UUMG we believe in a patient-centered quality experience that relies on the collaboration from all levels of clinicians to solve population health management challenges.

Project ECHO has proven through their Hepatitis C and Liver Care ECHO Clinics that it is possible to effectively educate providers at all levels, increase their comfort level in treatment of these illnesses, and thereby heighten patient and provider satisfaction and outcomes.

By disseminating the knowledge of specialists at an academic medical center to providers within in the University of Utah Community Clinics, we amplify the capacity to improve health care delivery. The University of Utah is a leading innovator in creative problem solving for access to specialty health care providers. Specifically, access to headache clinicians is limited due to high volume referrals and few experts in the field both locally and on a national level.

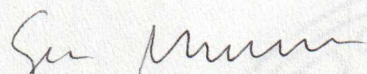
In addition to the invaluable support and knowledge network this educational program provides, I understand that because of the case-based learning process and frequent didactics that continuing medical education will also be offered to attendees for each session.

Clinical Neurosciences Center 5201
175 North Medical Drive East
Salt Lake City, Utah 84132-5901

Phone: 801-581-4896
Fax: 801-585-7502
sean.mulvihill@hsc.utah.edu

UUMG is already involved in a collaborative effort providing financial support to Project ECHO concerning chronic pain and will support further expansion efforts involving providing educational and practical capacity of the UUMG community providers. Additionally, to increase the demand of the program UUMG will provide logistical and operational support capabilities concerning community clinic outreach.

Sincerely,



Sean Mulvihill, MD
Professor, Department of Surgery
CEO, University of Utah Medical Group
Associate Vice President for Clinical Affairs





October 1, 2014

Pfizer's Independent Grants for Learning and Change
Consortium for Education and Research in Chronic Pain

Re: Pfizer IGLC Request ID# 16479547 "Connected Care for Improving Treatment of Chronic Headache (CCITCH)

Dear Grant Selection Committee:

On behalf of the Interprofessional Education offerings through University of Utah's Health Care system it is my pleasure to write a letter in support of Utah Project ECHO's proposal to Pfizer's Independent Grants for Learning and Change titled "Connected Care for Improving Treatment of Chronic Headache (CCITCH)".

Interprofessional Education (IPE) is one of the top priorities of health sciences education at the University of Utah as we promote patient safety and healthcare quality improvement. This goal is accomplished through:

- supporting patient centered multi-professional health care team environments
- encouraging IPE awareness, communications and respect
- promoting awareness of health information literacy and cultural competency

University of Utah's Project ECHO (Extension for Community Healthcare Outcomes) has been involved in educating and providing specialist support to community providers since 2011. They have proven through their Hepatitis C and Liver Care ECHO Clinics that it is possible to effectively educate providers at all levels, increase comfort level in treatment of these illnesses, and thereby heighten patient and provider satisfaction. The Project ECHO delivery system relies heavily upon the same ideas of IPE and we support any initiative that would expand their offerings while concurrently promoting IPE ideals.

In conclusion, I fully support the efforts of Utah Project ECHO in collaboration with University of Utah as they seek funding to support a program designed to enhance the capacity to treat chronic and complex issues related to chronic pain and headache.

Sincerely,

A handwritten signature in cursive script that reads "Rebecca D. Wilson".

Rebecca D. Wilson, PhD, M.Ed, RN
Director of Interprofessional Education



October 6, 2014

Pfizer's Independent Grants for Learning and Change
Consortium for Education and Research in Chronic Pain
California Academy of Family Physicians
Healthcare Performance Consulting, Inc.
Interstate Postgraduate Medical Association
Nurse Practitioner Healthcare Foundation

Re: Pfizer IGLC Request ID# 16479547 "Connected Care for Improving Treatment of Chronic Headache (CCITCH)

To Whom it May Concern:

As Executive Director of University of Utah Healthcare's Service Lines, Specialty Clinics and Support Services it is with pleasure that I write this letter of support for Project ECHO's proposal to Pfizer's Independent Grants for Learning and Change titled "Connected Care for Improving Treatment of Chronic Headache (CCITCH)".

The goal of Service Lines, Specialty Clinics and Support Services is in part to create strategic plans for growth, improving access, and improving exceptional patient experience. Additionally, our office is consistently looking for quality special projects and innovative ways to provide expert care to patients and referring providers. CCITCH as proposed will expand the current, successful offerings already provided through Project ECHO while improving access and the patient experience for many headache patients.

Project ECHO has already proven through their Hepatitis C and Liver Care ECHO Clinics that it is possible to effectively educate providers at all levels, increase their comfort level in treatment of these illnesses, and thereby heighten patient and provider satisfaction.

Project ECHO goals within this program align with the goals of our office and further extends provider capacity through their educational service offerings for primary care providers throughout the Mountain West. By disseminating the knowledge of specialists at an academic medical center to providers in the community Project ECHO amplifies the capacity to treat patients affected by chronic headache.

I fully support the efforts of the interdisciplinary Project ECHO team in collaboration with the University of Utah as they seek funding to support a program designed to enhance the capacity to treat chronic and complex issues related to patients with chronic headache.

Sincerely,

Dan K. Lundergan
Executive Director
University of Utah Hospital



October 1, 2014

Pfizer's Independent Grants for Learning and Change
Consortium for Education and Research in Chronic Pain
California Academy of Family Physicians
Healthcare Performance Consulting, Inc.
Interstate Postgraduate Medical Association
Nurse Practitioner Healthcare Foundation

Re: Pfizer IGLC Request ID# 16479547 "Connected Care for Improving Treatment of Chronic Headache (CCITCH)

To Whom It May Concern:

The Utah Telehealth Network (UTN) is delighted to write a letter in support of Utah Project ECHO's proposal to Pfizer's Independent Grants for Learning and Change titled "Connected Care for Improving Treatment of Chronic Headache (CCITCH)".

UTN has been coordinating telemedicine activity in Utah since 1996. UTN supports network and videoconferencing services for hospitals, clinics, physician offices, health departments and over 400+ videoconferencing users throughout the intermountain west. UTN's hub, located at the University of Utah, includes a high definition video bridge, streaming/ recording/ production equipment, telepresence management system, a firewall transversal system for secure videoconferencing, and a staff of 10. UTN supports point-to-point and multi-point conferences as well as an encrypted desktop videoconferencing solution (currently Cisco Jabber).

For Project ECHO, UTN works individually with new participants to set up, test, and certify their videoconferencing connections. For each week's conference, UTN bridges the conference 30 minutes ahead of time, monitors the conference, and provides technical support as needed. UTN can also record the didactic portion of each conference and produce it as video-on-demand content for later viewing.

We value Project ECHO's innovative model of training health professionals and improving patient care through mentoring and collaboration throughout the region. We urge your strong consideration of Project ECHO's proposal.

Sincerely,

A handwritten signature in black ink, appearing to read "Deb LaMarche", written in a cursive style.

Deb LaMarche
Associate Director



UNIVERSITY OF UTAH
HEALTH CARE

Department of
Family & Preventive Medicine

Michael K. Magill, M.D.
Dr. Nymphus Frederick
Hicken, Alta Thomas
Hicken and Margarete
Stahl Hicken Professor
and Chairman,
Department of Family
and Preventive Medicine

October 7, 2014

Pfizer's Independent Grants for Learning and Change
Consortium for Education and Research in Chronic Pain
California Academy of Family Physicians
Healthcare Performance Consulting, Inc.
Interstate Postgraduate Medical Association
Nurse Practitioner Healthcare Foundation

Re: Pfizer IGLC Request ID# 16479547 "Connected Care for Improving Treatment of
Chronic Headache (CCITCH)

Grant Review Committee:

As the chair of the Department of Family and Preventive Medicine, it is with pleasure I write this letter in strong support of the University of Utah's Project ECHO submission to Pfizer's Independent Grants for Learning and Change entitled "Connected Care for Improving Treatment of Chronic Headache (CCITCH)". This program will work to educate and provide support to community providers in order to improve management of patients with headaches.

A goal of the Department of Family and Preventive Medicine is to improve patient care outcomes in primary care clinics. This grant would increase the capacity of our primary care providers to provide appropriate treatment and improve the referral processes for the care of chronic headaches in the University of Utah's community clinics while removing the wait time barrier that is common in headache patients who are referred to the specialized Headache Clinic.

This collaboration with Project ECHO is a continuation of a quality improvement partnership with the Department of Family and Preventive Medicine Division of Public Health that focused on improving headache care through the implementation and use of a validated tool, ID Migraine®, which was built into the electronic medical record system and piloted in our two residency clinics. Although limited in scope, that quality improvement partnership showed success and significant improvements in care that with the help of this grant could be expanded upon to the entire community clinic system.

Project ECHO has had success by using an evidence-based, sustainable model for treatment of hepatitis C. The Department of Family and Preventive Medicine will support the work of the proposed interdisciplinary team through this grant by improving the access to a headache

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specialist with community providers utilizing the Project ECHO model. Additionally, we are in talks to incorporate Project ECHO into our Family Medicine Resident program which will increase the effectiveness and reach of their offerings.

I am excited to be able to support this exciting, innovative outreach that will improve the care provided and the health of our patients.

Respectfully,

A handwritten signature in cursive script, appearing to read "mll", is positioned below the closing salutation.

Michael K. Magill, M.D.
Professor and Chairman
Department of Family and Preventive
University of Utah School of Medicine
Medicine Executive Medical Director
University of Utah Health Plans



UNIVERSITY OF UTAH
HEALTH CARE

Department of Neurology

October 1, 2014

Stefan M. Pulst, MD, Dr. med
Chair, University of Utah Department of Neurology
Clinical Neurosciences Center
175 North Medical Drive East
Salt Lake City, Utah 84132

Dear Grant Selection Committee:

As Chair of the Department of Neurology it is with pleasure that I support the University of Utah's Project ECHO submission to Pfizer's Independent Grants for Learning and Change concerning "Engaging Interdisciplinary and Interprofessional Teams in the care and Management of Chronic Pain Patients." Migraine is the most common neurological disorder in the United States, affecting more than 36 million Americans and 350,000 Utahns.

The Headache Division of the Department of Neurology will be an invaluable resource to train local experts in headache care and treatment. The proposed program will help improve access to this specialized tertiary care center. Historically, headache patients are perceived to be difficult and complex to treat. As such the current rate of referrals to tertiary headache care is unsustainable; approximately 576 patients are on a waitlist to see a headache specialist, with only 34 available spots for new patients any given month.

The Department of Neurology is currently engaged in a collaborative effort with the Department of Family and Preventive Medicine, developing interventions that can help improve headache care and treatment. Through the full utilization of Project ECHO it will be possible to expand the reach and impact of such interventions throughout the community clinic system.

Project ECHO has proven it is possible to effectively educate providers at all levels, increase their comfort level in treatment of illnesses, and thereby improve patient and provider satisfaction. By disseminating the knowledge of specialists at an academic medical center to providers in the community, we amplify the capacity to treat patients affected by headaches, and the Department of Neurology fully supports the efforts of the ECHO team to accomplish this innovative endeavor.

Sincerely,

A handwritten signature in black ink, appearing to read "Stefan M. Pulst".

Stefan M. Pulst, MD, Dr. med
Chair, University of Utah Department of Neurology

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October 9, 2014

Pfizer's Independent Grants for Learning and Change
Consortium for Education and Research in Chronic Pain
California Academy of Family Physicians
Healthcare Performance Consulting, Inc.
Interstate Postgraduate Medical Association
Nurse Practitioner Healthcare Foundation

Re: Pfizer IGLC Request ID# 16479547 "Connected Care for Improving Treatment of Chronic Headache (CCITCH)

To: Grant Selection Committee

As Director of Pharmacy Services at the University of Utah Hospital, it is with pleasure that I write this letter of support for Project ECHO's proposal to Pfizer's Independent Grants for Learning and Change titled "Connected Care for Improving Treatment of Chronic Headache (CCITCH)".

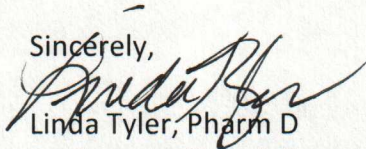
One focus in our academic environment is collaboration with specialty and primary care services. The need for improving education to all clinicians regarding medication management in headache care is integrated with our pharmacy program and residency. There is great opportunity to improve knowledge base in treatment of headache beyond pain management with opiates and non-specific therapy. Utah has a higher use of prescription opioids than national average as reported by the CDC.

Implementation of Project ECHO for chronic headache engages the entire clinical team beyond medication management, but will play an integral role for improving provider and patient satisfaction when treating a complex disorder. Project ECHO has already proven through their Hepatitis C and Liver Care ECHO Clinics that it is possible to effectively educate providers at all levels and increase their comfort level in treatment of chronic illness.

Project ECHO aligns with the goals of our pharmacy program through interdisciplinary case-based learning. It also lends itself to population management, disease prevention and ongoing continuing medical education.

I fully support the efforts of the interdisciplinary Project ECHO team in collaboration with the College of Pharmacy and Department of Pharmacy Services within the University of Utah as they seek funding to support a program designed to enhance the capacity to treat chronic and complex issues related to patients with chronic headache.

Sincerely,



Linda Tyler, Pharm D

Professor (Clinical) Pharmacotherapy
Administrative Director, Pharmacy Services
Associate Dean, College of Pharmacy
University of Utah Health Sciences Center



UNIVERSITY OF UTAH
HEALTH CARE

Pain Management Center

October 1, 2014

Pfizer's Independent Grants for Learning and Change
Consortium for Education and Research in Chronic Pain
California Academy of Family Physicians
Healthcare Performance Consulting, Inc.
Interstate Postgraduate Medical Association
Nurse Practitioner Healthcare Foundation

Re: Pfizer IGLC Request ID# 16479547 "Connected Care for Improving Treatment of Chronic Headache (CCITCH)"


Dear Grant Selection Committee:

University Of Utah's Department Of Anesthesiology is pleased to support the University of Utah's Project ECHO submission to Pfizer's Independent Grants for Learning and Change titled "Connected Care for Improving Treatment of Chronic Headache (CCITCH)". The Department of Anesthesiology is particularly interested in this project regarding the potential scale up and continued collaboration dealing with chronic pain management, as well as opiate prescription rate improvements.

By disseminating the knowledge of specialists at an academic medical center to providers in the community we amplify the capacity to treat patients affected by chronic pain. In addition to the invaluable support and knowledge network this educational program provides, I understand that because of the case-based learning process and frequent didactics that continuing medical education will also be offered to attendees for each session attended.

In conclusion, I fully support the efforts of Utah Project ECHO in collaboration with the proposed interprofessional team including Dr. Scott Junkins from the Department of Anesthesiology as they seek funding to support a program designed to enhance the capacity to treat common and complex issues related to chronic pain and headache.

Sincerely,


Michael K. Cahalan, MD
Chair, Department of Anesthesiology



October 9, 2014

Pfizer's Independent Grants for Learning and Change
Consortium for Education and Research in Chronic Pain
California Academy of Family Physicians
Healthcare Performance Consulting, Inc.
Interstate Postgraduate Medical Association
Nurse Practitioner Healthcare Foundation

Re: Pfizer IGLC Request ID# 16479547 "Connected Care for Improving Treatment of Chronic Headache (CCITCH)

To: Grant Selection Committee

As Dean of the College of Nursing for the University of Utah Health Sciences Center, it is with pleasure that I write this letter of support for Project ECHO's proposal to Pfizer's Independent Grants for Learning and Change titled "Connected Care for Improving Treatment of Chronic Headache (CCITCH)".

Headache is one of the most common complaints that patients seek a health care provider. As the changing environment grows with advanced practice clinicians, the College of Nursing has incorporated a didactic session specifically on the evaluation, diagnosis and management of headache taught by Susan Baggaley, APRN, headache expert. This comprehensive education on headache provides the basis for understanding a complex medical problem and readies them for clinical practice.

Beyond the classroom, implementation of Project ECHO for chronic headache offers continuing education and access to specialty care for primary care clinicians. Project ECHO has already proven through their Hepatitis C and Liver Care ECHO Clinics that it is possible to effectively educate providers at all levels and increase their comfort level in treatment of chronic illness.

I fully support the efforts of the interdisciplinary Project ECHO team in collaboration with the College of Nursing at the University of Utah as they seek funding to support a program designed to improve the capacity of our front line primary care providers in disease management.

Sincerely

A handwritten signature in cursive script that reads "Patricia Gonce Morton".

Patricia Gonce Morton, PhD, RN, FAAN
Dean and Professor
Louis H. Peery Endowed Chair
Robert Wood Johnson Executive Nurse Fellow Alumna

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UNIVERSITY OF UTAH
COLLEGE OF PHARMACY
L. S. SKAGGS PHARMACY INSTITUTE

Pharmacotherapy Outcomes Research Center

October 1, 2014

Pfizer's Independent Grants for Learning and Change
Consortium for Education and Research in Chronic Pain
California Academy of Family Physicians
Healthcare Performance Consulting, Inc.
Interstate Postgraduate Medical Association
Nurse Practitioner Healthcare Foundation

Re: Pfizer IGLC Request ID# 16479547 "Connected Care for Improving Treatment of Chronic Headache (CCITCH)"

To Whom It May Concern:

On behalf of the Pharmacotherapy Outcomes Research Center (PORC) and the Department of Pharmacotherapy, College of Pharmacy, it is my pleasure to write a letter in support of Utah's Project Extension for Community Healthcare Outcomes (ECHO) proposal to Pfizer's Independent Grants for Learning and Change entitled "Connected Care for Improving Treatment of Chronic Headache (CCITCH)". Our Outcomes Center looks to facilitate interaction of academia and patient care systems in the conduct of outcomes research, the presentation and publication of results, training of healthcare professionals and facilitating the utilization of outcomes research to improve patient care. CCITCH as proposed will mirror many of these points of emphasis.

University of Utah's Project ECHO has been involved in educating and providing specialist support to community providers since 2011. They have proven through their Hepatitis C and Liver Care ECHO Clinics that it is possible to effectively educate providers at all levels, increase their comfort level in treatment of these illnesses, and thereby heighten patient and provider satisfaction.

By disseminating the knowledge of specialists at an academic medical center to providers in the community, we amplify the capacity to effectively treat patients affected by headaches. Given the prevalent use of opiate prescriptions in this population, this initiative to promote best practices and improve patient care through the Project ECHO delivery system aligns nicely with our research center goals and patient-centered outcomes.

In conclusion, I fully support the efforts of the Utah Project ECHO in collaboration with University of Utah Health Sciences as they seek funding to support a program designed to enhance the capacity to effectively treat chronic pain and headache.

Sincerely,

A handwritten signature in blue ink that reads "Diana Brixner".

Diana Brixner, PhD, RPh
Professor and Chair, Department of Pharmacotherapy
Executive Director, Pharmacotherapy Outcomes Research Center
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