

A. Cover Page

1. **Title:** System of Care for Patients with Chronic Pain, Grant #21289951, Geisinger Health System

2. **Abstract:**

Diagnosis and management delays for chronic pain drive up healthcare costs and significantly affect patient's quality of life.

Geisinger Health System's (Geisinger) primary care providers (PCPs) treat approximately 17,000 patients a year with chronic pain. The proposed program is an expansion of a 2014 pilot program designed to improve PCPs' ability to manage these complex patients, improve outcomes, and reduce costs.

The program will target:

1. Adults who have experienced persistent pain for at least three months, are currently receiving opioids, and exhibit altered functional, vocational, and/or psychosocial behaviors
2. A subset of Geisinger PCPs

The goal of this program is to design, implement, and evaluate a System of Care for patients with chronic pain to improve clinical outcomes and reduce pain-related costs. We will demonstrate that a comprehensive, multidisciplinary, patient-centered system is scalable nationwide and financially feasible through a shared savings approach with payers.

Objectives include:

- Improved patient satisfaction and quality of life
- Reduced pain levels
- Improved coordinated care between PCPs and System of Care clinicians
- Improved PCP knowledge about pain management and pain medication misuse
- Significantly reduced healthcare costs

To reach our objectives, we will:

- Implement a proactive model of care for high-risk chronic pain patients
- Expand Geisinger's current chronic pain pilot program
- Educate PCPs on best practices in pain management and clinical workflow

Table of Contents

I. Main Section of the Proposal:	1
A. Overall Goal and Objectives	1
B. Technical Approach	1
C. Current Assessment of Need in the Target Area	3
D. Project Design and Methods	4
E. Evaluation Design	9
II. Detailed Work Plan and Deliverables Schedule	11
A. Protocol Development for IRB Submission	11
B. Proactive System of Care for High Risk Chronic Pain Patients	11
C. Chronic Pain Pilot Expansion	12
D. Primary Care Provider Education	12
E. Deliverable Schedule	13
III. Organizational Detail	14
A. Leadership and Organization	14
B. Staff Capacity	15
IV. Detailed Budget:	17
A. Project Oversight Committee	17
B. Overall Project Management	17
C. Provider Education	17
D & E. Goal Achievements	18
F. Reporting and Analytics	18
G. Other Costs	18
H. Deliverables	19
V. Staff Biosketches	20
VI. Letter(s) of Commitment	39
VII. Appendices	
Appendix A: Multidisciplinary Pain Program Curriculum	
Appendix B: Physician Education Assessment Tool, KnowPain-50	
Appendix C: Detailed Work Plan	

I. Main Section of the proposal:

A. Overall Goal and Objectives

The goal of this program is to design, implement, and evaluate a system of care for patients with chronic pain that will improve clinical outcomes, reduce pain-related costs, and increase primary care awareness. The program will focus on providing patient-centered care, promoting provider education, and collaborative practice, sharing and dissemination of best practices, and developing a model that both public and private payers can adopt. We will demonstrate that such a comprehensive, multidisciplinary, patient-centered program—Geisinger’s System of Care for Patients with Chronic Pain—is scalable nationwide and financially feasible through a shared savings approach with payers.

Clinical objectives include:

- Improved patient satisfaction with the care provided
- Reduced pain levels and improved quality of life
- Improved coordination between primary care providers and System of Care providers
- Increased knowledge regarding best practices for pain management and pain medication misuse
- Reduce the cost of care for chronic pain patients through reduction in emergency department (ED) visits and opioid use

To reach our objectives, we will:

- Implement a proactive system of care for high-risk chronic pain patients
- Expand Geisinger’s current chronic pain pilot program
- Educate PCPs on best practices in pain management and clinical workflow

B. Technical Approach

This proposal seeks to match patient needs with available services to maximize clinical and financial outcomes through:

1. Implementing a Proactive System of Care for Patients with Chronic Pain: Patients failing standard outpatient pain management will have their care escalated to Medication Therapy Disease Management, Medical Pain Management, or the Multidisciplinary Pain Program through an automated referral process.

a. Medication Therapy Disease Management (MTDM): Pain MTDM pharmacists specialize in the selection, optimization, and monitoring of medications related to managing chronic pain. They work with the referring physician to increase patient’s quality of life, decrease overall risk of adverse events, decrease emergency department visits related to pain, decrease opioid prescribing in the chronic pain population, decrease mortality/morbidity, and promote rational prescribing within the field of pain management. The pharmacists are also trained to recognize concerning patterns of addictive behavior, and can refer the patient for treatment, when necessary.

b. Medical Pain Management (MPM): Patients with complex pain and psychosocial etiologies, failing standard outpatient management are referred to the MPM team. Visits with the MPM team will provide a multidisciplinary approach to managing chronic pain involving counseling, aggressive medication adjustments, and when appropriate, care coordination with subspecialties. These may include: intervention pain, acupuncture, physical therapy, aquatic therapy, occupational therapy, psychology/psychiatry, social and counseling services, addiction counseling, drug and alcohol treatment, and the Multidisciplinary Pain Program.

c. Multidisciplinary Pain Program (MPP): A newly developed comprehensive multidisciplinary outpatient program designed to improve function and quality of life for individuals living with chronic pain utilizing a rehabilitation approach. This pilot program currently consists of a three-day multidisciplinary educational class (see Appendix A) followed by scheduled appointments and phone calls with providers and staff who specialize in the treatment of chronic pain. The MPP staff also collaborates with the patients' primary care provider to assure continuity of care. Participants are taught how to develop measurable goals and are given the information and skills throughout the program to empower them to achieve their desired outcomes. The team will assess the patient's readiness for change and aid in problem solving to help patients meet their predefined goals and explore options for pain management. Working in collaboration with primary care providers, the MPP staff will utilize patient's goals to help formulate a personalized patient care plan.

2. Expand Geisinger's Current Chronic Pain Pilot Program: The MPP offers a new model that replaces the fragmented systems of care that chronic pain patients currently navigate. The multidisciplinary team will provide patient care plans that cover all factors associated with the patient's persistent pain, plus access to follow-up care through office visits and coaching phone calls. This patient-provider centric program will reduce unnecessary emergency department utilization, curb patient use of non-prescribed drugs, and increase compliance with physical therapy and counseling services. Patients will benefit from the ability to track personal progress and goal attainment, reduced out-of-pocket expenses for unnecessary care, and an overall improvement in functional status. The MPP will manage pain processes, allowing specialties in other fields to focus less on "pain" and more on pathophysiology. This new model will not only be cost effective, but also provide patients with a new mind set on how their care is managed. The MPP expansion will allow for us to offer patients the following:

- Continuity of Care
- Implementation of Coaching Phone Calls
- Implementation of Art Therapy

3. Primary Care Provider Education: Members of the MTDM, MPM, and MPP teams, as well as addiction counselors and other subspecialists, will provide interactive educational sessions during group staff meetings. This includes education on the diversified pain-related services Geisinger offers, procedures for referring patients, preventative care, and current guidelines on opioid prescribing. An interactive question and answer session will be available for the staff in

order to promote real-time feedback from providers about what works, problems and concerns, and to help develop curriculum for future training sessions. Providers will also have access to supplemental information and tools, and a streamlined automated referral process.

C. Current Assessment of Need in the Target Area

Currently in Geisinger Health System, one-in-four outpatient visits are chronic-pain related. In 2013, over 17,000 patients were seen in Geisinger with chronic pain related diagnoses, with most patients seeking medical attention within Geisinger primary care service area (see Figure 1). Of those, approximately 30% carried Geisinger Health Plan (GHP) insurance, costing the health plan \$1.1 million due to pain-related emergency department (ED) visits, and \$5.1 million in opioid prescriptions.

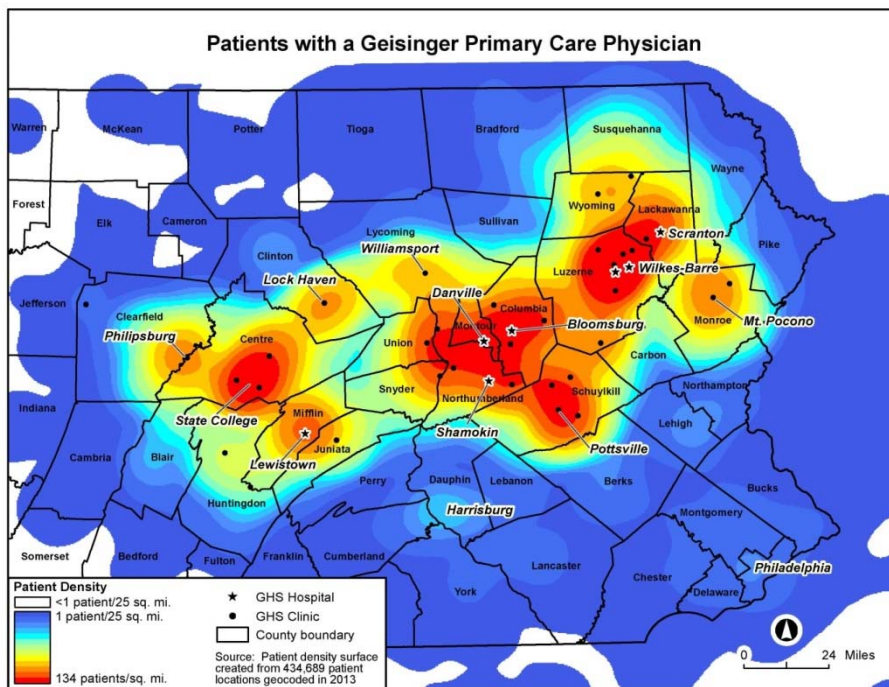


Figure 1. Geisinger’s service area map.

Pain prevention offers the prospect of substantial savings in U.S. healthcare costs. The analysis conducted for a national study found that on average, a person with moderate pain generates health care expenditures \$4,516 higher than those for a person without pain. A person with severe pain generates health expenditures \$3,210 higher than those for a person with moderate pain¹. Within our own system, patients’ with the highest utilization of healthcare have a per-member-per-month (PMPM) cost of over \$600. Using data from our own pilot programs, as well as information gathered from other health system experiences, we expect patients who go through this comprehensive Multidisciplinary Pain Program and the Escalation

¹ Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research. Institute of Medicine Report. 2011.

of Care Process to have a reduction in health care costs. The escalation of care process is designed to identify and treat patients with chronic pain in primary care and escalate their care to the MTDM, MPM, and ultimately the MPP program, based on need.

Geisinger patients with chronic pain that receive long-acting opioids or recurrent prescriptions for short acting opioids have a 2.5 fold increase in Geisinger ED utilization compared to the general population. In the last 12 months, the 12,021 patients that receive long-acting or recurrent short acting opioids visited a Geisinger ED 8,393 times. Of these visits, 3,168 visits were characterized by an acute pain complaint, as well as treatment of opioids during the visit.

Obstacles to successful chronic pain treatment in the primary care setting include PCP time constraints, non-adherence, and the burden of ordering and reviewing toxicology tests to detect and address substance abuse. Baseline statistics on this population include 9,747 patients on chronic long-acting or short-acting opioid medication regimens, with a 67% completion of medication use agreements, 35% of patients completing urine toxicology screens, 16% of patients with ED visits for pain, and 5% of patients on >120mg morphine equivalent per day. In order to help these patients, we need to demonstrate the efficacy, cost-savings, sustainability, and scalability of a system of care program.

1. Audience and Beneficiaries: Primary audience and beneficiaries of this new innovative program are adults who have experienced chronic pain for at least three months, are currently receiving treatment with opioids, and exhibit altered functional, vocational, and/or psychosocial behaviors. Secondary audience and beneficiaries include immediate family members, who will benefit from increased knowledge about chronic pain and the improved function of their loved one; healthcare providers, who will enhance their knowledge of pain management and receive greater clinical support from pain management experts; and payers, who will benefit from cost savings and have an opportunity to roll out this new innovative practice model throughout the nation.

D. Project Design and Methods

The proposed program's goals support the Institute of Healthcare Improvement's Triple Aim (i.e., better health, better healthcare, and lower costs) and the RFP by simultaneously improving patient quality of life and satisfaction, reducing healthcare-related cost, improving clinical outcomes, and providing value in health care delivery. We will achieve these goals through implementing the proactive System of Care program for high-risk chronic pain patients and expanding Geisinger's current chronic pain pilot program, and by providing education for PCPs on best practices in pain management and clinical workflow.

1. Implement the Escalation of Care Process: The System of Care program is a highly effective, proactive practice model based on best practices utilizing a coordinated multimodal therapy for chronic pain patients. It is based on models designed to restore patient independence and improve their overall quality of life.

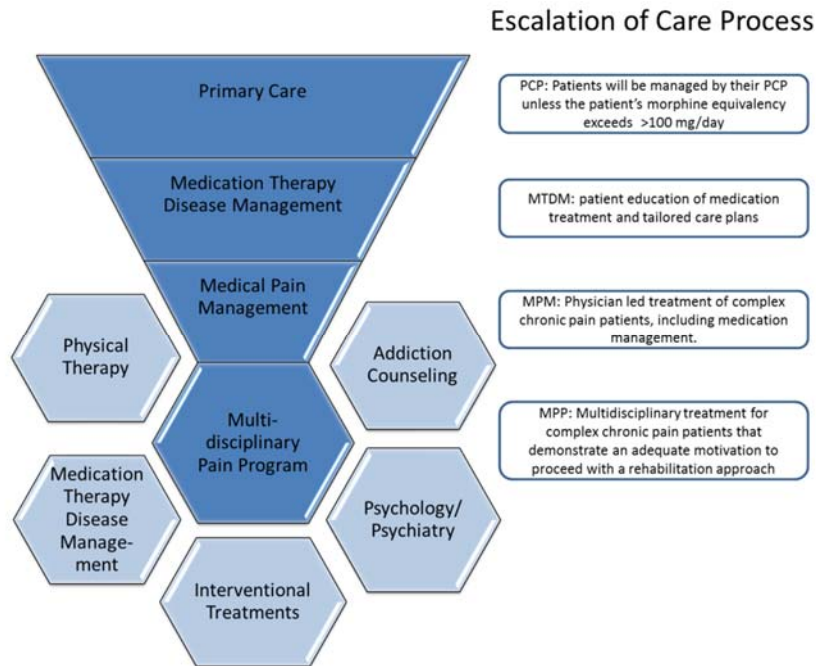


Figure 2. Geisinger Health System’s “System of Care” for patients with chronic pain.

The program relies on an Escalation of Care model (Figure 2), in which the PCP generates a referral to the MTDM via an automated software program developed by our Center for Clinical Innovation and clinical pharmacist teams. Patients are assessed then triaged to MTDM, MPM, or MPP, depending on the complexity of their condition. Patients who do not qualify for these services, who appear to be opioid abusers, or who have a terminated medication use agreement, will be referred to an ambulatory addiction assessment advisor.

This Escalation of Care Process will provide:

- Improved coordinated care as patients transition from primary care to the Pain Management System of Care program
- New, more efficient clinical workflows
- Improved transitions and coordination of care within our System of Care program for patients with chronic pain

Medication Therapy Disease Management (MTDM) program began at Geisinger in 1996 to help manage the care of anticoagulation patients and has expanded its role to care for patients with other chronic medical conditions, including pain. Chronic pain pharmacists now have three locations embedded within our intervention pain sites, with an additional 12 locations within community practice clinics, enabling convenient patient access to MTDM pain clinical pharmacist care across Geisinger Health System.

MTDM Pain Clinical Pharmacist program consists of several components including:

- Risk assessment for opioid abuse and diversion

- Patient education on their type of pain (nociceptive vs. neuropathic), medications available to treat their pain and medication mechanisms of action
- Communication of medication changes and patient’s progress towards treatment goals to the referring clinician who maintains continuity of care
- If the patients’ care falls beyond the scope of MTDM, a referral to a physician-led Medical Management Program or Multidisciplinary Pain Program will be placed

Initial results of this pilot, utilizing MTDM pharmacists over a 12 month period, demonstrated positive outcomes for GHP insured including a 19% decrease in the average number of patient prescription claims and a 25% decrease in opioid costs (see Table 1).

Table 1. MTDM Chronic Pain’s Effects on Geisinger’s Hazleton Clinic Opioid Use

	April-June 2013	January-March 2014	Change
Number of unique GHP members filling opioid prescriptions	140	168	
Average claims per member per quarter	2.32	1.89	19% reduction
Average cost per member per quarter	\$61.70	\$46.09	25% reduction

Additionally, the program showed statistical significance ($p < 0.05$) for pharmacist-guided patients compared to non-pharmacist guided patients using the nonparametric Wilcoxon analysis. At six and 12 months the MTDM group showed:

- Significant increase in methadone use
- Significant decrease in morphine equivalent
- Significant decrease in short-acting opioid use
- Significant decrease in use of ED

Medical Pain Management (MPM) is a physician lead multidisciplinary program created in 2014 to address patients with complex pain and psychosocial issues. The MPM team provides counseling, aggressive medication adjustments, and when appropriate, coordinated care to various subspecialties. These may include: intervention pain, acupuncture, physical, aquatic, and/or occupational therapies, psychologist/psychiatrist, social and counseling services, addiction counseling, drug and alcohol treatment, and the Multidisciplinary Pain Program.

Multidisciplinary Pain Program (MPP) is a newly developed comprehensive multidisciplinary outpatient program designed to improve function and quality of life utilizing a rehabilitation approach for individuals living with chronic pain. It consists of a three-day multidisciplinary educational class followed by 12 months of comprehensive follow-up with chronic pain clinicians. Participants create measurable goals and acquire information and skills they need to achieve their goals.

The MPP provides skills along with a support platform that empowers patients to lead healthy lifestyles and enables patients to rejoin their lives and contribute meaningfully to their families and community. Patients involved in the program will benefit from:

- Personalized treatment plans
- Improved quality of life as measured by functional outcomes, activity levels, depression scales, pain scores, reduced opioid use, and fewer ED visits
- Significant cost savings

Table 2. MPP Patient Health Outcomes 5/2014-1/2015

	% of Patients	Average change	% Change
Visual Analog Pain Score	62%	3 points	32% reduction
Oswestry Disability Index	52%	15 points	19% improvement
Depression (PHQ-9)	47%	8 points	58% reduction

Initial results from patients (n=27) attending the MPP for up to four months of completed follow-up shows:

- 43% of patients reduced their opioid medication usages
- 47% of patients demonstrated reduction in depressive symptoms
- 52% of patients reported increased physical activities
- 62% of patients reported reduced pain levels

2. Expansion of Geisinger MPP Pilot Program: This proposal seeks to expand both the scope and use of this program to more effectively meet the needs of chronic pain sufferers. The MPP expansion will develop and implement care plans that focus on empowering participants to take control of their pain when a cure is not possible. The MPP expansion will allow:

a. Continuity of Care: After the completion of the three-day course, the patients will receive monthly follow-up visits with a multidisciplinary team member. The MPP team member will review the patient’s functional goals and formulate a personalized care plan that may involve coordinated care with subspecialties. Dietary, addiction counseling, physical therapy, psychiatry/psychology, and smoking cessation programs can be scheduled at satellite facilities located throughout Geisinger Health System.

b. Implementation of Coaching Phone Calls: Bi-weekly coaching phone calls will assist patients stay on tract and achieve their goals, and improve patient compliance. These phone calls include goal-setting strategies that educate and empower the patient, making them accountable and involve them in the design of their personalized pain management care plan. The pain coach assesses the patient’s readiness for change and aids in problem solving to help patients meet their predefined goals.

c. Implementation of Art Therapy: Art therapy uses a creative process to improve physical, mental, and emotional well-being. Often, individuals with chronic pain are unable to express themselves verbally. Art therapy helps them communicate their issues visually. In addition, a group art therapy promotes strategies and coping mechanisms for individuals with chronic pain by sharing their experience in coping and managing their pain with the group.

3. Primary Care Provider Education: One of the greatest challenges to improving the care of pain patients is provider awareness and recognition of patients who are at risk for developing chronic pain. Thus, educating our primary care staff (physicians, mid-level providers, and nurses) about chronic pain recognition, diagnosis, and management is crucial to the success of this program. To that end, the pain medicine team will use on-site training and supplemental information and tools to educate clinicians on multidisciplinary and multimodal options to manage chronic pain.

a. On-site Training: On-site primary care provider educational sessions will be given by specialists from MTDM, MPP, and addiction services. These 60-minute sessions will cover neuropathic and nociceptive pain, including the appropriate pharmacological management of each. It will discuss the importance of behavioral pacing, signs of addiction, and how to incorporate complimentary services within the health system. It will also cover the appropriate utilization of opioids in the treatment of chronic pain. An interactive question and answer session will be available for the staff following each session. Provider surveys will also be distributed in order to provide feedback on problems and concerns, areas of interest, and to help develop curriculum for future training sessions. Prior to and three months following these sessions, providers will be given the KnowPain-50 self-assessment tool that will measure physician knowledge, attitudes, and beliefs surrounding pain (Appendix B).²

b. Supplemental Information and Tools: After the on-site training, supplemental information and physician tools will be given to the sites to aid in the appropriate use of pain services and to help retain key information. Tools like physician fast facts and decision trees can be utilized to aid in the care of the chronic pain population. Primary care clinicians will also be invited to attend Geisinger's annual Chronic Pain Symposium.

c. Referral Plans and Support: Primary care providers will receive education on multimodal and multidisciplinary resources for pain management. They will learn about the Escalation of Care Process and how to place referrals based on patient needs. First line of support will be MTDM pharmacists, where services like optimization of medication regimens and the identification of addictive behaviors are provided. The MTDM pharmacist will work with the physician to enhance patient care. When these services are not enough, referrals to MPM or MPP can be made.

² Harris J Jr, Fulginiti JV, Gordon PR, Elliott TE, Davis BE, Chabal C, Kutob RM. 2008. KnowPain-50: A Tool for Assessing Physician Pain Management Education. Pain Medicine Vol 9 Num 5 Pgs 542-554.

E. Evaluation Design

1. The Sources of Data: This study will use data that is routinely included as part of patient care assessments and billing data. The Principal Investigator (PI), Co-Investigators (Co-I), and research staff have access to this patient data by virtue of patient care responsibilities via electronic health record (EHR).

Methods: This study will utilize data from EHR, Clinical Decision Intelligence System (CDIS), Press Ganey Patient Satisfaction Survey Score, and GHP claims data.

Patient EHR Data: Data from the EHRs will be analyzed to determine increased utilization of Medication Use Agreements for patients on controlled substances, and to monitor prescribing patterns, based in morphine equivalency, throughout the course of the patients' treatment. This data will also be used to determine referral patterns of primary care physicians to pain specialties.

Patient Health Outcomes: We will also be able to extract longitudinal outcomes questionnaire measures including visual analog scores (VAS), Oswestry Disability Index scores (ODI), quality of life and health measures, and depression scores as measured with the PHQ-9. This data will be collected and stored in CDIS, Geisinger Health System's Enterprise Data Warehouse (EDW). The CDIS infrastructure provides a single source of truth for Geisinger's clinical, financial and operational information needs by housing cleansed and normalized relevant data in a common repository.

Patient Satisfaction: Data extracted from Press Ganey patient satisfaction scores will be utilized to determine if there is improvement in the patient experience. This nationally recognized company provides advanced analytics and strategic advisory service that deliver patient experience surveys to our patient population. The scores from these surveys are used as benchmarks to aid Geisinger in patient satisfaction improvement.

Cost Data: Claims data from GHP will be analyzed to determine cost per member for ED utilization, inpatient hospital admissions, and outpatient opioid prescription cost.

2. Limitations: Limitations of the study include the use of a convenience sample, which reflects an 85% Caucasian population located throughout rural Pennsylvania. Patients treated outside of Geisinger will not be represented in this study sample.

3. Evaluation: The team will assess clinical and billing data to track patient progress and savings. Specific metrics include patient satisfaction, activity and pain levels, and daily narcotic use; psychological status; emergency department utilization; and overall healthcare costs. Geisinger will measure the success of a system of care program with:

- Surveys that measure patient satisfaction, based on Press Ganey surveys, from baseline to conclusion of the study (5% improvement)

- The Oswestry Disability Index (5% improvement on patient function)
- Depression scales (PHQ-2 or PHQ-9) (5% improvement in depressive symptoms)
- Visual analog pain scores to measure pain levels at pre- and post-treatments (20% decrease in VAS pain scores using the validated Geisinger Pain Score chart)
- Medication use agreements between applicable patients and providers (10% improvement)
- Number of referrals to pain specialties and the KnowPain-50 tools to assess the effectiveness of PCP education program (5% improvement from baseline)

The overall objective for a system of care is to measurably enhance the care for the population of patients with chronic pain. The program will assess the effectiveness of the individual component of the program and overall impact on clinical pathways. The program will measure outcome metrics and population-based utilization of pain-related resources such as opioid uses and ED visits. Patients who have successfully completed the comprehensive Multidisciplinary Pain Program are expected to have reduction in healthcare utilization cost by an average of \$200 PMPM, a three-fold reduction.

4. Analysis Plan:

Patient Health Outcomes: We will collect self-reported patient outcome measures, which include Oswestry Disability Index ratings, Visual Analog Pain Scores, Patient Health Questionnaire depression screenings, Quality of Life and overall health measured, at baseline and then longitudinally over defined intervals throughout the course of the patients treatment. The final report will measure the differences in individual patient pain and quality of life prior to and after completing the MPP program.

Distributions of each score (VAS scores, Oswestry, QOL, Health, PHQ9) will be summarized at baseline and specific follow-up time points. These scores will be summarized both as absolute values, and as normalized scores relative to each patient's baseline measurement. These scores will be reviewed for clinical significance in change by using the ratio of the mean difference between the two groups divided by the standard deviation of the control group. Individual change will also be considered using the Hageman-Arrindell³ method for ascertaining clinical significance between groups and individual progress/deterioration. P-values at the $p < 0.05$ level will be used to investigate statistically significant changes in outcome scores between the groups, however clinical significance may be lacking in this analysis.

Patient Satisfaction: We will perform a secondary analysis of Press Ganey Pain Management satisfaction survey results matched to EHR data. Patients funneled through the Escalation of Care Process will be compared with a control group of patients who did not receive this care. We will examine overall scores and the questions specifically related to patient care. Descriptive statistics and plots for each variable will be inspected to assess the distribution of key variables within this single cohort. Means, standard deviations, medians, ranges (maximum and inter-

³ Hageman WJ, Arrindell WA. Dec 1999. Clinically significant and practical! Enhancing precision does make a difference. Behavioral Research Therapy 37(12):1219-33.

quartile) and 95% confidence intervals will be calculated as appropriate for the characteristic variables of interest.

Referrals: We aim to determine if referral patterns to pain specialties increase and if the appropriate referrals are being placed to each specific sub-specialty. The referral to sub-specialty will be correlated to the patient's diagnoses and medication orders to established appropriate use of sub-specialties. Physician referrals from sites where primary care education on pain management was received and established as effective through the KnowPain-50 tool, will be compared to sites where no education has been given. Standard T-tests will be used to determine if there is a statistical difference between referral patterns of a physician receiving education to the non-participated physician control group at the ($p < .05$).

Patient and Payer Cost: Medication adherence, prescription titration, timely and appropriate referrals, and reduced ED visits, all contribute to the overall health of the patient population. GHP claims data will be analyzed to show total cost before and after the Escalation of Care Process. The total cost will be further analyzed by evaluating each patient's co-pay per chronic medication refill and the third party payment for the chronic medications to determine total cost savings after completing treatment regimens.

5. Sample Size Considerations: Based on past volumes, we anticipate that approximately 1,000 qualified patients will be seen via the System of Care process with approximately 200 patients being enrolled in the Multidisciplinary Pain Program over the length of the project. This will bring the total sample size to $n=1,200$.

II. Detailed Work Plan and Deliverables Schedule

A. Protocol Development for IRB Submission

Project planning will begin immediately following notification of award in September 2015. The oversight committee, consisting of all staff on the grant, will develop a formal IRB protocol for submission in October 2015. The committee will also meet to:

- Establish detailed selection criteria for high-risk chronic pain patient population to implement the System of Care
- Develop guidelines for the implementation of coaching phone calls
- Develop guidelines for the implementation of art therapy
- Determine the most representative sample of Geisinger's community-based practice sites that can be accommodated within the resources of the project for primary care provider education

A final report to the IRB will be filed upon project completion in April 2017.

B. Proactive System of Care for High Risk Chronic Pain Patients

The oversight committee will meet in October 2015 to develop criteria for risk-stratification to determine appropriateness of service based upon patient assessment and reporting tools for risk stratification. This risk stratification will be used to refine the automated referral process

developed by the department of clinical innovations. The refined, automated referral process will be used in the proactive system of care to send patients to pain pharmacists from November 2015-January 2017. During this period, primary care providers will be educated on the new referral process. Starting in February 2017, the project manager and IT analyst will monitor the referral process for appropriateness of service for the patient population and compile data for follow-up as needed. In March 2017, data will be cleaned and analyzed in preparation of the final report. The final report to Pfizer and the IRB will be submitted in April 2017. As part of the final report to Pfizer, Geisinger will provide a detailed overview of the model and an analysis of its use and impact on patient/provider engagement, health outcomes, and cost savings, as well as, provide recommendations for future use of this data, such as further research and development of best practices in pain management.

Geisinger will disseminate the results of our System of Care program to patients, the community, healthcare providers, and other healthcare systems via professional conferences, peer-reviewed publications, printed patient education materials, and external provider education. Additionally, we will share the program and its successes via conference calls and our annual innovation seminars with payers and providers.

C. Chronic Pain Pilot Expansion

The oversight committee will provide guidance on the implementation of services included in the chronic pain pilot expansion from September 2015-October 2015. The committee will also work with clinical innovations to develop and implement an automated patient list to track patient coaching phone calls for the Multidisciplinary Pain Program. The pain coach and project manager will develop a database for collection of patient outcomes. Prior to starting the implementation of the coaching phone calls, the oversight committee will also develop and implement a process for follow-up communication between the pain coach and primary care providers. From November 2015-January 2017, coaching phone calls and art therapy sessions will be implemented. The programs will be monitored during this time to validate level of service intensity and to optimize program development. Data collection and compilation will begin in February 2017 in preparation for March 2017 analysis. The final report will include data on patient health outcomes and clinical effectiveness of non-reimbursable services.

D. Primary Care Provider Education

Once IRB approval has been received, October 2015, the oversight committee will approve educational materials developed by the PCP educators to be utilized during on-site primary care provider education sessions. Based on the guidelines recommended by the committee, databases will be created to store results from surveys administered throughout the project.

Starting in November 2015 and continuing through January 2017, the project staff will provide on-site chronic pain education for primary care providers and begin the distribution of supplemental materials to them. During the sessions, the KnowPain-50 tool will be administered. The survey will again be given three months after each session to monitor content retention. The staff will use feedback from providers and patients to validate levels of

service intensity, and to modify and streamline process development. Providers will also be invited to attend the annual Chronic Pain Symposium in October 2016.

Starting in February 2017, the project manager will compile data for follow-up as needed. In March 2017, data will be cleaned and analyzed in preparation of the final report, where the effectiveness of on-site primary care education and the appropriateness of referrals patterns will be determined.

E. Deliverable Schedule

The committee will approve findings, trends in data, and material to be included with the interim reports distributed in February 2016 and September 2016. In February 2017, approval outlines of the final comprehensive and dissemination reports will be approved by the oversight committee, including background information, study methodology, and a summary of the findings. All data will be compiled, cleaned and prepared for analysis, and verification, and follow-up will be conducted on an as needed basis. March 2017 will include data analysis completion, with a draft of the final report being submitted to the oversight committee.

Month	Activity				
	Protocol Development	Development of Guidelines for System of Care, Provider Education, and the Chronic Pain Pilot Expansion	Implementation & Data Collection	Analysis	Final Report
1-2					
3-17					
18-19					
20					

VII. Appendices

Appendix A: Multidisciplinary Pain Program Curriculum

Persistent Pain Education	Physical Reconditioning	Life Skills	Behavioral Medicine
The Biopsychosocial Model of Care	Yoga Based Relaxation and Movement	Financial and Medical Support	Progressive Muscle Relaxation
Introduction to Acute and Chronic Pain	Graded Motor Imagery	Spirituality and Pain	Mindfulness
Preventing Abuse/Misuse of Prescription Pain Medication	Physical Therapy Education	Nutrition	Persistent Pain and Intimacy
Medication Therapy Disease Management	Interventional Therapy Education	Sleep Hygiene	Volunteering, Recreational and Art Therapy
Goal Setting and Review	Behavioral Pacing	Smoking and its effect on pain	Family Support Education

Appendix B: Physician Education Assessment Tool
KnowPain-50, Tool for Assessing Pain Management Education

* Correct answer.

1. A 33-year-old woman complains of pain “all over” with pain intensity ratings ranging from 4 to 8 on the 0-10 scale, fatigue, forgetfulness, poor sleep, headaches, and dizziness. This symptom complex is most consistent with which of the following?

- Fibromyalgia syndrome*
- Chronic fatigue syndrome
- Chronic myofascial pain syndrome
- Depression
- Pain disorder with psychological factors

2. Which of the (one) following statements is true regarding selective COX-2 inhibitors?

- They cost twice as much as non-selective NSAIDs
- Gastroduodenal injury risk is similar to non-selective NSAIDs
- There is no increased risk for acute myocardial infarction or congestive heart failure
- They are no more effective as an analgesic than non-selective NSAIDs*
- Low dose daily aspirin for cardiovascular prophylaxis is not needed when selective COX-2 inhibitors are used
- Don't know

3. Anticonvulsants and analgesic antidepressants obtain about a 50% response rate (pain intensity reduction in half of patients treated) in neuropathic pain. Which of the following drug classes obtains similar results?

- Benzodiazepines
- NSAIDs
- COX-2 inhibitors
- Opioids*
- Phenothiazines
- Don't know

4. Which of the following therapies for fibromyalgia syndrome has been shown to yield the most consistent improvement?

- Massage
- Trigger point injections
- Acupuncture
- Aerobic exercise*
- Transcutaneous electrical nerve stimulation (TENS)
- Don't know

5. By far the most common adverse side effect of opioid therapy is:

- Constipation*
- Nausea and vomiting
- Sedation and cognitive dysfunction
- Respiratory depression
- Don't know

	Strongly Agree	Agree	Somewhat Agree	Somewhat Disagree	Disagree	Strongly Disagree
6. If my opioid prescribing was investigated tomorrow, I am confident that I would pass.	1*	2	3	4	5	6
7. When I see consistently high scores on pain rating scales in the face of minimal or moderate pathology, this means that the patient is exaggerating their pain.	1	2	3	4	5	6*
8. There is good medical evidence that interdisciplinary treatment of back pain is effective in reducing disability, pain levels, and in returning patients to work.	1*	2	3	4	5	6
9. Physical exercise will typically worsen pain and function in patients with arthritis.	1	2	3	4	5	6*
10. Under federal regulations, it is not lawful to prescribe an opioid to treat pain in a patient with a diagnosed substance use disorder.	1	2	3	4	5	6*
11. Pain complaints and degree of disability always correlate well in patients with chronic pain.	1	2	3	4	5	6*
12. Antidepressants usually do not improve symptoms and function in chronic pain patients.	1	2	3	4	5	6*
13. A placebo can be used to determine if pain is real.	1	2	3	4	5	6*
14. It is illegal for a physician to prescribe methadone for pain, unless he/she is certified in addiction medicine.	1	2	3	4	5	6*
15. An MRI is a good test to identify patients with painful degenerative disc disease because certain findings are consistently predictive of pain.	1	2	3	4	5	6*
16. The spinal cord and higher CNS are often involved in generating the symptoms and signs of neuropathic pain, including sensitivity to touch.	1*	2	3	4	5	6
17. I can assess patient function and activity status in my office with careful questioning of the patient.	1*	2	3	4	5	6
18. Chronic myofascial pain syndrome of the gluteal muscles can cause referred pain down the leg with a similar distribution and feeling as sciatica.	1*	2	3	4	5	6
19. I believe that patients who complain of pain out of proportion to its cause are usually drug abusers.	1	2	3	4	5	6*

	Strongly Agree	Agree	Somewhat Agree	Somewhat Disagree	Disagree	Strongly Disagree
20. Under federal regulations, it is permitted to issue prescriptions that are post-dated.	1	2	3	4	5	6*
21. In chronic pain the assessment should include measurement of the pain intensity, emotional distress, and functional status.	1*	2	3	4	5	6
22. Elderly patients cannot tolerate medications such as opioids for pain.	1	2	3	4	5	6*
23. I have a good understanding of the general indications for surgery for acute herniated disc.	1*	2	3	4	5	6
24. Selective serotonin re-uptake inhibitors (SSRIs) are effective treatment for neuropathic pain.	1	2	3	4	5	6*
25. I believe that chronic opioid analgesic therapy in a patient over age 40 without a past history of addiction is associated with a high risk of opioid addiction.	1	2	3	4	5	6*
26. There is good evidence that psychosocial factors predict outcomes from back surgery better than the patient's physical characteristics.	1*	2	3	4	5	6
27. Nerve injuries are particularly likely to producing chronic neuropathic pain states.	1*	2	3	4	5	6
28. Patients may sleep in spite of severe pain.	1*	2	3	4	5	6
29. I know how to obtain information about both state and federal requirements for prescribing opioids.	1*	2	3	4	5	6
30. I feel comfortable taking a pain history and writing orders for pain medications.	1*	2	3	4	5	6
31. I am confident that I understand state and federal requirements for prescribing opioid analgesics for chronic pain.	1*	2	3	4	5	6
32. Chronic, daily pain that has persisted in an unchanging way for years is unlikely to have a clear cause or cure.	1*	2	3	4	5	6
33. Early return to activities is one of my primary goals when treating a patient with recent onset back pain.	1*	2	3	4	5	6
34. Morphine-induced sedation is only a transient problem and will <i>usually</i> clear with continued use.	1*	2	3	4	5	6
35. If the patient can be distracted from her/his pain, this usually means that she/he does not have high pain intensity.	1	2	3	4	5	6*

	Strongly Agree	Agree	Somewhat Agree	Somewhat Disagree	Disagree	Strongly Disagree
36. In the majority of cases, we have the technology to determine the precise pathologic cause of chronic pain	1	2	3	4	5	6*
37. Long-term use of NSAIDs in the management of chronic pain has higher risk for tissue damage, morbidity, and mortality than long-term use of opioids.	1*	2	3	4	5	6
38. When back pain radiates down one or both legs, EMG and nerve conduction studies are usually useful for making a diagnosis.	1	2	3	4	5	6*
39. I believe that chronic pain of unknown cause should not be treated with opioids, even if this is the only way to obtain pain relief.	1	2	3	4	5	6*
40. Anticonvulsants have established analgesic efficacy for musculoskeletal, nociceptive, or idiopathic pain.	1	2	3	4	5	6*
41. The presence of a physiologic basis for pain should be the primary factor when deciding to prescribe opiates.	1	2	3	4	5	6*
42. The management of chronic pain with analgesics and adjuvant drugs only is effective in most patients.	1	2	3	4	5	6*
43. I understand how to diagnose and treat different types of pain.	1*	2	3	4	5	6
44. I feel comfortable calculating conversion doses of commonly used opioids.	1*	2	3	4	5	6
45. Changes in vital signs (BP, P, R, T) are reliable indicators of pain severity.	1	2	3	4	5	6*
46. Cognitive behavioral therapy is very effective in chronic pain management and should be applied as early as possible in the treatment plan for most chronic pain patients.	1*	2	3	4	5	6
47. There is a limit or "ceiling" to the dosage of pure agonist opioids (e.g., morphine) that can be used to control a patient's pain.	1	2	3	4	5	6*
48. Persons who fit the profile of a likely drug abuser should never be treated with opioids.	1	2	3	4	5	6*
49. I believe that analgesic tolerance to opioids usually limits long-term use.	1	2	3	4	5	6*
50. Under federal regulations, there are limits on the number of dosages of opioids that can be prescribed at one time.	1	2	3	4	5	6*

Appendix C: Detailed Work Plan

Objective 1: PROTOCOL DEVELOPMENT FOR IRB		
Activities	Time Line	Person Responsible
Task 1.0: IDENTIFY PATIENT POPULATION		
Activities (09/01/2015-06/30/2016)		
1.1 In conjunction with the project staff, establish formal IRB protocol	9/2015	Oversight Committee and staff (0.25%)
1.2 Submit for IRB Approval	10/2015	Project Manager (1%)
1.3 Begin data collection process upon receipt of IRB approval	10/2015	Project Manager (1%)
Activities (07/01/2016-04/30/2017)		
1.4 Submit final report to IRB	4/30/2017	Project Manager (0.5%)
Objective 2: IMPLEMENT A PROACTIVE MODEL OF CARE FOR HIGH RISK CHRONIC PAIN PATIENTS		
Activities	Time Line	Person Responsible
Task 2.0: IDENTIFY PATIENT POPULATION		
Activities (09/01/2015-06/30/2016)		
2.1 In conjunction with the project staff, establish detailed selection criteria for high-risk patient population.	9/2015	Oversight Committee and staff (0.25%)
2.2 Develop criteria for risk-stratification to determine appropriate service based upon patient assessment.	10/2015	Oversight Committee and staff (0.25%)
2.3 Develop reporting tools and risk stratification	10/2015	IT Analyst (5%)
Task 3.0: Automation and Education		
Activities (09/01/2015-06/30/2016)		
3.1 Refine automated referral process with clinical innovations	10/2015	Oversight Committee and staff (0.25%)
3.2 Educate PCP on new referral process	10/2015-6/2016	PCP Educators (1%)
3.3 Implement Escalation of Care process and triage patients with Pain Pharmacists	10/2015-6/2016	Pain Pharmacist (15%) x2
Activities (07/01/2016-04/30/2017)		
3.4 Educate PCP on new referral process	07/2016-1/2017	PCP Educators (1%)

3.5 Implement Escalation of Care process and triage patients with Pain Pharmacists	07/2016-1/2017	Pain Pharmacist (20%) x2
3.6 Monitor referral process and appropriateness of patient cohorts	2/2017	Project Manager (1%)
3.7 Compile data and conduct verification and follow-up, as needed.	2/2017	IT Analyst (3%)
3.8 Prepare data for analysis.	3/2017	IT Analyst (0.5%)
3.9 Analyze data for survey and provider groups	3/2017	IT Analyst (2%)
3.10 Prepare report on model overview and an analysis on its use and effectiveness.	4/2017	IT Analyst (0.5%)
3.11 Review Reports	4/2017	Oversight Committee and staff (0.25%)
Objective 3: EXPAND GEISINGER'S CURRENT CHRONIC PAIN PILOT		
Activities	Time Line	Person Responsible
Task 4.0: IMPLEMENTATION OF COACHING PHONE CALLS		
Activities (09/01/2015-06/30/2016)		
4.1 Attend development meeting with MPP team and project staff to develop implementation guidelines	9/2015	Oversight Committee and staff (0.25%)
4.2 Meet w/ clinical innovations to develop and implement an automated patient list to track patient phone calls	10/2015	Oversight Committee and staff (0.25%)
4.3 Develop documentation tools and databases to monitor patient outcomes	10/2015	Pain Coach and Project Manager (1%)
4.4 Develop scheduling template to complete phone calls	10/2015	Pain Coach (1%)
4.5 Develop and implement process for follow-up communication with primary care providers	11/2015	Oversight Committee and staff (0.25%)
4.6 Implement coaching phone calls	11/2015-06/2016	Pain Coach (25%)
Activities (07/01/2016-04/30/2017)		
4.7 Implement coaching phone calls	07/2016-01/2017	Pain Coach (58%)
4.8 Compile data and conduct verification and follow-up, as needed.	02/2017	Project Manager (0.25%)
4.9 Prepare data for analysis.	3/2017	Project Manager (0.25%)
4.10 Analyze health outcomes data	3/2017	Project Manager (0.5%)
4.11 Prepare report on clinical effectiveness and cost-savings.	4/2017	Project Manager (0.25%)

4.12 Review Reports	4/2017	Oversight Committee and staff (0.25%)
Task 5.0: IMPLEMENTATION OF ART THERAPY		
(09/01/2015-06/30/2016)		
5.1 Attend development meeting with MPP team and project staff to develop implementation guidelines	9/2015	Oversight Committee and staff (0.25%)
5.2 Determine supplies and educational material needed for art directives	10/2015	Art Therapist (1%)
5.3 Implement Art Therapy sessions as defined by the MPP team and project staff meeting.	11/2015-6/2016	Art Therapist (10%)
5.4 Conduct Depression surveys (PHQ-9) and collect results at all visits.	11/2015-6/2016	Art Therapist (1%)
5.5 Observe programs as necessary to validate levels of service intensity.	1/2016-4/2016	Project Manager (0.75%)
Activities (07/01/2016-04/30/2017)		
5.6 Implement Art Therapy sessions as defined by the MPP team and project staff meeting.	7/2016-1/2017	Art Therapist (12%)
5.7 Conduct Depression surveys (PHQ-9) and collect results at all visits.	7/2016-1/2017	Art Therapist (1%)
5.8 Compile data and conduct verification and follow-up, as needed.	2/2017	Project Manager (0.25%)
5.9 Prepare data for analysis.	2/2017	Project Manager (0.25%)
5.10 Analyze data for survey and provider groups	3/2017	Project Manager (0.5%)
5.11 Prepare report(s).	4/2017	Project Manager (0.25%)
5.12 Review Reports	4/2017	Oversight Committee and staff (0.25%)
Objective 4: IMPLEMENT PRIMARY CARE PROVIDER EDUCATION		
Activities	Time Line	Person Responsible
Task 6.0: ON-SITE TRAINING		
Activities (09/01/2015-06/30/2016)		
6.1 Consult with PI, SUB-Is, Project Manager, and project staff to determine the most representative sample of CPSL sites that can be accommodated within the resources of the project.	9/2015	Oversight Committee and staff (0.25%)
6.2 Develop preliminary educational materials	10/2015	PCP Educators and Project Manager (0.25%) x2

6.3 Have educational material approved at the project staff meeting	10/2015	Oversight Committee and staff (0.25%)
6.4 Develop database for collection of survey results	10/2015	Project Manager (1%)
6.5 Consult with Dr. Kobylinski to establish first educational session date and place.	10/2015	PCP Educators(0.25%) x2
6.6 Complete On-site trainings to CPSL sites	11/2015-6/2016	PCP Educators(%3.5) x2
6.7 Administer survey and monitor returns.	11/2015-6/2016	PCP Educators (0.25%) x2
6.8 Use feedback from providers as appropriate data collection strategies.	12/2015-4/2016	PCP Educators (0.25%) x2
6.9 Monitor 3 month data collection and reporting by sites.	1/2016-6/2016	PCP Educators and Project Manager (0.25%) x2
Activities (07/01/2016-04/30/2017)		
6.10 Complete On-site trainings to CPSL sites	7/2016-1/2017	PCP Educators(6%) x2
6.11 Administer survey and monitor returns.	7/2016-1/2017	PCP Educators(1%) x2
6.12 Compile data and conduct verification and follow-up, as needed.	2/2017	Project Manager (0.25%)
6.13 Prepare data for analysis.	2/2017	Project Manager (0.25%)
6.14 Analyze data for survey and provider groups	3/2017	Project Manager (0.5%)
6.15 Prepare report(s).	4/2017	Project Manager (0.25%)
6.16 Review Reports	4/2017	Oversight Committee and staff (0.25%)
Task 7.0: DISTRIBUTION OF SUPPLEMENTAL INFORMATION AND TOOLS		
Activities (09/01/2015-06/30/2016)		
7.1 Consult with PI, SUB-Is, Project Manager, and project staff to develop preliminary supplemental tools and provider handouts	9/2015	Oversight Committee and staff (0.25%)
7.2 Create supplemental tools and provider handouts demos for approval by project staff	10/2015	Oversight Committee and staff (0.25%)
7.3 Meet with the marketing team for approval on final handouts for distribution	10/2015	PCP Educators x2 (0.25%)/ Project Manager (0.25%)
7.4 Distribute Supplemental Materials to Primary Care Providers	11/2015-6/2016	PCP Educators(0.25%)x2
7.5 Invite Primary Care Providers to attend Chronic Pain Symposium	11/2015-6/2016	PCP Educators n/a

Activities (07/01/2016-04/30/2017)		
7.6 Attend Chronic Pain Symposium	10/2016	Oversight Committee and staff (0.25%)
Objective 5: PRODUCE REPORTS OF FINDINGS		
Activities	Time Line	Person Responsible
Task 8.0: PRODUCE INTERIM PROGRESS REPORTS		
Activities (09/01/2015-06/30/2016)		
8.1 Prepare and submit for approval an outline of the interim reports that includes: <ul style="list-style-type: none"> • Tasks conducted to date • Evaluation of status • Problems or barriers and proposed solutions • Findings or trends as appropriate 	11/2015	Project Manager (1%)
8.2 Submit interim reports throughout the life of the project.	2/2016 & 9/2016	Project Manager (0.5%)
Task 9.0: PRODUCE FINAL REPORT		
Activities (07/01/2016-04/30/2017)		
9.1 Prepare and submit for approval outlines of the final comprehensive and dissemination reports that include: <ul style="list-style-type: none"> • Background information • Study methodology • Findings by evaluation question • summary findings 	2/2017	Project Manager (1.0%)
9.2 Submit draft final reports to the Project Staff.	3/2017	Project Manager (1%)
9.3 Meet with the study staff to review draft final report. Identify portions of sample draft reports needing revisions or corrections. Identify any needed additions/revisions to the draft reports.	4/2017	Oversight Committee and staff (0.25%)
9.4 Make additions, deletions, or revisions to the draft reports, as needed.	4/2017	Oversight Committee and staff (0.25%)
9.5 Submit final report to Pfizer	4/2017	Project Manager (0.25%)