

Title of Project:

Original title: Managing Pain: Opioids as Part of the Solution, Not the Problem

Revised title: **Improving Chronic Pain Care in Primary Care**

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Organization

University of Cincinnati

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STRUCTURED ABSTRACT

Purpose: To compare two Quality Improvement (QI) models to improve the provision of evidence based care for patients with chronic pain (CP) in primary care (PC) practices and the attitudes and self-efficacy of primary care providers (PCP) and staff and to better understand interprofessional care for CP in our region.

Scope: CP is a difficult problem for many PCPs. Twelve PC practices in the UC Health system in Cincinnati, Ohio participated in this project to improve CP care.

Methods: Four practices were purposefully selected to receive an intensive QI intervention, including: written and group discussion feedback of chart review of evidence-based care for CP, and PCP and staff survey responses; five academic detailing sessions (pain management, integrative medicine, pharmacy, physical therapy and mental health providers); intensive QI support for a practice-selected CP QI project; and new EHR tools to document CP and opioid monitoring. Another eight PC practices received a minimal intervention of only written feedback of the chart review and survey responses, and notification of the new EHR tools. QI and academic detailing were informed by qualitative interviews with 31 PC and pain specialty providers.

Results: The qualitative interviews revealed misperceptions about how each pain profession could contribute to CP care. Both the intensive and minimal intervention groups showed significant improvement in the provision of many key evidence-based CP assessments, but there was a statistically significant difference between the interventions only for addressing chronic pain, assessing psychosocial distress and assessing for substance abuse. Similar findings were noted for opioid monitoring, where statistically significant differences between the two groups were found for having a current narcotic contract and using an instrument to assess potential opioid misuse. However, the self-efficacy of PCPs to care for patients with CP increased significantly more for almost all the items in the intensive group as compared to the minimal group. The intensive group's attitudes about caring for patients with CP, and their self-efficacy for opioid monitoring did not change significantly more than the minimal group.

Key Words: chronic pain, quality improvement.

PURPOSE

Chronic nonmalignant pain (CP) is particularly common in primary care settings with prevalence estimated anywhere from 5% to 50%, depending on the source¹²³⁴⁵⁶ (1-6). In alignment with the Patient Centered Medical Home (PCMH) and Chronic Care Model,⁷ many experts and clinicians agree that CP requires a multi-modal, interdisciplinary approach to achieve maximum benefit for patients. CP, however, differs from many other chronic diseases cared for by primary care providers (PCPs) because of the availability of chronic opioids as a treatment option. PCPs must consider addiction, drug diversion, overdose, and legal and regulatory factors in their patient assessment and treatment decision making.^{8,9} For many providers, decisions about the use and management of chronic opioids remain one of the most difficult aspects of caring for patients with CP.^{10,11}

The goals of this project were to:

1. Assess the impact of an intensive quality improvement intervention in four practices regarding the management of chronic pain, by comparing performance to eight other system practices receiving minimal intervention. The following performance measurements were compared:
 - a. the documentation of assessment of all components of pain (pain severity, functional disability and psychological distress) in all patients with CP; and opioid addiction and misuse risk, and opioid use monitoring in patients with CP on chronic opioid therapy;
 - b. the appropriate use of, referral to and communication with pain management providers, physical therapy, mental health providers, pharmacists, and complementary and alternative medicine (CAM) providers; and
 - c. the self-efficacy and attitudes of PCPs and their staff regarding the care of patients with chronic pain.
2. Better understand the nature of interprofessional care for patients with CP via qualitative interviews with CP care professionals and PCPs.

SCOPE

Background: Chronic pain is defined as pain that persists beyond twelve weeks, or pain that persists past expected healing time. The individual and economic burden of chronic pain to the US society is large; 116 million adults suffer from chronic pain costing the national economy annually between \$560-635 billion from lost productivity and medical treatments.³ In patients with multiple comorbidities the presence of chronic pain further worsens functioning and quality of life.¹² Primary care practitioners are often the first point of contact for CP patients and are in an ideal space for ongoing care and management of CP patients.³ Despite the common presentation of CP patients to primary care and the availability of recommended guidelines, most PCPs were not aware of these resources; only 38% of PCPs surveyed were aware of at least one clinical practice guideline for chronic pain.¹³ There is great variability in PCP adherence to pain documentation and opioid prescribing.¹⁴ In a study by Clark et al, only 39% of CP patients had documentation regarding treatment plans and the effects of opioids on pain and function in the past six months, and only 41% had documented physical examination directed at the area of pain in the past six months.¹⁵ Monitoring tools, such as pain assessment instruments and urine

drug screens, were only used by 22% of clinicians regularly.¹⁴ In a published study done by us, we found that general documentation rates for patients on opioid therapy were low, with 68% of patients having at least one documentation on pain severity, 41% on functional disability and 32% on psychological distress from pain.¹¹

Participants: At the time of this study, the primary care network at UC consisted of 14 primary care practices (family medicine, general internal medicine and internal medicine/pediatrics) affiliated with UC Health, the clinical arm of the University of Cincinnati. These practices included two urban residency training sites and 12 urban and suburban locations, including several practices that provide services to Medicaid and underserved populations.

Previous work: Chronic pain is a significant problem in these practices; in 2009, a pilot study in 3 practices found that 23% of office visits were with patients with CP. In the three years prior to this study, we actively assessed the quality of care provided to patients with CP. The Cincinnati Area Research and Improvement Group (CARInG) practice based research network (PBRN) is a regional PBRN whose goal is to improve the care of patients and the work experience in primary care through a partnership of clinicians, medical office staff, patients and researchers. The primary care practices of UC Health are member practices of the CARInG Network, and several of these practices were involved in two initial studies that provide data confirming the following gaps:

- Documentation of all aspects of CP assessment and management are poor, with little use of structured instruments;
- The prescribing of analgesic and adjuvant medications for CP, including opioids, is haphazard;
- Coordination of care with specialists and other providers is minimal.

METHODS

Overview: We will present the methods and results for three projects in this report.

- 1) The primary intervention (comparing the impact of an intensive CP quality improvement intervention in four practices to eight PC practices with a minimal intervention) in:
 - a) documentation of recommended pain assessments and opioid monitoring; and
 - b) PCP and staff self-efficacy and attitudes);
- 2) Retrospective pre-intervention data analysis, comparing subsets of the practices with different PCMH certification status for documentation of:
 - a) recommended pain assessments and opioid monitoring; and
 - b) PCP and staff self-efficacy and attitudes; and
- 3) The qualitative analyses and findings of semi-structured interviews with 31 pain professionals assessing interprofessional coordinated care.

Projects 1 and 2:

All primary care [family medicine (FM), general internal medicine (GIM) and general internal medicine/pediatrics (M/P)] practices affiliated with UC Health were invited to participate in a study of chronic pain care, and 12 practices agreed. These practices are a subset of the CARInG Network PBRN and were selected because they all used the same EHR (EPIC) and the same IRB (University of Cincinnati), which approved this study.

We obtained the PCMH status of each practice in the UC Health system. From previous QI work with some practices, we determined that certification as a patient centered medical home (and its resultant experience with QI) was necessary for a practice to be successful with QI for CP due to the complexities of CP care, documentation and report availability. Four practices that had achieved PCMH certification were asked to participate in an intensive QI intervention, while the other eight practices were invited to participate in a minimal intervention.

As part of our larger study to improve chronic pain care in primary care, a natural experiment occurred during the collection of retrospective pre-intervention data in which subsets of the 12 practices had different PCMH certification status. The practices in this study included three practices (1FM, 2 GIM) that had achieved PCMH certification prior to data collection, five practices (3FM, 1GIM, 1M/P) who were in an ongoing certification process during the year of data collection, and four practices (1FM, 2GIM, 1M/P) with no PCMH certification or ongoing process.

Data collection: We performed a chart review of a sample of patients who received care for CP from providers in each practice. We developed a set of common ICD-9 codes for chronic pain problems, including chronic pain syndrome, low back pain and joint pain. A list of patients with at least two visits with these ICD-9 codes between 7/1/12 – 6/30/13 was generated from the patient database, and 6-15 patients per provider were randomly chosen for review. Charts were audited by a trained research nurse, and, after confirmation that the patient had chronic (>3 month) pain, all visits during the 12 month period were read, and data abstracted from visit notes, problem lists, medication lists, laboratory results, referrals and consultant notes. In addition to information about the type of pain present, pain assessment and management, the documentation of key guideline criteria from Corson, et al, were specifically noted.¹⁶ These included CP addressed; Functional Status addressed; Pain Severity measured quantitatively; Psychosocial Issues addressed; Depression addressed; Non-pharmacologic Approach considered; Substance Use addressed; and for those on opioids, Side Effects of Opioids addressed. If more than three prescriptions or notations of opioid use were documented in the last six months, the patient was considered to be on chronic opioids, and further documentation of opioid monitoring and management was obtained.

We performed a survey of primary care providers and their staff prior to the intervention and then again six months after the intervention ended. The survey for PCPs had three sections: self-efficacy regarding assessments and care for CP patients; attitudes toward providing care for CP patients; and self-efficacy regarding monitoring chronic opioids for CP. The survey for PC nursing/medical assistant (MA) staff included sections on self-efficacy for assessments and care for CP patients, and attitudes toward providing care for CP patients.

Intervention: Practices in both the minimal and the intensive group received a written feedback report of the initial chart review and survey findings that compared their practice to the total group. The intensive group practices also met individually with study team leaders and the QI specialists to review the findings as a first step in preparing for a QI intervention. The study team also created, in partnership with a primary care physician and a pain management specialist, a “doc flowsheet” in EPIC that would automatically pop-up when patients with any of a number of CP diagnoses in their problem list were seen for an outpatient office visit. This flowsheet contained the following assessment and management tools: The PEG (Pain severity,

Enjoyment of life, General activity) scale; the PDI (Pain Disability Index); the ORT (Opioid Risk Tool); the SOAPP-R (Screener and Opioid Assessment for Patients with Pain – revised); and documentation of a urine drug screen, the OARRS report (Ohio’s controlled substance prescription record), and a narcotic/controlled substance contract. A dot-phrase was created to import this flowsheet into office notes. Details of this doc flowsheet were sent by email to medical directors and office managers at all the PC practices and it was discussed individually with each of the intensive group practices by study team members and the QI specialist.

The intensive practices also received two additional interventions: five academic detailing sessions and intensive QI support. The academic detailing sessions were held over the lunch hour for all providers and staff at each office location. The goal of the sessions was to introduce PCPs and their staff to pain professionals, to facilitate better understanding of both what the pain professionals could offer to patients with CP, and when and how to utilize their services. The five sessions featured physical therapy, pain management, pharmacy, integrative medicine, and behavioral/mental health. The intensive QI support was provided by a Six Sigma black-belt trained, experienced QI staff member who met individually with each practice and helped them design and implement a site-specific QI project related to pain. The details of the QI intervention for each of the four intensive practices is found below (Figure 1). Three practices focused on improving pain assessment by using the PEG tool, and one practice focused on standardizing opioid refill processes. The QI consultant met with each practice (by phone or in person) an average of 16 times, with an additional average of 29 email communications with each practice. The specific deliverables for each QI support included assisting with key driver diagrams, process maps and data reports.

Figure 1:

<p>Practice: Site 1 Patient Panel Size: 4202 Type: Hospital Based Percent Medicaid: 58% Project Focus: PEG Implementation # of QI Meetings: 14 # of Emails: 27 QI Deliverables: Key Driver Diagram, Process Map, Excel Run Chart Tool, Data Reports Improvement: % CNMP patients who received a PEG improved from 0% in January 2014 to 50% in September of 2014</p>	<p>Practice: Site 2 Patient Panel Size: 4550 Type: Hospital Based Percent Medicaid: 46% Project Focus: Standardize Opioid Refills # of QI Meetings: 27 # of Emails: 50 QI Deliverables: Key Driver Diagram, Process Maps, Training Manual, Training Video Improvement: implementation of automated EMR smart phrase to standardize opioid refill process and error proof inclusion of key regulatory information in progress note</p>
<p>Practice: Site 3 Patient Panel Size: 3,312 Type: Community Based Percent Medicaid: 25% Project Focus: PEG Implementation # of QI Meetings: 6 # of Emails: 13 QI Deliverables: Key Driver Diagram, Process Maps, Excel Run Chart Tool, Data Reports Improvement: % CNMP patients who received a PEG improved from 0% in January 2014 to 58% in September of 2014.</p>	<p>Practice: Site 4 Patient Panel Size: 3,921 Type: Community Based Percent Medicaid: 2% Project Focus: PEG Implementation # of QI Meetings: 20 # of Emails: 24 QI Deliverables: Key Driver Diagram, Process Map, Excel Run Chart Tool, Data Reports Improvement: % CNMP patients who received a PEG improved from 0% in January 2014 to 38% in September of 2014</p>

Data analysis: Project 2: Retrospective pre-intervention data analysis

The presence of the key guideline criteria and chronic opioid monitoring in the charts, along with PCP and staff survey responses, were compared by if/when the practice had achieved NCQA PCMH certification (prior to the data collection period, during the data collection period or no PCMH certification). The chart review data were analyzed using IBM SPSS (Version 22&23). Bivariate analyses were done to explore the relationships between all the dichotomized variables of the chart review with their site PCMH status. Statistical significance was calculated using the Fisher's exact test ($p < 0.05$).

Project 1: Comparing pre to post changes by intensive vs. minimal intervention

Only patients who had visits for chronic pain during the pre-intervention data collection period AND during the post-intervention period were included in the chart review analyses, and only PCPs and staff who completed a pre-intervention and post-intervention survey were included in the survey analyses. Non-parametric matched sample tests (e.g., McNemar test, Wilcoxon test) were used to calculate the statistical significant difference between the two time periods (pre and post) for the chart review data and the survey data. Non-parametric independent tests (e.g., Mann Whitney test) were used to calculate the statistical significant difference between the two groups, intensive and minimal intervention. The difference between the two time periods (pre and post) for chart review and survey data were calculated and this difference was tested to see if it had any statistical significance across the two groups for each variable, with $p < .05$.

Project 3: Semi-structured interviews with interprofessional pain providers in our region

We conducted a total of 31 interviews: six PC; five pain management; seven integrative medicine (IM) – acupuncture, massage therapy, chiropractic; five physical therapy (PT); and five behavioral medicine (BM) – psychiatry, psychology, social work providers; as well as 3 PC MAs. These participants were purposefully selected, by first reaching out to clinician leaders and colleagues for the names of key informants; secondly by “snowballing,” asking each Interviewee whom they would recommend we talk to about caring for patients with chronic pain; and finally through communication with PCPs and other pain professionals.

Data collection: The interview guides were prepared from the literature on CP interprofessional care, our personal experiences and from our previous research. Each participant was asked to describe a recent patient encounter in which CP care was provided. This was followed by questions about usual care, limits to care, and barriers to care provision. The PCPs were then asked about how, when and why they referred to and coordinated care with other pain professionals, while the pain professionals were asked these questions about PCPs. Each interview was recorded and transcribed, with all identifying information removed.

Data analysis: Interview transcripts were coded using the editing style, and findings were assessed within D'Amour's framework of interprofessionalism,^{17,18} which states collaboration is made up of processes influenced by human relationships and organizational constraints. Each transcript was read by 2-3 team members, with several iterations of discussions and coding of interview segments into categories derived from the interview guide, as well as from the data themselves; and a model of communication and care among pain professionals was developed.

RESULTS

Projects 1 & 2: Chart Review:

Pre-intervention Data (and comparison by PCMH status): A total of 485 charts were reviewed from 65 clinicians at 12 practices. Demographics of the patients by PCMH certification cohort are found below (Table 1). There were no significant differences in the types of pain diagnoses by PCMH cohort. Musculoskeletal pain, including low back pain, was the most common, present in 88-95% of the patients, with neuropathy (20-26% of patients) second most common. In all the cohorts, more than half of patients had two or more types of chronic pain and 56% of patients were on chronic opioids.

Table 1: Patient demographics from chart review of patients with chronic pain:

	Prior PCMH (n=128)	Ongoing PCMH (n=242)	No PCMH (n = 115)
Mean age	61.6	58.2	56
Percent female	50.4%	70.2%	55.7%
Race and Ethnicity (percent)			
White	70%	50%	88%
African-American	30%	48%	10%
Asian-American/ Other	0	2%	2%
Hispanic	1%	1%	2%

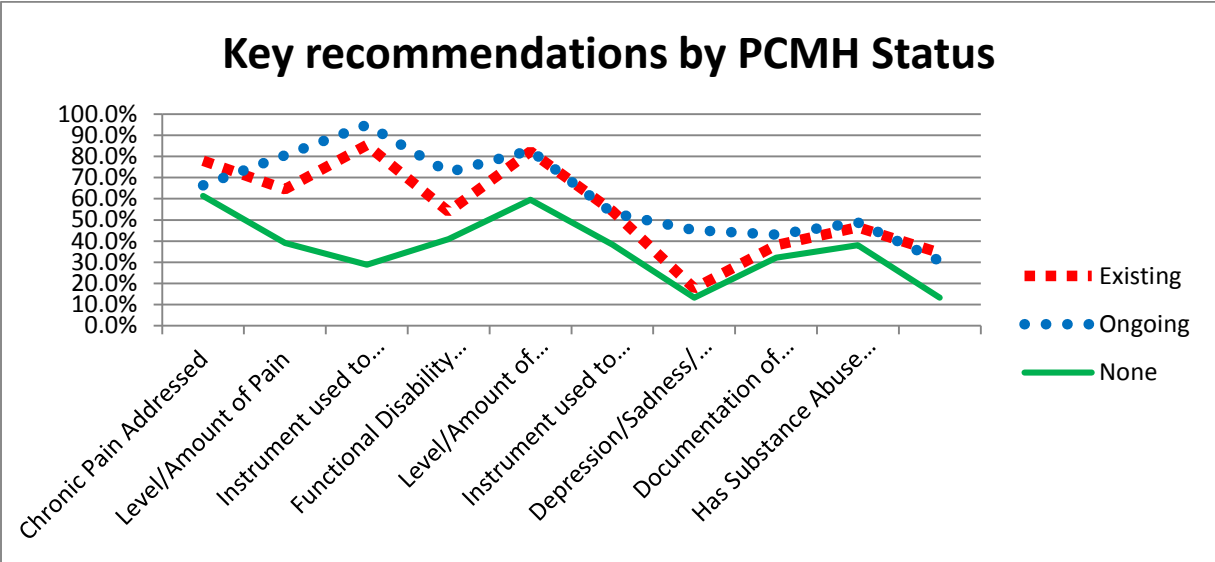
Key evidence-based recommendations: Important assessments in the care of patients with chronic pain include those for pain severity, functional disability, psychosocial distress, mood disorders (depression, anxiety) and substance abuse. In addition, the provision of non-pharmacological modalities and acknowledging the diagnosis of chronic pain in discussions with the patients are also recommended in primary care. Table 2 and Graph 1 below document the presence of these findings in the charts of patients with primary care. Without exception, those practices with prior or ongoing PCMH certification performed better in documenting all these recommendations, most at a statistically significant level. For many assessments, including pain severity and functional disability, the practices currently applying for PCMH certification performed the best.

Table 2:

Key recommendations	Prior PCMH (n=128)		Ongoing PCMH (n=242)		No PCMH (n = 115)		p-value
Chronic pain addressed with patient anywhere in chart	99	78%	160	66.40%	70	61.40%	0.013
Evidence of level/amount of pain severity assessed	82	64.60%	195	80.60%	45	39.10%	<.001
A structured instrument of quantitative measure used to assess pain	70	85.40%	185	94.90%	13	28.90%	<.001

Evidence of level/amount of functional disability due to pain assessed	69	53.90%	174	72.50%	47	40.90%	<.001
A structured instrument used to assess functional disability	56	82.40%	144	82.80%	28	59.60%	0.001
Evidence of level/amount of psychosocial distress (i.e. relationships, anxiety, insomnia)	69	54.30%	129	53.30%	44	38.30%	0.015
A structured instrument used to assess depression	12	17.60%	57	45.20%	6	13.30%	<.001
Depression, sadness, mood been directly addressed	48	38.10%	102	43.00%	37	32.20%	0.146
Documentation that any nonpharmacological approaches have been tried, discussed or recommended	59	46.50%	118	48.80%	43	38.10%	0.166
Substance abuse assessed or addressed anywhere in the chart	44	34.40%	74	30.70%	15	13.20%	<.001

Figure 2:

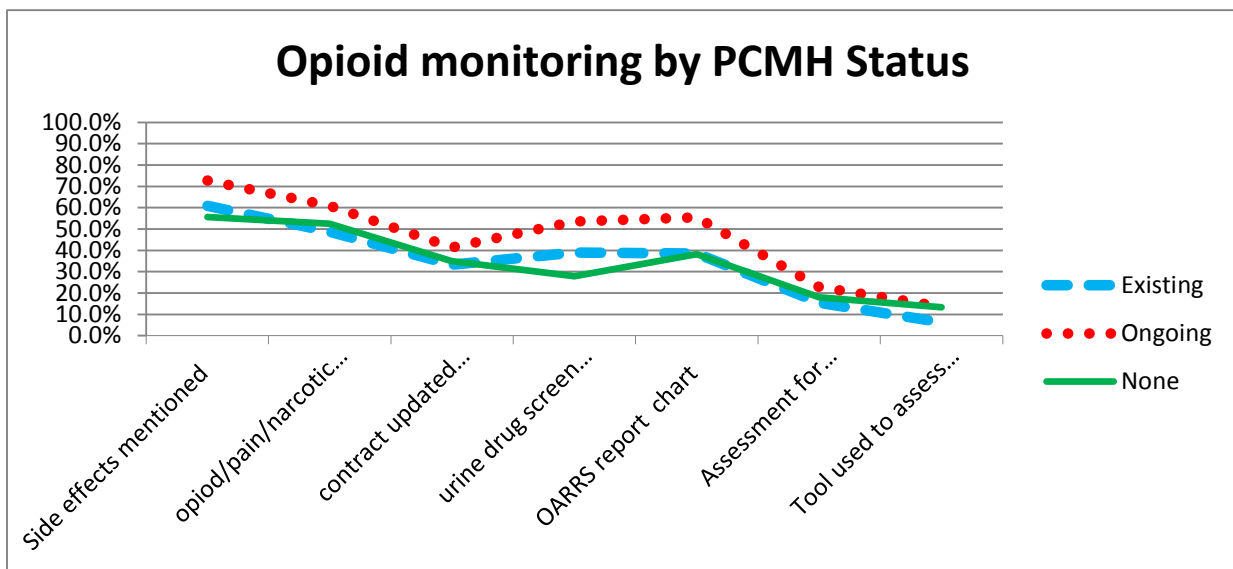


Opioid monitoring: Over half the patients in each cohort received chronic opioid prescriptions. Documentation of both practice recommendations and legal monitoring requirements for the state were obtained from the chart. These results are found below (Table 3, Figure 3). Generally, there were few differences in the documentation of recommended opioid monitoring by PCMH status. The cohort currently in the process of obtaining PCMH certification achieved the highest levels for every item.

Table 3:

Opioid monitoring activity	Prior PCMH (n= 79)		Ongoing PCMH (n= 135)		No PCMH (n = 62)		p-value
Side effects on opioids been mentioned or asked of patients	48	60.80%	96	72.70%	34	55.70%	0.038
An opioid/pain/narcotic contract in the chart from any time period	38	48.70%	78	60.90%	32	52.50%	0.201
The opioid/pain/narcotic contract been updated or signed within the last 12 months	26	33.30%	53	41.40%	21	35%	0.041
A urine drug screen been performed within the last 12 months	30	39.00%	67	53.60%	17	27.90%	0.003
An OARRS report in the chart or documented that one has been reviewed in last 12 months	30	38.50%	71	55.50%	23	38.30%	0.021
Documentation within the last 6 months of an assessment for potential abuse, misuse, or diversion	12	15.40%	29	22.80%	11	18%	0.421
A tool or instrument used to assess potential abuse, misuse, or diversion	5	6.30%	18	13.60%	8	13.30%	<.001

Figure 3:



Pre- to Post-intervention changes data: Pre- to post-intervention changes were compared by intensive vs. minimal intervention. Out of the original 485 patients whose charts were reviewed initially, there were 217 (100 intensive, 117 minimal intervention practice) patients who had visits for CP in both initial and post-intervention time periods. All patients (100%) had musculoskeletal pain, including joint, back, and neck pain. About half the patients had more

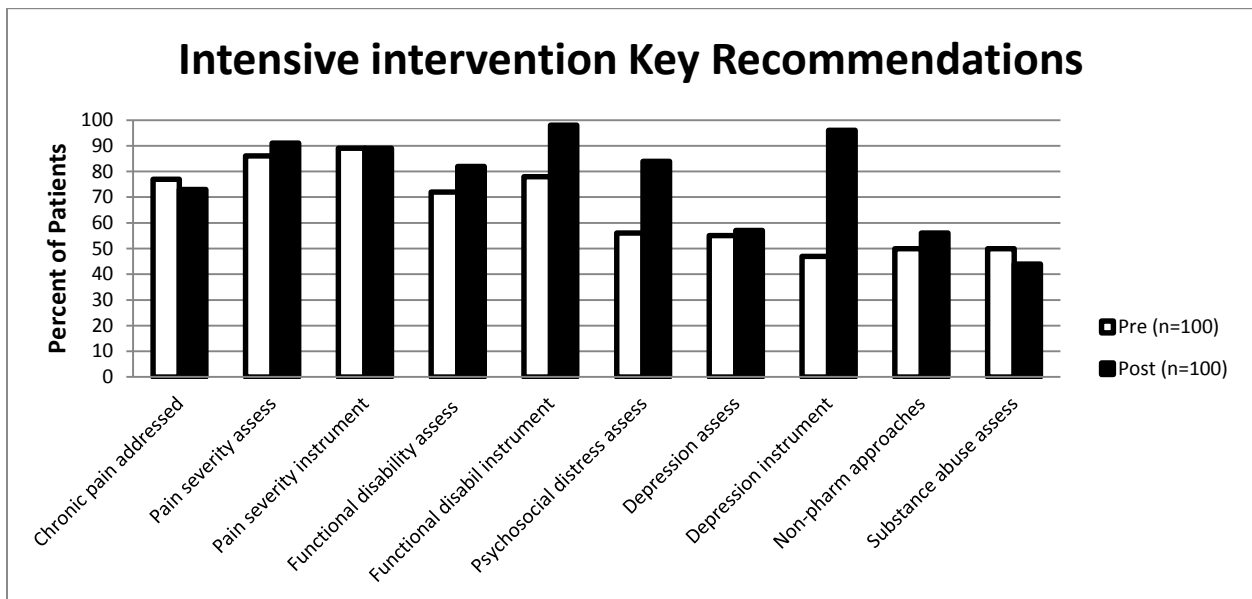
than one kind of pain, with chronic headaches, neuropathy/neuralgia, chronic abdominal pain, and fibromyalgia each being documented in about 10% of patients (Table 4).

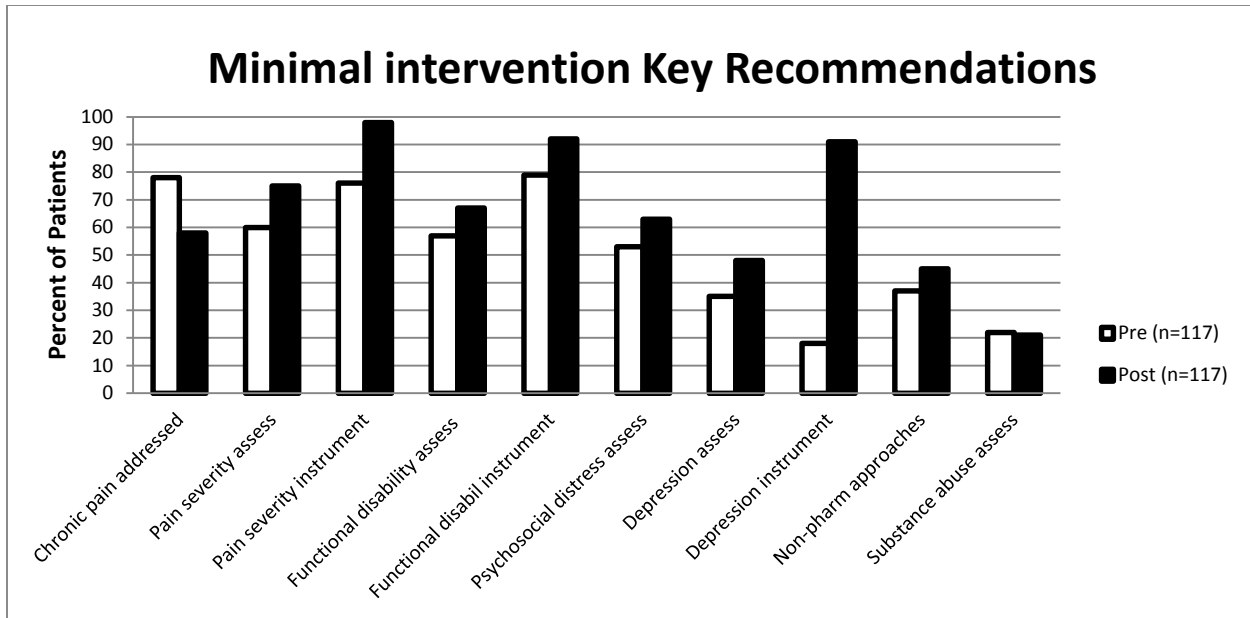
Table 4:

	Intensive intervention	Minimal intervention
N	100	117
Mean age	56 years	60 years
Gender		
Male	39%	25.6%
Female	61%	74.4%
Race		
White	62%	58%
African-American	35%	41%
Native-American	2%	
Asian-American	1%	1%

Key evidence-based recommendations: Important assessments in the care of patients with CP include those for pain severity, functional disability, psychosocial distress, mood disorders (depression, anxiety) and substance abuse. In addition, the provision of non-pharmacological modalities and acknowledging the diagnosis of chronic pain in discussions with the patients are also recommended in primary care and were assessed. The graphs below (Figure 4) show that both groups showed improvement in the provision of many of these evidence based recommendations.

Figure 4:





A comparison of the changes between pre- to post- by intervention group revealed that, since both the intensive and minimal groups generally changed in the same direction, there were few significant differences between the amount of change between the two intervention groups, as seen below (Table 5).

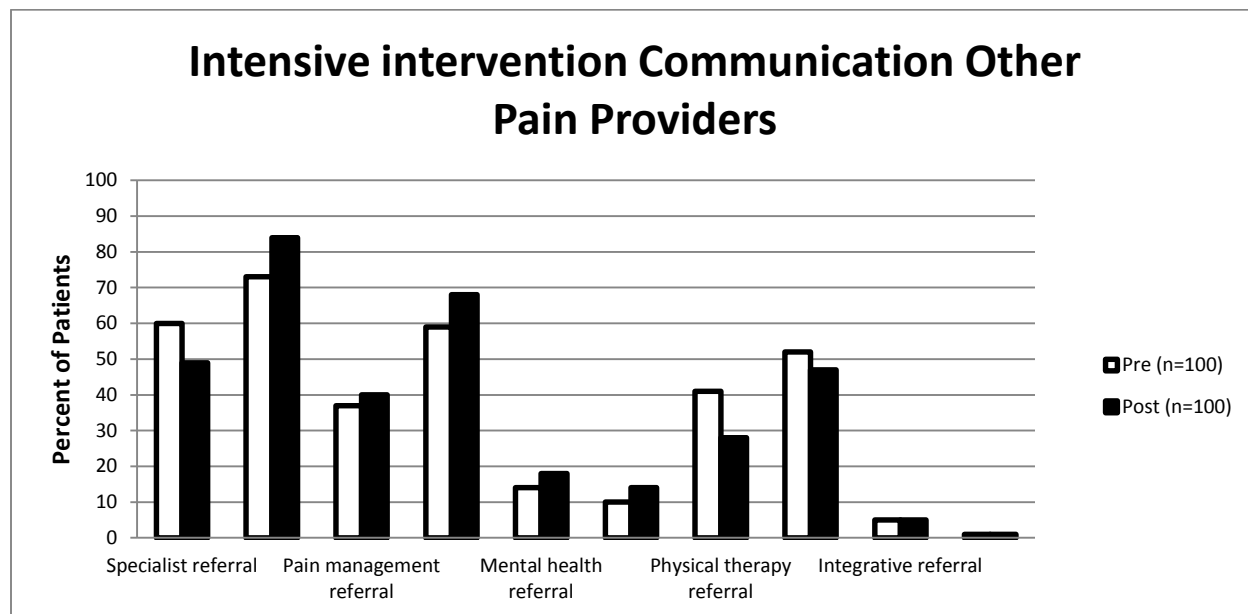
Table 5:

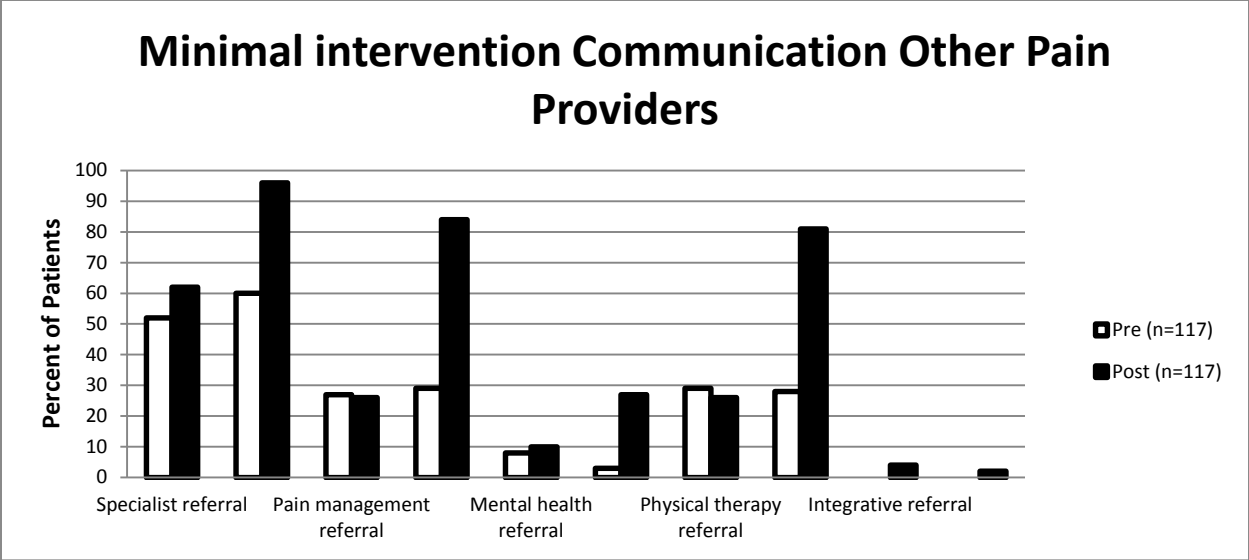
		N	Mean Rank	Sum of Ranks	P value
Chronic pain addressed with the patient anywhere in the chart?	intensive	100	116.90	11690.00	0.02
	minimal	116	101.26	11746.00	
Evidence of level/amount of pain severity assessed	intensive	100	103.13	10312.50	0.09
	minimal	117	114.02	13340.50	
A structured instrument or quantitative measure used to assess pain	intensive	81	74.17	6007.50	0.10
	minimal	60	66.73	4003.50	
Evidence of level/amount of functional disability due to pain assessed	intensive	100	105.99	10599.00	0.48
	minimal	117	111.57	13054.00	
A structured instrument used to assess functional disability	intensive	100	116.86	11686.00	0.06
	minimal	117	102.28	11967.00	
Evidence of level/amount of psychosocial distress (relationships, anxiety, insomnia, financial, etc) assessed?	intensive	100	118.61	11860.50	0.03
	minimal	117	100.79	11792.50	
Depression, sadness, mood directly addressed	intensive	100	103.54	10353.50	0.15
	minimal	117	113.67	13299.50	
A structured instrument used to assess depression	intensive	100	102.55	10255.00	0.16
	minimal	117	114.51	13398.00	
Nonpharmacological approaches have been tried, discussed or recommended?	intensive	100	113.54	11354.00	0.22
	minimal	117	105.12	12299.00	

(e.g., physical therapy, counseling, massage therapy, etc)					
Substance abuse assessed or addressed anywhere in the chart	intensive	100	119.17	11916.50	0.01
	minimal	117	100.31	11736.50	

Referrals and written communication with other pain providers: A multi-disciplinary team is important in caring for patients with CP. We documented referrals to and communication with a number of multi-disciplinary providers, including pain management, physical therapy, mental/behavioral health, and integrative medicine (e.g., acupuncture, massage therapy or chiropractic). If we could not find actual documentation, but a physician note stated that the patient had used a specific modality or type of provider, or it had been tried in the past, that was noted as care obtained, but no report available. The post-intervention review includes only referrals and communication from the 6 month period 7/1/2014 – 1/1/2015, while the initial review also included referrals that may have happened prior to the 12 month review period of 7/10/12 – 7/10/13. Therefore, it is to be expected that many referrals may not have increased. In the graphs below (Figure 5), the first set of bars for each type of referral is whether there is any notation of a referral (letter, referral order, physician note, etc.) while the second set of bars is the actual presence of communication in the form of a letter or report from the pain provider back to the PCP.

Figure 5:





A comparison of the changes between pre- to post- by intervention group revealed that there were only two significant differences in the amount of change between the two intervention groups, as seen in the below (Table 6). The minimal intervention group had the higher rate of change for the two areas where there were statistically significant differences.

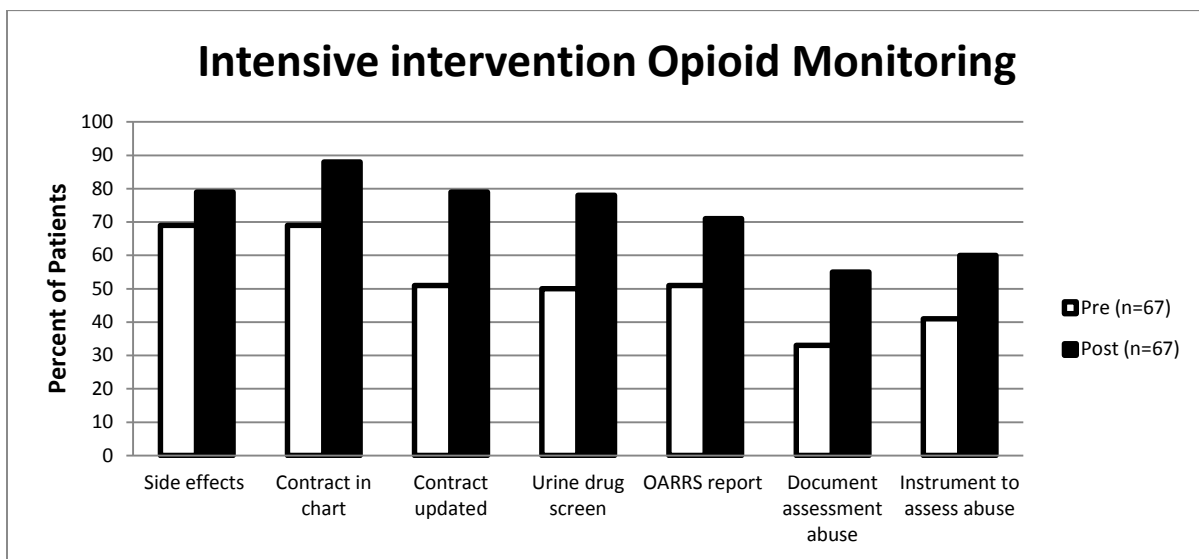
Table 6:

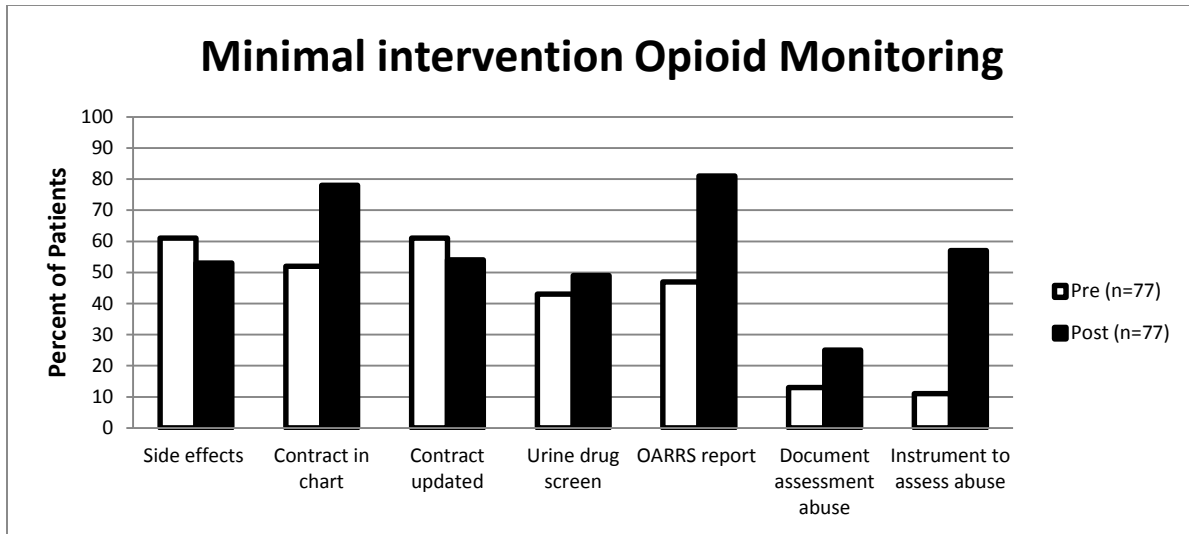
		N	Mean Rank	Sum of Ranks	P value (2-tailed)
Has a second opinion or care been obtained from a specialist (other than a pain specialist) to help diagnose the etiology of the pain or assist with diagnosis or management?	intensive	100	119.17	11916.50	0.01
	minimal	117	100.31	11736.50	
Is there a letter, report or communication available in the EHR from the specialist regarding the referral or the care?	intensive	42	58.48	2456.00	0.15
	minimal	65	51.11	3322.00	
Has a second opinion or care been obtained from a pain specialist to	intensive	97	103.43	10032.50	0.28
	minimal	115	109.09	12545.50	
Is there a letter or report available in the EHR from the pain specialist regarding the referral?	intensive	25	26.36	659.00	1
	minimal	26	25.65	667.00	
Has a referral been made or care been obtained from a mental health professional (counselor, psychiatrist, psychologist)	intensive	98	107.21	10507.00	0.84
	minimal	117	108.66	12713.00	
Is there a letter, report or communication available in the EHR from the mental health professional regarding the referral or the care?	intensive	14	11.21	157.00	1
	minimal	7	10.57	74.00	

Has a referral been made or care been obtained from a physical therapist ?	intensive	99	111.90	11078.50	0.21
	minimal	114	102.74	11712.50	
Is there a letter, report or communication available in the EHR from the physical therapist ?	intensive	19	23.74	451.00	0.06
	minimal	21	17.57	369.00	
Has a referral been made or care been obtained from a complementary or integrative care provider?	intensive	100	110.92	11092.00	0.39
	minimal	117	107.36	12561.00	
Is there a letter, report or communication available in the EHR from the complementary or integrative care provider regarding the referral or the care?	intensive	4	4.50	18.00	0.43
	minimal	3	3.33	10.00	

Opioid monitoring: Over half the patients received chronic opioid prescriptions. Documentation of both practice recommendations and legal monitoring requirements for the state were obtained from the chart. These results below (Figure 6) show that the intensive intervention group had improvement in all areas, and the minimal intervention group in most areas.

Figure 6:





Again, a comparison of the changes between pre- to post- by intervention group revealed that, since both the intensive and minimal groups generally changed in the same direction, there were only two significant differences between the amount of change between the two intervention groups, as seen below (Table 7).

Table 7:

		N	Mean Rank	Exact Sig. (2-tailed)
Side effects on opioids mentioned or asked of patients?	intensive	67	66.64	0.06
	minimal	77	77.60	
An opioid/pain/narcotic contract in the chart from any time period?	intensive	67	75.19	0.32
	minimal	77	70.16	
The opioid/pain/narcotic contract has been updated or signed within the last 12 months?	intensive	56	50.93	<.001
	minimal	66	70.47	
A urine drug screen performed within the last 12 months?	intensive	67	65.78	0.05
	minimal	77	78.34	
An OARRS report in the chart or documented that one has been reviewed in last 12 months	intensive	67	77.25	0.14
	minimal	77	68.36	
Documentation within the last 6 months of an assessment for potential abuse, misuse or diversion?	intensive	67	69.14	0.27
	minimal	77	75.42	
A tool or instrument used to assess potential abuse, misuse or diversion	intensive	33	29.08	0.01
	minimal	18	20.36	

Projects 1 & 2: Surveys:

[Pre-intervention Data \(and comparison by PCMH status\):](#)

All providers (physicians, residents and nurse practitioners, as applicable) and nursing staff (RNs, LPNs, MAs and supervisory staff) were invited to complete a three-page survey. The survey asked questions specific to providers and nursing staff, as well as general questions that

were the similar for both groups. Survey participation was not required, and not all providers and nursing staff participated at every site. Demographics of participants are below. (Table 8-9)

Table 8:

PROVIDERS			
Demographics	Prior PCMH	Ongoing PCMH	No PCMH
Total Number of Providers	N=31	N=18	N=16
Residents:			
Yes	58.1%	0	0
No	41.9%	100%	100%
Family Med Physician	9.7%	35.3%	25%
Internal Med Physician	77.4%	11.8%	68.8%
Internal Med/Peds Physician	12.9%	29.4%	6.3%
Nurse Practitioners	0	17.6%	0
Physician Assistants	0	5.9%	0
Mean Age of all Providers	34 years	45 years	37 years
Percentage of all Providers Female	33%	67%	50%
Provider Race/Ethnicity			
White	66.7%	68.8%	87.5%
African-American	6.7%	18.8%	6.3%
Asian-American	26.7%	12.5%	6.3%
Hispanic	6.5%	0	6.7%

Table 9:

NURSING AND MA STAFF			
Demographics	Prior PCMH	Ongoing PCMH	No PCMH
Total Number of Staff	N=18	N=26	N=24
MA	37.5%	50%	100%
LPN	18.8%	3.8%	0
RN	43.8%	46.2%	0
Mean Years At This Practice	5 years	8 years	6 years
Mean Years Being an MA/Nurse	17 years	16 years	9 years
Mean Age of all Nursing Staff	44 years	42 years	36 years
Percentage of all Nursing Staff Female	100%	96.2%	100%
Staff Race/Ethnicity			
White	72.2%	84%	50%
African-American	27.8%	16%	50%
Hispanic	5.9%	8%	0

Self-efficacy, or the confidence a person has that they can successfully complete or perform a task, is an important step not only in actually performing task, but in changing behaviors toward performance. We asked providers and nursing staff to rate their confidence to perform a number of tasks associated with caring for patients with CP. The figures below (Tables 10-11, Figures 7-8) report the percentage of participants who felt they were fairly or extremely confident they could perform each listed task by PCMH recognition status. There were few

statistically significant differences between in the responses by PCMH status of the practice for either the PCPs or the nursing staff.

Table 10:

Physician/Provider Self Efficacy Questions (Chronic Pain & Opioid Monitoring/Management)

<i>General CP assessment and management</i>
• Manage chronic opioid side effects for patients with CP
• Accurately assess the severity of pain a patient with CP is experiencing
• Use a tool to REGULARLY assess the severity of pain in patients with CP
• Diagnose and manage co-existing depression or anxiety in patients with CP
• Engage other staff members (MAs, nurses, managers) in the care of patients with CP
• Initiate opioid therapy for a patient with CP with the most appropriate opiates
• Accurately assess the amount of functional disability a patient with CP is experiencing
• Use a tool to REGULARLY assess the functional disability of patients with CP
• Use a tool to REGULARLY assess the emotional status of patients with CP
• Determine which patients with CP are likely to abuse, misuse or divert opioid drugs
• Easily determine which non-pharmacological therapies will be most effective for my patients with CP
• Easily refer my patients with CP to appropriate specialists and consultants
<i>Opioid Monitoring and management</i>
• Urine drug screens yearly or when concern arises
• Signed opioid or pain contract or informed consent document
• Follow an office protocol and system for managing opioid prescription refills
• Assure that a second opinion has been completed when indicated
• Schedule frequent visits (every 1 - 3 months)
• Assure than an OARRS report is obtained yearly or whenever concerns arise
• Meet Ohio state law regarding prescribing and monitoring chronic opioids
• Assess for opioid abuse, misuse or diversion
• Use a tool to REGULARLY assess for opioid abuse, misuse or diversion

Figure 7:

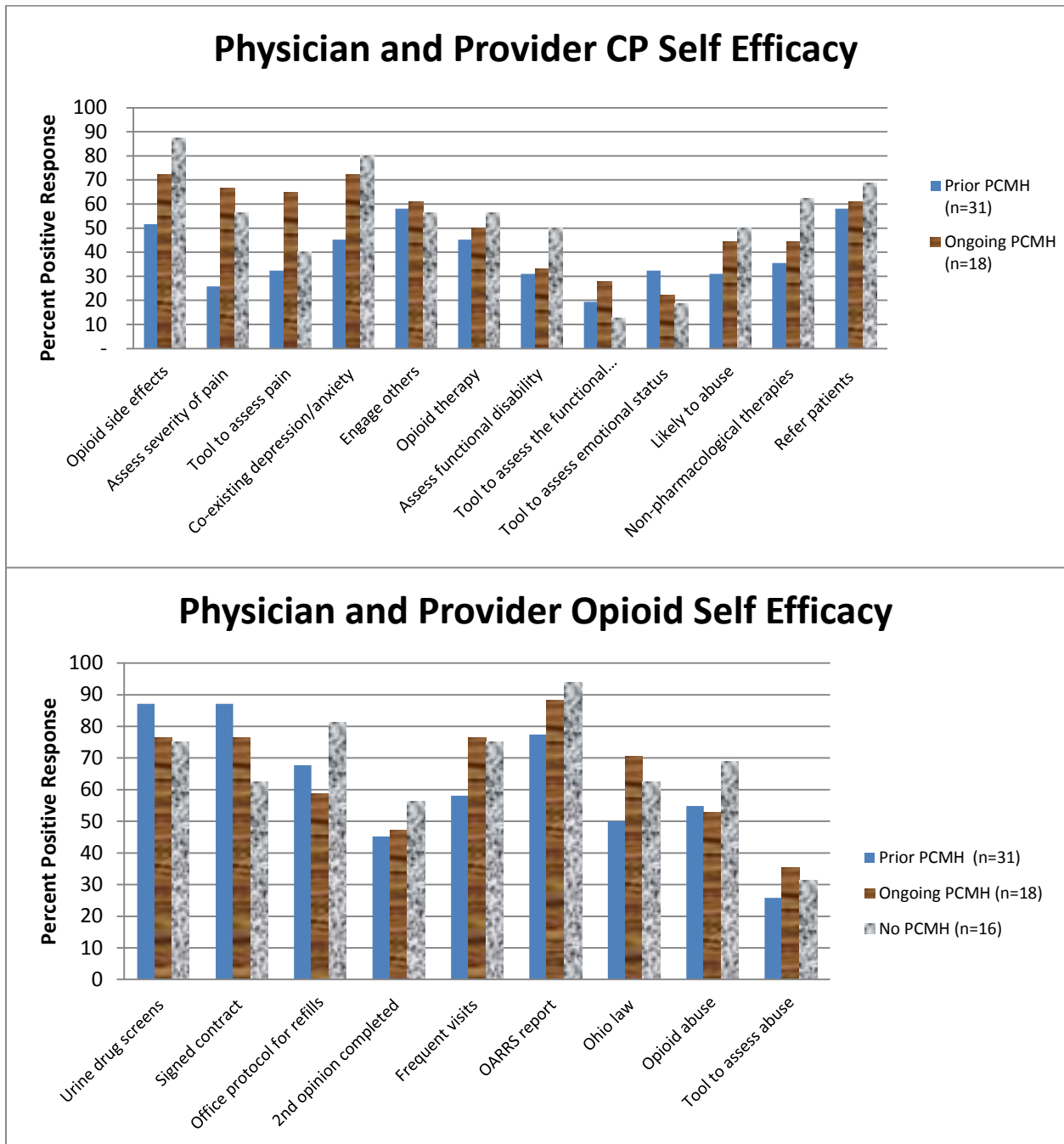


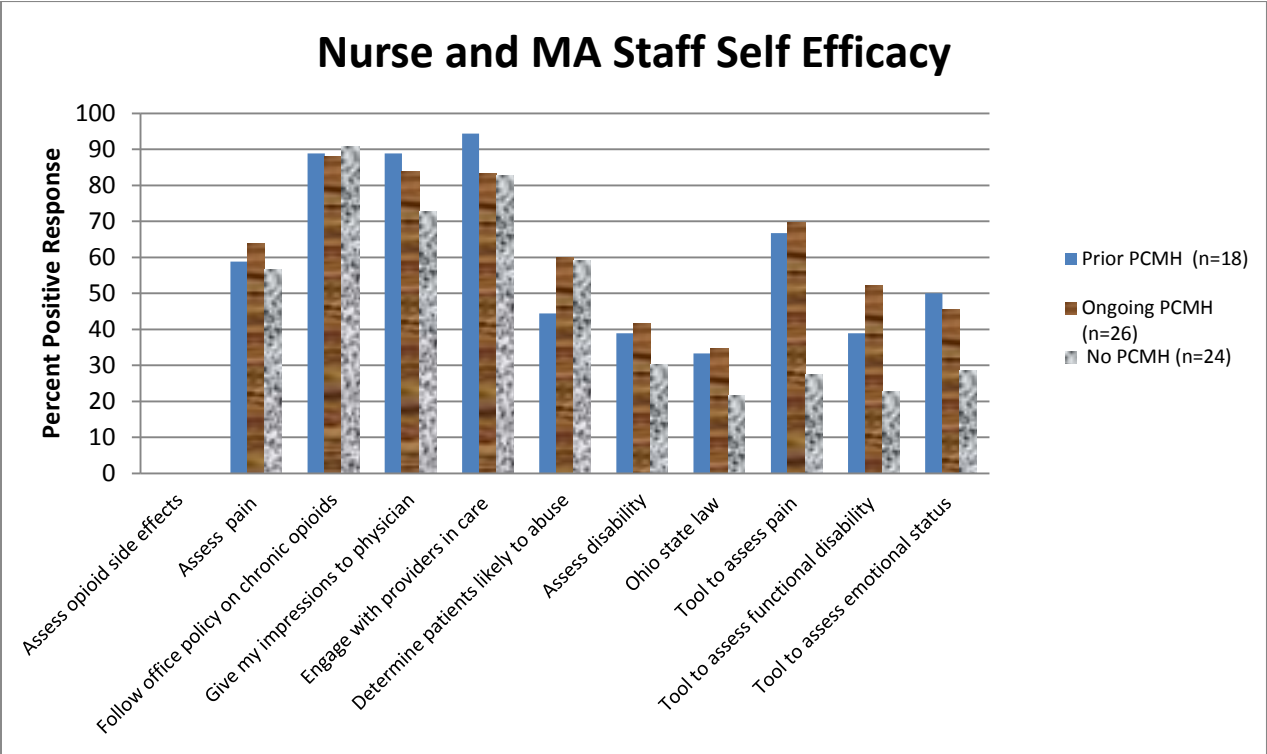
Table 11:

Nursing and MA staff Self Efficacy

<ul style="list-style-type: none"> • Assess patients for chronic opioid side effects or problems during medication reconciliation
<ul style="list-style-type: none"> • Accurately assess the severity of pain a patient with CP is experiencing
<ul style="list-style-type: none"> • Always follow an office policy for the monitoring of patients with CP on chronic opioids
<ul style="list-style-type: none"> • Give my nursing/MA impressions to the physician regarding every patient with CP I see
<ol style="list-style-type: none"> 1. Engage with physicians and providers in the care of patients with CP

- Determine which patients with CP are likely to abuse, misuse or divert opioid drugs
- Accurately assess the amount of functional disability a patient with CP is experiencing
- Know whether a patients care meets Ohio state law for patients with CP on chronic opioids
- Use a tool or instrument to REGULARLY assess the severity of pain in patients with CP
- Use a tool or instrument to REGULARLY assess the functional disability of patients with CP
- Use a tool or instrument to REGULARLY assess the emotional status of patients with CP

Figure 8:



Attitudes: In addition to self-efficacy, we asked providers and nursing staff how they feel about providing care to patients with CP by asking their level of agreement with a number of statements about patients with CP and potential components of their care. Oftentimes, provider and nursing discomfort limit effectiveness in providing the best care. The figures below (Tables 12-13, Figures 9-10) report the percentage of participants who agreed or strongly agreed with each statement.

Table 12:

Physician and Providers’ attitudes and beliefs

- I feel more than usual stress in dealing with patients with CP
- I believe patients with CP can be managed by primary care physicians
- Patients with CP are usually untrustworthy
- Patients with CP frequently have depression or some other mental illness
- My staff and MAs are an important part of the team that cares for patients with CP

- I feel that managing patients with CP puts me at legal risk
- I feel that I can truly help patients by treating their CP myself
- I become angry or upset when patients violate their pain contracts or spoken agreements with me
- Finding consultants or specialists who will see my patients with CP in a timely manner is easy

Figure 9:

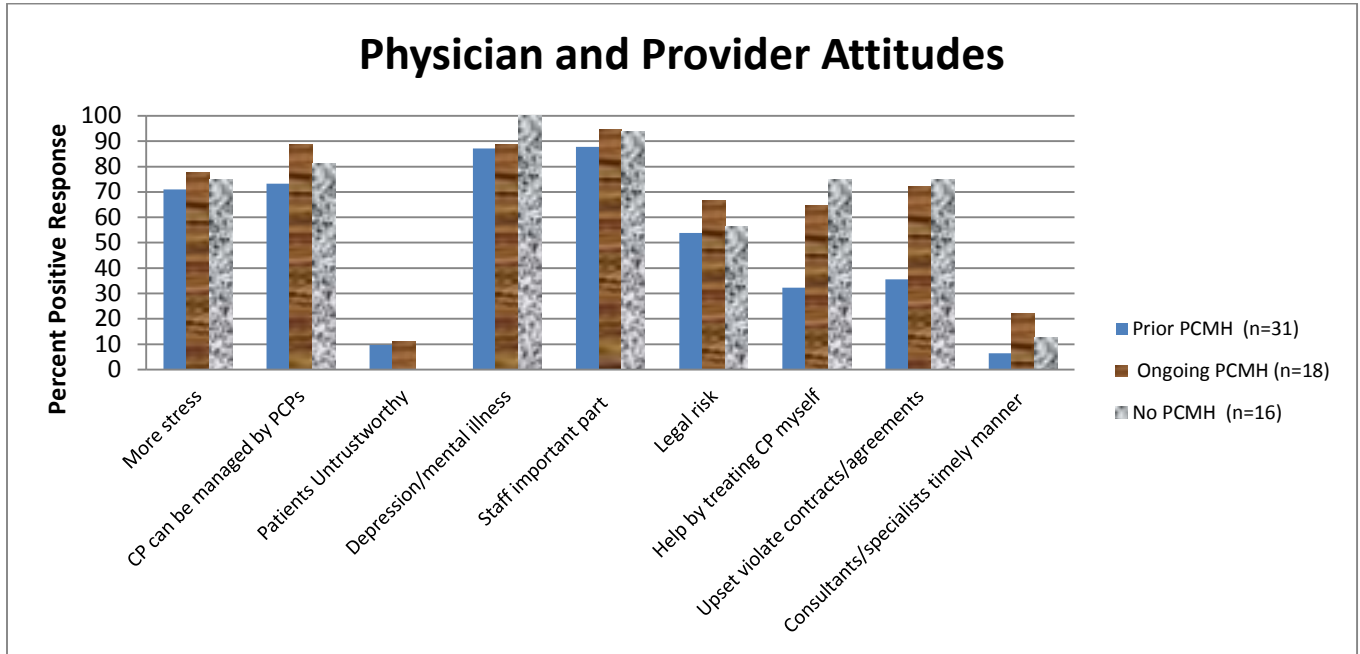
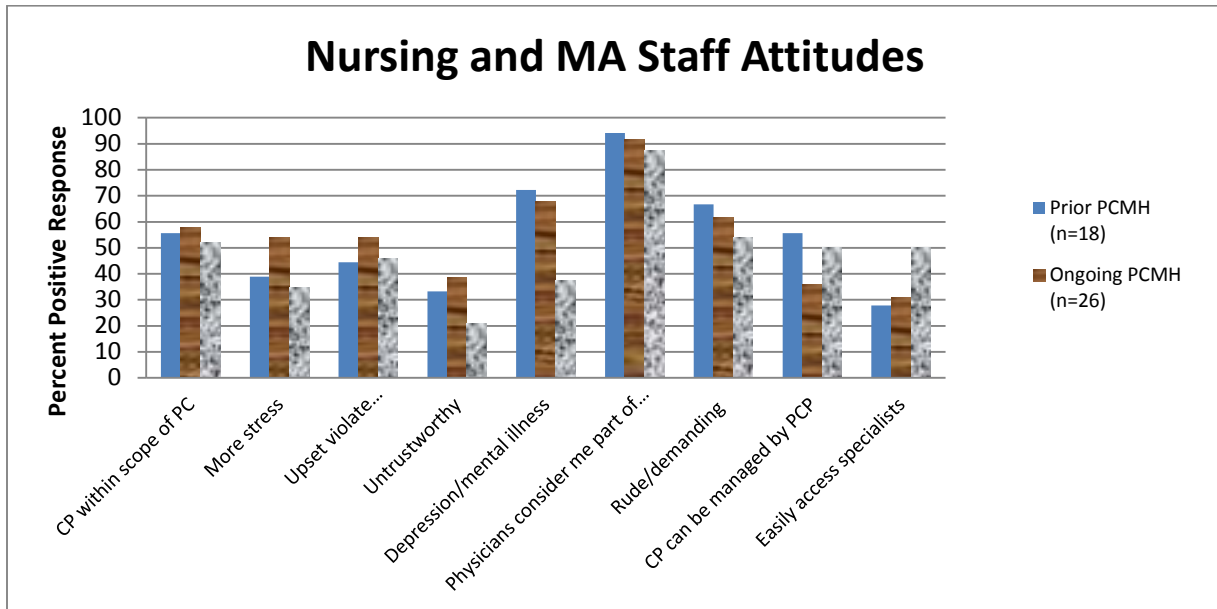


Table 13:

Nursing and MA staff attitudes and behaviors

- I believe chronic pain management is within the scope of primary care
- I feel more than usual stress in dealing with patients with CP
- I become angry or upset when patients violate their pain contracts or spoken agreements with our practice
- Patients with CP are usually untrustworthy
- Patients with CP frequently have depression or some other mental illness
- Physicians in this office consider me an important part of the team that cares for patients with CP
- Patients with CP are often rude and demanding when they call the office
- I believe that patients with CP can be managed by primary care physicians
- It is easy for our office to get patients with CP to be seen by needed specialists

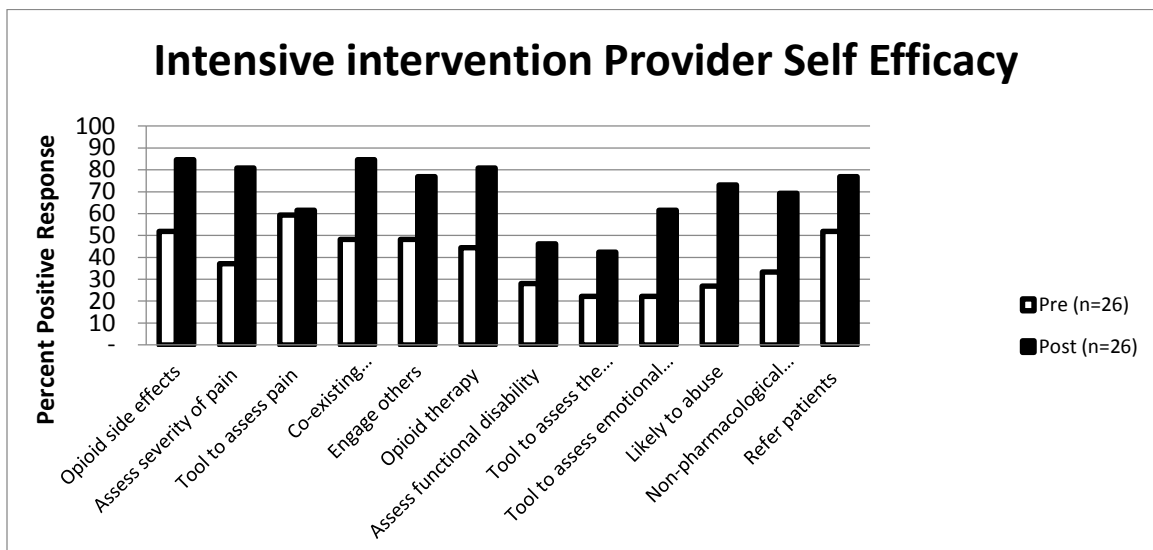
Figure 10:



[Pre- to Post-intervention changes data:](#) Pre to Post intervention changes in survey responses were compared by intensive vs. minimal intervention practice location. The same questions were asked as described above (Tables 10-13). The graphs below (Figures 11-12, Tables 14-15) show the pre and post responses for the subset of providers and nursing staff who completed both a pre- and a post- survey. There were 26 providers and 21 nursing staff in the intensive group and 24 providers and 29 staff in the minimal intervention group. Each graph shows the percentage of respondents who agreed or strongly agreed with each statement.

[Provider self-efficacy – general CP care:](#) The intensive intervention group had significantly greater improvements for almost every general pain assessment and management self-efficacy questions.

Figure 11:



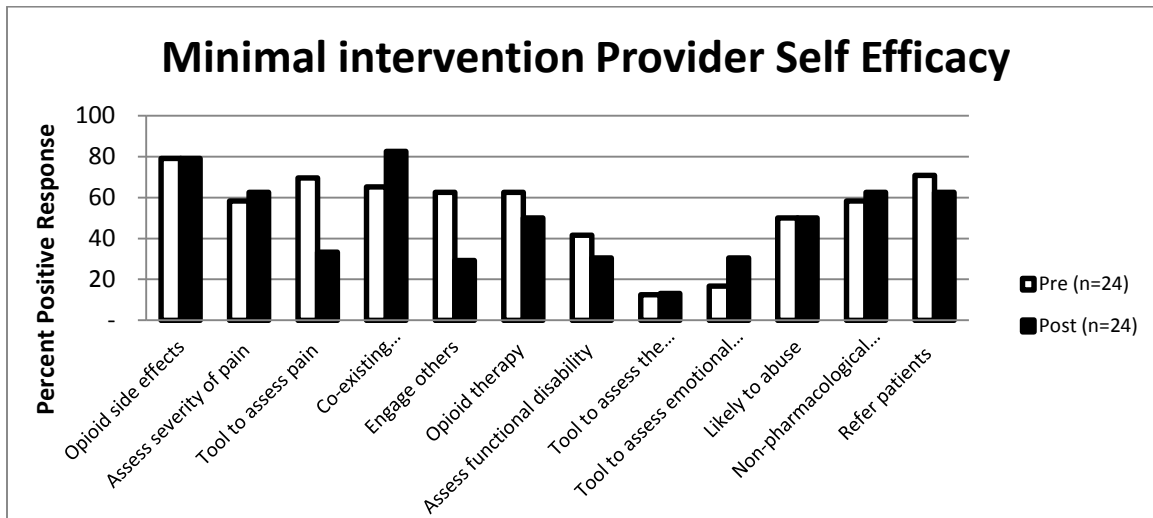


Table 14:

CHRONIC PAIN MANAGEMENT SELF-EFFICACY		N	Mean	Std. Deviation	Std. Error Mean	Sig
Manage chronic opioid side effects for patients with CP	intensive	26	.6154	.80384	.15765	.002
	Minimal	24	-.0417	.55003	.11228	
Accurately assess the severity of pain a patient with CP is experiencing	intensive	26	.8077	1.02056	.20015	.001
	Minimal	24	-.0833	.65386	.13347	
Initiate opioid therapy for a patient with CP with the most appropriate opiates	intensive	26	.6923	1.04954	.20583	.000
	Minimal	24	-.3333	.81650	.16667	
Initiate opioid therapy for a patient with CP with the most appropriate opiates	intensive	24	.5417	.77903	.15902	.006
	Minimal	23	-.1304	.81488	.16991	
Initiate opioid therapy for a patient with CP with the most appropriate opiates	intensive	26	.7692	.99228	.19460	.005
	Minimal	23	-.0435	.92826	.19355	
Use a tool to REGULARLY assess the emotional status of patients with CP	intensive	26	.8077	.98058	.19231	.030
	Minimal	23	.1304	1.14035	.23778	
Determine which patients with CP are likely to abuse, misuse or divert opioid drugs	intensive	25	.6800	1.21518	.24304	.009
	Minimal	24	-.0833	.65386	.13347	
Easily determine which non-pharmacological therapies will be most effective for my patients with CP	intensive	26	.7692	1.21021	.23734	.010
	Minimal	24	0.0000	.72232	.14744	
Easily refer my patients with CP to appropriate specialists and consultants	intensive	26	.6538	.84580	.16588	.012
	Minimal	24	-.0833	1.13890	.23248	

Engage other staff members (MAs, nurses, managers) in the care of patients with CP	intensive	26	.7308	1.15092	.22571	.000
	Minimal	24	-.4167	.92861	.18955	
Diagnose and manage co-existing depression or anxiety in patients with CP	intensive	26	.4615	.70602	.13846	.059
	Minimal	22	.0455	.78542	.16745	
Use a tool to REGULARLY assess the severity of pain in patients with CP	intensive	26	.5385	.98917	.19399	.005
	Minimal	23	-.3043	1.01957	.21260	

Provider self-efficacy – opioid management: Both groups showed improvement in their self-efficacy towards managing opioids. The intensive intervention group changed significantly more than the minimal intervention group for only two questions.

Figure 12:

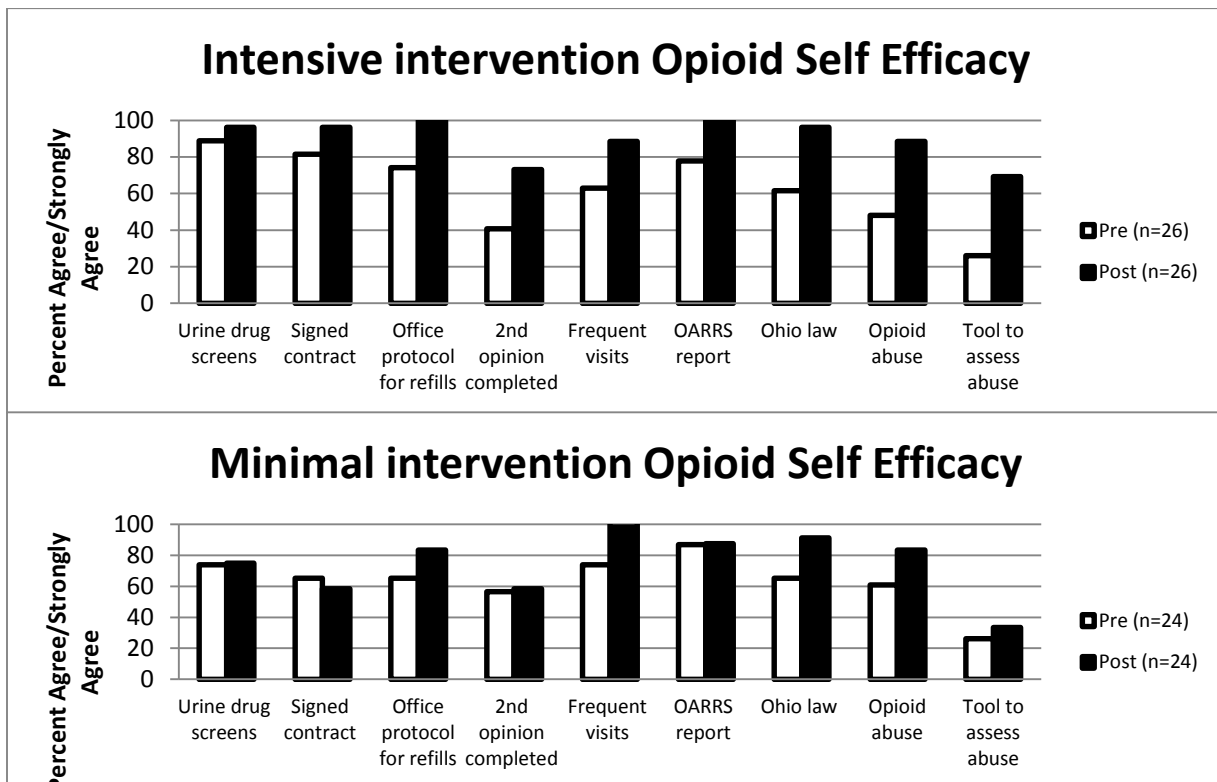


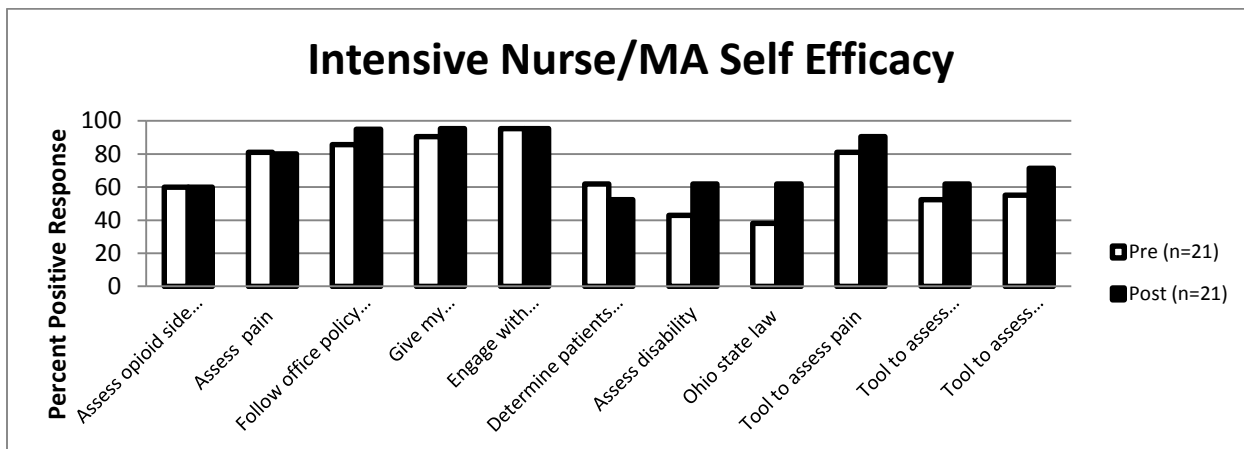
Table 15:

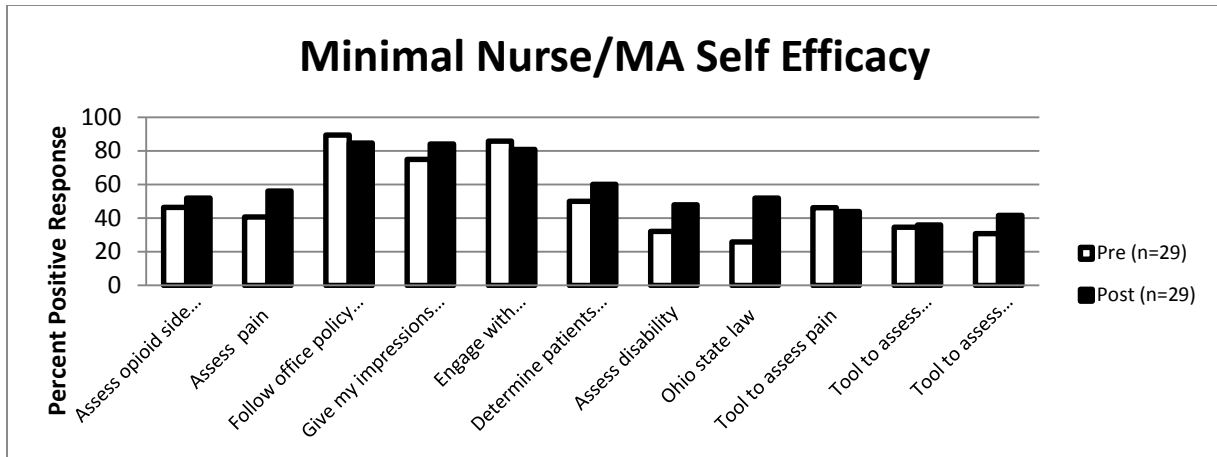
OPIOID SELF-EFFICACY		N	Mean	Std. Deviation	Std. Error Mean	Sig
Urine drug screens yearly or when concern arises	passive	23	.3478	.88465	.18446	.521
	active	26	.5000	.76158	.14936	
Signed opioid or pain contract of informed consent document	passive	23	.1304	.86887	.18117	.085
	active	26	.5769	.90213	.17692	

Follow an office protocol and system for managing opioid prescription refills	passive	23	.3913	.83878	.17490	.216
	active	26	.6923	.83758	.16426	
Assure that a second opinion has been completed when indicated	passive	23	-.0870	1.04067	.21700	.003
	active	26	.7692	.86291	.16923	
Schedule frequent visits (every 1-3 months)	passive	23	.3478	.98205	.20477	.165
	active	26	.7308	.91903	.18024	
Assure that an OARRS report is obtained yearly or whenever concern arises	passive	23	.2609	.81002	.16890	.031
	active	26	.8077	.89529	.17558	
Meet Ohio state law regarding prescribing and monitoring chronic opioids	passive	22	.7273	.93513	.19937	.710
	active	25	.8400	1.10604	.22121	
Assess for opioid abuse, misuse, or diversion	passive	23	.2609	.86431	.18022	.034
	active	26	.7692	.76460	.14995	
Use a tool to regularly assess for opioid abuse, misuse, or diversion	passive	23	.2609	1.25109	.26087	.101
	active	26	.7692	.86291	.16923	

Nursing/MA staff self-efficacy: There were minimal, if any changes in the responses by nursing and MA staff between the pre- and post- surveys, and no significant differences in changes between the two intervention groups, so the detailed analyses are not shown here.

Figure 13:





Attitudes: In addition to self-efficacy, we asked providers and nursing staff how they feel about providing care to patients with CP by asking their level of agreement with a number of statements about patients with CP and potential components of their care. The figures below (Figures 14-15) report the percentage of participants who agreed or strongly agreed with each statement. There were minimal changes between the pre- and post- responses for both the intensive and the minimal groups, for both providers and for nurses. Due to these minimal changes, the analyses comparing the changes by intervention group is not shown here, as there were no significant differences between the intensive and minimal groups' changes.

Figure 14:

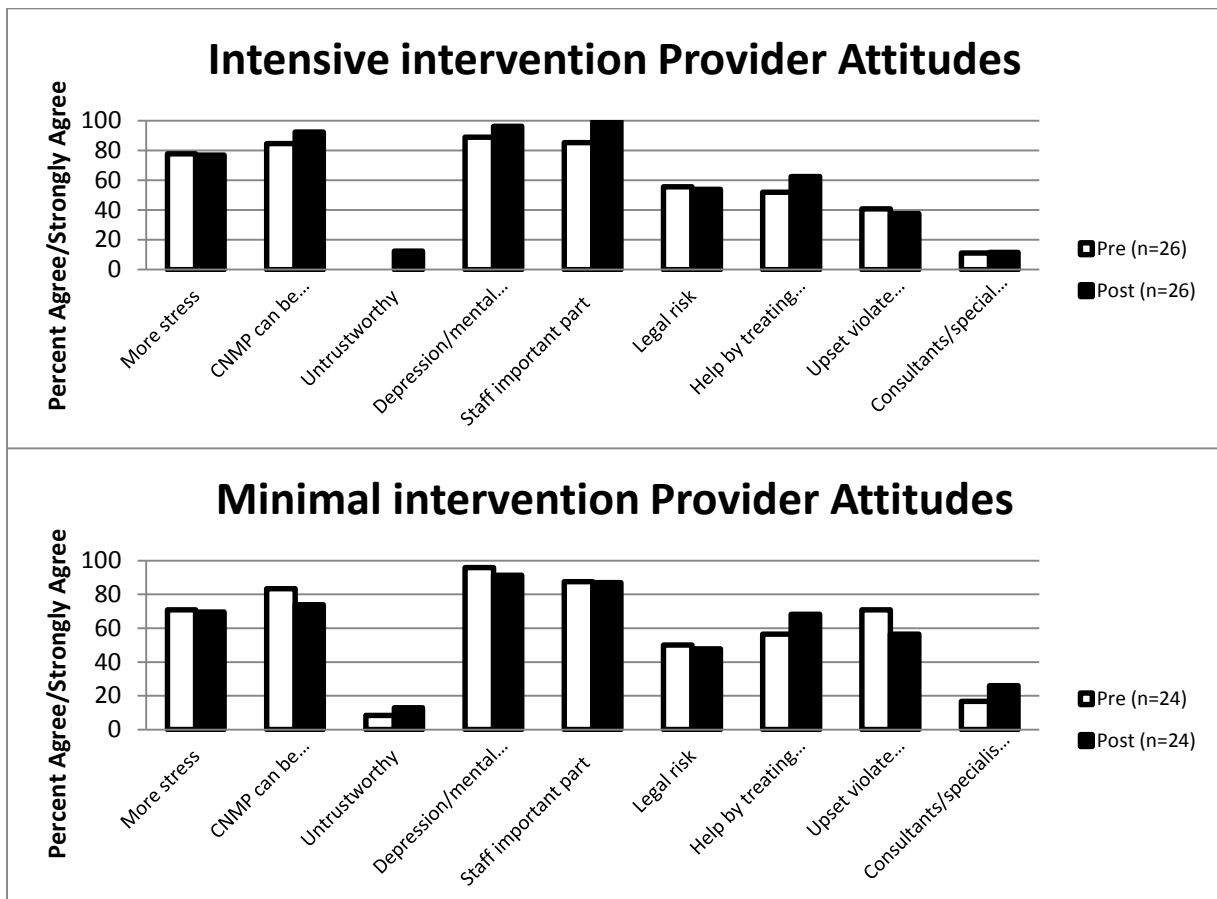
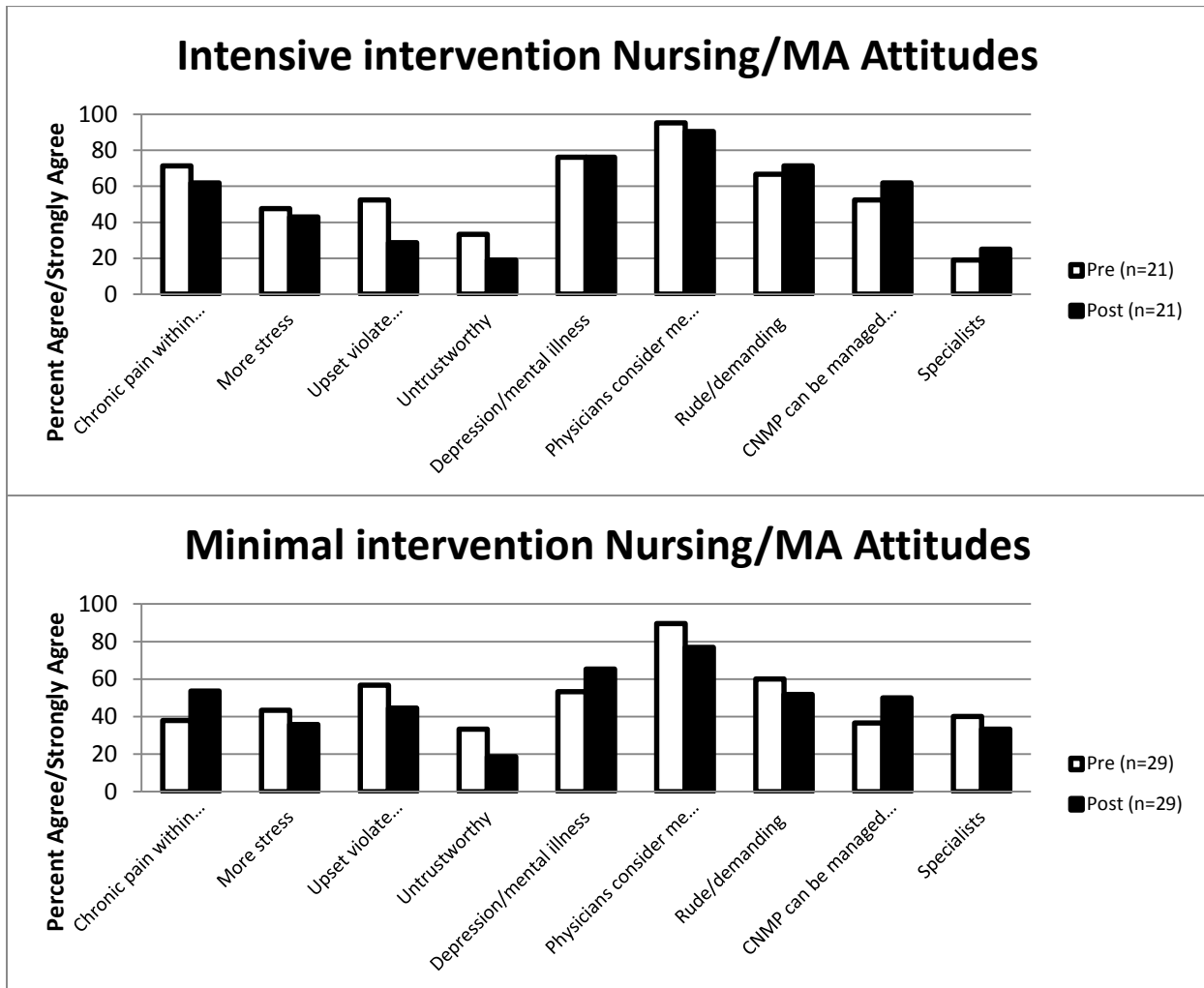


Figure 15:



Project 3: Qualitative interviews of pain professionals and PCPs

Demographics: A total of 32 interviews were conducted. The demographics of the participants are below (Table 16).

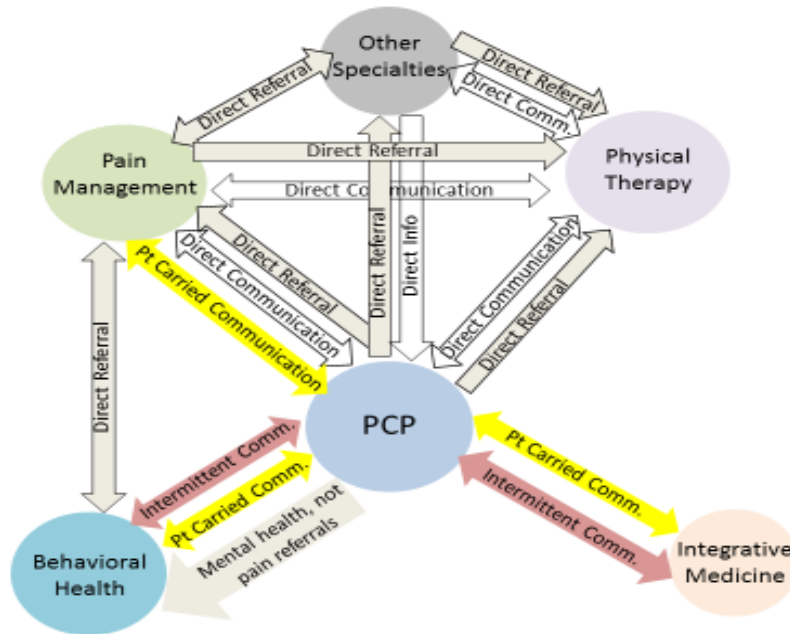
Table 16:

	PCP (6)	Pain Management (5)	Physical Therapy (5)	Behavioral Health (5)	Integrative Medicine (7)	Nurse/ MA (3)
Mean age, years (range)	37.7 (31-46)	51.5 (37-60)	45.0 (31-54)	53.2 (45-58)	52 (41-57)	50.3 (36-61)
Gender, male	5 (83%)	3 (60%)	3 (60%)	3 (60%)	2 (29%)	0

Mean time at current practice, years (range)	4.9 (1-16)	16.8 (4-28)	10.4 (4-20)	11.8 (3-23)	16.4 (4-27)	8.8 (1-18)
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Participants’ responses revealed varying levels of communication among and between pain providers. General patterns of communication are mapped below (Figure 16). Our analysis was primary care centered, as this was our population of interest. Members of all professional groups expressed at least some desire for the PCP to be at the center of collaborative CP care. However, there were few personal professional-to-professional interactions between PCPs and any of the other pain professionals, leading to misperceptions about how each could contribute to Interprofessional collaborative care (ICC). PCPs felt they referred to other pain professionals when it was appropriate: for second opinions, to improve treatment outcomes and when they felt uncomfortable with their own skills or knowledge. Other pain professionals, however, felt that PCPs referred as a last resort: to have someone else prescribe opioids, for patient education or to “dump patients.” These generalizations sometimes demonstrated misperceptions of other professionals’ roles in care. There was often a mismatch of desired information between the PCP and other professionals. PT and BM specifically noted that insufficient patient history accompanied referrals. PCPs desired brief notes from others, but either received nothing or felt patient summaries from others were overly-lengthy, where key clinical information was hard to find. All professionals agreed that information accompanying referrals was often insufficient and/or undesired. Without trusting relationships to provide freedoms for enhanced collaborations, the external organizational constraints described by all the participants of high costs, restricted insurance coverage and limited appointment availability have created a system of poor collaborative care for patients with CP. Additionally, patients serve as de facto carriers of communication between the professionals, further dampening clarity of others’ ICC roles. PT, BM, and IM suggested education with PCPs to enhance knowledge of roles and modalities they may offer in ICC.

Figure 16:



Interview transcripts were assessed within D’Amour’s framework of interprofessionality which is comprised of: 1) organizational factors including governance (*leadership roles*) and structuring care (*shared protocol and information flow*); and 2) interactional processes including sharing goals (*patient-centered, diverse and diffuse partnerships*) and a sense of belonging (*mutual trust, role awareness and a willingness to work together*). The figure below (Figure 17) provides examples of participant comments within that framework.

Figure 17:

Table 1. Participant responses applied to a framework of interprofessionality

<p>Sharing Goals / Vision</p> <p>“I’m not asking them to take over the opiates. I’m wanting to confirm or help with the diagnosis of this problem.” PCP</p> <p>“And it’s like no I don’t have to do this. This is not my problem. I didn’t start this patient on this medicine. Why is this my problem when I never started this... This is one of our pet peeves is when people start all these medicines we would never have started but it’s our job to take it over.” Pain Management</p>	<p>Sense of Belonging</p> <p>“My hope for the future is that PCPs and PM to learn to work better together taking care of patients with pain. I’m hopeful all of us are learning a little bit more about what the other might want. I would have never thought that me sending something, a chart note, would have been more helpful.” PCP</p> <p>“I feel like I’m a burden when I call the PCP office. I would love to feel like there was open communication between us. I would also love for them to know more about our services.” Physical Therapy</p>
<p>Governance</p> <p>“The PCP role still remains key because you come to realize how little subspecialists know about what the other is doing. The only person who really knows what’s going on is a PCP.” PCP</p> <p>“I think it would be helpful if there are expectations of what PCPs want for their patients in terms of psychological/psychiatric treatment. Otherwise I’m just making the assumption that the patient would benefit from psychotherapy.” Behavioral Medicine</p>	<p>Structuring Clinical Care</p> <p>“Everyone is treated a little bit differently and it doesn’t feel right, but we don’t have a way to make it systematic. We just have a lot of stress about it.” PCP</p> <p>“Sometimes we’re the last resort and so we get that referral because the PCP just doesn’t know what to do with them. And most of those referrals are pretty open-ended. It’s evaluate and treat and just see what you can do kind of thing.” Pain Management</p>

Summary and implications

The key findings to our study on utilizing quality improvement to improve the provision of chronic pain care by primary care physicians in practice of UC Health (a subset of the Cincinnati Area Research and Improvement Group) are as follows:

- Prior to any specific QI intervention, we found that PCMH recognition was associated with higher rates of documented key evidence-based guidelines for primary care of CP and for opioid monitoring and management. The group of practices actively involved in PCMH certification activities during the retrospective data collection year often had the highest rates, suggesting that this finding may be associated with active practice transformation work that might dissipate in following years. As this was not an a priori research question, but a natural experiment, further research on the role of PCMH recognition and CP care is warranted.
- Eight practices received a minimal intervention of written *feedback* of a chart review and physician and staff survey responses, and notification of a new *EMR tool* for CP assessment and opioid monitoring. Four practices received an intensive intervention of the same feedback and EMR tool but with 5 *academic detailing* sessions introducing pain professionals in the community and yearlong *QI support* (mean of 16 phone/in person meetings and 29 email exchanges with each practice).
 - While most key evidence-based recommendations and opioid monitoring recommendations saw an increase in use in both groups of practices, those practices receiving the intensive intervention were statistically significantly more likely than those practices receiving the minimal intervention to document 3 (out of 10) of the key recommendations and 3 (out of 7) opioid monitoring recommendations.
 - Providers in the intensive intervention group increased their self-efficacy for caring for patients with CP and managing opioids statistically significantly more than the providers in the minimal intervention group. Nursing/MA self-efficacy did not change pre- to post- nor did attitudes about caring for patients with chronic pain by either providers or nursing/MA staff.
- A qualitative analysis of 32 interviews with PCPs and pain professionals demonstrated that without trusting relationships developed through interpersonal interactions, external organizational constraints of high costs, restricted insurance coverage and limited availability create a system of poor interprofessional collaborative care. Further research and educational/training interventions are needed to improve collaborative care for patients with CP.

List of Products: Peer Reviewed Presentations

Elder NC, Boone J, Short A, Diers T, Pallerla R, Vonder Meulen M, Van Niman S, Kues J.

Comparison of an active vs. a minimal practice intervention to improve provider self-efficacy for assessing and managing patients with chronic pain. An oral presentation at the North American Primary Care Research Group annual meeting, Cancun, Mexico, Oct., 2015 (accepted for presentation)

Hargraves D, Elder NC, Boone J, Hawkins S, Zeidan S. Interprofessional collaborative care for chronic pain: A qualitative assessment of constraints and freedoms to enhance collaboration for primary care patients with chronic pain. A poster presentation at the North American Primary Care Research Group annual Practice Based Research Meeting, Bethesda, MD, June, 2015.

Evans S., Lucas, C., Miller, B., Patel, R., Rose, A., Martin, M., Brown, C., Short, A.D., Lee, C., & Diers, T. (2014, December). _EMR smartphrase increased standardization of documentation for medication refills for patients with chronic nonmalignant pain. Presented at the annual National Forum on Quality Improvement in Health Care, Orlando, FL, Dec. 2014

Elder NC (presenter), Boone J, Diers T, Short A, Imhoff R, Pallerla H, VonderMeulen M. Evidence-based chronic pain assessment and management: does patient centered medical home certification make a difference? An oral presentation at the North American Primary Care Research Group annual meeting, New York City, NY. November, 2014

Elder NC, Vonder Meulen M, Imhoff R, Pallerla H, Short A, Diers T, Speer B, Jawish R, Boone J. The quality of chronic pain assessment and management in the Cincinnati Area Research and Improvement Group (CARInG). A poster at the annual Practice Based Research Network Meeting of the North American Primary Care Research Group, Bethesda, MD, June, 2014

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APPENDICES

This report is a de-identified example of baseline report sent to all participating practices

Improving Chronic Pain Care in Primary Care

Initial chart review and staff survey results

Prepared by the University of Cincinnati Improving Chronic Pain
Care Research Team.

Funded by a Pfizer Independent Grant for Learning and Change

December 2013

Introduction to Chronic Pain Care

Chronic nonmalignant pain (CNMP) is pain that persists longer than three to six months or longer than expected when caused by injury or disease.(1) The Institute of Medicine, in its report, *Relieving Pain in America* notes that, “Chronic pain has a distinct pathology, causing changes throughout the nervous system that often worsen over time. It has significant psychological and cognitive correlates and can constitute a serious, separate disease entity.” (2) CNMP is particularly common in primary care settings with prevalence estimated anywhere from 5% to 50%, depending on the source (2-7). In alignment with the Patient Centered Medical Home (PCMH) and Chronic Care Model (8), many experts and clinicians agree that CNMP requires a multi-modal, interdisciplinary approach to achieve maximum benefit for patients (2, 9). CNMP, however, differs from many other chronic diseases cared for by primary care providers (PCPs) because of the availability of chronic opioids as a treatment option. PCPs must consider addiction, drug diversion, overdose, and legal and regulatory factors in their patient assessment and treatment decision-making.(10, 11) For many providers, decisions about the use and management of chronic opioids remain one of the most difficult aspects of caring for patients with CNMP. (12)

With funding from a Pfizer Independent Grant for Learning and Change, we are testing an educational and quality improvement intervention, “Improving Chronic Pain Care (ICPC) in Primary Care.” The first part of this intervention was to collect data on how your practice currently provides care for CNMP, as well as to measure attitudes and comfort level of providers, nurses and medical assistants around providing this care and working together as a team. Your practice is also compared with the summary results from other practices in the UCHealth Primary Care Network

If you have questions or comments about the findings in this report, please contact either Nancy Elder, MD (nancy.elder@uc.edu) or Jill Boone, PharmD (jill.boone@uc.edu), co-principal investigators of this project

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CHART REVIEW

Overview

Chart selection: The EPIC EHR was searched for patients who had at least two visits in previous 12 months (7/10/12 – 7/10/13) with each provider in the participating practices in which at least one chronic pain-related ICD-9 diagnosis codes was assigned at both of the visits. Primary pain-related codes (338.2 Chronic pain, 338.4 Chronic pain syndrome and/or 338.29 Other chronic pain) were searched for first. If an insufficient number of patient names was obtained for a provider using these ICD-9 codes, then the search was repeated with the secondary codes (conditions commonly, but not exclusively, related to chronic pain conditions, 724.2 Lumbago / low back pain; 724.3 Sciatica; 724.5 Backache, unspecified; 780.96 generalized pain; 715 Osteoarthritis and allied disorder; 719.4* Pain in joint /Arthralgia; 723.1 Cervicalgia (Pain in neck); 357.2 Polyneuropathy in diabetes; 250.60 Diabetes with neurological manifestations; 729.1 myofascial pain syndrome/fibromyalgia).

For the [de-identified] practice, our goal was to review approximately 50 charts that met these criteria; for the practices participating in the QI intervention, our goal was to review approximately 15 charts per physician; and for the practices not participating in the QI intervention, our goal was to review approximately 6 charts per physician.

Chart review: For each patient chart, we reviewed the following data from the previous 12 months: every note related to pain, medication and problem lists, laboratory and other testing results, correspondence with other UC providers and scanned letters and notes from outside providers, and orders and referrals. Flow charts and other data were independently reviewed outside each chart note.

The chart review documented the types of pain diagnosed, as well as both the assessment and management of chronic pain. This included the provision of evidence-based recommendations for assessment of chronic pain in primary care, (13) use and communication with other pain care providers (including pain management, integrative (also called complementary and alternative) care and mental health.) and types of medications used. For those patients on chronic opioids, documentation of clinically recommended and legally mandated management tasks (urine drug screen (UDS), OARRS report, abuse risk assessment, etc.) was also documented.

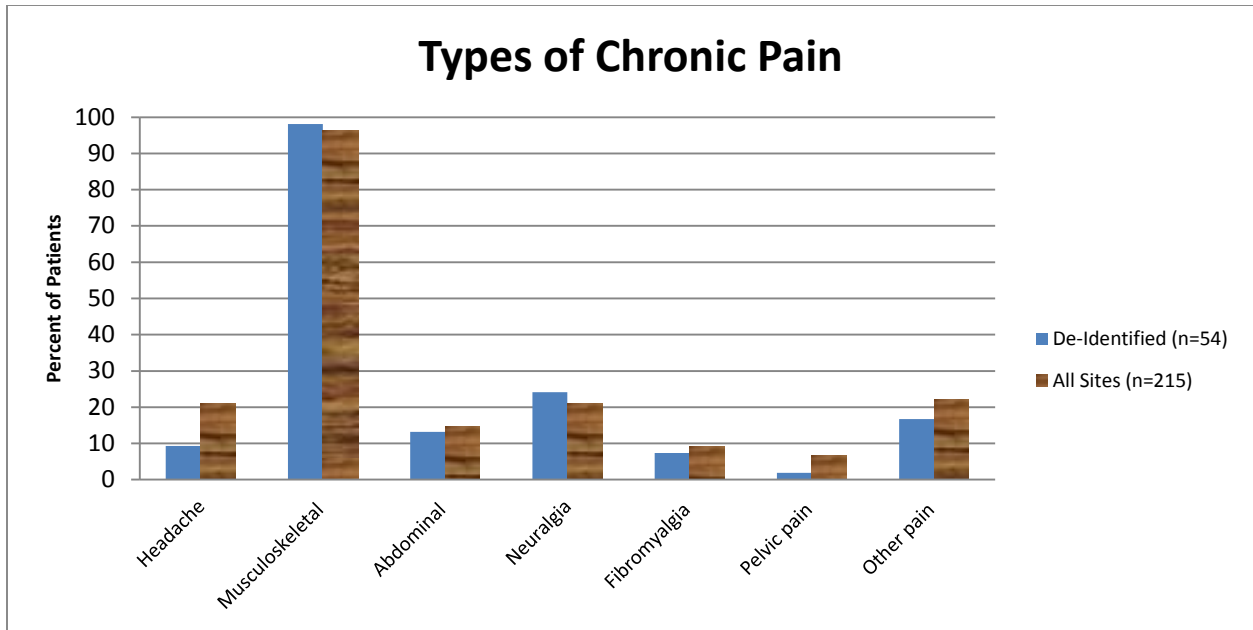
Demographics of Patients with Chronic Pain

We report here the review of 54 patient charts with CNMP from your practice, and a total of 215 patients from yours and other primary care network practices at UCHealth. The demographics of these patients are in the chart below:

	deidentified (n = 54)	All sites (n = 215)
Mean age (range)	53	53
Percent of patients that are female	37%	57%
Race and Ethnicity (percent)		
White	54%	63%
African-American	46%	36%
Asian-American/ Other		1%
Hispanic		1%

Types of Chronic Pain

For each patient, documentation was made about the type of chronic pain diagnosed, including musculoskeletal back and joint pain, headaches, abdominal pain, neuralgia, and fibromyalgia. Patients often had more than one type of pain. At all the practices, about 47% patients have one type of pain, 45% have 2-3 types of a pain and 9% have more than 3 types of pain. For IM residency site, 56% have one type, 40% have 2-3 types of pain and 15% have more than 3 types of pain.

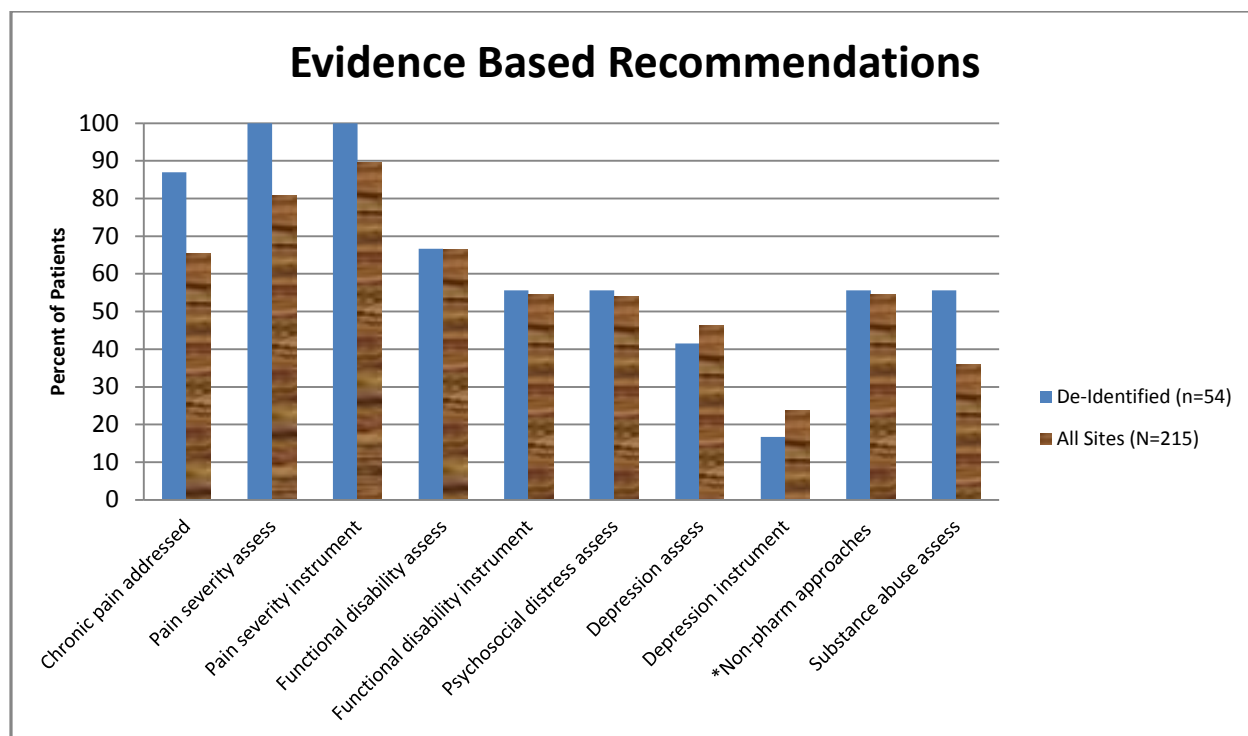


Key Evidence Based Recommendations

Important assessments in the care of patients with chronic pain include those for pain severity, functional disability, psychosocial distress, mood disorders (depression, anxiety) and substance abuse. In addition, the provision of non-pharmacological modalities and acknowledging and discussing the diagnosis of chronic pain with the patient were also noted. The following table lists the specific elements of assessment and management assessed in the chart review.

Evidence Based Recommendations

1. Chronic pain diagnosis addressed with the patient anywhere in the chart?
2. Is there evidence of level/amount of pain severity assessed?
3. Has a structured instrument or quantitative measure been used to assess pain?
4. Is there evidence of level/amount of functional disability due to pain assessed?
5. Has a structured instrument been used to assess functional disability?
6. Is there evidence of level/amount of psychosocial distress (relationships, anxiety, insomnia, financial, etc) has been assessed?
7. Has depression, sadness, mood been directly assessed?
8. Has a structured instrument been used to assess depression?
9. Is there documentation that any non-pharmacological approaches have been tried, discussed or recommended? (e.g., physical therapy, counseling, back school, massage therapy, etc)
10. Has substance abuse been assessed or addressed anywhere in the chart?

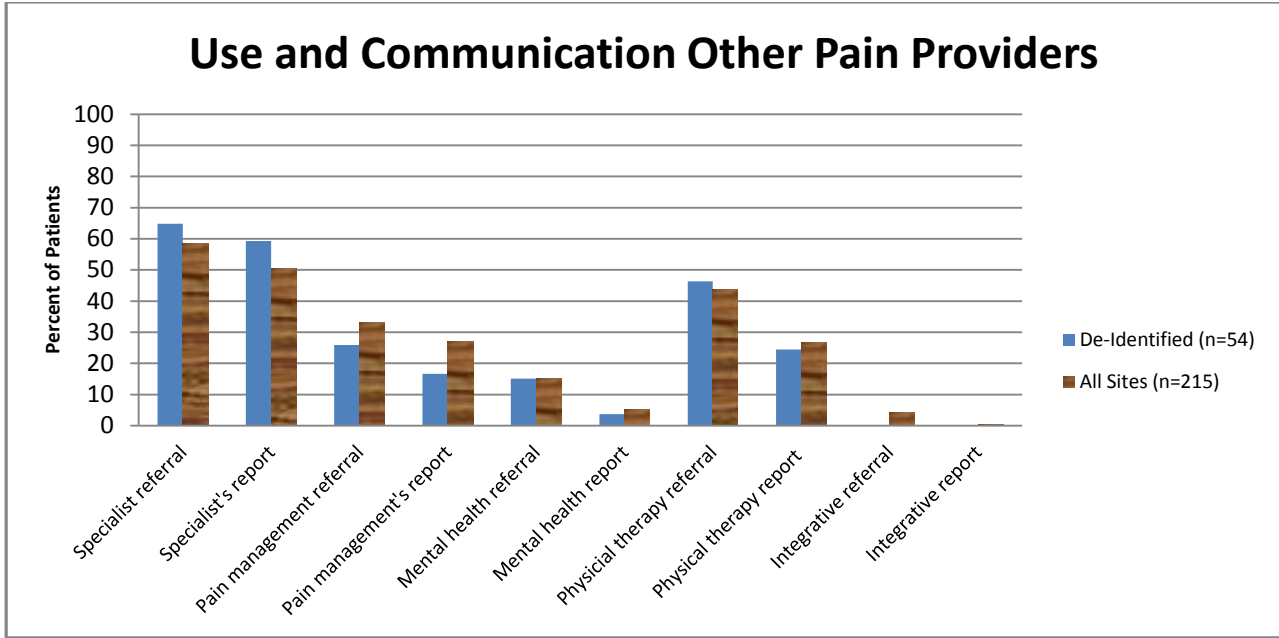


Referral To and Communication with other Pain Care Providers

A multi-disciplinary team is important in caring for patients with chronic pain.(14) We documented referrals to and communication with a number of multi-disciplinary providers, including pain management, physical therapy, mental/behavioral health, and integrative medicine (e.g., acupuncture, massage therapy and chiropractic). If we could not find actual documentation, but a physician note stated that the patient had used a specific modality or type of provider, or it had been tried in the past, that was noted as care obtained, but no report available.

Use and Communication with other pain providers

1. Has a second opinion or care been obtained from a specialist (other than a pain specialist) to help diagnose the etiology of the pain or assist with diagnosis or management?
2. Is there a letter, report or communication available in the EHR from the specialist regarding the referral or the care?
3. Has a second opinion or care been obtained from a pain specialist to help diagnose the etiology of the pain or assist with diagnosis or management?
4. Is there a letter or report available in the EHR from the pain specialist regarding the referral?
5. Has a referral been made or care been obtained from a mental health professional (counselor, psychiatrist, psychologist)
6. Is there a letter, report or communication available in the EHR from the mental health professional regarding the referral or the care?
7. Has a referral been made or care been obtained from a physical therapist?
8. Is there a letter, report or communication available in the EHR from the therapist regarding the referral or the care?
9. Has a referral been made or care been obtained from a complementary or integrative care provider?
10. Is there a letter, report or communication available in the EHR from the complementary or integrative care provider regarding the referral or the care?



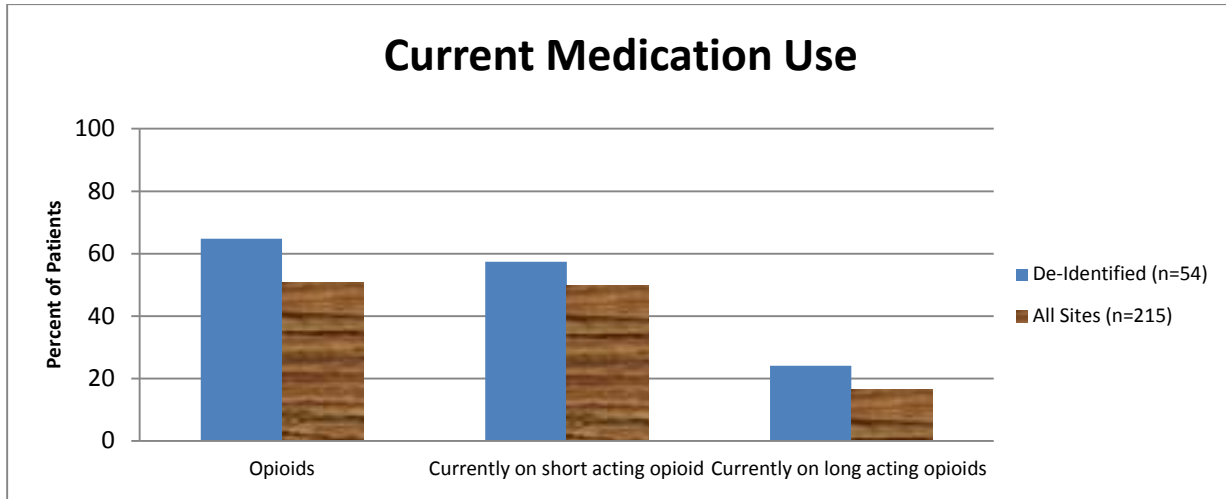
Medication Use

Prescription medications are a significant component of chronic pain management in primary care. While specific medication use will depend on the specific patient, their type of chronic pain and their other co-morbid conditions, we assessed the range of medications currently being used for several common types of pain (headache, back/neck/joint, abdominal and/or pelvic, neuralgia, fibromyalgia, other) at your practice. Many medications have more than one purpose, and while all the listed medications have a use in treating chronic pain, we are unable to determine the exact purpose for each prescription for each patient. Therefore, it must be understood, that some of the prescriptions noted may have been prescribed for non-pain co-morbid conditions. Because many patients had more than one type of pain, individual patients may be in more than one column.

	Headache		Musculoskeletal Pain		Abdominal or Pelvic Pain		Neuralgia		Fibromyalgia	
	N= 5	%	N=53	%	N=7	%	N=13	%	N=4	%
NSAIDs	3	60	31	58	5	71	11	85	3	75
Acetaminophen	0	0	8	15	0	0	0	0	0	0
Opioids	2	40	35	66	5	71	10	77	4	100
TCA's (e.g., amitriptyline)	0	0	10	19	1	14	1	8	1	25
Lyrica/Neurontin	0	0	20	38	3	43	4	31	2	50
SSRI/SNRI anti-depressant	0	0	13	25	3	43	2	15	1	25
Other anti-depressant	0	0	2	4	1	14	0	0	0	0
Mood stabilizers	2	40	7	13	0	0	1	8	0	0
Anti-psychotics	2	40	7	13	0	0	1	8	0	0
Anti-convulsants	2	40	3	6	0	0	1	8	0	0
Topical agents	1	20	10	19	1	14	0	0	2	50
M. relaxer/antispasm	2	40	21	40	3	43	6	46	2	50
Tramadol	0	0	3	6	1	14	1	8	0	0
Steroids (oral or injection)	1	20	9	17	1	14	2	15	0	0
Triptans	1	20	1	2	0	0	0	0	0	0

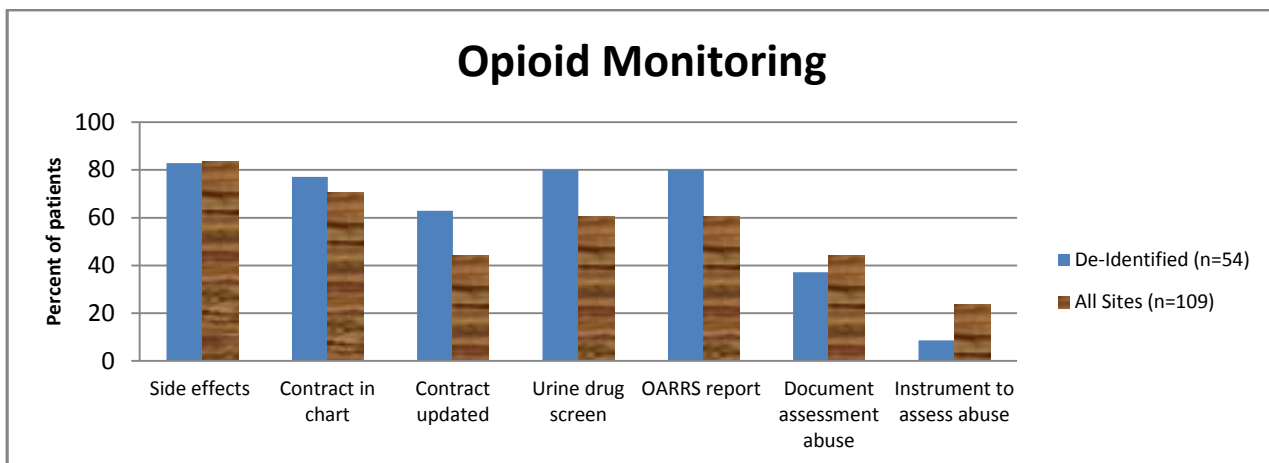
Chronic Opioid Use and Management

Medication lists, prescriptions and notes were reviewed for documentation of opioid prescriptions. If more than 3 prescriptions or notations of use were documented in the last 6 months, the patient was considered to be on chronic opioids. If the patient was on chronic opioids, then documentation of opioid management and risk was documented. At the IM Residency practice, 35 (65%) of charts of patients with CNMP were prescribed chronic opioids.



Opioid Monitoring

1. Have side effects on opioids been mentioned or asked of patients?
2. Is there an opioid/pain/narcotic contract in the chart from any time period?
3. Has the opioid/pain/narcotic contract been updated or signed within the last 12 months?
4. Has a urine drug screen been performed within the last 12 months?
5. Is there an OARRS report in the chart or documented that one has been reviewed in last 12 months?
6. Is there documentation within the last 6 months of an assessment for potential abuse, misuse or diversion?
7. Was a tool or instrument used to assess potential abuse, misuse or diversion?



PHYSICIAN AND STAFF SURVEY

Overview

All providers (physicians, residents and nurse practitioners, as applicable) and nursing staff (RNs, LPNs, MAs and supervisory staff) were invited to complete a three page survey. The survey asked questions specific to providers and nursing staff, as well as general questions that were the similar for both groups. Survey participation was not required, and not all providers and nursing staff participated at your site.

Demographics of Participants

Physicians and Providers

Demographics	De-Identified	All Sites
Total Number of Providers	N=23	N=64
Resident:		
Yes	78%	28%
No	22%	73%
Family Med Physician	0	20.3%
Internal Med Physician	95.7%	57.8%
Internal Med Peds Physician	4.3%	15.6%
Nurse Practitioners	0	4.7%
Physician Assistants	0	1.6%
Mean Age of all Providers	31 Years	40 Years
Percentage of all Providers that are Female	30.4%	46.9%
Provider Race/Ethnicity		
White	73.9%	72.6%
African-American	4.3%	9.7%
Asian-American	21.7%	17.7%
Other	4.3%	0
Hispanic	8.7%	4.8%

Nursing and MA Staff

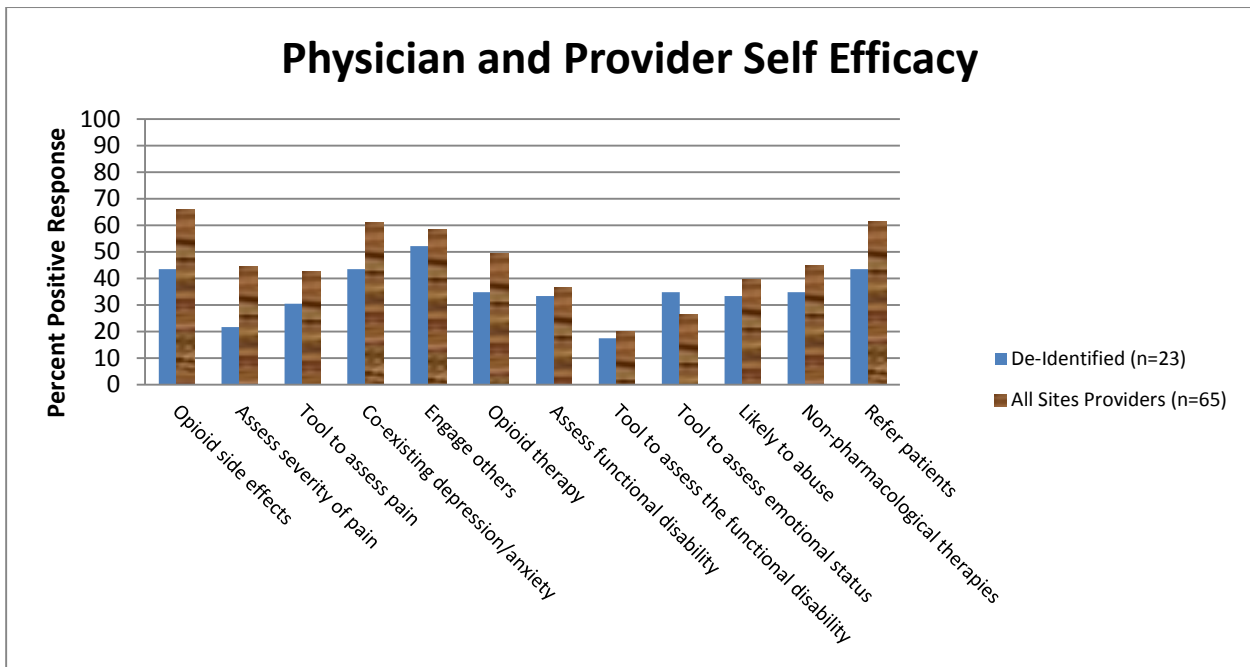
Total Number of Staff	N= 12	N=68
MA	8.3%	63.2%
Office Manager/Other	16.7%	3%
LPN	25%	5.9%
RN	58.3%	27.9%
Mean Years At This Practice	5 years	6 years
Mean Years Being An MA/Nurse	23.4 years	14 years
Mean age of all nursing staff	48.4 years	40 years
Percentage of all Nursing Staff that are Female	91.7%	97.1%
Staff Race/Ethnicity		
White	66.7%	69.2%
African-American	33.3%	30.8%
Hispanic	0	4.5%

Self-Efficacy

Self-efficacy, or the confidence a person has that they can successfully complete or perform a task, is an important step not only in actually performing tasks, but in changing behaviors towards performance. We asked providers and nursing staff to rate their confidence to perform a number of tasks associated with caring for patients with CNMP. The figures below report the percentage of participants who felt they were fairly or extremely confident they could perform each listed task.

Physician and Provider Self Efficacy

1. Manage chronic opioid side effects for patients with CNMP
2. Accurately assess the severity of pain a patient with CNMP is experiencing
3. Use a tool to REGULARLY assess the severity of pain in patients with CNMP
4. Diagnose and manage co-existing depression or anxiety in patients with CNMP
5. Engage other staff members (MAs, nurses, managers) in the care of patients with CNMP
6. Initiate opioid therapy for a patient with CNMP with the most appropriate opiates
7. Accurately assess the amount of functional disability a patient with CNMP is experiencing
8. Use a tool to REGULARLY assess the functional disability of patients with CNMP
9. Use a tool to REGULARLY assess the emotional status of patients with CNMP
10. Determine which patients with CNMP are likely to abuse, misuse or divert opioid drugs
11. Easily determine which non-pharmacological therapies will be most effective for my patients with CNMP
12. Easily refer my patients with CNMP to appropriate specialists and consultants

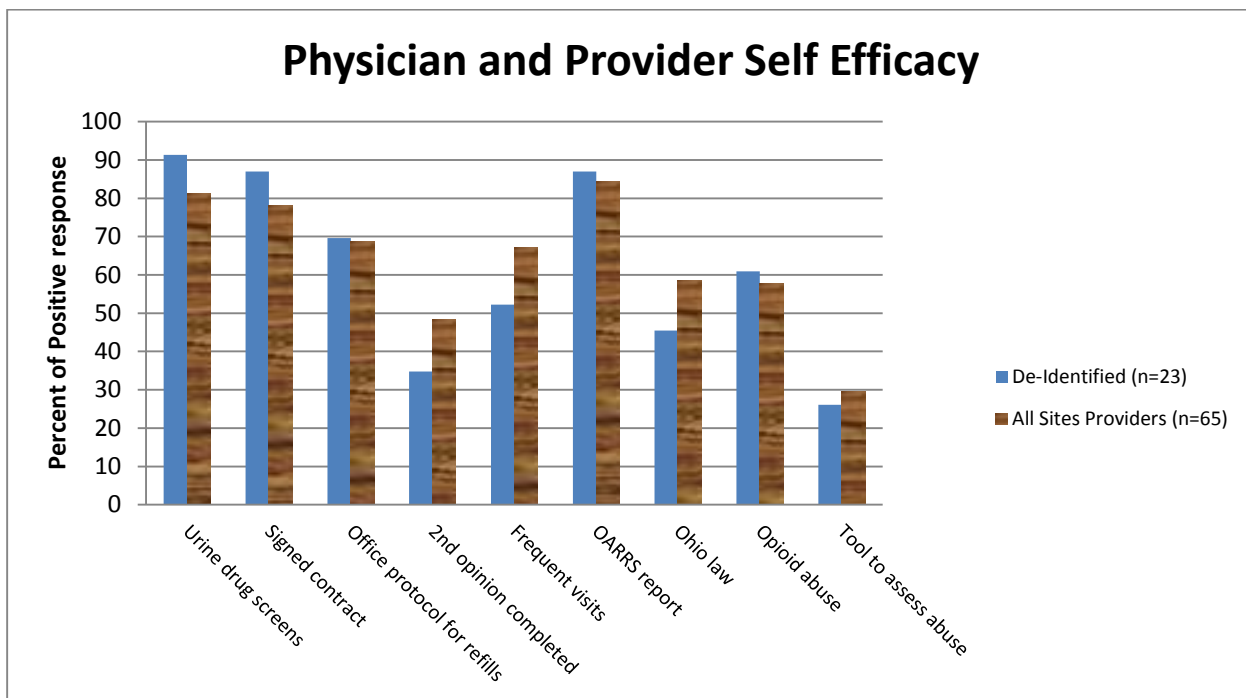


Chronic Opioid Self-Efficacy

For those providers who care for patients on chronic opioids, we asked, How confident are you that you can do or order the following tasks regularly (almost all the time) for patients on chronic opioids?

Again, these results show the percentage of participants who felt they were fairly or extremely confident they can do this on almost all their patients on chronic opioids.

1. Urine drug screens yearly or when concern arises
2. Signed opioid or pain contract or informed consent document
3. Follow an office protocol and system for managing opioid prescription refills
4. Assure that a second opinion has been completed when indicated
5. Schedule frequent visits (every 1 - 3 months)
6. Assure than an OARRS report is obtained yearly or whenever concerns arise
7. Meet Ohio state law regarding prescribing and monitoring chronic opioids
8. Assess for opioid abuse, misuse or diversion
9. Use a tool to REGULARLY assess for opioid abuse, misuse or diversion



Nursing and MA staff Self Efficacy

1. Assess patients for chronic opioid side effects or problems during medication reconciliation
2. Accurately assess the severity of pain a patient with CNMP is experiencing
3. Always follow an office policy for the monitoring of patients with CNMP on chronic opioids
4. Give my nursing/MA impressions to the physician regarding every patient with CNMP I see
5. Engage with physicians and providers in the care of patients with CNMP
6. Determine which patients with CNMP are likely to abuse, misuse or divert opioid drugs
7. Accurately assess the amount of functional disability a patient with CNMP is experiencing
8. Know whether a patients care meets Ohio state law for patients with CNMP on chronic opioids
9. Use a tool or instrument to REGULARLY assess the severity of pain in patients with CNMP
10. Use a tool or instrument to REGULARLY assess the functional disability of patients with CNMP
11. Use a tool or instrument to REGULARLY assess the emotional status of patients with CNMP

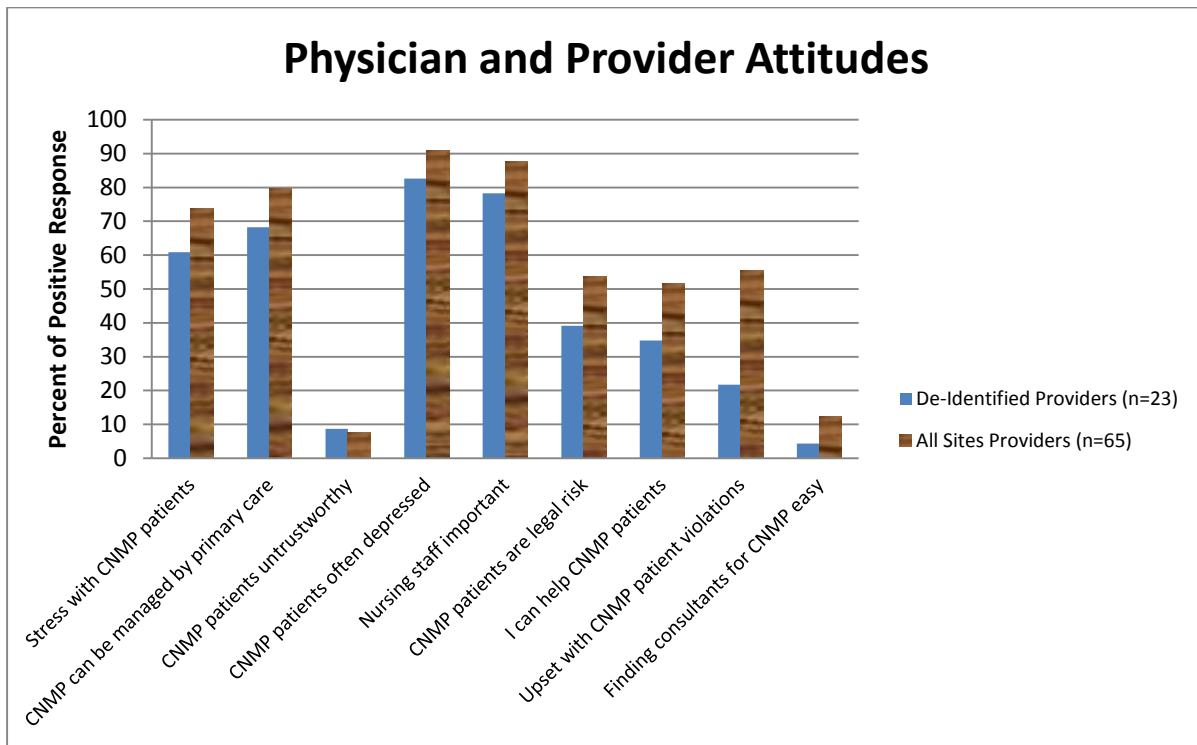


Attitudes and Beliefs

We asked providers and nursing staff how they feel about providing care to patients with CNMP by asking their level of agreement with a number of statements about patients with CNMP and potential components of their care. Oftentimes, provider and nursing discomfort limit effectiveness in providing the best care. The figures below report the percentage of participants who agreed or strongly agreed with each statement.

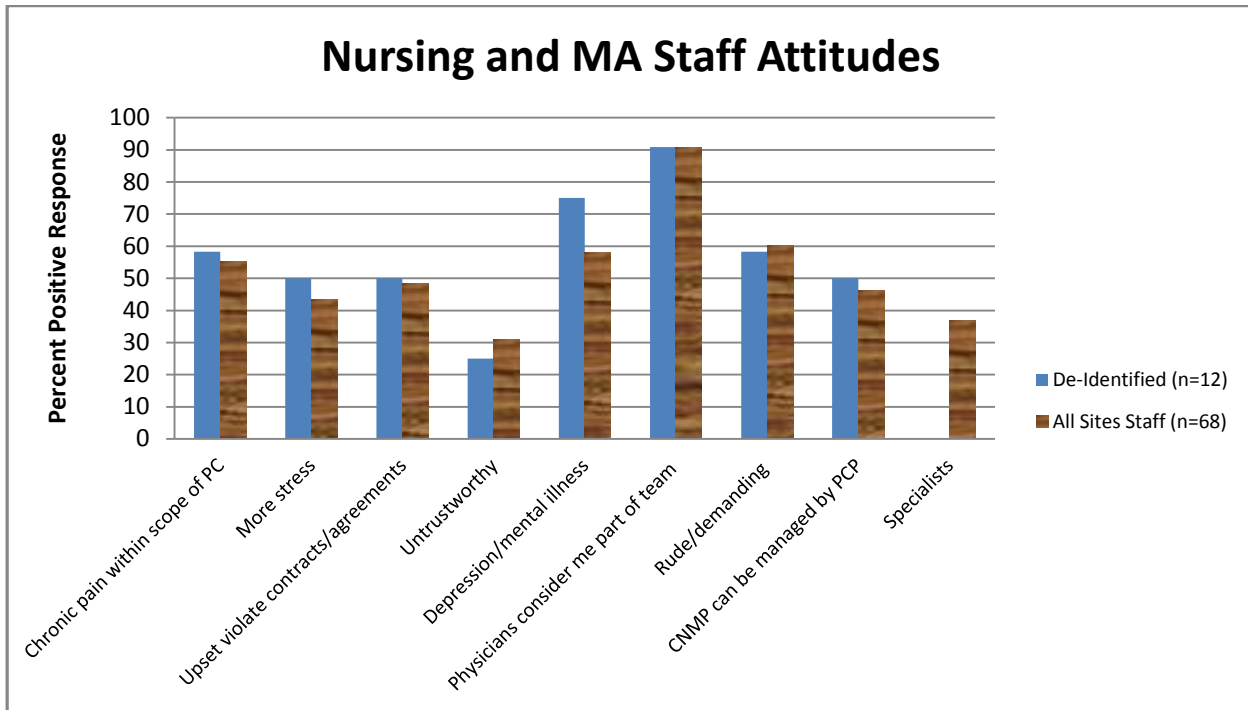
Physician and Providers' attitudes and beliefs

1. I feel more than usual stress in dealing with patients with CNMP
2. I believe patients with CNMP can be managed by primary care physicians
3. Patients with CNMP are usually untrustworthy
4. Patients with CNMP frequently have depression or some other mental illness
5. My staff and MAs are an important part of the team that cares for patients with CNMP
6. I feel that managing patients with CNMP puts me at legal risk
7. I feel that I can truly help patients by treating their CNMP myself
8. I become angry or upset when patients violate their pain contracts or spoken agreements with me
9. Finding consultants or specialists who will see my patients with CNMP in a timely manner is relatively easy



Nursing and MA staff attitudes and behaviors

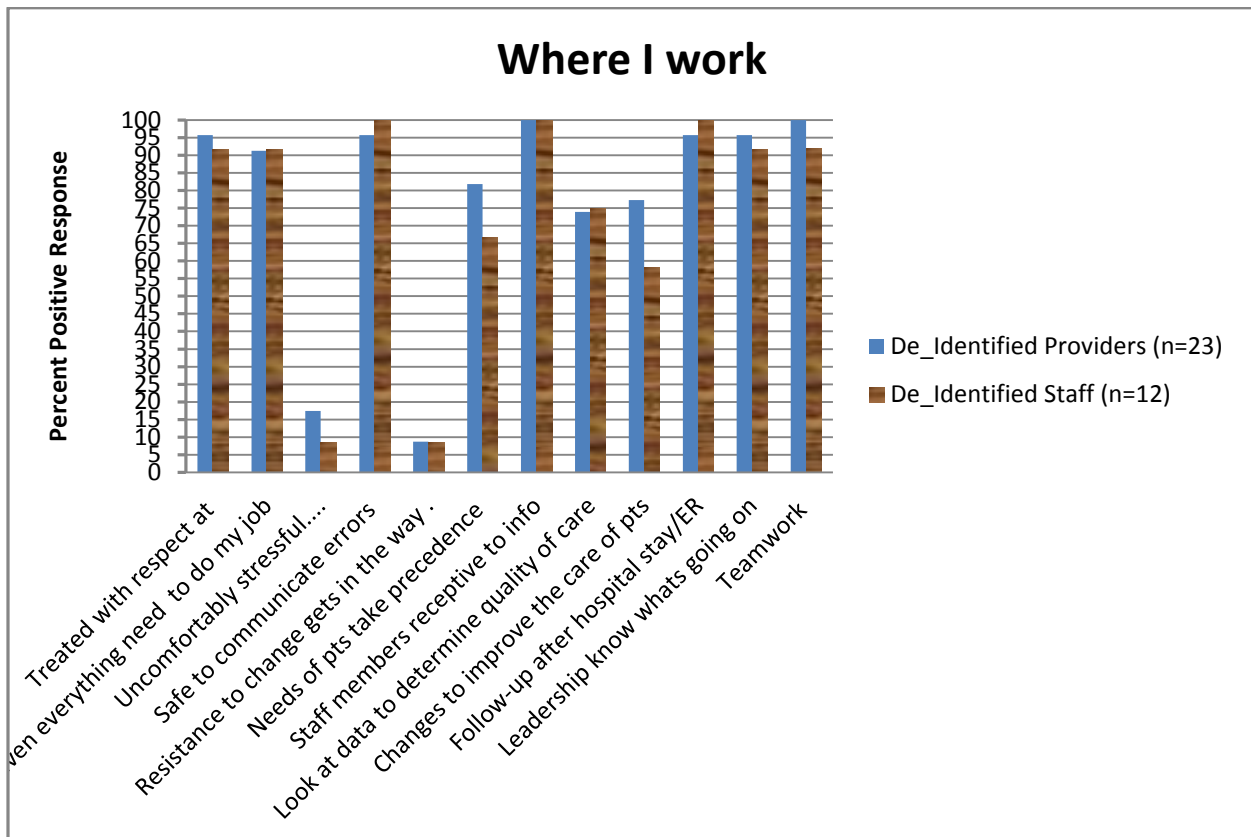
1. I believe chronic pain management is within the scope of primary care
2. I feel more than usual stress in dealing with patients with CNMP
3. I become angry or upset when patients violate their pain contracts or spoken agreements with our practice
4. Patients with CNMP are usually untrustworthy
5. Patients with CNMP frequently have depression or some other mental illness
6. Physicians in this office consider me an important part of the team that cares for patients with CNMP
7. Patients with CNMP are often rude and demanding when they call the office
8. I believe that patients with CNMP can be managed by primary care physicians
9. It is easy for our office to get patients with CNMP to be seen by needed specialists

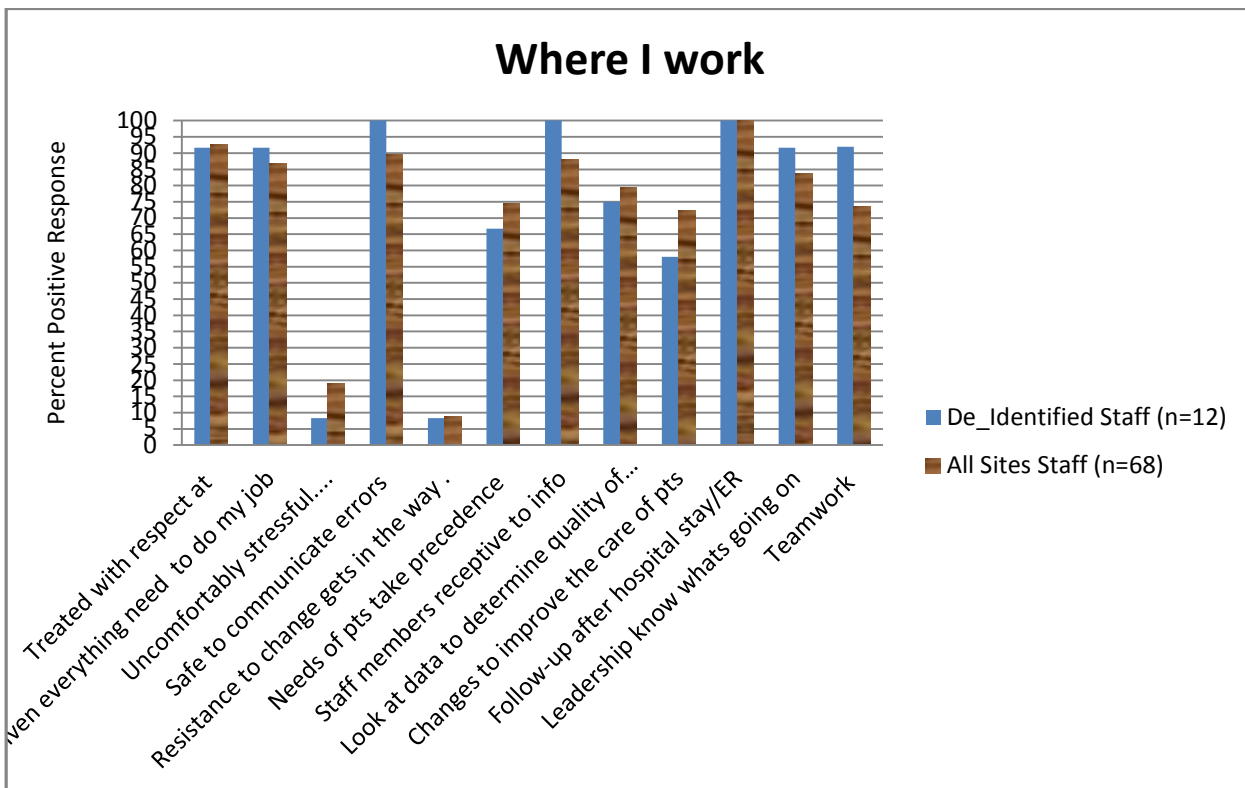
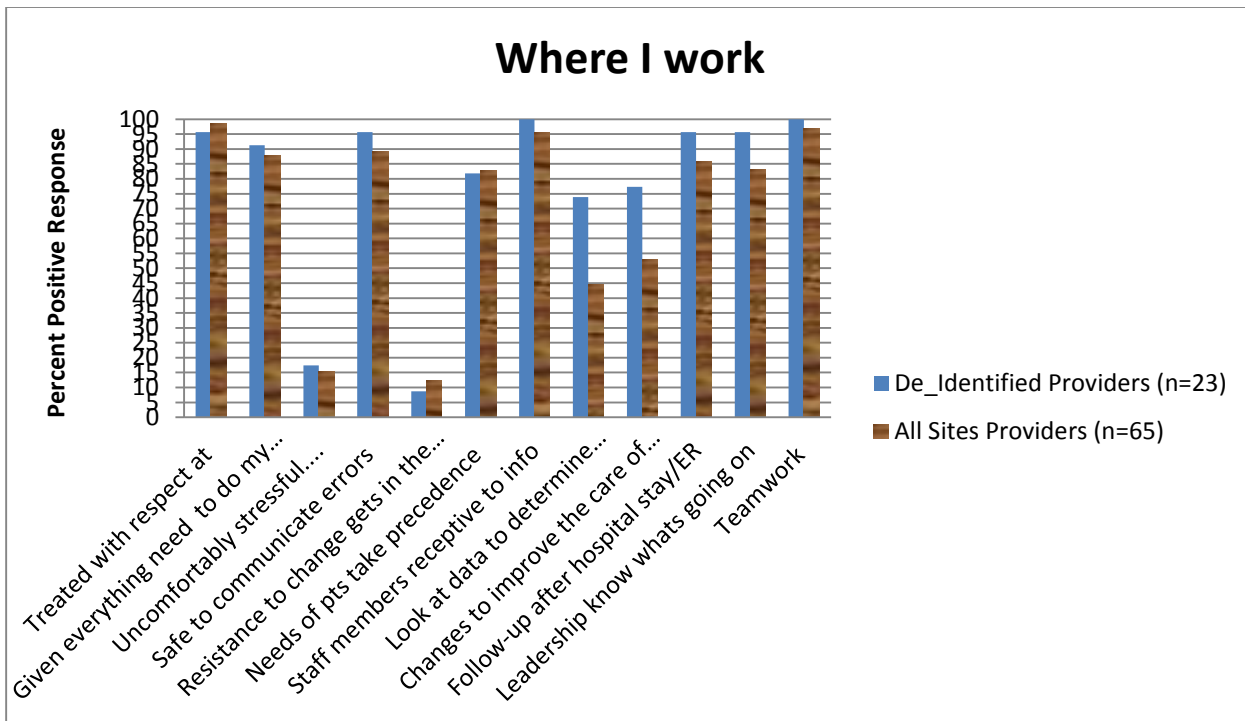


Practice and Team Culture

We asked providers and nursing staff to describe their office culture and teamwork. Quality improvement and change require that all staff work together as a team. These measures were taken from a variety of primary care and office medicine surveys that assess practice and team culture. The graphs below show the percentage of physicians and providers as well as nursing and MA staff who responded most or almost all of time (or a fair amount/great deal as appropriate). Graph 1 compares the IM Residency physicians with the IM staff, graph 2 compares the IM residency physicians to physicians at all the practices, and graph 3 compares the IM residency nursing and MA staff to similar staff at all the practices.

1. I am treated with respect at my workplace
2. I am given everything I need (tools, equipment, support) to do my job
3. How much of the time would you say your job is uncomfortably stressful
4. In my workplace it is safe for me to communicate errors so that we can learn from our mistakes
5. In my workplace, resistance to change gets in the way of improving patient care
6. In my workplace, the needs of patients take precedence over the needs of the practice
7. Other staff members are receptive to information I know about individual patients as part of the care for those patients
8. My workplace has a systematic way to look at practice data to determine the quality of care we deliver to our patients
9. My workplace has a process to make practice changes to improve the care of patients
10. How much of a priority does your practice place on prompt follow-up (by phone or office visit) after a hospital stay or emergency department visit?
11. To what degree does the practice leadership know what's going on in the practice on a day-to-day basis?
12. Teamwork is valued in my workplace





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This report is a de-identified example of a final report sent to all participating practices

Improving Chronic Pain Care in Primary Care

Final Follow-up Report

Prepared by the University of Cincinnati Improving Chronic Pain
Care Research Team. Funded by a Pfizer Independent Grant for
Learning and Change

August 2015

Introduction to Chronic Pain Care

Thank you for participating in the education and quality improvement intervention “Improving Pain Care in Primary Care”. The [de-identified] office was one of four sites in the project with active participation by faculty physicians, medical assistants and management personnel. This report will review the project’s background, goals, interventions and findings.

Chronic nonmalignant pain (CNMP) is pain that persists longer than three to six months or longer than expected when caused by injury or disease.(1) The Institute of Medicine, in its report, *Relieving Pain in America* notes that, “Chronic pain has a distinct pathology, causing changes throughout the nervous system that often worsen over time. It has significant psychological and cognitive correlates and can constitute a serious, separate disease entity.” (2) CNMP is particularly common in primary care settings with prevalence estimated anywhere from 5% to 50%, depending on the source (2-7). In alignment with the Patient Centered Medical Home (PCMH) and Chronic Care Model (8), many experts and clinicians agree that CNMP requires a multi-modal, interdisciplinary approach to achieve maximum benefit for patients (2, 9). CNMP, however, differs from many other chronic diseases cared for by primary care providers (PCPs) because of the availability of chronic opioids as a treatment option. PCPs must consider addiction, drug diversion, overdose, and legal and regulatory factors in their patient assessment and treatment decision making.(10, 11) For many providers, decisions about the use and management of chronic opioids remain one of the most difficult aspects of caring for patients with CNMP. (12)

At the beginning of this project (summer, 2013), we collected data on your practice using a retrospective chart review of patients with chronic pain (7/2012 – 7/2013), a survey of physicians and a survey of nursing/MA staff. We then presented the findings to your practice, along with summary findings from all UC Health Primary Care practices. This was done in a group setting with your practice team that allowed questions and answers. Academic detailing sessions were then offered for the providers and staff, and a QI Facilitator worked with a practice champion to assist in office specific chronic pain improvements. The ICPC team, working with others at UC and UCHealth, developed a “doc flowsheet” for chronic pain assessment in the EPIC EHR, and shared that flowsheet with your practice. The same data collected at the beginning of this study was also collected in late 2014 (surveys) and January of 2015 (retrospective chart review of matched patients from initial chart review for period 7/2014 – 1/2015). This report contains a summary and comparison of the pre-intervention and post-intervention data for your practice.

Chart Review

Initial chart selection: For the initial review, the EPIC EHR was searched for patients who had at least two visits in previous 12 months (7/10/12 – 7/10/13) with each provider in the participating practices in which at least one chronic pain-related ICD-9 diagnosis codes was assigned at both of the visits. Primary codes (338.2 Chronic pain, 338.4 Chronic pain syndrome and/or 338.29 Other chronic pain) were searched for first. If an insufficient number of patient names was obtained for a provider using these ICD-9 codes, then the search was repeated with the secondary codes (conditions commonly, but not exclusively, related to chronic pain conditions, 724.2 Lumbago / low back pain; 724.3 Sciatica; 724.5 Backache, unspecified; 780.96 generalized pain; 715 Osteoarthritis and allied disorder; 719.4* Pain in joint /Arthralgia; 723.1 Cervicalgia (Pain in neck); 357.2 Polyneuropathy in diabetes; 250.60 Diabetes with neurological manifestations; 729.1 myofascial pain syndrome/fibromyalgia). We reviewed approximately 15 charts from each provider from the list of potential patients.

Initial chart review: For each patient chart, we reviewed the following data: every note related to pain, medication and problem lists, laboratory and other testing results, correspondence with other UC providers and scanned letters and notes from outside providers, and orders and referrals. Flow charts and other data were independently reviewed outside each chart note.

The chart review documented the types of pain diagnosed, as well as both the assessment and management of chronic pain. This included the provision of evidence-based recommendations for assessment of chronic pain in primary care, (13) use and communication with other pain care providers (including pain management, integrative (also called complementary and alternative) care and mental health.) and types of medications used. For those patients on chronic opioids, documentation of clinically recommended and legally mandated management tasks (urine drug screen (UDS), OARRS report, abuse risk assessment, etc.) was also documented.

Post-intervention chart review: The charts of the CNMP patients reviewed during the initial chart review were again reviewed IF the patient had had at least one visit with the PCP for a pain visit in the six months from 7/1/2014 – 1/1/2015. **Only those patients who had visits during both review periods are included in this report.** The post-intervention review only assessed the provision of evidence-based recommendations for assessment of chronic pain in primary care (13) and use and communication with other pain care providers (including pain management, integrative (also called complementary and alternative) care and mental health) in the 6 month period For those patients on chronic opioids, documentation of clinically recommended and legally mandated management tasks (urine drug screen (UDS), OARRS report, abuse risk assessment, etc.) in the 6 month period was also documented.

Patient demographics:

Out of the original 45 patients whose charts were reviewed initially, there were 25 patients who had visits for chronic pain in both initial and post-intervention time periods. The vast majority of patients (90%) had musculoskeletal pain, including joint, back and neck pain. About half the patients had more than one kind of pain, with chronic headaches, neuropathy/neuralgia, chronic abdominal pain, and fibromyalgia each being documented in about 10% of patients.

Demographics of patients with chronic pain (N = 25):

Mean age	57 years
Gender	
Male	36%
Female	64%
Race	
White	72%
African-American	20%
Native-American	8%

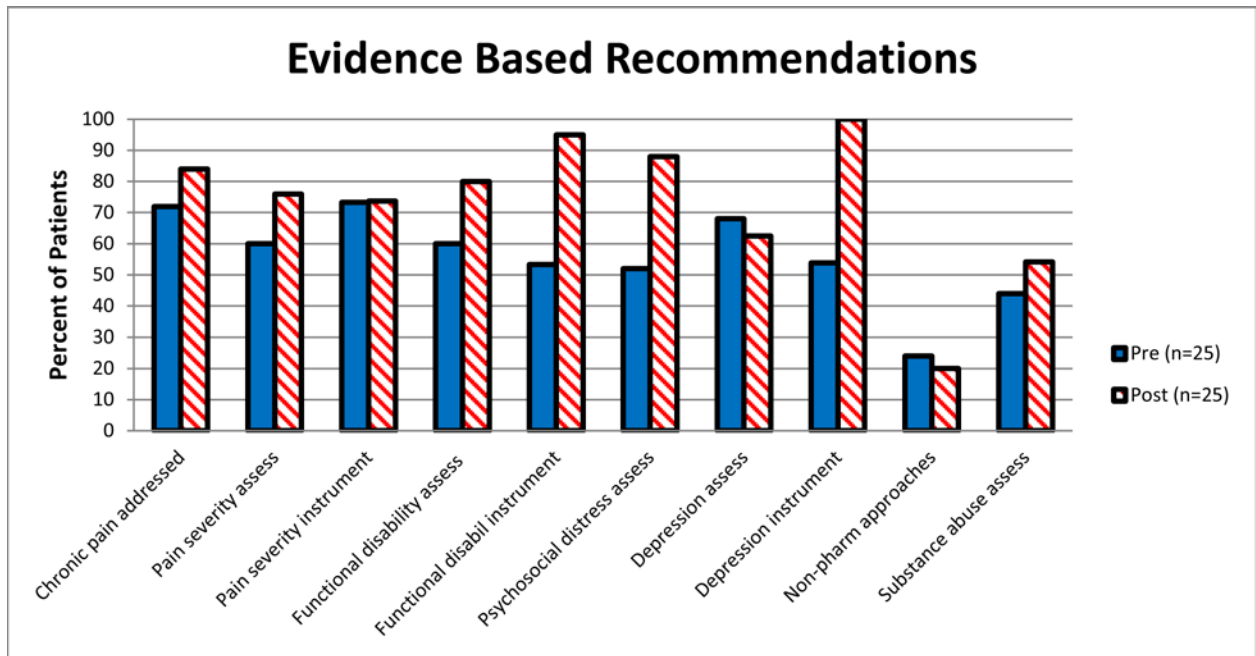
Key evidence based Recommendations

Important assessments in the care of patients with chronic pain include those for pain severity, functional disability, psychosocial distress, mood disorders (depression, anxiety) and substance abuse. In addition, the provision of non-pharmacological modalities and acknowledging and discussing the diagnosis of chronic pain with the patient were also noted. The following table lists the specific elements of assessment and management assessed in the chart review.

Evidence Based Recommendations

1. Is the chronic pain diagnosis addressed with the patient anywhere in the chart?
2. Is there evidence of level/amount of pain severity assessed?
3. If yes, has a structured instrument or quantitative measure been used to assess pain?
4. Is there evidence of level/amount of functional disability due to pain assessed?
5. If yes, has a structured instrument been used to assess functional disability?
6. Is there evidence of level/amount of psychosocial distress (relationships, anxiety, insomnia, financial, etc) has been assessed?
7. Has depression, sadness, mood been directly assessed?
8. If yes, has a structured instrument been used to assess depression?
9. Is there documentation that any non-pharmacological approaches have been tried, discussed or recommended? (e.g., physical therapy, counseling, back school, massage therapy, etc)
10. Has substance abuse been assessed or addressed anywhere in the chart?

Percentage of patient charts documenting assessments last 6 months



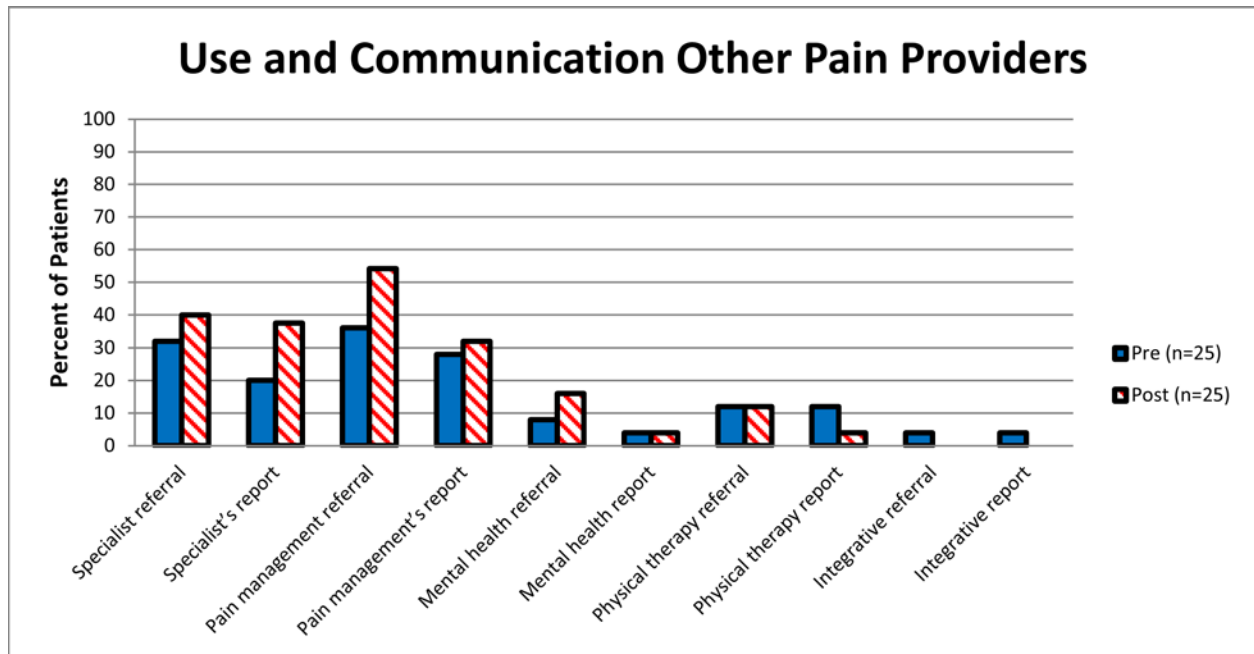
Referral to and communication with other pain care providers

A multi-disciplinary team is important in caring for patients with chronic pain.(14) We documented referrals to and communication with a number of multi-disciplinary providers, including pain management, physical therapy, mental/behavioral health, and integrative medicine (e.g., acupuncture, massage therapy or chiropractic). If we could not find actual documentation, but a physician note stated that the patient had used a specific modality or type of provider, or it had been tried in the past, that was noted as care obtained, but no report available. The post-intervention review includes only referrals and communication from the 6 month period 7/1/2014 – 1/1/2015, while the initial review also included referrals that may have happened prior to the 12 month review period of 7/10/12 – 7/10/13. Therefore, it is to be expected that many referrals may not have increased.

Use and Communication with other pain providers

1. Has a second opinion or care been obtained from a specialist (other than a pain specialist) to help diagnose the etiology of the pain or assist with diagnosis or management?
2. Is there a letter, report or communication available in the EHR from the specialist regarding the referral or the care?
3. Has a second opinion or care been obtained from a pain specialist to help diagnose the etiology of the pain or assist with diagnosis or management?
4. Is there a letter or report available in the EHR from the pain specialist regarding the referral?
5. Has a referral been made or care been obtained from a mental health professional (counselor, psychiatrist, psychologist)
6. Is there a letter, report or communication available in the EHR from the mental health professional regarding the referral or the care?
7. Has a referral been made or care been obtained from a physical therapist?
8. Is there a letter, report or communication available in the EHR from the therapist regarding the referral or the care?
9. Has a referral been made or care been obtained from a complementary or integrative care provider?
10. Is there a letter, report or communication available in the EHR from the complementary or integrative care provider regarding the referral or the care?

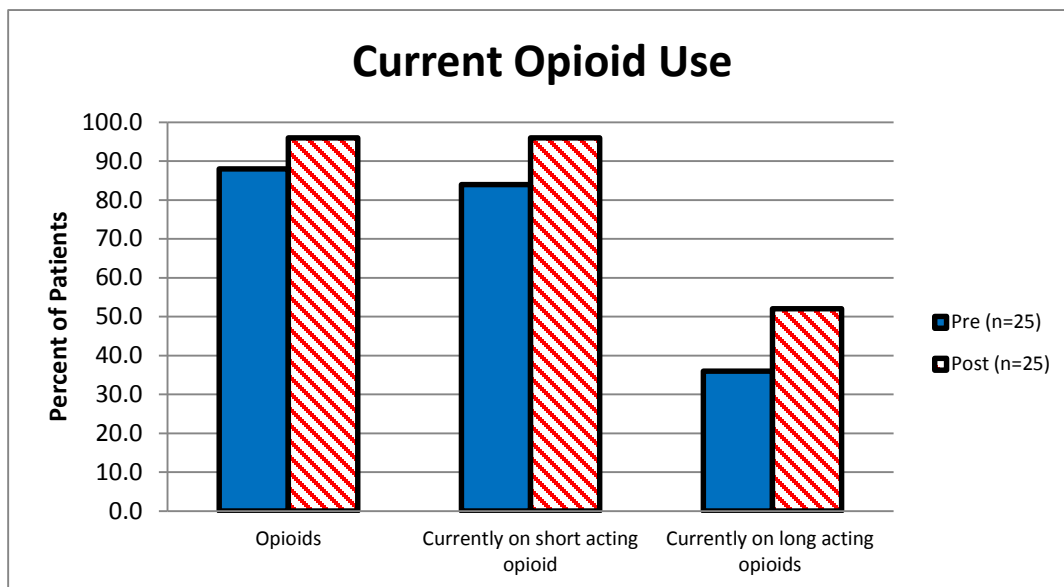
Percentage of patient charts documenting referrals and communication



Chronic opioid use and management

Medication lists, prescriptions and notes were reviewed for documentation of opioid prescriptions. If more than 3 prescriptions or notations of use were documented in the last 6 months, the patient was considered to be on chronic opioids. If the patient was on chronic opioids, then documentation of opioid management and risk was assessed.

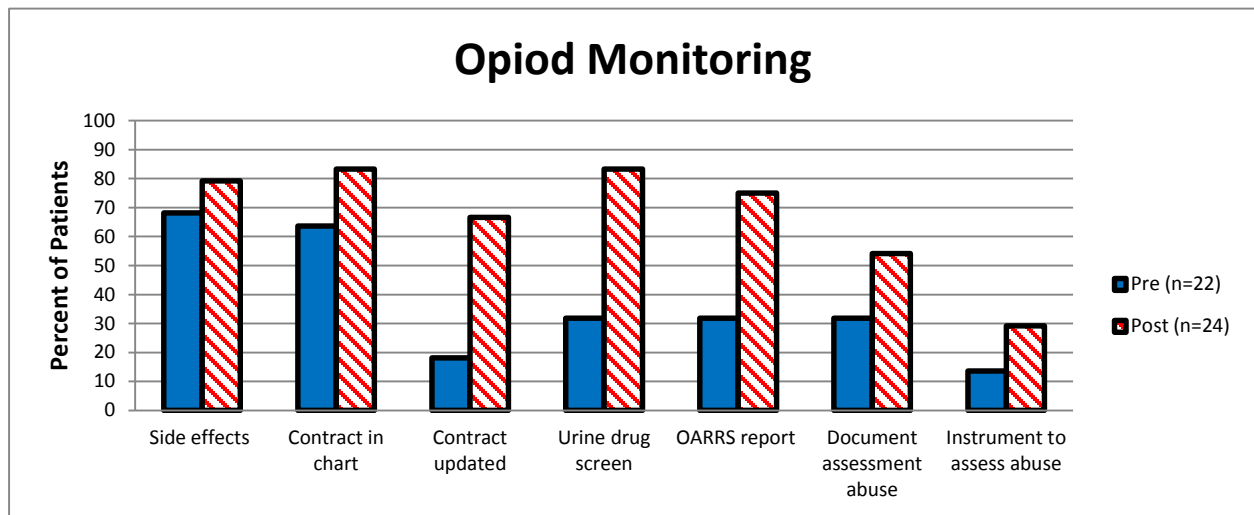
Percentage of patient charts on chronic opioids



Opioid Monitoring

1. Have side effects on opioids been mentioned or asked of patients?
2. Is there an opioid/pain/narcotic contract in the chart from any time period?
3. Has the opioid/pain/narcotic contract been updated or signed within the last 12 months?
4. Has a urine drug screen been performed within the last 12 months?
5. Is there an OARRS report in the chart or documented that one has been reviewed in last 12 months?
6. Is there documentation within the last 6 months of an assessment for potential abuse, misuse or diversion?
7. Was a tool or instrument used to assess potential abuse, misuse or diversion?

Percent of patients on opioids with opioid management documented



PHYSICIAN AND STAFF SURVEY

Overview

All providers (physicians, residents and nurse practitioners, as applicable) and nursing staff (RNs, LPNs, MAs and supervisory staff) were invited to complete a brief survey prior to the QI interventions and again approximately 16 – 18 months later. The survey asked questions specific to providers and nursing staff, as well as general questions that were the similar for both groups. Survey participation was not required, and not all providers and nursing staff participated at your site. **This analysis contains data ONLY from those who completed both an initial AND a post-intervention survey**

Demographics of participants

Physicians and Providers	
Total number of physicians/providers	N=3
Family Medicine Physician	66.7%
Internal Medicine Physician	
Internal Medicine/Pediatrics Physician	
Nurse Practitioner	33.3%
Physician Assistant	
Mean age of all providers	49 years
% of all providers that are men	66.7
Provider races	
White	66.7%
African-American	33.3%
Asian-American	
Other	

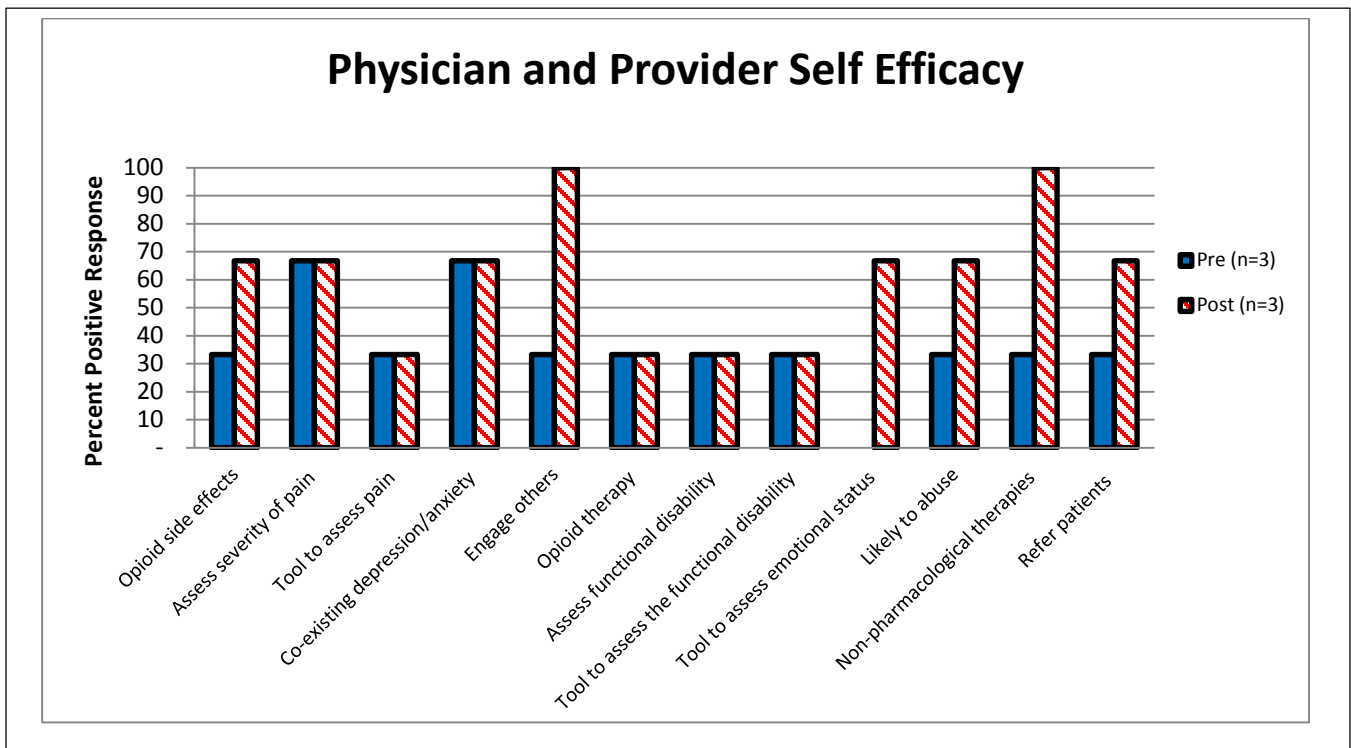
Nursing and MA Staff	
Total number of nursing staff	N= 3
% MA	66.7%
% LPN	
% RN	33.3%
% other	
Mean age of all nursing staff	36 years
% of all nursing staff that are men	0
Nursing staff races (all)	
White	100%
African-American	
Other	

Self-efficacy

Self-efficacy, or the confidence a person has that they can successfully complete or perform a task, is an important step not only in actually performing task, but in changing behaviors towards performance. We asked providers and nursing staff to rate their confidence to perform a number of tasks associated with caring for patients with CNMP. The figures below report the percentage of participants who felt they were fairly or extremely confident they could perform each listed task.

Percent of PROVIDERS that feel fairly or extremely confident they could:

1. Manage chronic opioid side effects for patients with CNMP
2. Accurately assess the amount of pain a patient with CNMP is experiencing
3. Meet Ohio state law for all my patients with CNMP on chronic opioids
4. Diagnose and manage co-existing depression or anxiety in patients with CNMP
5. Engage other staff members in the care of patients with CNMP
6. Initiate opioid therapy for a patient with CNMP with the most appropriate long acting opiates
7. Accurately assess the amount of functional disability a patient with CNMP is experiencing
8. Determine which patients with CNMP are likely to abuse, misuse or divert opioid drugs
9. Use a tool to REGULARLY assess the emotional status of patients with CNMP
10. Determine which patients with CNMP are likely to abuse, misuse or divert opioid drugs
11. Easily determine which non-pharmacological therapies will be most effective for my patients with CNMP
12. Easily refer my patients with CNMP to appropriate specialists and consultants

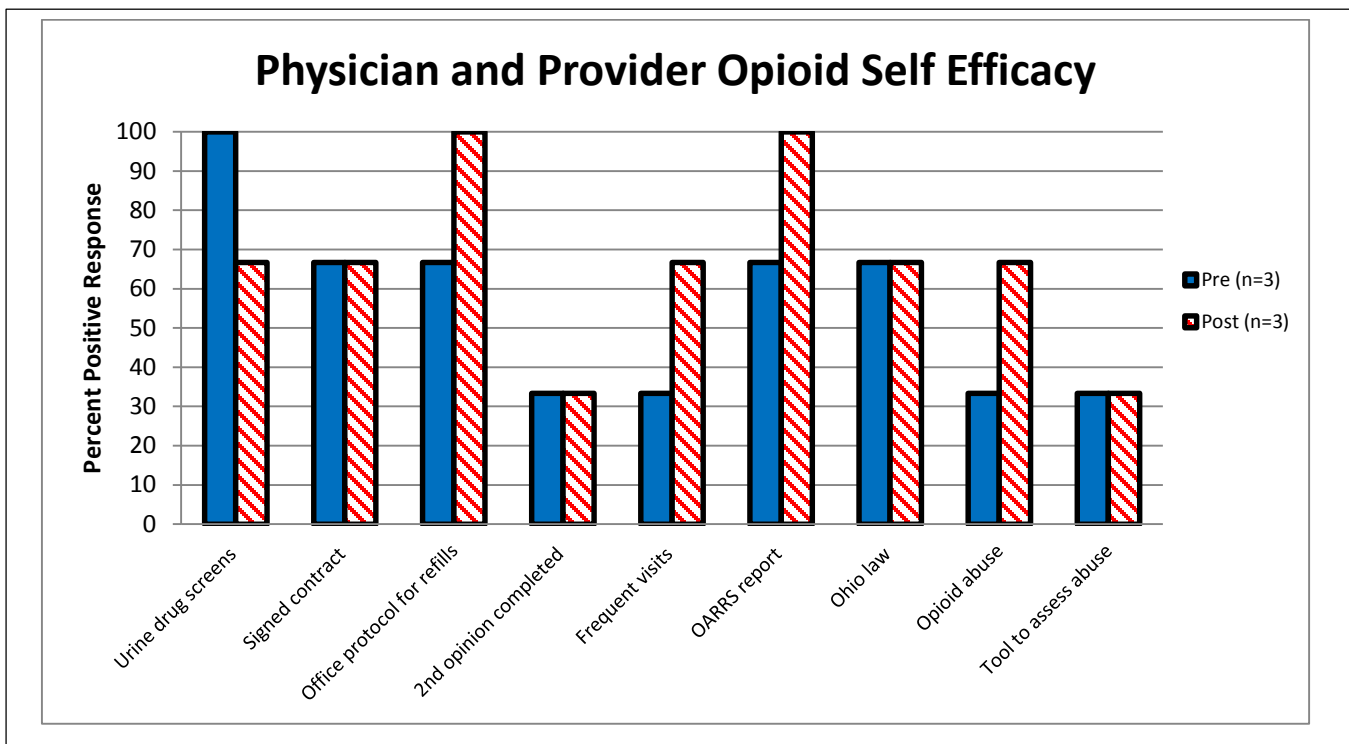


Chronic Opioid Self-Efficacy

For those providers who care for patients on chronic opioids, we asked, How confident are you that you can do or order the following tasks regularly (almost all the time) for patients on chronic opioids? Again, these results show the percentage of participants who felt they were fairly or extremely confident they can do this on almost all their patients on chronic opioids.

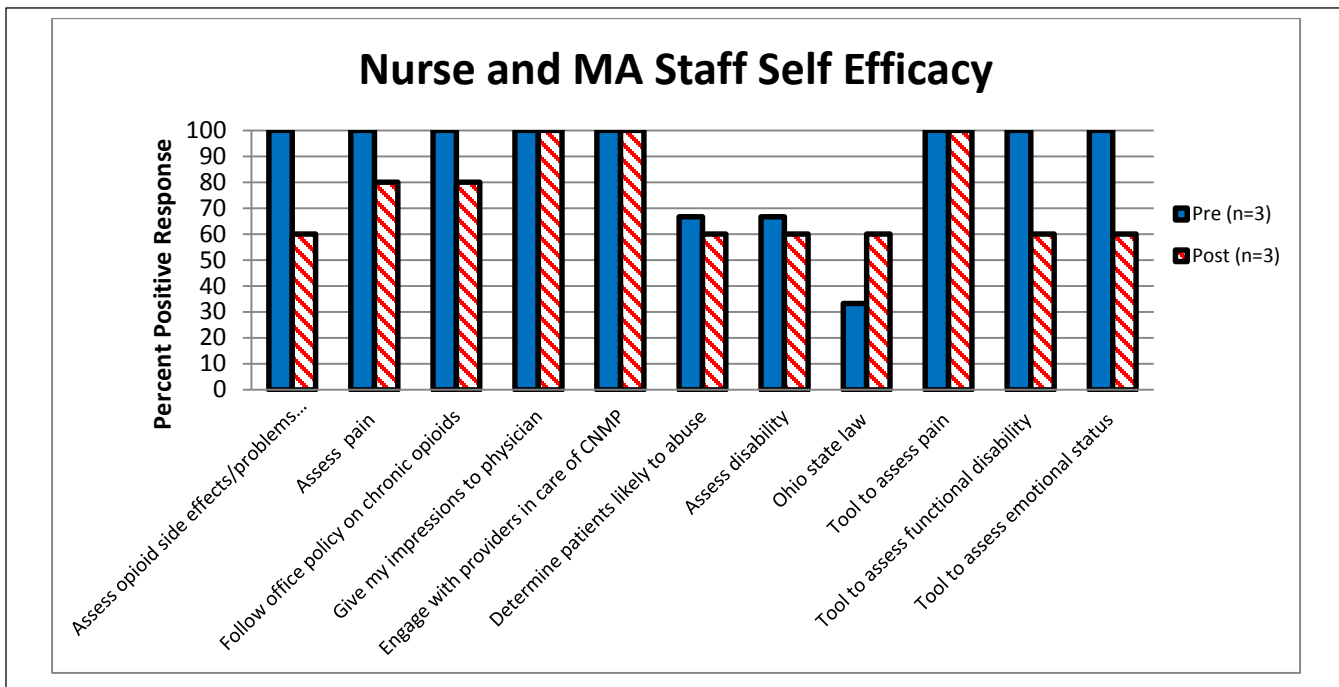
Percent of PROVIDERS that feel fairly or extremely confident they could do or order the following tasks regularly (almost all the time) for chronic pain patients:

1. Urine drug screens yearly or when concern arises
2. Signed opioid or pain contract of informed consent document
3. Follow an office protocol and system for managing opioid prescription refills
4. Assure that a second opinion has been completed when indicated
5. Schedule frequent visits (every 1-3 months)
6. Assure that an OARRS report is obtained yearly or whenever concern arises
7. Meet Ohio state law regarding prescribing and monitoring chronic opioids
8. Assess for opioid abuse, misuse, or diversion
9. Use a tool to regularly assess for opioid abuse, misuse, or diversion



Percent of NURSING STAFF that feel fairly or extremely confident they could:

1. Assess patients for chronic opioid side effects or problems during medication reconciliation
2. Accurately assess the amount of pain a patient with CNMP is experiencing
3. Always follow an office policy for the monitoring of patients with CNMP on chronic opioids
4. Give my nursing/MA impressions to the physician regarding every patient with CNMP I see
5. Engage with physicians and providers in the care of patients with CNMP
6. Determine which patients with CNMP are likely to abuse, misuse or divert opioid drugs
7. Accurately assess the amount of functional disability a patient with CNMP is experiencing
8. Know whether a patient meets Ohio state law for patients with CNMP on chronic opioids
9. Use a tool or instrument to REGULARLY assess the severity of pain in patients with CNMP
10. Use a tool or instrument to REGULARLY assess the functional disability of patients with CNMP
11. Use a tool or instrument to REGULARLY assess the emotional status of patients with CNMP

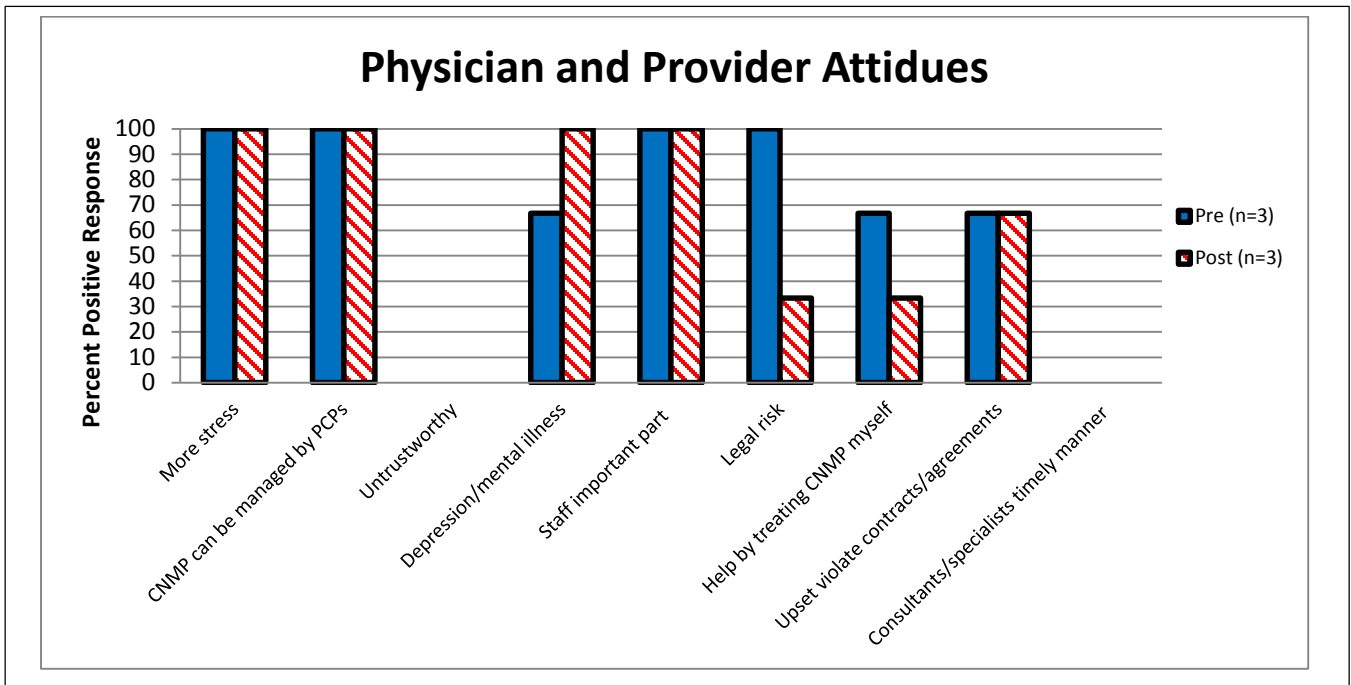


Attitudes

We asked providers and nursing staff how they feel about providing care to patients with CNMP by asking their level of agreement with a number of statements about patients with CNMP and potential components of their care. Oftentimes, provider and nursing discomfort limit effectiveness in providing the best care. The figures below report the percentage of participants who agreed or strongly agreed with each statement.

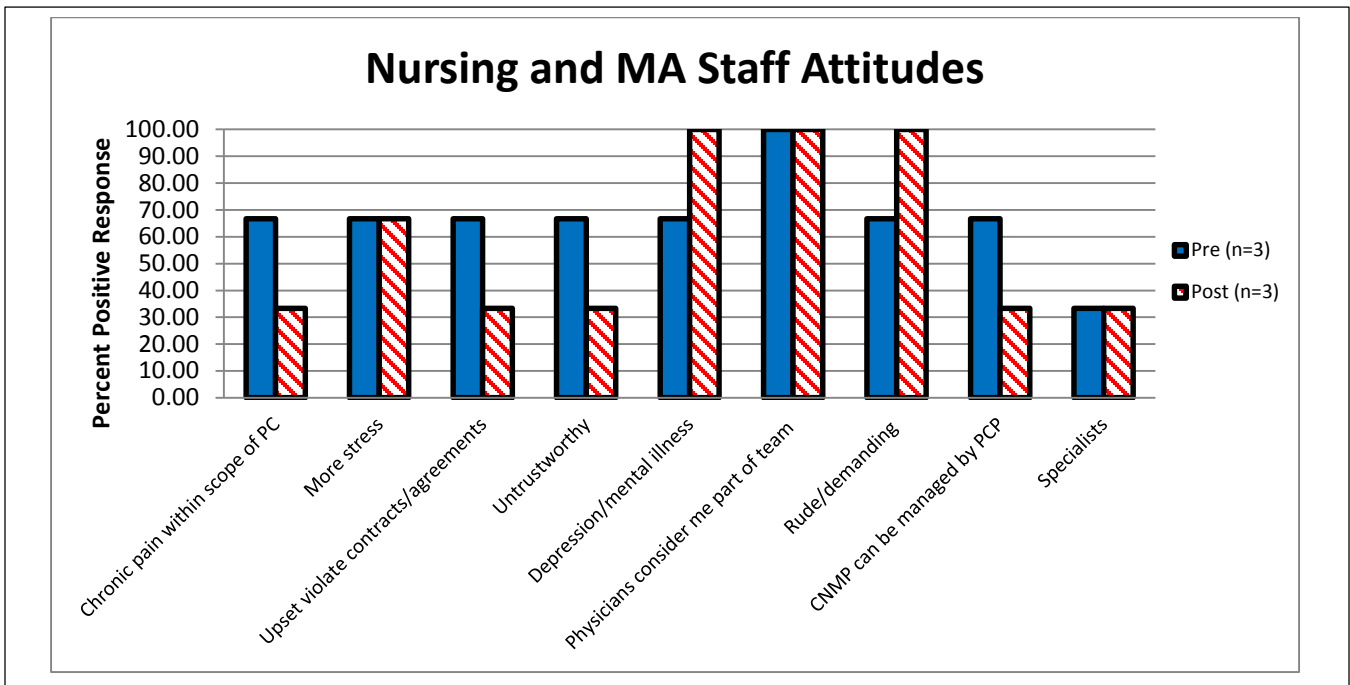
Percent of PROVIDERS who agree or strongly agree with the following:

1. I feel more than usual stress in dealing with patients with CNMP
2. I believe patients with CNMP can be managed by primary care physicians
3. Patients with CNMP are usually untrustworthy
4. Patients with CNMP frequently have depression or some other mental illness
5. My staff and MAs are an important part of the team that cares for patients with CNMP
6. I feel that managing patients with CNMP puts me at legal risk
7. I feel that I can truly help patients by treating their CNMP myself
8. I become angry or upset when patients violate their pain contracts or spoken agreements with
9. Finding consultants or specialists who will see my patients with CNMP in a timely manner is



Percent of NURSING STAFF who agrees or strongly agrees with the following:

1. I believe chronic pain management is within the scope of primary care
2. I feel more than usual stress in dealing with patients with CNMP
3. I become angry or upset when patients violate their pain contracts or spoken agreements with our practice
4. Patients with CNMP are usually untrustworthy
5. Patients with CNMP frequently have depression or some other mental illness
6. Physicians in this office consider me an important part of the team that cares for patients with CNMP
7. Patients with CNMP are often rude and demanding when they call the office
8. I believe that patients with CNMP can be managed by primary care physicians
9. It is easy for our office to get patients with CNMP to be seen by needed specialists



Conclusion:

Managing patients with chronic non-malignant pain remains difficult for most primary care physicians and their staffs. While the numbers in your practice are too small to assess for statistical significance, there were definite areas of improvement in the provision of evidence based assessment and management.

Our study team would be pleased to meet with you to discuss these findings, and to share with you the overall findings of the study. Please contact the study PIs, Dr. Jill Boone or Dr. Nancy Elder to arrange.

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Practice: Site 1

Patient Panel Size: 4202

Type: Hospital Based

Percent Medicaid: 58%

Project Focus: PEG Implementation

of QI Meetings: 14

of Emails: 27

QI Deliverables: Key Driver Diagram, Process Map, Excel Run Chart Tool, Data Reports

Improvement: % CNMP patients who received a PEG improved from 0% in January 2014 to 50% in September of 2014

Practice: Site 2

Patient Panel Size: 4550

Type: Hospital Based

Percent Medicaid: 46%

Project Focus: Standardize Opioid Refills

of QI Meetings: 27

of Emails: 50

QI Deliverables: Key Driver Diagram, Process Maps, Training Manual, Training Video

Improvement: Implementation of automated EMR smart phrase to standardize opioid refill process and error proof inclusion of key regulatory information in progress note

Practice: Site 3

Patient Panel Size: 3,312

Type: Community Based

Percent Medicaid: 25%

Project Focus: PEG Implementation

of QI Meetings: 6

of Emails: 13

QI Deliverables: Key Driver Diagram, Process Maps, Excel Run Chart Tool, Data Reports

Improvement: % CNMP patients who received a PEG improved from 0% in January 2014 to 58% in September of 2014.

Practice: Site 4

Patient Panel Size: 3,921

Type: Community Based

Percent Medicaid: 2%

Project Focus: PEG Implementation

of QI Meetings: 20

of Emails: 24

QI Deliverables: Key Driver Diagram, Process Map, Excel Run Chart Tool, Data Reports

Improvement: % CNMP patients who received a PEG improved from 0% in January 2014 to 38% in September of 2014

Improving Chronic Pain Care in Primary Care: QI Summary For “Practice A”

QI Advisor: Amy Short, MHSA

Practice: De-identified

Clinic Leadership: De-identified

Provider Champions: De-identified
De-identified

Staff Champion: De-identified

Practice Description

- **Hospital- Based**: Defined as a clinic providing “outpatient service” as listed on the hospital’s general acute-care license issued by the State Department of Public Health. These are subject to stricter government rules, making them more complex and more costly to operate.
- **Combined Faculty and Resident Practice**: Residents and faculty work together in the same clinic.

Practice Demographics	CY 2014
Number of Patients	4,202
Number of Visits	12,632
Number of Providers	35
Number of Clinical Staff	8

Payor Mix	CY2014
Commercial	19%
Medicaid	58%
Medicare	18%
Self Pay	5%

Practice Context/Background

- History of successful QI engagements.
 - Primary site of a HRSA Sickle Cell Demonstration Project since 2006.
 - Began trialing group visit model in 2008.
 - Received Immunization Coverage Improvement Award (27% increase) from Ohio Department of Health in 2011.
 - Received Journey to High Performance Award from Press Ganey in 2011.
 - PCMH level 3; initial certification on 07/15/12; recertified on 7/15/2015.

Project Selection

- In this practice, pain assessment was consistently high, but the method unreliable.
- The project team selected the implementation of a pain assessment tool with known psychometric properties as their improvement project.
 - **The PEG** (Intensity of Pain, interference with Enjoyment of life, interference with General activity).

QI Coaching

January –September 2014

- Lean Six Sigma/IHI Model for Improvement.
 - 14 meetings with QI advisor; mostly biweekly.
 - 27 project related emails.
 - 6 deliverables from QI advisor.
 - **Key Driver Diagram**
 - **PEG Visual Aid**
 - **Process Map**
 - **PEG Staff/Provider Training Materials**
 - **Run Chart Tool**
 - **Ongoing EMR Data Reports**

Smart AIM

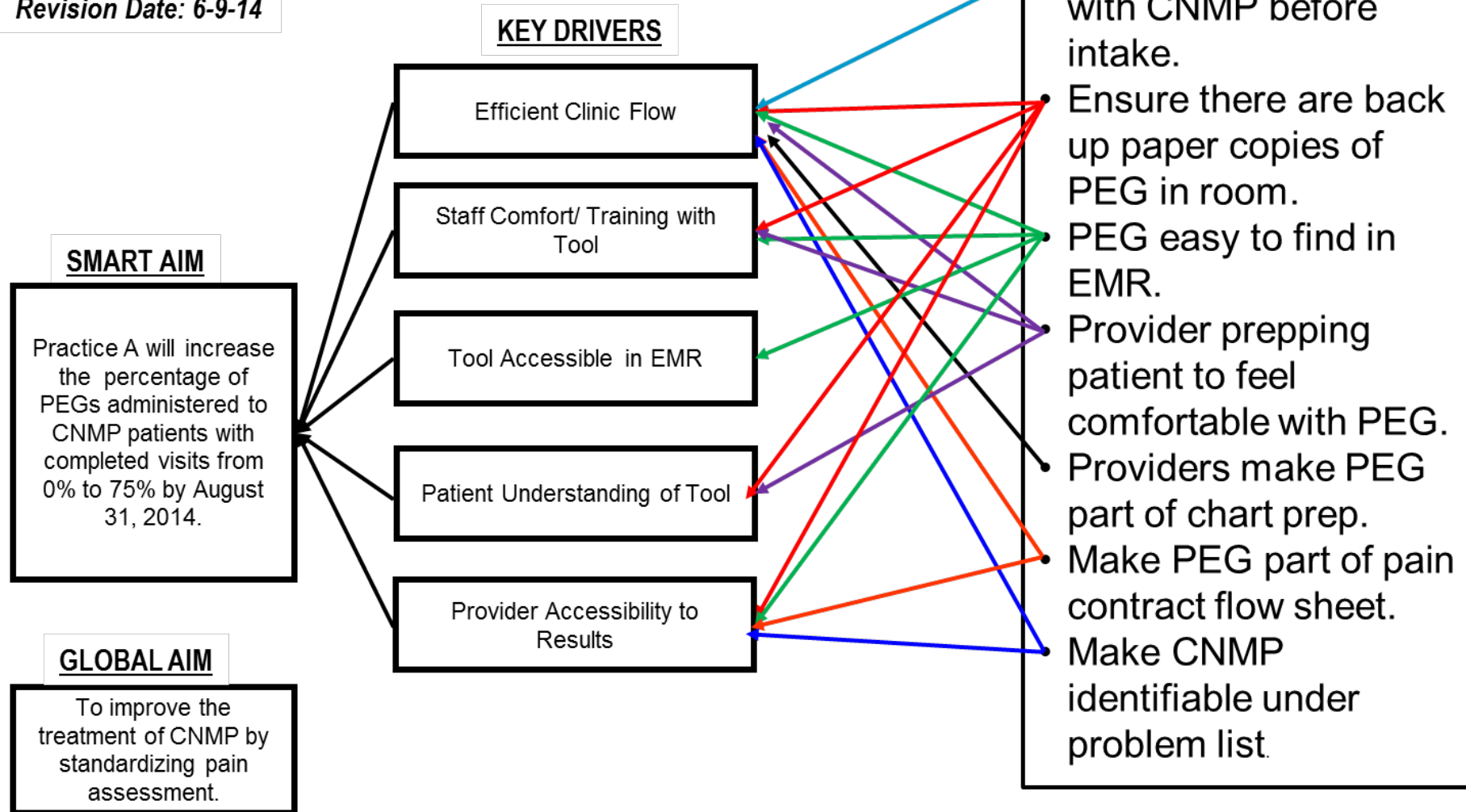
Practice A will increase the percentage of PEGs administered to CNMP patients with completed visits from 0% to 75% by August 31, 2014.

KEY DRIVER DIAGRAM

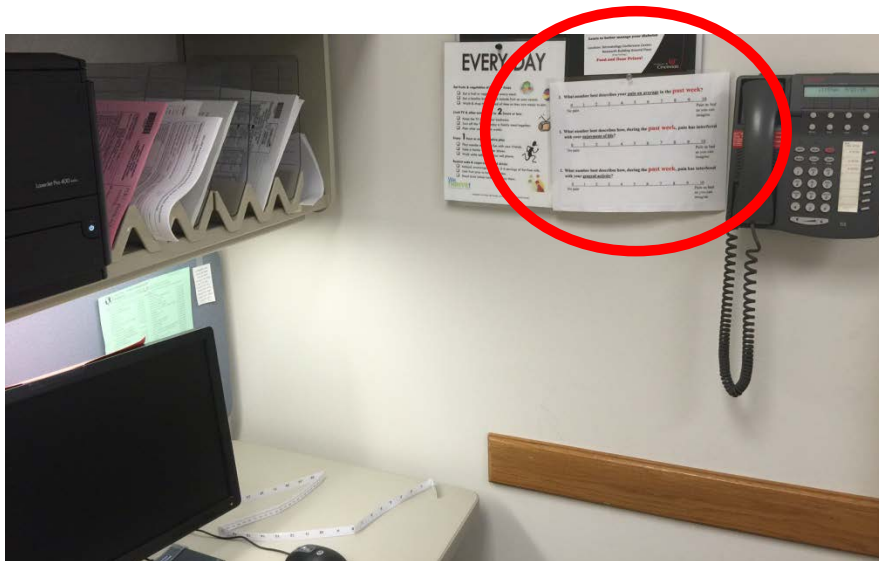
Project Name: Practice A
Project Leader: De-identified

INTERVENTIONS

Revision Date: 6-9-14



PEG VISUAL AID



1. What number best describes your pain on average in the **past week**?

0 1 2 3 4 5 6 7 8 9 10
No pain Pain as bad as you can imagine

2. What number best describes how, during the **past week**, pain has interfered with your enjoyment of life?

0 1 2 3 4 5 6 7 8 9 10
No pain Pain as bad as you can imagine

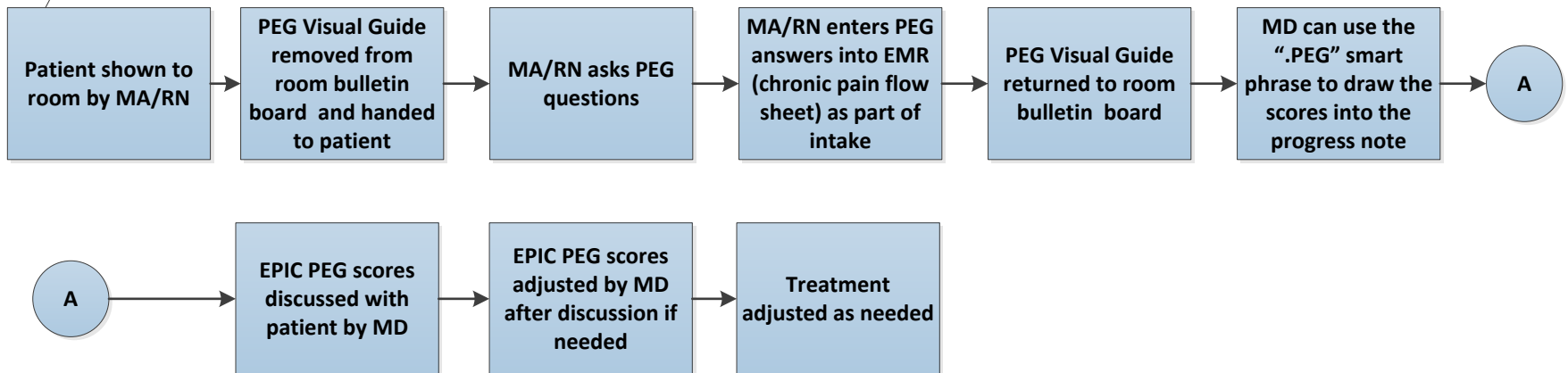
3. What number best describes how, during the **past week**, pain has interfered with your general activity

0 1 2 3 4 5 6 7 8 9 10
No pain Pain as bad as you can imagine

Visual aid was hung in the exams rooms and used to help patients better follow the instructions.

Process for Practice A Use of PEG Tool for Patients with CNMP

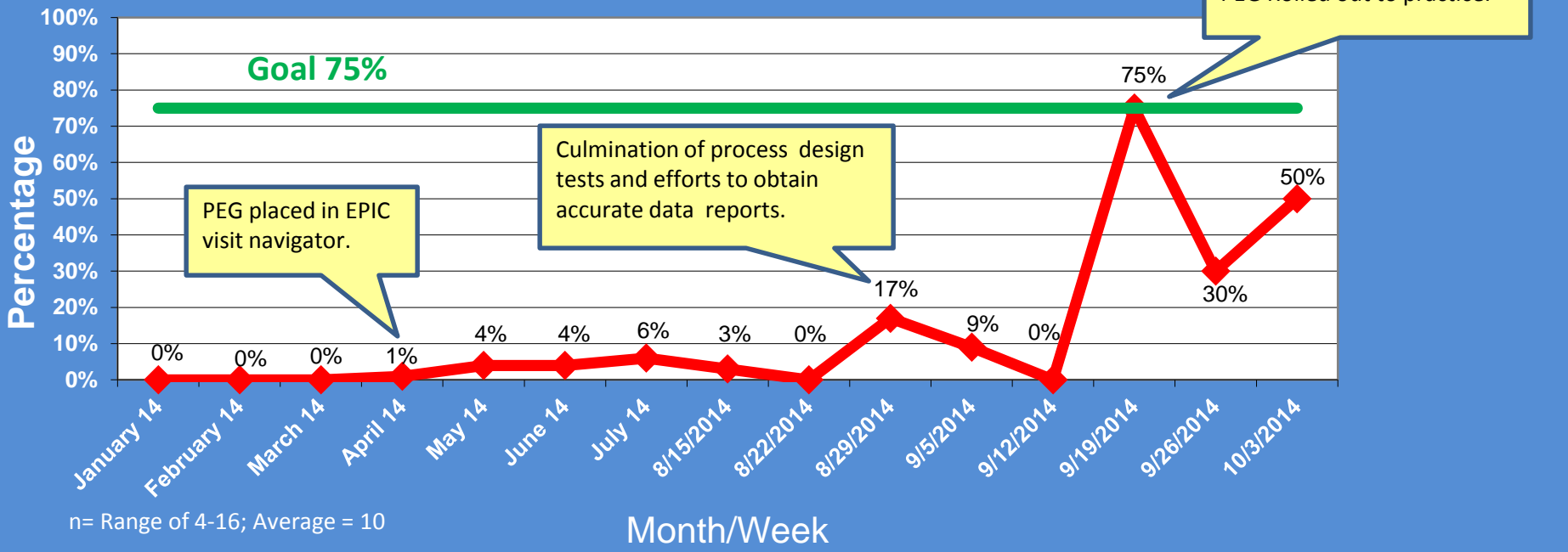
“Chronic Pain Flow Sheet” will appear in visit navigator if patient has CNMP ICD-9 code in their problem list



As this was a new process design there was no current state process map prior to the implementation of the PEG.

Run Chart

Practice A- Percent of Patients With a Visit Dx of Chronic Pain Who Received a PEG



Sustainability

- Strategies practice used to sustain their improvements:
 - Displayed PEG run chart in weekly staff meeting.
 - Provided educational handouts.
 - Trained staff.
 - Clinic leadership agreed to train incoming staff on use of PEG ongoing.
 - Automated PEG metric for run chart sent monthly to clinical leadership ongoing.

Practice Challenges

- Busy practice – nursing leadership carefully monitored staff work load and project interface.
- Highly conflicted schedules, reducing number of possible QI meetings.
- Long system delays in getting the PEG placed into EMR.
- Challenges getting accurate PEG usage data out of EMR.
- Small population of patients with CNMP made metric highly variable.

Practice Strengths

- PCMH Level 3 certified practice.
- Physician Champion also part of Pfizer grant team.
- Engaged staff team member.
- Practice has a tradition of education of staff and providers in continuing improvement through practical project work.
- Hospital based practice held to Joint Commission pain assessment standards.

Lessons Learned

- Aligning improvement work to the priorities of the practice site improves team engagement.
- This engagement facilitated the practice's later participation in our next Pfizer project: Longitudinal Chronic Pain Group Visits.
- Getting a new tool placed reliably into the EMR, as well as obtaining accurate data reports, requires heavy commitments of time and effort.

The Quality of Chronic Pain Assessment and Management in the Cincinnati Area Research and Improvement Group (CARInG)

Nancy Elder MD MSPH¹, Mary Beth Vonder Meulen RN¹, Ryan Imhoff¹, Harini Pallerla MS¹, Amy Short MHSA², Tiffany Diers MD², Barb Speer BS³, Rana Jawish MD⁴, Jill Boone PharmD⁴

University Of Cincinnati (UC) Dept. of Family and Community Medicine¹; UC Dept. of Internal Medicine²; UC Office of Continuous Professional Development³; UC College of Pharmacy⁴

Introduction

Chronic non-malignant pain (CNMP) is common in primary care settings but presents many difficulties for clinicians and their staffs to assess and manage. Twelve primary care offices of the CARInG Network affiliated with a large academic health center are participating in a larger study to improve the care of patients with CNMP. As part of that study, we examined:

- Quality of CNMP assessment and management based on the Primary Care Pain Process Checklist (PPC-7) (Pain Medicine 2011;12:1490-1501)
- Documentation of chronic opioid monitoring based on guidelines and Ohio statute for Opioid Monitoring (OM-5) (J Pain 2009;10:113-130)
- Clinician and medical assistant (MA)/nursing staff attitudes towards chronic pain care

Methods

Chart Review: EHR searched for patients who had ≥ 2 visits between 7/10/12 – 7/10/13 with a provider in participating practices in which at least one chronic pain-related ICD-9 diagnosis code (preferentially chronic pain or chronic pain syndrome) was assigned at both visits.

We reviewed: every note in the 12 months related to pain; medication and problem lists; laboratory and testing results; correspondence with other providers; letters and notes; orders and referrals; flow sheets.

Provider survey: All providers (physicians, residents and nurse practitioners, as applicable) and nursing staff (RNs, LPNs, MAs and supervisory staff) were invited to complete a survey covering CNMP care self-efficacy, attitudes and practice culture. Not all participated in the survey.

Results

Participants:

- Twelve family medicine (4), internal medicine (4, including 1 IM Residency) and medicine/pediatric (4) practices participated
- 465 patient charts reviewed (6 – 15/provider): mean age 55, 62% female; 63% White, 36% AA; 268 (58%) prescribed opioids
- 65 providers and 68 nursing /MA staff completed surveys

Table 1: Chart documentation of PPC-7 at all practices (n=465)

Pain Process Checklist (PPC-7)	% documented (range at practices)
Chronic Pain Addressed	69 (20–90)
Measured Pain Severity Quantitatively	69 (0-100)
Functional Status Addressed	62 (28-85)
Psychosocial Issues Addressed	51 (0-62)
Depression Assessed	40 (10-60)
Nonpharmacologic Approach Considered	47 (20-64)
Substance Use Assessed	28 (0-43)

Mean number of PPC-7 items documented per patient was 3, with means at each practice ranging between 2 – 4; 4% of patients had all PPC-7 items documents and 4% had none documented.

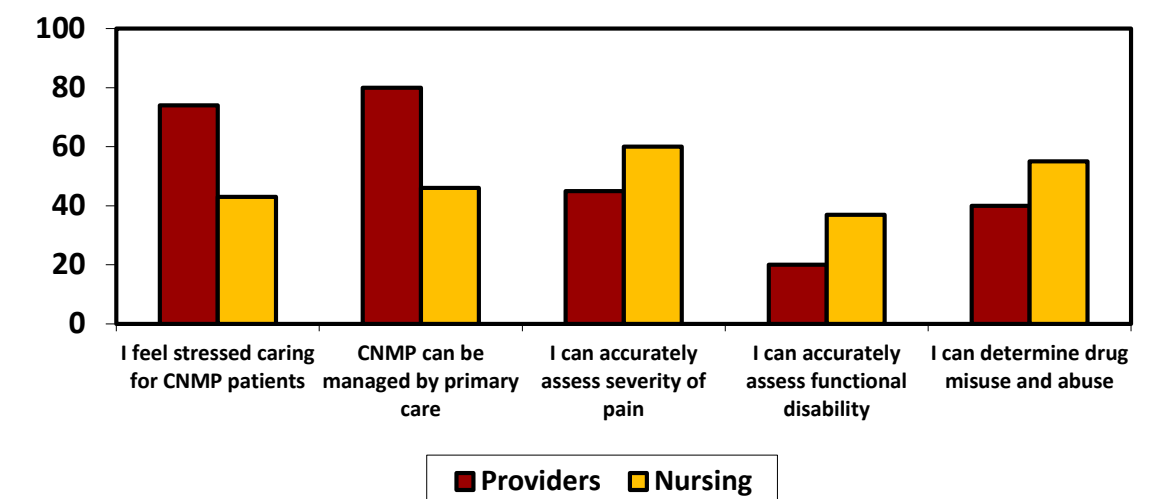
Table 2: Chart opioid documentation at all practices (n=268)

Opioid Monitoring Checklist (OM-5)	% documented (range at practices)
Side Effects Addressed	74 (13-100)
Opioid Contract Current	47 (7-72)
Urine Drug Screen Current	54 (6-88)
State Opioid Prescription Report	57 (7-88)
Abuse or Misuse Assessed	29 (0-80)

Mean number of OM-5 items documented per patient was 2, with means at each practice ranging between 1 – 3; 9% of patients on opioids had all OM-5 items documents and 72% had none.

Chart 1: Self-efficacy, attitude, practice culture survey results

Percent of participants agreeing/strongly agreeing with each statement



Conclusions

- Primary care providers believe they can manage patients with CNMP.
- But it causes stress and they struggle to practice and/or document evidence based care for patients with CNMP and to monitor those on chronic opioid therapy.
- Practice nursing staff feel less stressed than providers and more confident assessing patients with CNMP, but are less likely to believe CNMP can be managed in primary care.
- The rate of chronic opioid therapy (58%) is higher than often reported, likely due to preferentially identifying patients by use of chronic pain syndrome ICD-9 codes – which was chosen for ease in identifying patients but is more likely to be applied to those patients on opioids.

Future Directions

These practices are now participating in a trial of Quality Improvement techniques to improve the management of patients with CNMP: Active QI support, academic detailing, data feedback and EHR enhancements vs. Passive data feedback and EHR enhancements.

Acknowledgements

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Presented at the Annual Practice Based Research Network Meeting of the North American Primary Care Research Group, Bethesda, MD, June, 2014.

Elder NC, Vonder Meulen M, Imhoff R, Pallerla H, Short A, Diers T, Speer B, Jawish R, **Boone J**. The quality of chronic pain assessment and management in the Cincinnati Area Research and Improvement Group (CARInG).

Evidence-Based Chronic Pain Assessment and Management: Does Patient Centered Medical Home Certification Make a Difference?

Nancy C. Elder, MD, MSPH
for the Improving Chronic Pain Care Team
University of Cincinnati

Funded by a Pfizer Independent Grant for Learning and
Change

Background

- Chronic non-malignant pain (CNMP) can be a struggle for clinicians to assess and manage.
- Recent evidence suggests that team and multidisciplinary care is associated with better pain outcomes
- Key components of the Patient Centered Medical Home model are integrated, coordinated and team care.
- Role of PCMH certification in the care of difficult, complex patients, like those with CNMP is unknown.



Study goal

- Part of a larger study of QI techniques to improve chronic pain care in primary care
- Is PCMH certification associated with better CNMP assessment and management in primary care offices of the Cincinnati Area Research and Improvement Group (CARInG) during initial practice assessment?

Primary Care Pain Process

- Eight primary care key guidelines for management of chronic musculoskeletal pain (Pain Medicine 2011;12:1490-1501)
 - Chronic pain addressed
 - Functional status addressed
 - Pain severity measured quantitatively
 - Psychosocial issues addressed
 - Depression addressed
 - Nonpharmacologic approach considered
 - substance use addressed
 - For those on opioids: side effects of opioids addressed
- 2011 VA study found that physician education, symptom monitoring & feedback to clinicians did not improve the number of patients achieving each guideline

Chart Review

- Random sample of patients seen by clinicians at 12 academic health center affiliated practices
 - who had at least 2 visits between 7/2012 – 7/2013 with the diagnosis of chronic pain. (6 – 15 patient charts/provider)
- Presence of Primary Care Pain Process components were compared by if, and when, the practice had achieved NCQA PCMH Certification

Office practices: PCMH

- PCMH Certification:
 - 2010: 3 practices
 - 2012: 5 practices
 - 2013 or later: 4 practices

Demographics (From a practice survey)	PCMH 2010	PCMH 2012	PCMH 2013+
Total Number of Providers	N=31	N=18	N=16
Residents: Yes	58.1%	0	0
Family Med Physician	9.7%	35.3%	25%
Internal Med Physician	77.4%	11.8%	68.8%
Internal Med Peds Physician	12.9%	29.4%	6.3%
Nurse practitioner/physician ass't	0	23.5%	0
Mean Age of all Providers	34 years	45 years	37 years
Percent of Providers that are Female	33%	67%	50%
Provider Race/Ethnicity			
White	66.7%	68.8%	87.5%
African-American	6.7%	18.8%	6.3%
Asian-American	26.7%	12.5%	6.3%
Hispanic	6.5%	0	6.7%

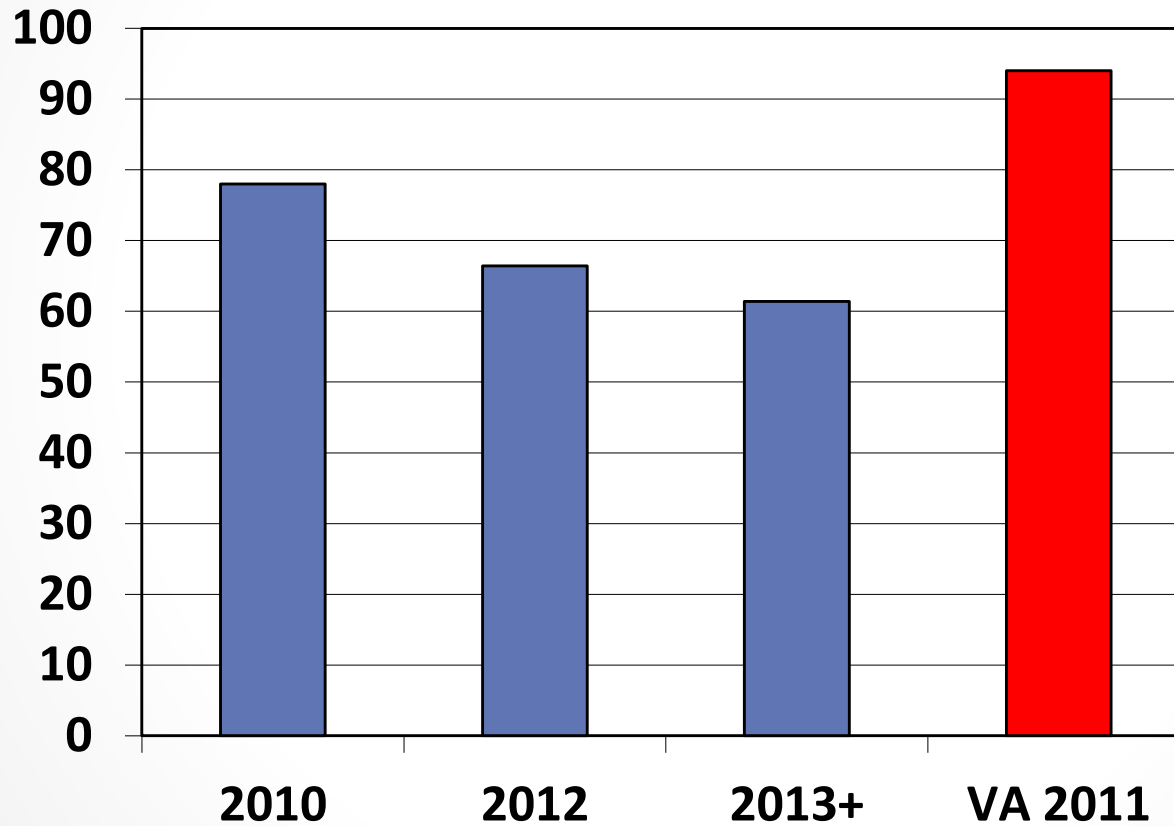
Patient demographics by practice PCMH status

	PCMH(2010) (n=128)	PCMH(2012) (n=242)	PCMH(2013+) (n = 115)
Mean age (range)	61.6	58.2	56
Percent of patients that are female	50.4%	70.2%	55.7%
Race and Ethnicity (percent)			
White	70%	50%	88%
African-American	30%	48%	10%
Asian-American/ Other	0	2%	2%
Hispanic	1%	1%	2%

Pain Process Key Guidelines

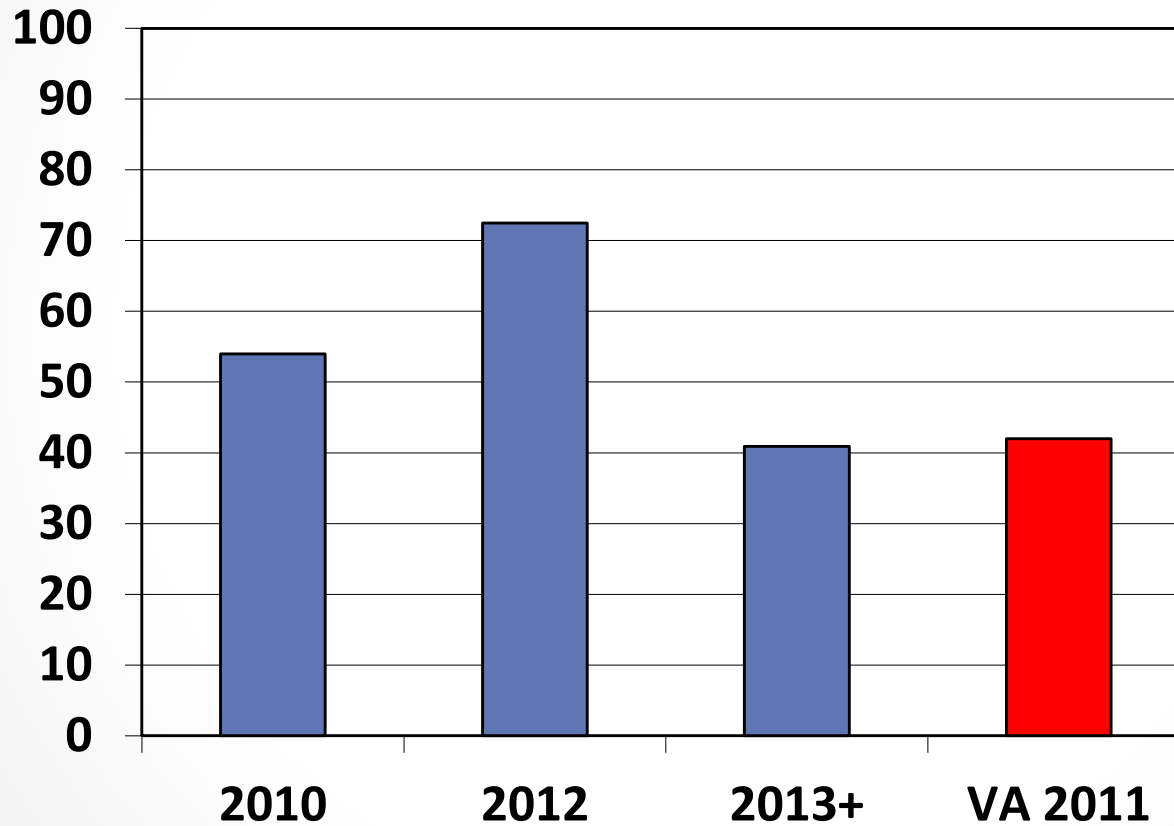
- Percent of patient charts meeting each guideline
- By year of PCMH certification
 - 3 way chi-square analysis
- Benchmark to 365 VA patients 2008

Chronic pain addressed with patient anywhere in chart?



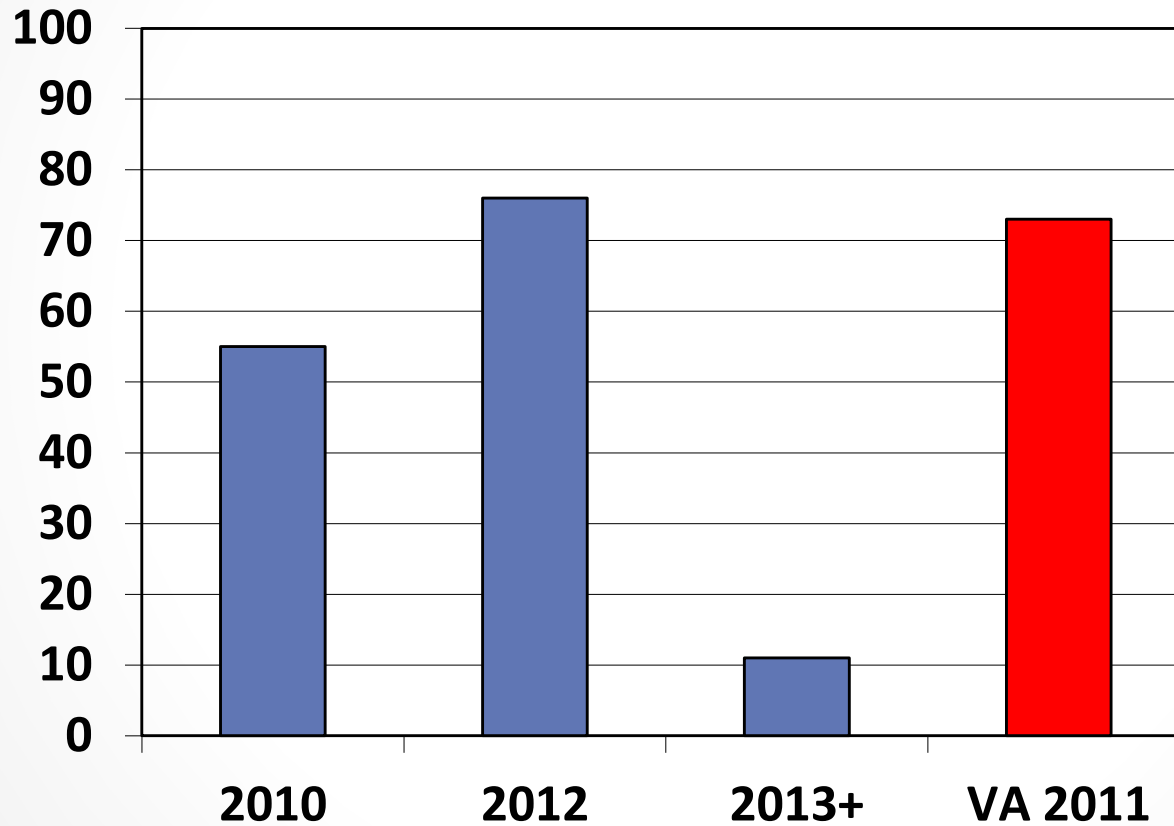
Differences between groups $P=.01$

Functional status addressed?



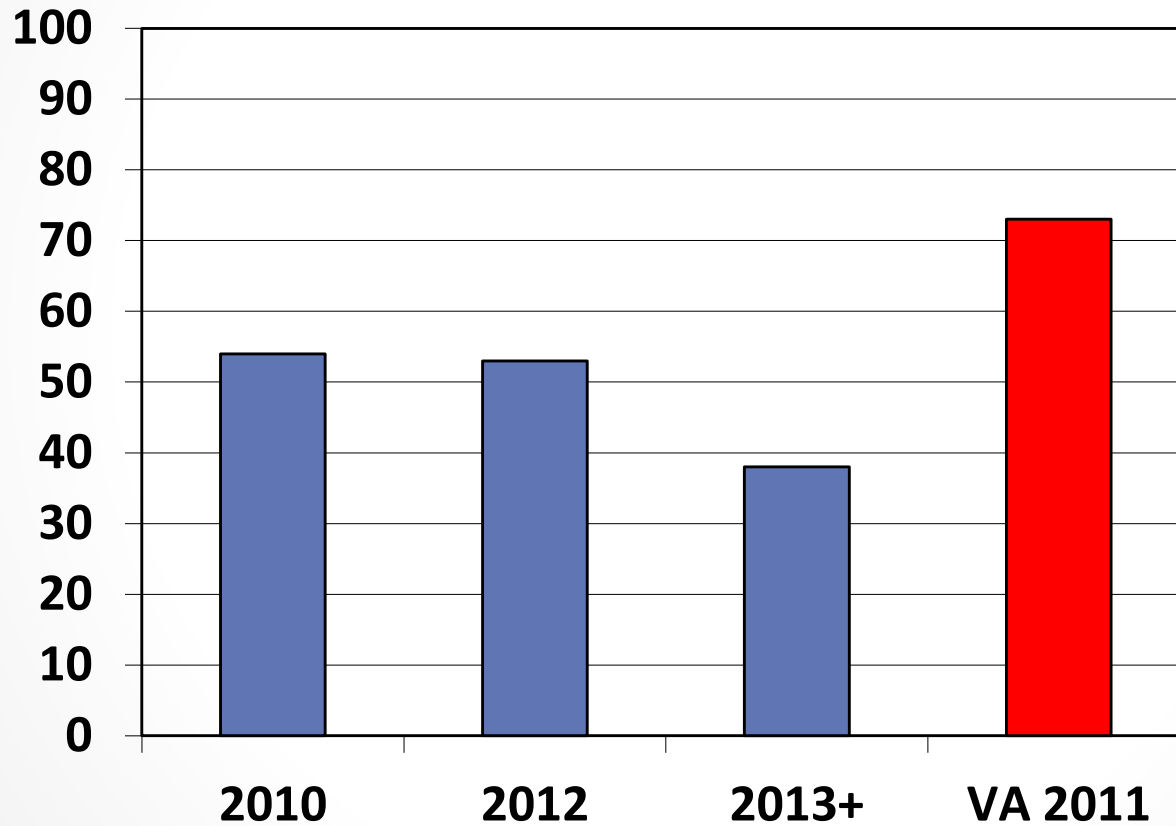
Differences between groups $P=.01$

Pain severity measured quantitatively?



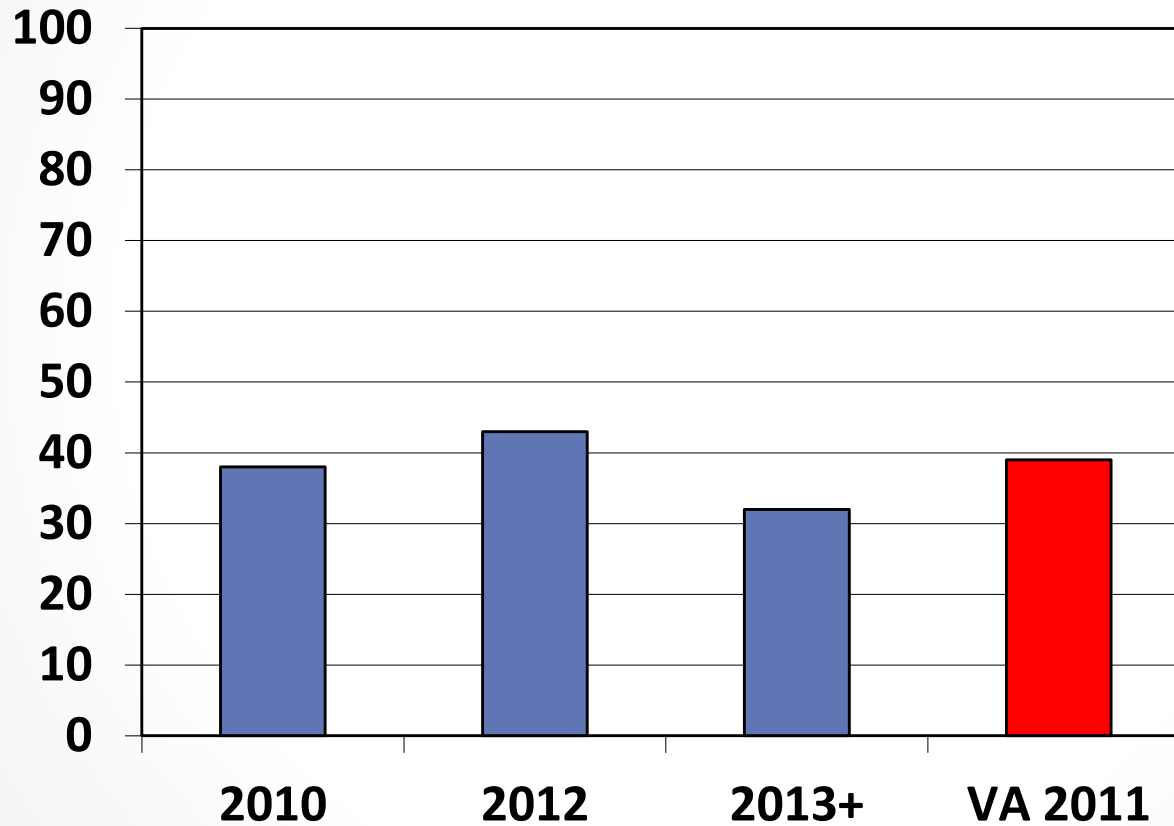
Differences between groups $P < .001$

Psychosocial issues addressed?



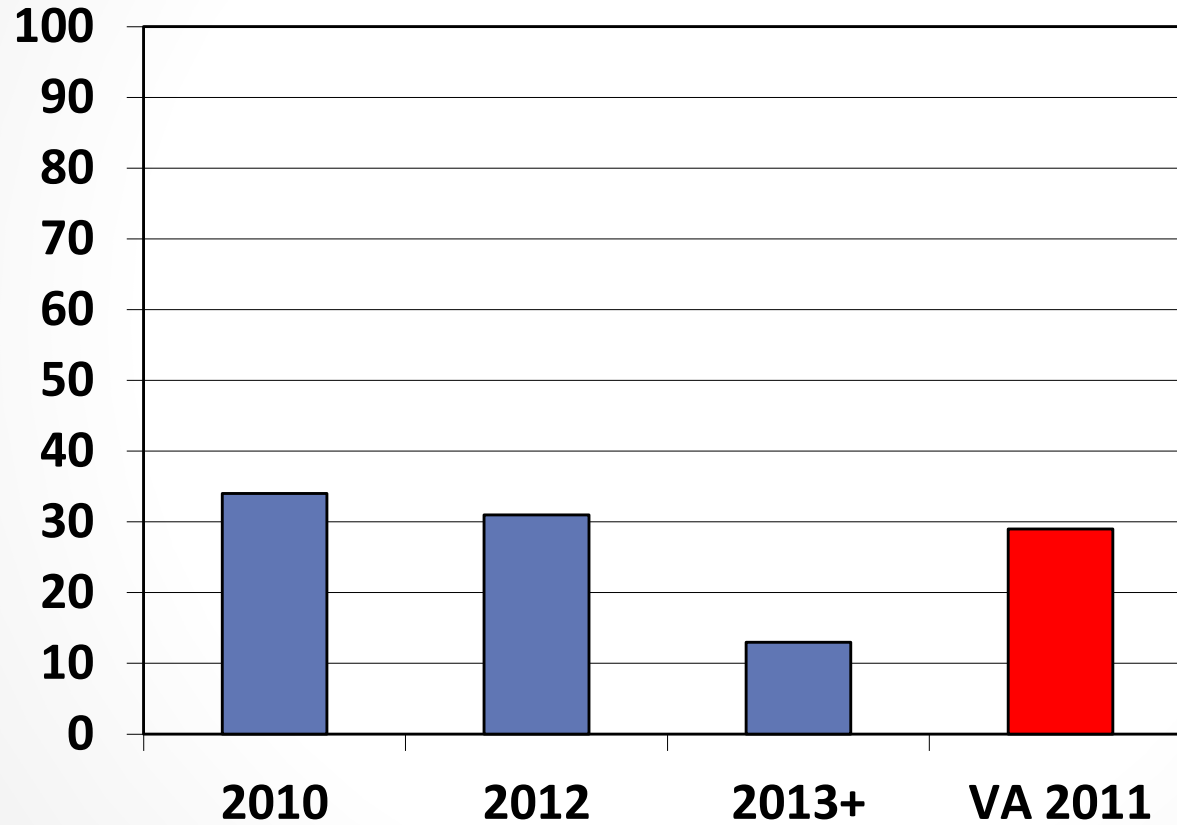
Differences between groups $P=.015$

Depression addressed?



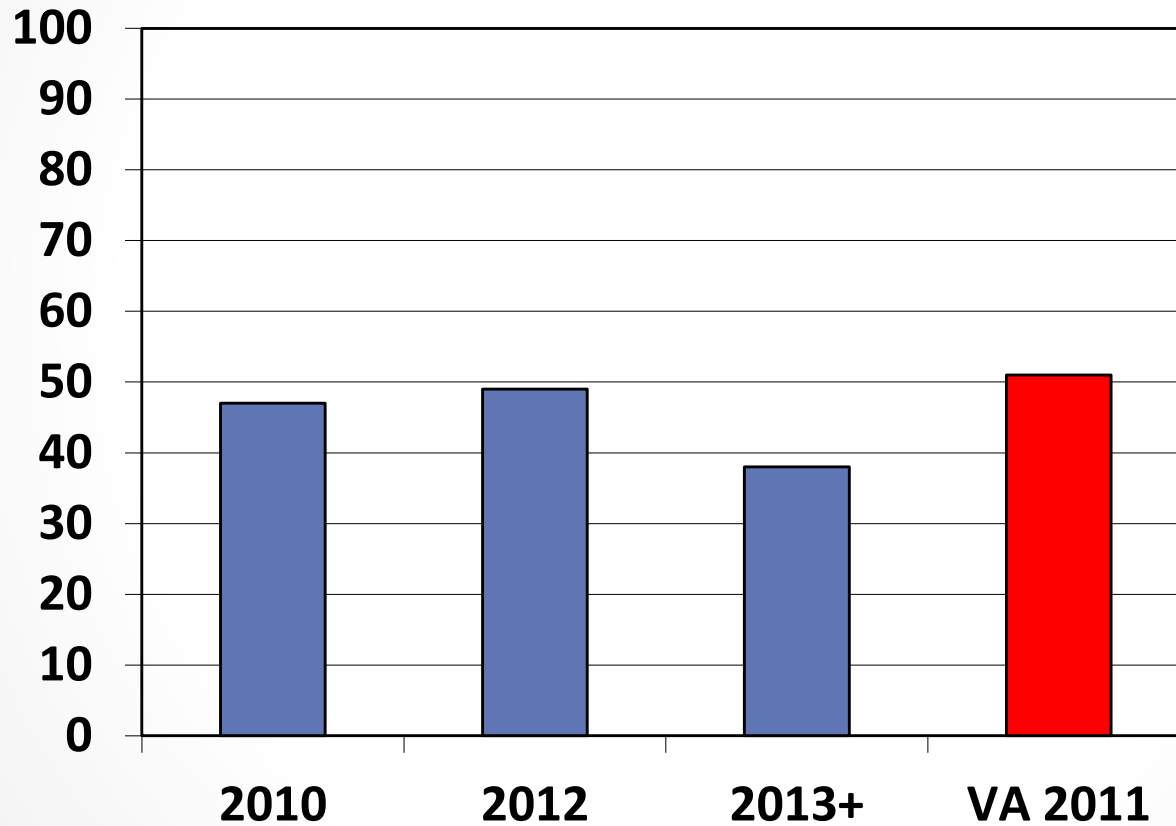
Differences between groups $P=.15$ (NS)

Substance use assessed?



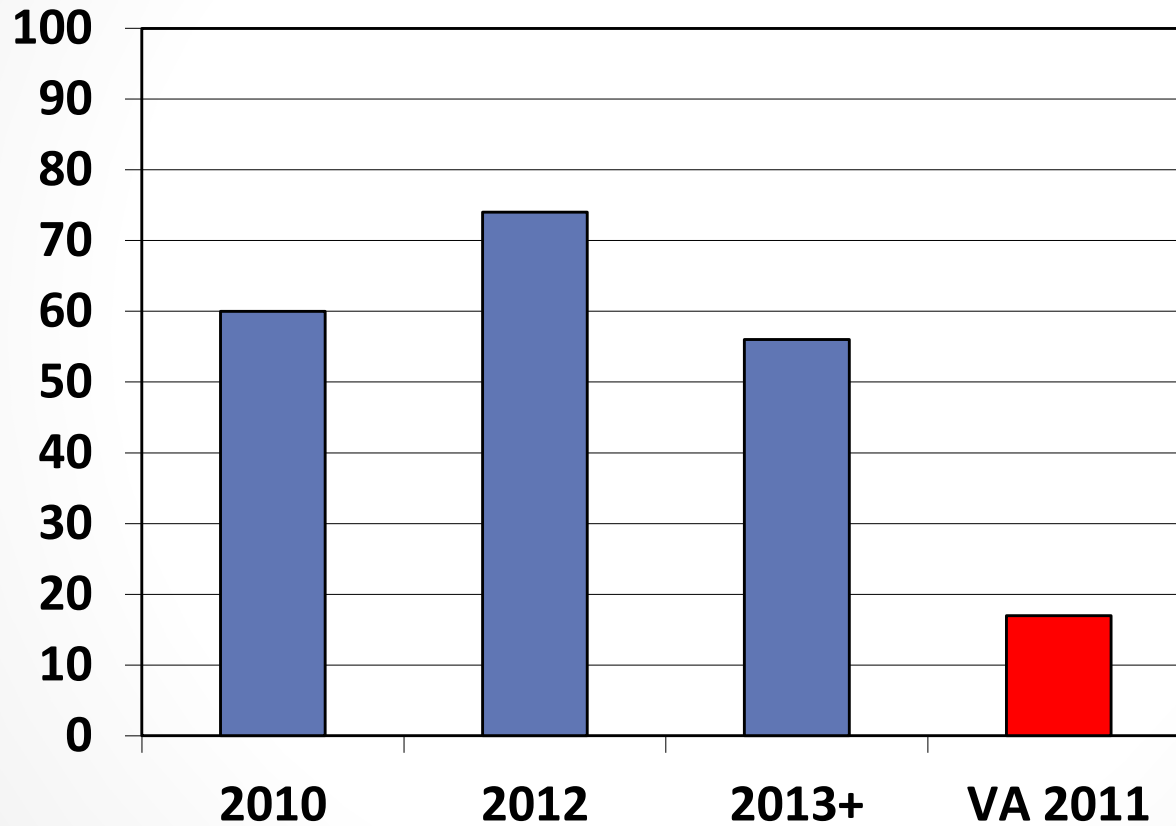
Differences between groups $P < .001$

Non-pharmacological approach considered?



Differences between groups $P=.17$ (NS)

Side effects of opioids discussed?



Differences between groups $P=.02$

Summary

- Patients from practices who had recently (2012) or more distantly (2010) achieved PCMH status often had significantly more primary care pain process components documented in their charts.
- For 5 of the components, the more recent PCMH group trended better than the more distant PCMH certification group
 - Raises questions about whether some skills and benefits from PCMH wane with time
- These are all process measures: relationship to actual patient outcomes needs further research

Take home point

- Caring for CNMP in primary care is difficult.
- The components of PCMH model, including safety and quality and coordination and integration, may be associated with better provision of pain care guidelines.



Thank you

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Keeping Busy Primary Care Practices Engaged in Improvement: The Role of the QI Advisor

Amy Diane Short, MHSA, Tiffiny Diers, MD, Nancy Elder, MD, and Jill Boone, Pharm.D,

Background

Quality Improvement (QI) methodologies improve clinical outcomes in the ambulatory setting. However, the execution of QI is challenging in busy primary care practices. The complexity surrounding the care of patients with complicated disease states, such as chronic pain (CP), make QI even more difficult.

Methods

Based at an urban, academic health center, a certified Six Sigma Black Belt QI advisor supported efforts to improve the care of patients with CP at four primary care practices (2 university and 2 community based) as part of a larger project to improve pain care in primary care. Using Lean methodology, the QI advisor coached each practice through their project with a focus on interprofessional collaboration, aligning project and practice goals, and flexibility of approach.

Results

The interprofessional teams at the practices were comprised of physicians, office nurses/MAs, and an office manager. Each practice selected an improvement project that best met their priorities, choosing either pain assessment or opioid monitoring.

The QI coach purposefully flexed her approach as the need arose with a focus on service excellence. This entailed using both synchronous meetings and phone calls and asynchronous emails to keep interprofessional team members involved, especially the staff champion, when clinical demands interfered with planned meetings and calls. If practice priorities changed, the project scope was modified to stay in alignment.

All four practices successfully completed their projects with improvement in outcomes from baseline and demonstrated customer satisfaction with the project work.

Conclusions

A QI advisor's flexibility of approach, focus on maintaining interprofessional teamwork, and awareness of the alignment of the project with practice priorities are critical to the success of QI initiatives in busy primary care medical practices, especially for complex problems like CP.

Synopsis

The success of Quality Improvement (QI) initiatives in busy primary care medical practices is influenced by the style of the QI advisor. This presentation highlights the importance of the QI advisor's flexibility of approach, service excellence, focus on maintaining interprofessional teamwork, and awareness of the alignment of the project with practice priorities.

Interprofessional collaborative care for chronic pain: A qualitative assessment of collaboration for primary care patients with chronic pain

Authors: Hargraves, Elder, Boone, Talat

Synopsis: Interprofessional collaborative care (ICC) has shown promise to improve outcomes in patients with chronic pain (CP), yet is difficult to achieve. This qualitative study of 28 pain professionals demonstrated that without trusting relationships developed through interpersonal interactions, external organizational constraints of high costs, restricted insurance coverage and limited availability create a system of poor ICC.

Background: Interprofessional collaborative care (ICC) has shown promise to improve outcomes in patients with chronic pain (CP), yet is difficult to achieve.

Research question: To describe constraints and freedoms to ICC for CP.

Methods: Semi-structured interviews were performed with a sample of interprofessional pain providers in a Midwestern urban area: 6 primary care (PCP), 5 pain management, 7 integrative medicine (IM (acupuncture, massage therapy, chiropractor)), 5 physical therapy (PT) and 5 behavioral medicine (BM (psychiatry, psychology, social work)) providers. Interview transcripts were coded using the editing style and findings were assessed within D'Amour's framework of interprofessionality, which states collaboration is made up of processes influenced by human relationships and organizational constraints.

Results: Participants' mean age was 48 with 36% women. Professionals from all groups expressed a desire for the PCP to be the center of collaborative CP care. However, there were few personal interactions between PCPs and the other pain professionals, leading to misperceptions about how each could contribute to ICC. PCPs felt they referred to pain professionals for second opinions, to improve treatment outcomes and when they felt uncomfortable with their own skills. Other pain professionals, however, felt that PCPs demonstrated misconceptions of other professionals' roles in care and often used them "as a last resort." Without trusting relationships to provide freedoms for enhanced collaborations, external organizational constraints described by all the participants of high costs, restricted insurance coverage and limited availability created a system of poor ICC. All professionals did agree that information accompanying referrals was often insufficient and/or undesired, leaving patients to serve as de facto carriers of communication, further dampening clarity of others' ICC roles.

Conclusions: ICC is difficult to achieve for many primary care patients with CP; such care may benefit from improved collaborative frameworks and enhanced knowledge of, and personal interactions between, pain professionals.

The referral process in chronic pain care: A missing component of primary care competency

Purpose: Interprofessional collaborative care has shown promise to improve outcomes in patients with chronic pain (CP). We describe referral experience between primary care providers (PCP) and other pain providers in order to create a model of communication barriers and strategies for improvement

Methods: Semi-structured interviews were performed with a sample of interprofessional pain providers in a Midwestern urban area: 6 primary care (PCP), 3 PCP medical assistants (MS), 5 pain management, 7 integrative medicine (IM (acupuncture, massage therapy, chiropractor)), 5 physical therapy (PT) and 5 behavioral medicine (BM (psychiatry, psychology, social work)) providers. Interview transcripts were coded using the editing style.

Results: Participants' mean age was 48 with 36% women. Professionals from all groups expressed a desire for the PCP to be the center of collaborative CP care. However, there were few personal interactions between PCPs and the other pain professionals, leading to misperceptions about how each could contribute, and a dependence on formal referrals for communication. PCPs felt they referred to pain professionals for second opinions, to improve treatment outcomes and when they felt uncomfortable with their own skills. Other pain professionals, however, felt that PCPs demonstrated misconceptions of their roles in CP care and often used them "as a last resort" or "to dump patients." There was often a mismatch of desired information between the PCP and other professionals. All professionals wanted guidance for the referral reason from the PCP, and PT and BM specifically noted that insufficient patient history accompanied referrals. PCPs desired brief, focused notes from others, but either received nothing or felt patient summaries were overly-lengthy and key clinical information was hard to find. Patients often served as de facto carriers of communication, with office MAs also playing an intermediary communication role.

Conclusions: Successful interprofessionalism depends on human relationships and organizational support. We found both of these lacking for CP care, leading to poor communication between PCPs and pain professionals. In addition to becoming knowledgeable about what pain professionals can offer patients, the consistency, conciseness, focus and ease of referral communication must improve at the practice and systems level.

2500 character limit