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- Moderator: Cathy Britain

- Presenter:
  - Dale Langford, Research Assistant Professor, University of Washington

Challenges and Potential Solution for Evaluating the Patient Experience after Provider-Provider Telehealth Consultation for Pain Management

Dale J. Langford, PhD
Division of Pain Medicine
UW TelePain Team

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Learning Objectives/Takeaways

1. Understand the need for and potential value of a chronic pain telementoring program.

2. Understand the need for and challenges of evaluating patient outcomes as a result of a provider-to-provider service

3. Disseminating a patient-reported outcome tool to providers may facilitate: (1) engagement in telementoring; (2) measurement-based pain care and (3) quantitative analysis of telementoring impact

Outline

Prevalence and Impact of Chronic Pain

University of Washington's TelePain Program

Gauging the Impact of Pain Telementoring

Challenges of Capturing Patient Outcomes

Potential Solution

Prevalence & Impact of Chronic Pain

Prevalence of Chronic Pain

- Pain is the most common reason one seeks medical care
- Chronic pain affects more than 100 million people in the United States

Impact of Chronic Pain

- Chronic pain conditions account for the greatest global burden of disease
- Estimated cost of chronic pain: > $635 billion/year

National Academies Collection, 2011; Rice et al., *PAIN*, 2016; Tsang et al., *J Pain,* 2008

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PAIN MEDICINE

TELEPAIN

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Dual Epidemic/"Syndemic" of Opioid Use and Inadequate Pain Management

National Drug Overdose Deaths Involving Prescription Opioids, Number Among All Ages, 1999-2018
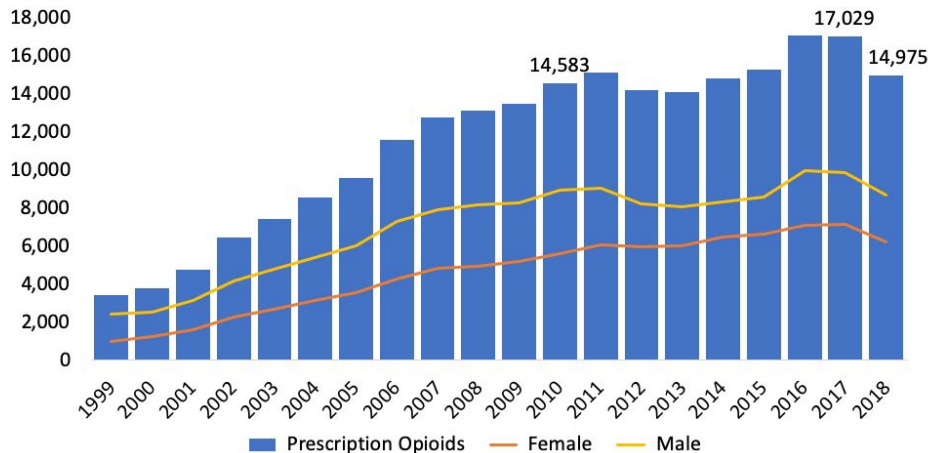
Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2018 on CDC WONDER Online Database, released January, 2019

Reasons for inadequate pain management

- Pain is complex and multidimensional
- Conceptualized as a symptom of disease, not a disease itself
- Inadequate pain education (pre-licensure and beyond)
- Lack of resources/access to pain specialists for consultation

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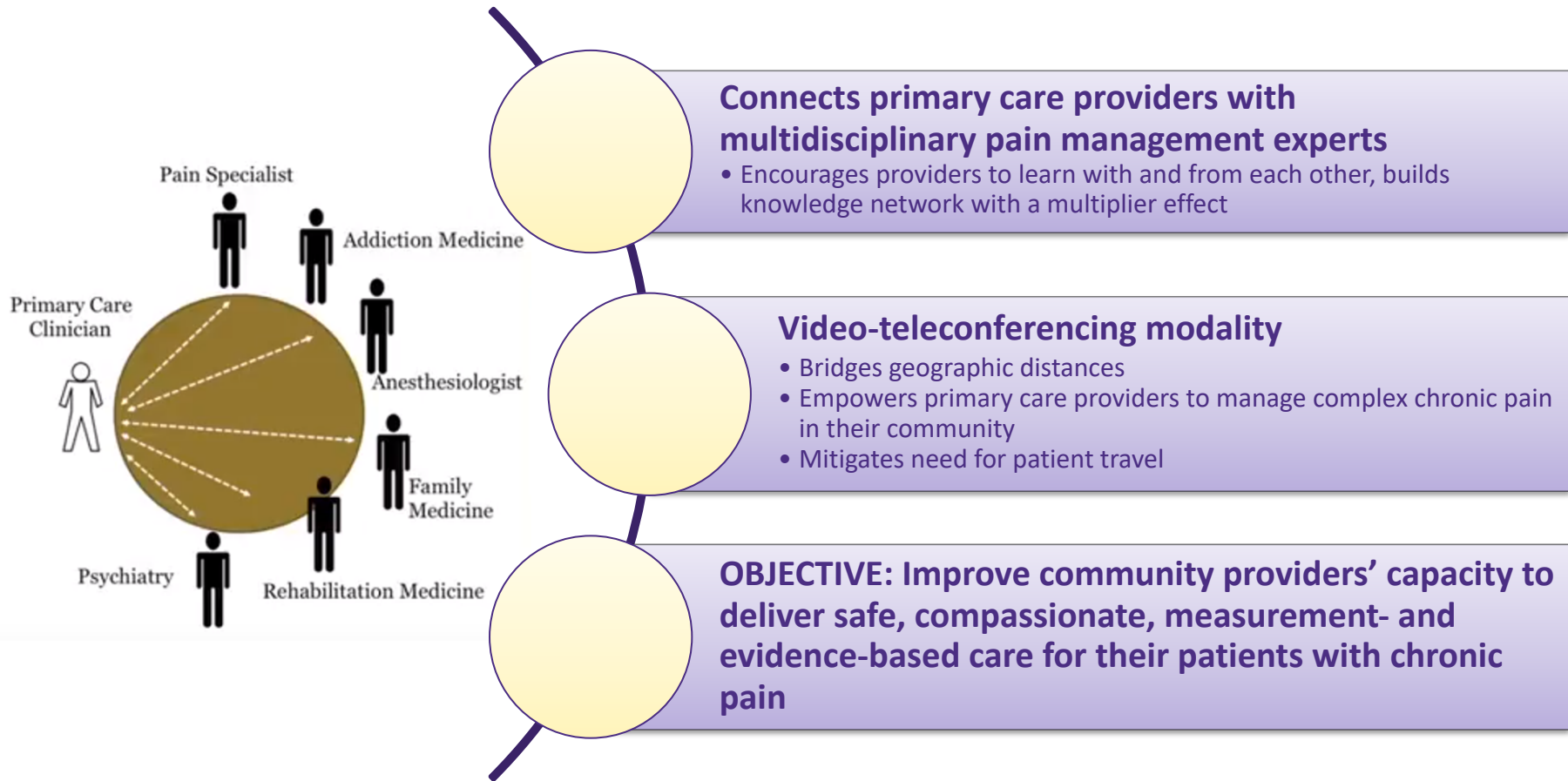# Role of Primary Care in Chronic Pain Management

Primary care providers are at the forefront of pain management, providing 70-95% of chronic pain care

Providers may be isolated in their practice and limited or delayed access to pain specialist consultation is an acknowledged regional crisis

University of Washington's (UW) TelePain program was created in response to this regional challenge and is primarily targeted towards community clinicians in Washington and the Washington-Wyoming-Alaska-Montana-Idaho (WWAMI) Medical Education Region

- Currently funded by the Washington State Health Care Authority

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University of Washington TelePain

Pain Specialist

Addiction Medicine

Primary Care Clinician

Anesthesiologist

Family Medicine

Psychiatry

Rehabilitation Medicine

Connects primary care providers with multidisciplinary pain management experts
- Encourages providers to learn with and from each other, builds knowledge network with a multiplier effect

Video-teleconferencing modality
- Bridges geographic distances
- Empowers primary care providers to manage complex chronic pain in their community
- Mitigates need for patient travel

OBJECTIVE: Improve community providers' capacity to deliver safe, compassionate, measurement- and evidence-based care for their patients with chronic pain

Since March of 2011, TelePain has provided more than 15,000 hours of education and consultation to over 1,300 learners (i.e., providers and trainees based at urban/suburban, safety net, rural clinics and tribal clinics) from over 300 unique locations, with an average of 30 providers per weekly session

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Format of TelePain

30 minutes for didactic on pain topic by content expert

60 minutes for 2-3 case presentations

Written recommendations from panel

- Topics include: establishing pain diagnosis, multidimensional outcome tracking, opioid prescribing, addiction assessment and treatment, plus many more

- Provider presents patient case, which is discussed by the interdisciplinary panel

- Providers receive panel recommendations via e-mail and are encouraged to present follow-up

How do we gauge the impact of TelePain?

## What do we measure (i.e., what is the appropriate outcome?)

- Provider perceived competence in pain management?
- Provider satisfaction/perception of helpfulness?
- Opioid Prescription?
- Patient-Reported Outcomes (i.e., pain intensity, mood, sleep?

How can we collect data?

- Ask the provider?
- Mine opioid registry or public databases?
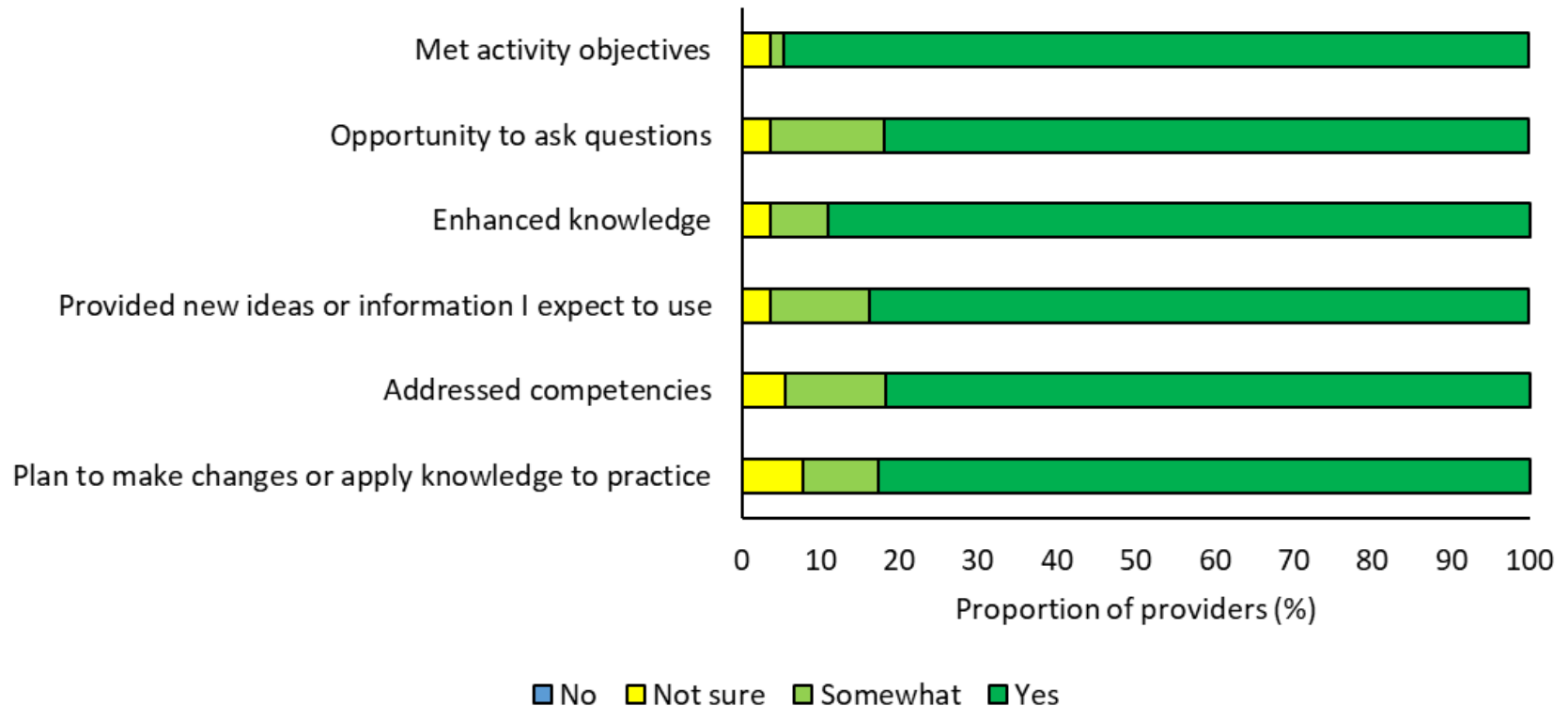- Ask the patient?

Asking the provider:
Increased perceived competence in providing pain management
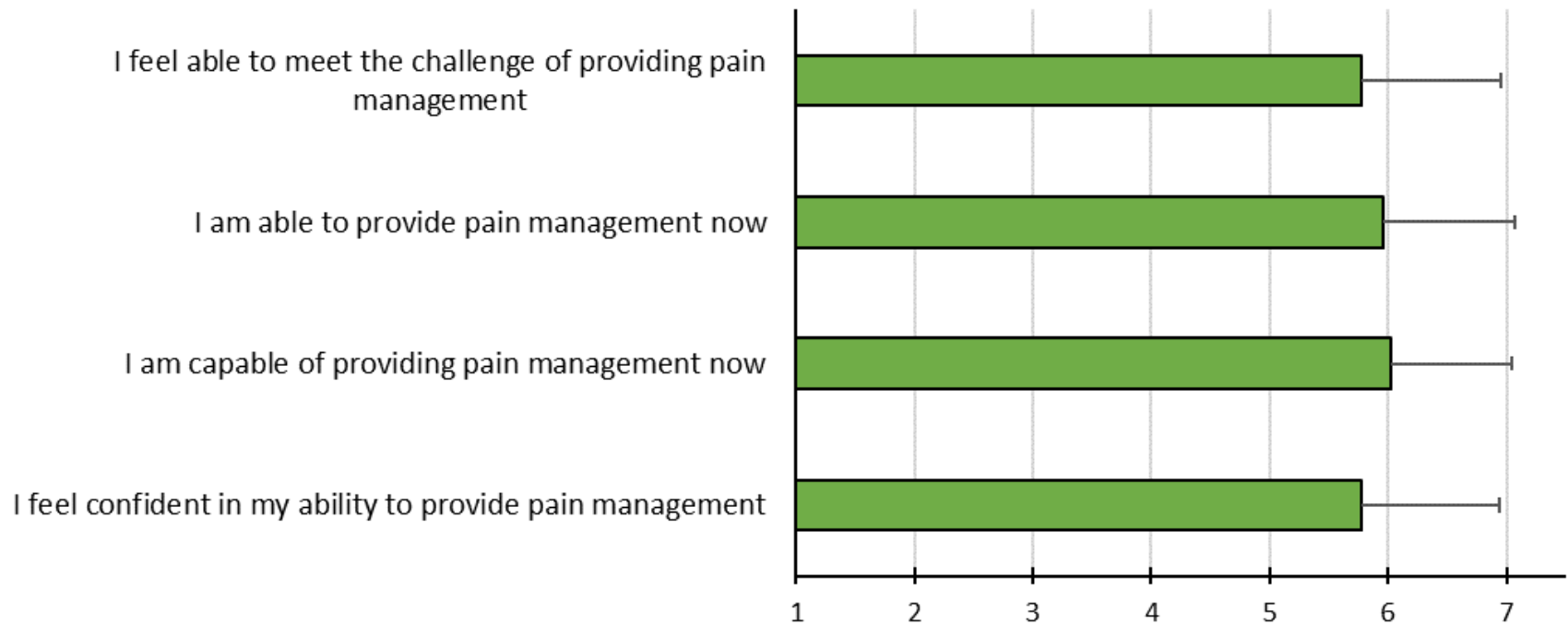
Mean scores (1 "not at all true"; 4 "somewhat true; 7 "very true") on each of the Perceived Competence Scale items.
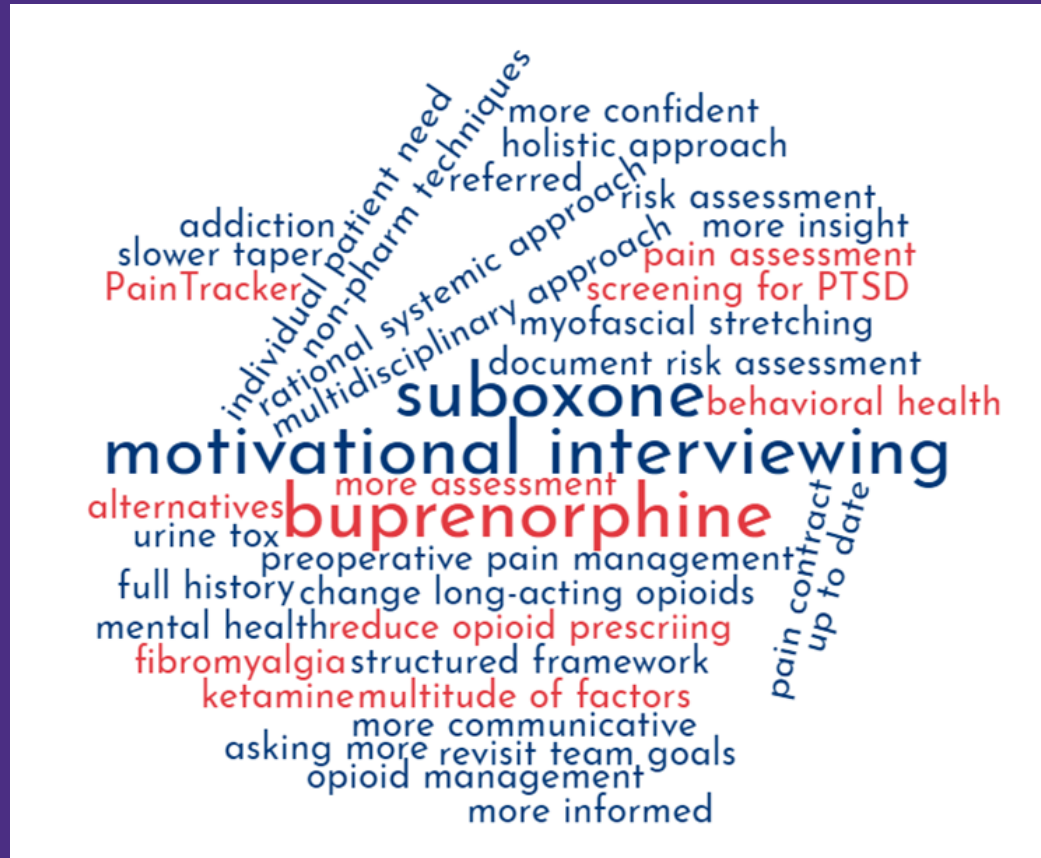
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Asking the provider:
Majority of participating providers endorse positive impact of TelePain

Asking the provider:
Provider-reported intended change to practice as a result of participating in TelePain

Asking the provider:

Semi-structured interviews with 4 providers who presented case at TelePain

Use of guideline-adherent practices

- Providers noted that participating in TelePain supported their knowledge of and implementation of guideline-adherent or "best" practices in their management of patients with chronic pain (e.g., calculating morphine equivalent dosages, screening for sleep apnea, screening for depression)

Increased knowledge and/or confidence

- All providers indicated that TelePain significantly improved their knowledge of pain management
- One expressed challenge of implementing newfound knowledge without local supportive resources

Support or "Backup"

- TelePain described as a source of support, a nonjudgmental group of peers who could provide them with the recommendations, resources, and confidence
- use the consultation with TelePain panelists as a reinforcing tool for more difficult or patients unwilling to change – i.e., that recommendations are coming from a panel of pain experts.

Impact on patient assessment, management, and care

- Preparing to present a case, in particular, facilitated comprehensive assessment of their complex patients, as well as identification of unexplored avenues of multimodal treatment
- In gaining a better understanding of chronic pain, providers noted an increased ability to educate/explain pain to their patients

Existing Evidence for Value of Pain Management Telementoring

Provider-Reported Outcomes

- Increased knowledge
- Increased self-efficacy and perceived competence
- Improved provider-patient interactions
- Sense of community and supportive resource
- Diffusion of knowledge to colleagues and patients

Provider Behaviors

- Increased use of for...
- Increase... (e.g., physical medicine, behavioral health, chiropractic, pain specialists)

...ing Practices

- Reduction in number and dose of opioid prescriptions per patient
- Reduction in proportion of patients treated with an opioid
- Increased use of non-opioids
- Greater proportion of patients that discontinued long-term opioid therapy
- Greater reduction in opioid dosages among actively participating providers

Patient-Reported Outcomes

- Improved quality of life
- Reduced pain interference with work

COMMON THEME: IMPORTANCE OF ACTIVE ENGAGEMENT

Furlan et al., J Telemed Telecare, 2018; Ball et al., Pain Med, 2018; Katzman et al., J Contin Educ Health Prof, 2014; Thies et al, Pain Med, 2019; Carlin et al., Pain Med, 2018; Meins et al., J Pain Relief, 2015; Anderson et al., Pain Med, 2017; Frank et al., Pain Med, 2015; Katzman et al., J Gen Intern Med, 2019; Moore, et al, J Pain, 2017; Flynn et al, Pain Med, 2020.

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EDUCATION & TRAINING SECTION

Pain Management Telementoring, Long-term Opioid Prescribing, and Patient-Reported Outcomes

Diane Flynn, MD,* Ardith Z. Doorenbos, PhD, RN, FAAN,[†] Alana Steffen, PhD,[‡] Honor McQuinn, DNP, ARNP,* and Dale J. Langford, PhD[§]

Exemplar study that demonstrates value of pain telementoring at patient level, importance of engagement, evidence of multiplier effect

Data Source

- Madigan Army Medical Center's local opioid database
- Patients who filled at least one opioid prescription during the current calendar month *and* during at least two of the previous five calendar months are included in the LOT database
- Average opioid dosage per day for each calendar month using Washington State AMDG workgroup morphine equivalent daily dose (MEDD) methodology

Provider Sample

- Control (n=13) and Intervention group PCPs (n=12) with ≥ 1 patient on LOT upon study enrollment

Patient Sample

- Patients empaneled to study PCPs on LOT at time of PCP's enrollment into the study (N=396)

Long-term Opioid Therapy Outcomes

- Change in MEDD (MEDD at end of study or end of PCP relationship – MEDD of PCPs enrollment month)
- LOT discontinuation: off LOT database for ≥ 2 months prior to end of patient-PCP relationship or prior to the end of the study

Long-Term Opioid Therapy (LOT) Prescribing Patterns among Providers who Participate in Pain Telementoring

Generalized estimating equations (GEEs), clustering on study PCP and controlling for baseline MEDD, were used to determine:

- Change in MEDD from baseline to end of study or end of patient-provider relationship between control and intervention groups
- Proportion of patients who discontinued LOT during the study period between control and intervention groups

Intent-to-treat analysis

- Control vs Intervention, regardless of participation in ECHO

As treated analysis

- Control vs Intervention subgroups based on level of participation
- Control vs Active ECHO Participation (≥ 15 sessions) vs Low ECHO Participation (<15 sessions)

Provider	# ECHO sessions attended	# patients presented to ECHO	Participation Level
PCM #1	71	30	Active participation
PCM #2	66	32	
PCM #3	50	12	
PCM #4	26	0	
PCM #5	26	9	
PCM #6	40	0	
PCM #7	27	8	
PCM #8	23	7	
PCM #9	19	9	
PCM #10	2	0	Low participation
PCM #11	0	0	
PCM #12	6	0	
PCM #13	0	0	

Provider characteristics: No difference in demographic or baseline prescribing

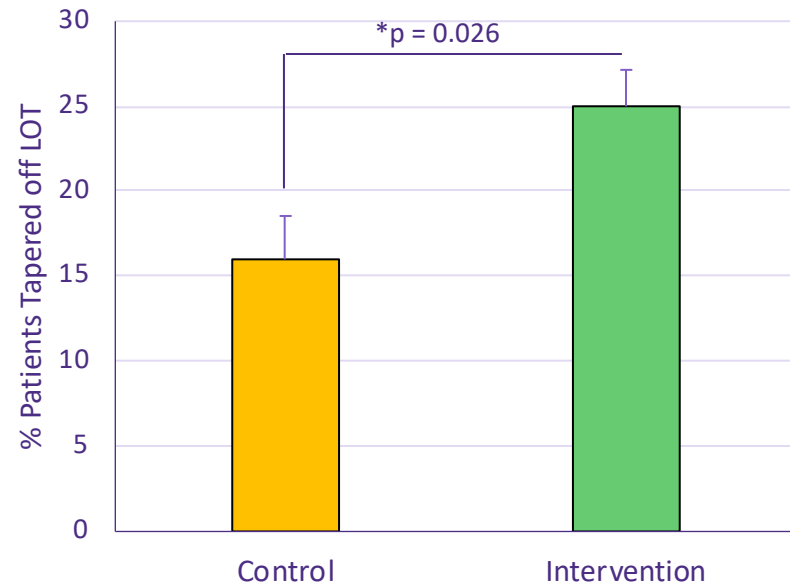| Characteristic	Control Group (N=13)	Intervention Group (N=12)	Statistics
Age (years), Mean (SD)	50.8 (11.0)	54.3 (6.7)	t_{23}=0.97, p=0.342
Gender, % (N) **Female** **Male**	 30.8 (4) 69.2 (9)	 41.7 (5) 53.8 (7)	X^2=0.32, p=0.571
Years of practice, Mean (SD)	19.0 (11.6)	21.0 (9.0)	t_{23}=0.47, p=0.644
Provider type, % (N) **MD/DO** **DNP/ARNP** **PA/PA-C**	 69.2 (9) 30.8 (4) 0.0 (0)	 66.7 (8) 25.0 (3) 8.3 (1)	X^2=1.16, p=0.559
Number of patients on LOT at baseline, Mean (SD)	12.2 (10.0)	19.8 (18.8)	t_{23}=-1.29, p=0.210
LOT MEDD at baseline, Mean (SD)	45.2 (52.5)	49.7 (66.6)	t_{394}=-0.72, p=0.472

Abbreviations: ARNP = Advanced Registered Nurse Practitioner; DNP = Doctor of Nursing Practice; DO = Doctor of Osteopathic Medicine; LOT = long-term opioid therapy; MEDD = Morphine Equivalent Daily Dose; PA(-C)= Physician Assistant (-Certified); SD = standard deviation

Pain Telementoring associated with discontinuation of long-term opioid therapy
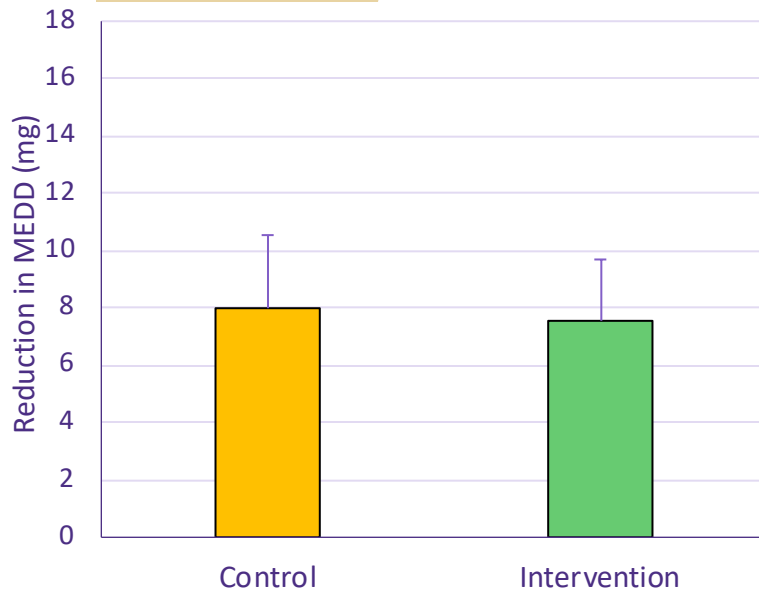
Group effect: Wald X^2 = 0.018, p = 0.894

Group effect: Wald X^2 = 4.44, p = 0.035

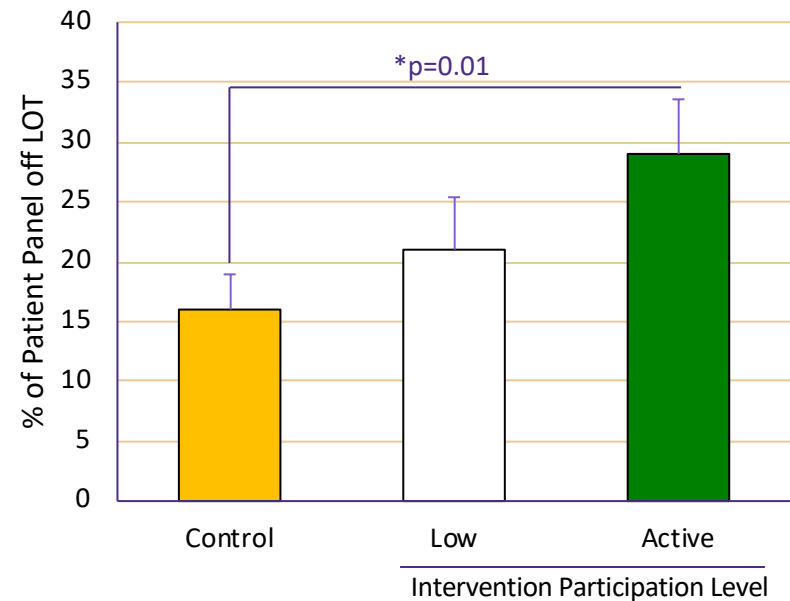No significant difference in reduction of daily opioid dose between control and intervention group PCPs

Significant difference in proportion of patients tapered off LOT between control and intervention group PCPs

GEE derived estimated marginal means + standard errors plotted

Importance of provider engagement

Group effect: Wald X² = 6.96, p = 0.031
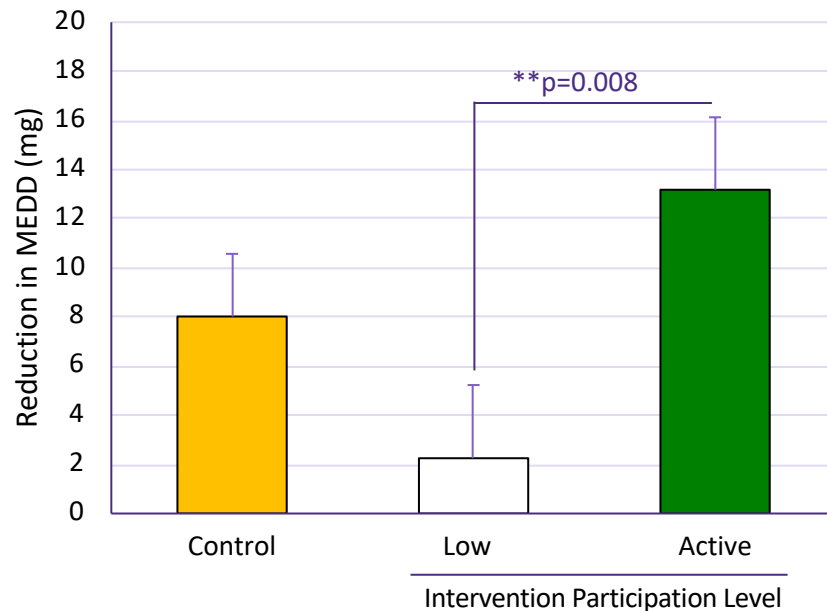
Group effect: Wald X² = 6.93, p=0.032

Active ECHO participants showed greater reduction in daily opioid dosage than intervention group PCPs with little to no participation

Active ECHO participants had a greater proportion of patients who discontinue long-term opioid therapy compared to control group PCPs

GEE derived estimated marginal means + standard errors plotted

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Asking the patient:

Semi-structured interviews with 5 patients of providers who presented case at TelePain

Changes in activities/function

- Return to valued activities (e.g., cooking, gardening, exercise, spending time with grandchild)

Changes in patient-provider interactions

- willingness of providers to go out of their way to help, to provide regular and frequent care (if needed), to educate, to be honest and trustworthy, ability to have difficult conversations

Changes in wellness/quality of life

- patients noted a sense of hope that the efforts they and their providers were making would have a meaningful positive impact, as well as motivation to learn and improve and take charge of their situation.

Introduction of multi-modal strategies

- sought out multiple modalities of treatment, including care from specialists (e.g., behavioral health, psychiatry, internal medicine, nephrology, migraine specialty, physical therapy)

Reduction in pain medications (particularly opioids)

Major Challenges to Collecting Patient-Reported Outcomes

- As a provider-to-provider service, we do not have a relationship with patients and must rely on busy primary care providers to engage patients

- By only evaluating patients *presented* at TelePain, we: (1) miss observing the multiplier effect of TelePain participation (2) lack necessary sample size, and thus statistical power, to observe meaningful changes in patient outcomes

- Challenge of TelePain in general – active engagement, consistent case presentations, etc.

Potential Solution

Adapt existing web-based PainTracker™ tool for providers who present cases at TelePain

- PainTracker is a web-based multidimensional patient-reported outcomes tool that is currently used at UW's Center for Pain Relief to support patient-centered assessment and management of chronic pain
- Treatment goals and expectations, risk stratification, pain intensity and interference, function, mood

Goals

- Offer primary care providers a **valuable clinical tool** to facilitate their care of patients with chronic pain and to engage and empower patients
- **Incentivize provider engagement**, as initial access to PainTracker for general clinical use will be granted to providers who present a case
- **Facilitate TelePain consultation** by providing clinically actionable data
- **Collect outcome data** on all patients of providers who present cases at TelePain

PainTracker™ Constructs Measured

Construct/Outcome	Screening Measure Range and Alert Triggering Score	Triggered Detailed Measure
RISK STRATIFICATION MEASURES ADMINISTERED AT INTAKE ONLY		
Generalized pain/fibromyalgia screen	Pain Body Map (number of pain sites > 5)	Symptom Severity Scale (3 items)
Risk for obstructive sleep apnea	STOP (trigger≥ 2)	X
Risk for substance misuse	Opioid Risk Tool (10 items)	X
Prescription opioid difficulties	PODS (4 sensitive items, 0-16)	PODS (4 specific items, 0-16)
PATIENT-REPORTED HEALTH STATUS ASSESSED AT INTAKE AND 3-MONTH INTERVALS		
Treatment goals and expectations (ranked from list)	Top 3 each	X
Pain intensity and interference with enjoyment of life and general activity	PEG (3 items, 0-10; trigger $\geq$15 total)	WHODAS (12 items, 0-60)
Difficulty with patient-specified important activity	Free-text, NRS (0-10)	X
Pain interference with sleep	NRS (0-10); trigger >5	1)Awakening tired/unrefreshed 2) Interference falling asleep 3) Interference staying asleep
Distress	PHQ-4 (0-12; trigger $\geq$ 6)	Depression PHQ9 (0-27) Anxiety GAD7 (0-21) PTSD-PC5 (0-5)
Treatment satisfaction	NRS (0-10)	X

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Current PainTracker™ Longitudinal Report

Providers are alerted when patients' risk or symptom severity scores exceed established threshold, and so support clinical decisions addressing key patient psychosocial problem areas (e.g., referral to behavioral health, sleep specialists).

Interactive body diagrams and supplemental questionnaires aid in the diagnosis of specific pain conditions (e.g., radiculopathy versus widespread pain that may indicate fibromyalgia)
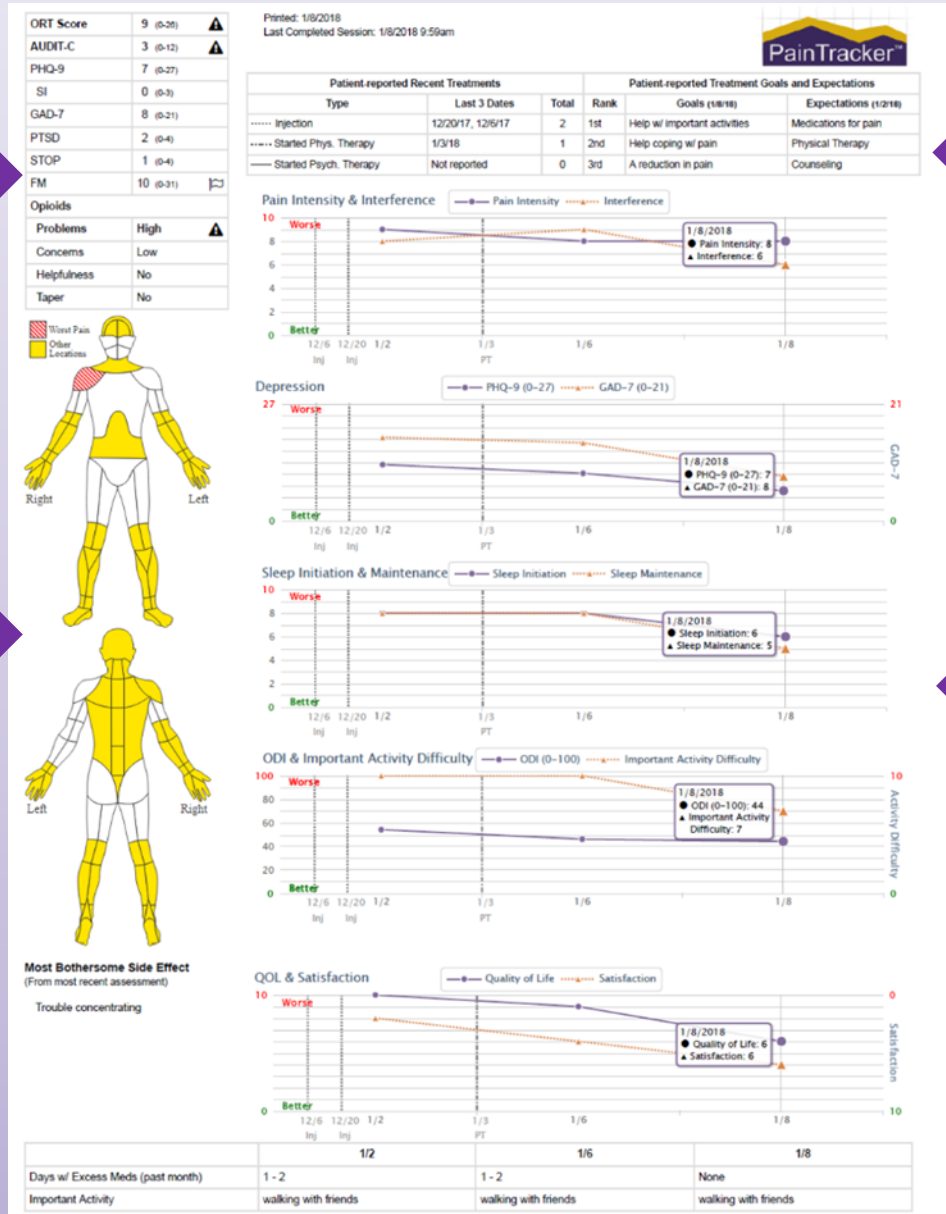
Prioritizes patient-specified treatment goals and expectations

Displays longitudinal data graphically for providers and patients to quickly visualize areas of improvement or continued difficulty and tailor treatment accordingly
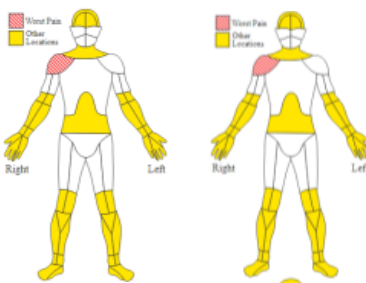
Draft intake report to facilitate TelePain consultation

Patient UW TelePain PainTracker™

Treatment Goals	Treatment Expectations	Important Activity
1. A diagnosis	1. Medications for pain	**Gardening**
2. A cure	2. Acupuncture	Difficulty Rating: 8/10
3. Help in managing my pain	3. Referral to pain specialist	0=no difficulty 10=extreme difficulty

Risk Screeners

Fibromyalgia ⚠

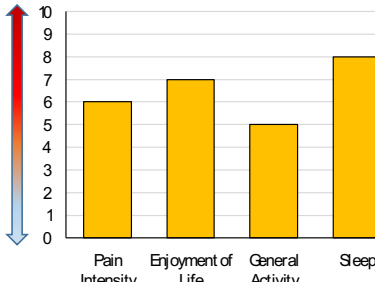HIGH RISK for poor outcomes of localized pain treatment and opioids

Obstructive Sleep Apnea

Yes to 2 items = LOW RISK for obstructive sleep apnea
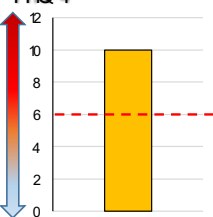
Opioid Misuse ⚠

9 points = HIGH RISK for opioid misuse

Pain Intensity & Interference

Disability (WHODAS) ⚠	38/48

Pain Interference with Sleep Follow-Up	
Waking Refreshed	9/10
Falling Asleep	2/10
Staying Asleep	8/10

PHQ-4 Mood

Mood Follow-Up	
Anxiety ⚠	16/21
Depression	9/27
PTSD ⚠	4/5

What I want next from my clinician is:

To find a medication that works for me

Plans for PainTracker development:

- TelePain didactic on use and interpretation of PainTracker
- Interactive report in which providers can hover over above-threshold PROs to learn more
- Option to output interpretive summary that helps to guides clinical care in complement to TelePain consultation

PainTracker™

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PainTracker for TelePain Logistics & Outcomes

Workflow

- Initial PainTracker completion triggered by provider's request for TelePain case consultation
- Patient will gain access to PainTracker, Provider will gain access to Provider dashboard
- After presentation, PainTracker will be accessible for *all* provider's patients

Feasibility and usability/uptake of PainTracker

- % of patients successfully completing PainTracker
- Successful completion of initial consultation registration survey and follow-ups
- Number of providers (and number of new providers) requesting case consultation
- Provider ratings of clinical utility and satisfaction among providers

Multidimensional pain outcomes

- At baseline and over time
- Among *both* presented patients and any patients using PainTracker after provider's initial PainTracker completion – ability to observe multiplier effect of TelePain participation

Benefits of Providing Web-based PRO Tool

Facilitates measurement-based, patient-centered chronic pain care

Opportunity for patient empowerment

Incentivizes engagement in TelePain, which we know to be key for improvement in outcomes

Improves TelePain case consultation experience and will be an educational tool for provider audience

Collects data patient-reported outcome data (including multiplier effect)

Relevance to other telehealth initiatives?

Consider supplemental web-based tools that:

• Support patient or provider in complement to telehealth
• Promote engagement and application of knowledge
• Provides data for quality improvement and/or research purposes

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Thank you

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