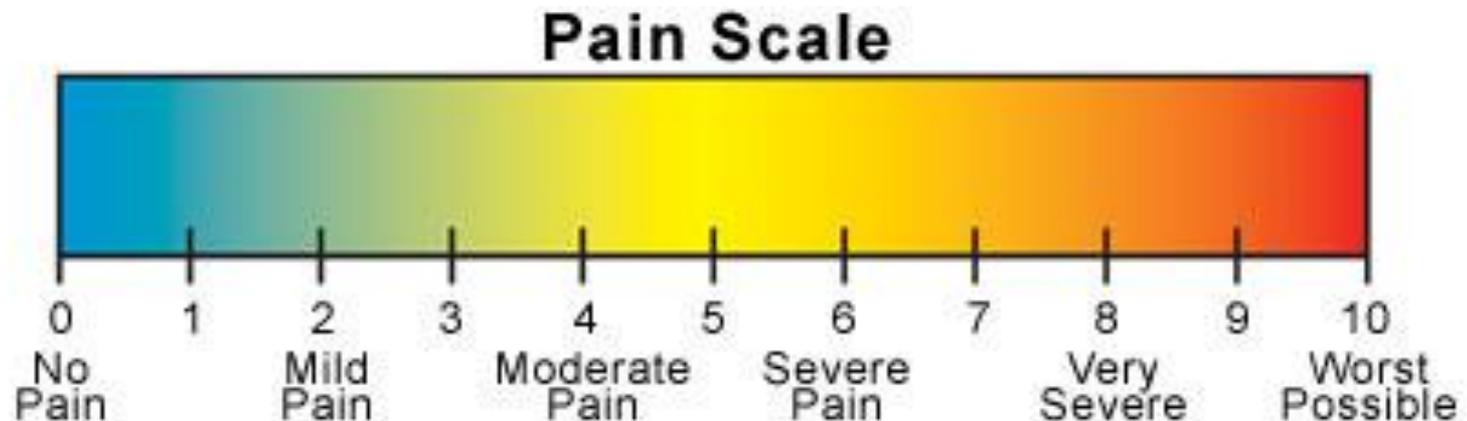


Admitted to the hospital... and in chronic pain

What is the inpatient care team to do?

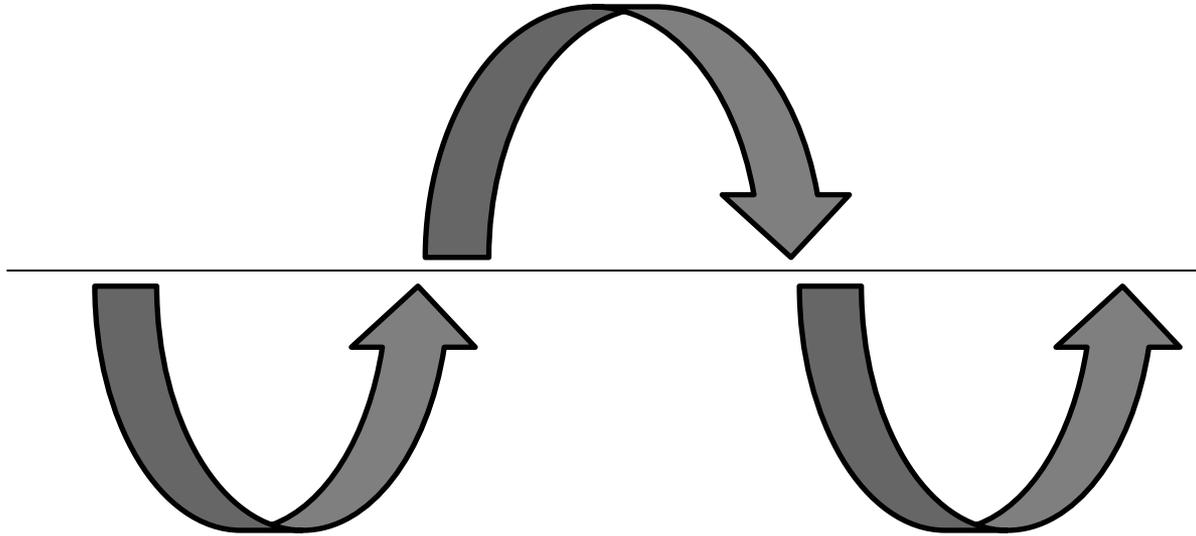
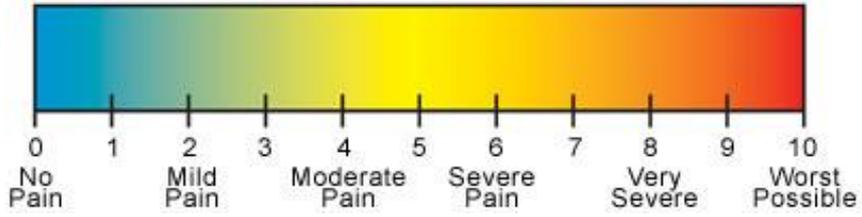
Hilary Mosher, MD
Iowa City VAMC



Disclaimers

- I am not a pain specialist
- I claim no particular expertise in prescribing opioids
- I have limited experience treating patients with chronic pain in the primary care clinic
- I have no conflicts of interest to report

Pain Scale



I intend that we...

1. Quantify and characterize the challenge of chronic pain in the medical inpatient
2. Assess a proposed conceptual model for chronic pain in the medical inpatient
3. Elaborate goals and strategies relevant to hospitalized Veterans with chronic pain

Poll question 1

Please identify your role (select all that apply)

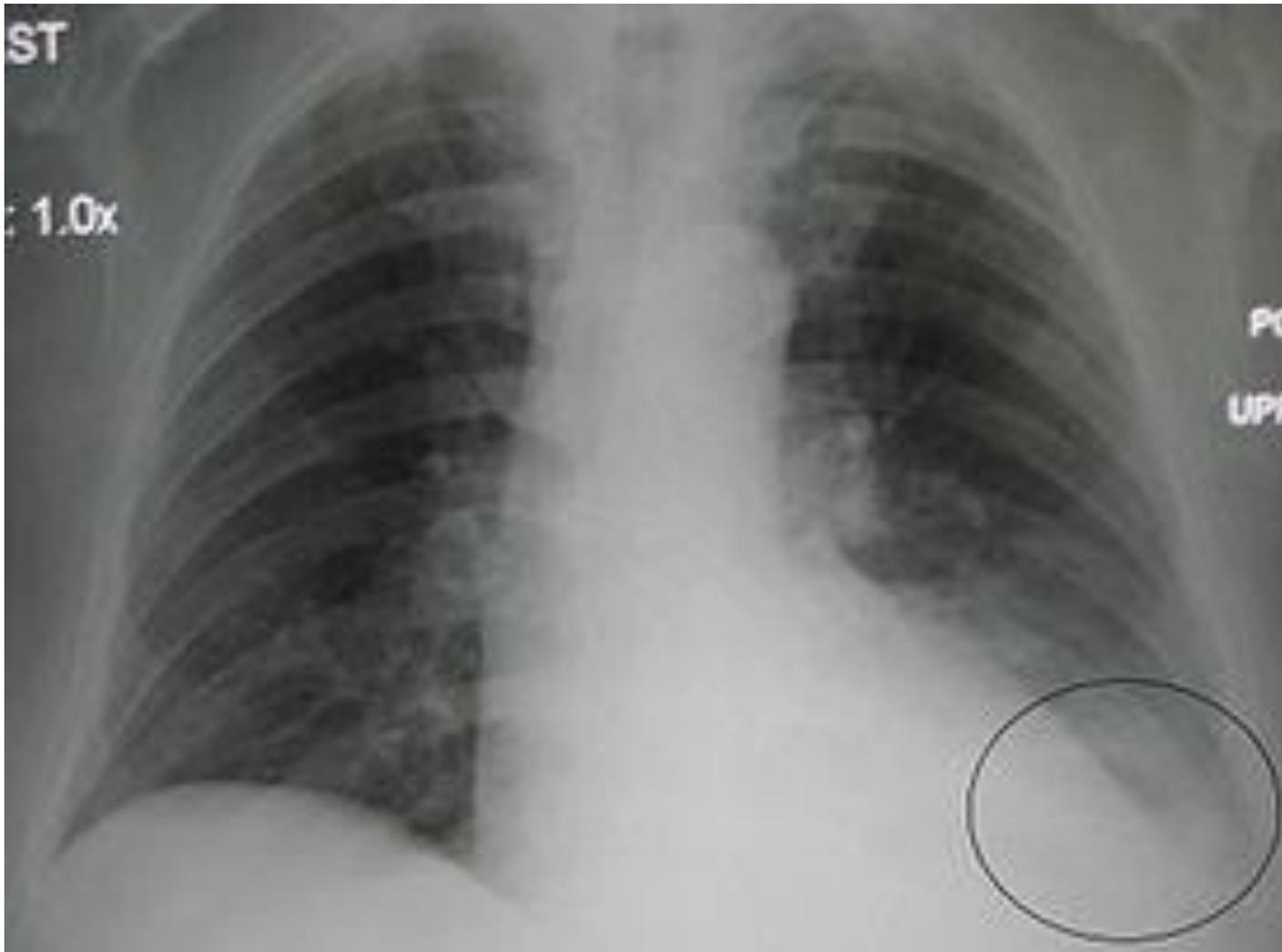
- a) inpatient care provider
- b) outpatient care provider
- c) researcher
- d) pain specialist
- e) physician

Case

- 64 year old man admitted with dyspnea and left-sided chest pain, worse with deep breath
- Chronic obstructive pulmonary disease
- Current smoker; working on quitting
- Obstructive sleep apnea; doesn't use CPAP (continuous positive airway pressure) machine
- Osteoarthritis; limits his walking; symptoms are chronic knee and low back pain

Home medications

- Salmeterol (inhalation)
- Simvastatin
- Baby aspirin
- Hydrocodone-APAP 5/325 1-2 tablets QID prn
- Clonazepam 1 mg q hs



Right-sided parapneumonic effusion

Hospital course

- Community-acquired pneumonia with small parapneumonic effusion
- Workup for cardiac cause of pain is negative
- No plans for thoracentesis (removal of fluid via needle)
- Requires 3L supplemental oxygen by nasal cannula
- Short of breath and endorses pain with breathing when ambulating to bathroom

What about pain?

- Stop the opioids. He shouldn't be on these and they might make his respiratory issues worse
- Continue the opioids. They have nothing to do with the hospital problem, and it isn't the inpatient physician's role to change these
- Increase the opioids. He has new pain and his pain scores are unacceptably high
- Decrease the opioids. They aren't really helping and might be harming him
- Change to intravenous opioids while he is in the hospital. He has an IV, and this allows for more rapid onset and dose titration

Poll Question 2:

- What should be done to manage pain in this patient?
 - a) Stop oral opioids
 - b) Continue oral opioids
 - c) Increase oral opioids
 - d) Decrease oral opioids
 - e) Change to intravenous opioids in hospital

Do you want the right answer?

- So do I.

Pain during hospitalization

- Pain prevalence during hospitalization is as high as 90% across all settings
- Chronic pain is rarely considered in studies of inpatient pain treatment
- Between 20 and 40% of patients in hospital reported pain duration >3 months
- Pain duration is positively associated with pain severity in the hospital

Pain management during medical hospitalization

- 1,139,419 medical hospitalizations (non-VHA)
- 576,373 (51%) received opioids
- 378,771 (33.2%) received parenteral opioids
- 30% of those exposed to opioids had 2 different opioids
- After adjusting for patient characteristics, opioid prescribing rates by hospital ranged from 33% to 64% (mean=50%, SD=4%)

Pain management during medical hospitalization

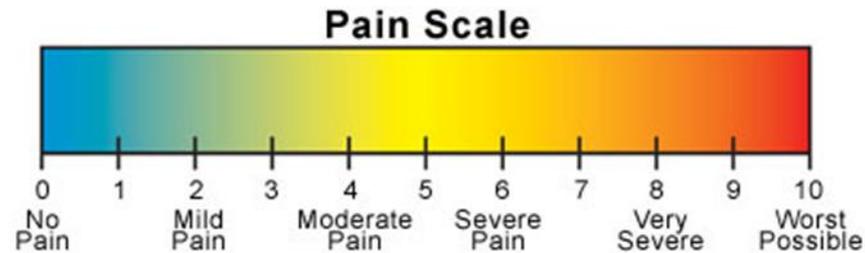
- Largely opioid based
- Evidence extrapolated from care of cancer patients and from post-surgical patients
- Follows a biomedical model
 - Assessment most commonly point in time, numeric rating scale
 - Assumes injury as proximate cause
- NSAIDs and APAP often relatively contraindicated (more 'loudly' than are opioids)

Pain management and medical hospitalization—getting to zero?

- The “pain free hospital”
- Pain management part of quality measures
 - How well was your pain controlled?
 - How satisfied were you...?
- Pain levels and satisfaction show poor correlation in numerous studies
- Efforts to improve quality of inpatient pain management are often limited by not capturing pre-hospitalization pain or pain treatment

(e.g., Reich et al, Am J Med Qual 2012)

How much pain vs. what kind of pain?



- Acute pain conditions in the hospital setting
- **Chronic pain conditions unrelated to hospitalization**
- Acute superimposed on chronic pain

A perceived gap

Surgical patients with or without prior opioid use

Cancer patients with new or intractable pain, with or without prior opioid use

Inpatients with severe acute pain with known etiology AND with addiction or abuse history

Non-surgical patient with chronic non-malignant pain and/or chronic opioid use, in whom there is no apparent acute pain or diagnosis accounting for pain symptoms

How many patients are in this “gap”?

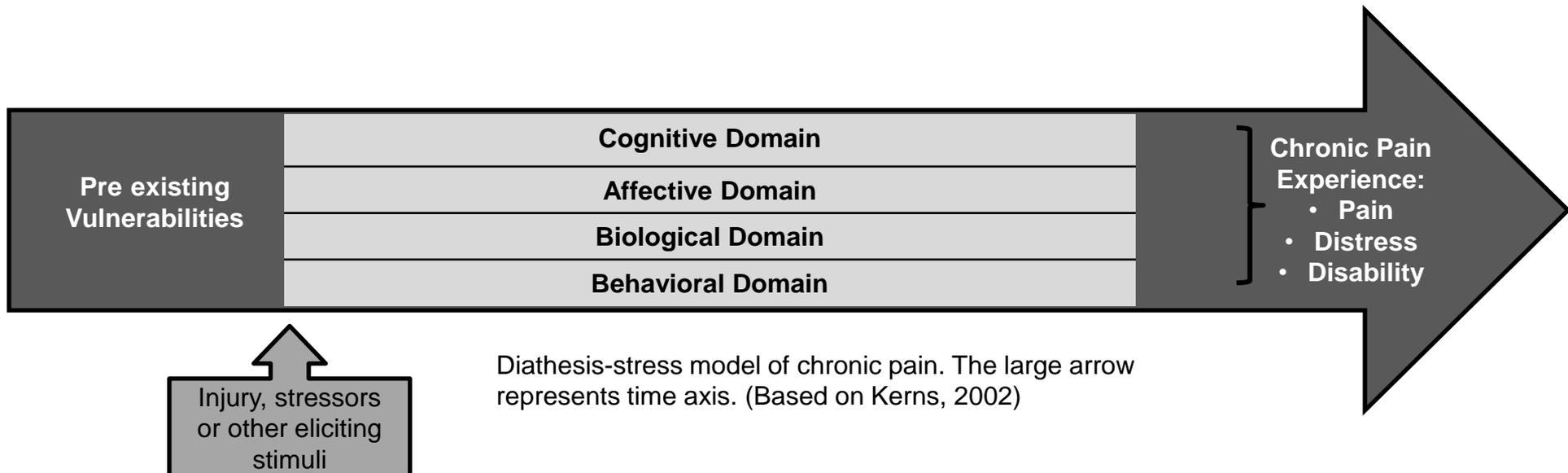
- 122,794 veterans experiencing a medical hospitalization
- 64,453 (52.5%) had a documented chronic pain diagnosis in the year prior to admission
- 31,892 (25.9%) met a definition of chronic opioid therapy in months prior to hospitalization

Patient characteristics?

	No opioids N=66,899 (54.5%)	Occasional opioids N=24,093 (19.6%)	Chronic opioids N=31,802 (25.9%)
Cancer (not metastatic)	11,818(17.7)	5,549(23.0)	6,874(21.6)
Metastatic cancer	866(1.3)	733(3.0)	1,104(3.5)
Chronic pain	25,748 (38.5)	14,811 (61.5)	23,894 (75.1)
Mental health other than PTSD	33,390(49.9)	13,657(56.7)	20,726(65.2)
PTSD	7,216(10.8)	3,607(15.0)	5,938(18.7)

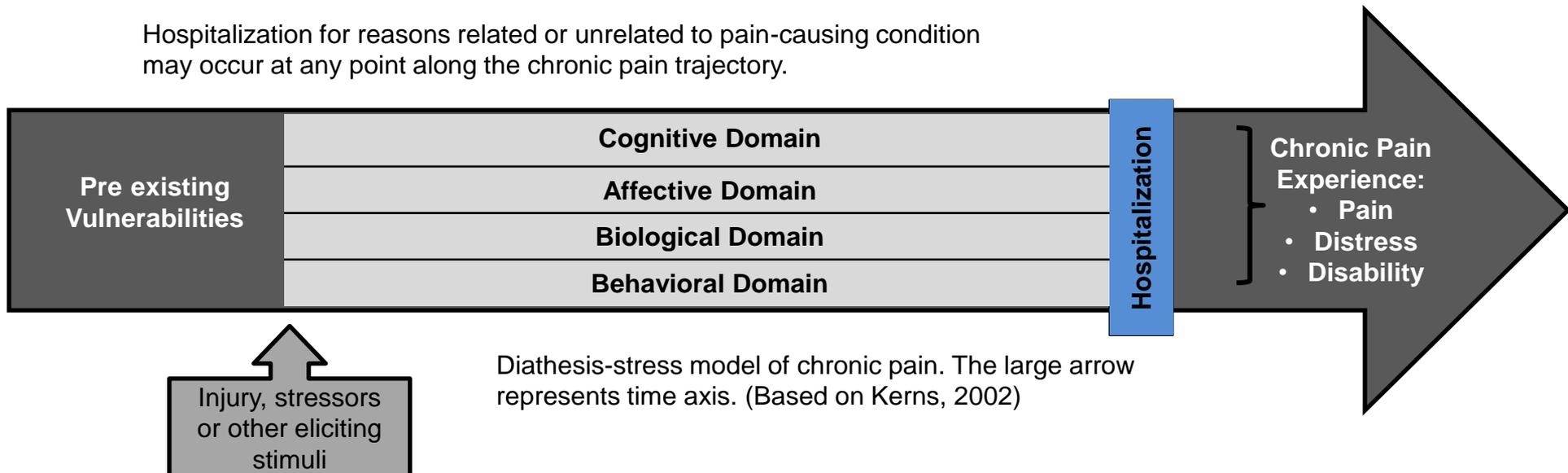


Chronic pain is complex



Pain and hospitalization in context

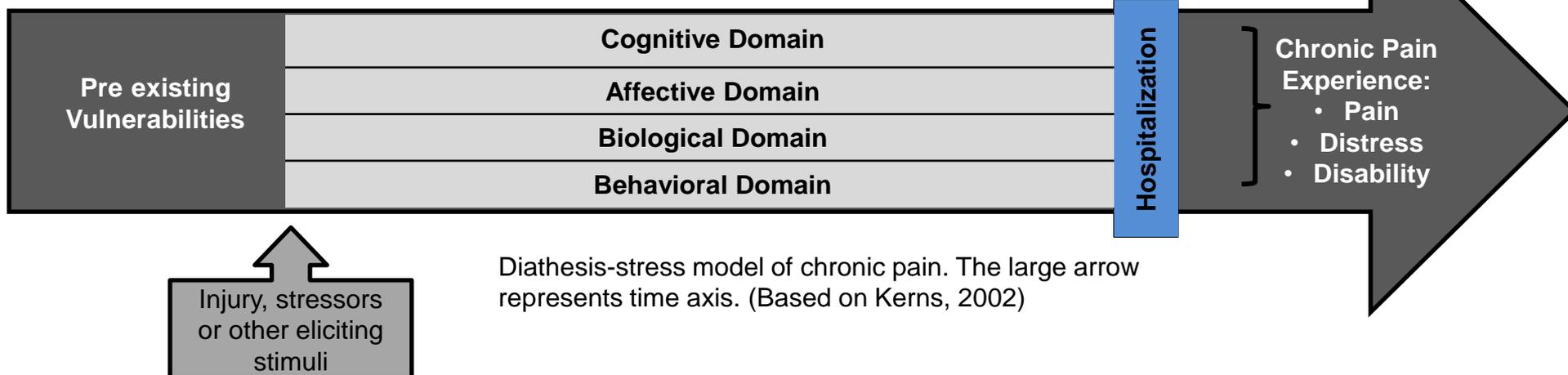
Hospitalization for reasons related or unrelated to pain-causing condition may occur at any point along the chronic pain trajectory.



Conceptual Model

Antecedents	Structure	Process	Outcome	
<ul style="list-style-type: none"> Chronic pain Outpatient opioid use Demographic characteristics Medical comorbidities 	<ul style="list-style-type: none"> Hospital factors Provider factors 	Inpatient pain management <ul style="list-style-type: none"> Pharmacologic Nonpharmacologic 	Inpatient <ul style="list-style-type: none"> Pain relief Satisfaction Distress Function 	Outpatient <ul style="list-style-type: none"> Mortality Readmissions Utilization of services Outpatient opioid use Recovery of function

Hospitalization for reasons related or unrelated to pain-causing condition may occur at any point along the chronic pain trajectory.



Diathesis-stress model of chronic pain. The large arrow represents time axis. (Based on Kerns, 2002)

To improve inpatient pain treatment...

...for the chronic pain patient, we need

1. Measures of prior pain and pain treatment
2. Understanding of current inpatient treatment
3. Understanding of what determines inpatient treatment (nurse, physician, pharmacist...)
4. Assessment of patients' attitudes and needs
5. Meaningful inpatient and post-hospitalization outcome measures

Back to our case

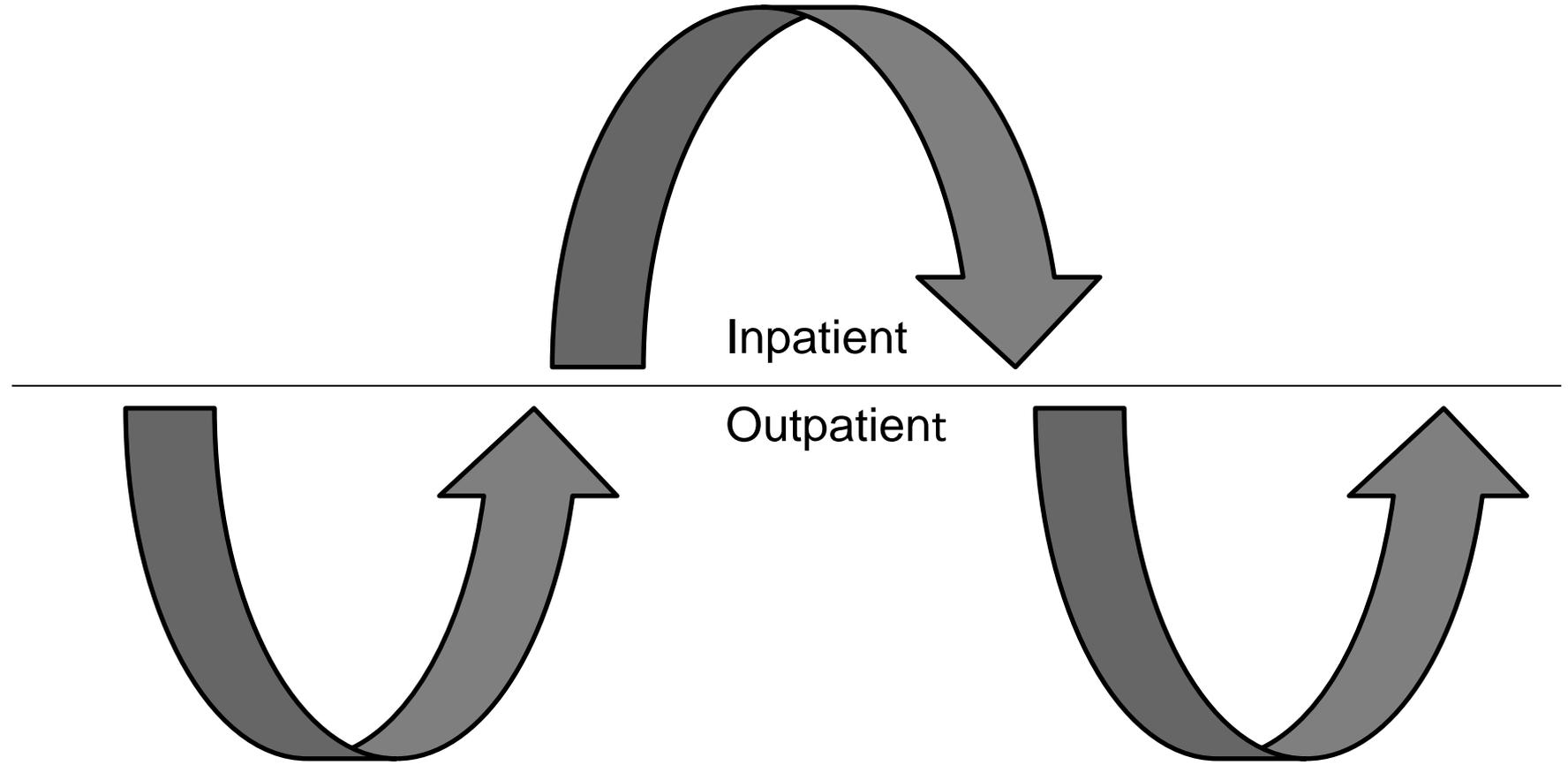
- 64 year old veteran with COPD and pneumonia, on opioids for chronic knee and low back pain
- Goals: ambulate aggressively in hospital; maintain and improve physical function; stay independent in the home
- Discussion: Smoking cessation. Discuss opioid risks and benefits? Explore why a benzodiazepine? Home oxygen? Revisit use of CPAP for obstructive sleep apnea

Why it matters

1. Safety
2. Satisfaction
3. Long term outcomes

Veteran expectations and the therapeutic relationship?

2. Inpatient pain experience may have positive or negative effects on cognitive, affective, biological, and behavioral domains that maintain chronic pain



1. Chronic pain antecedents influence inpatient pain experience

3. Changes in chronic pain outcomes of pain, distress, and disability may mediate need for subsequent hospitalization

Ongoing investigations

- Local satisfaction survey
- Assessment of pre-admission, inpatient, and discharge medications
- Compare patients with prior opioid use to those without
- Qualitative interviews with veterans with chronic pain who are admitted to the hospital

(unfunded work preparatory for grant resubmission)

Ongoing initiatives

- Partnership with Pain Clinic to translate outpatient approaches to inpatient setting
- Building multidisciplinary inpatient team (nurse coordinator, pain psychologist, hospitalist physician)
- Identifying leverage points for cultural change
- Exploring veteran readiness to change

(Quality improvement initiative funded through the VA Office of Rural Health)

Opportunities for inpatient intervention?

- Pain is positively associated with hospital length of stay
- Adopt aspects of smoking cessation models
- “Brief interventions for radical change” (Focused Acceptance and Commitment Therapy)
- Introduce, educate about, and practice non-pharmacological approaches

Opinion question 1

Most patients with chronic non-malignant pain should be encouraged to try non-opioid approaches

- a) Strongly disagree
- b) Disagree
- c) Neutral
- d) Agree
- e) Strongly agree

Opinion question 2

Inpatient providers should initiate discussions of chronic non-malignant pain treatment with hospitalized patients

- a) Strongly disagree
- b) Disagree
- c) Neutral
- d) Agree
- e) Strongly agree

Opinion question 3

Chronic pain treatment should not be addressed during the inpatient stay

- a) Strongly disagree
- b) Disagree
- c) Neutral
- d) Agree
- e) Strongly agree

Opinion question 4

The biggest challenge to improving inpatient pain treatment is changing_____ (choose one answer)

- a) Patient attitudes and beliefs
- b) Physician behavior and training
- c) Nurse behavior and training
- d) Inpatient pain treatment doesn't need changing
- e) Other (please type in comments)

Take home message?

"Doctor, will I be able to play the violin after the operation?"

"Yes, of course..."



"Great! I never could before!"