Opioids: Impact of Palliative Care on ***Total Pain*** in the Older Adult

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Disclosure

I have no relevant financial relationships with ineligible companies or conflicts of interest to disclose.

This presentation will discuss off label uses of buprenorphine products.

2

Learning Objectives

- Describe Palliative Care and its importance in the healthcare system and caring for older adults
- Recognize the physiologic changes that occur with aging and how those impact pain and symptom management
- Define the concept of “total pain” and the importance of whole person care in pain and symptom management
- Distinguish the role of the pharmacist in total pain management in the older adult

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Defining Palliative Care

- "Palliative care is **specialized medical care** for people with serious illnesses. This type of care is focused on providing patients with relief from the symptoms, pain, and stress of a serious illness, whatever the diagnosis. The goal is to improve quality of life for both the patient and the family."
- Palliative care is appropriate at **any age and at any stage** in a serious illness and can be provided together with curative treatment.

https://www.capc.org/about/palliative-care/

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Prevalence

- At least **12 million adults** and 400,000 children in the United States are living with a serious illness, including metastatic cancer, advanced dementia, heart failure, lung disease, and congenital illnesses
- Number of older patients and those with serious illness expected to increase significantly over the next two decades
  - Heart disease, lung disease, cancer, stroke, CKD, liver disease, HIV/AIDs, ALS, MS, Parkinson's and Alzheimer's dementia and more…

Hayes SL, et al. Issue Brief (Common Fund). 2016 Aug;26:1–14.
Institute of Medicine Committee on Palliative and End-of Life. Washington, DC: National Academies Press; 2003.
U.S. Department of Health and Human Services, Administration for Community Living. Published September 2014.

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Impact of Serious Illness

- People living with serious illness make up the 5% of patients driving **over half** of all health care spending
- Disproportionate users of 911 calls, recurring emergency department (ED) visits, hospitalizations, and skilled nursing facility admissions
- Higher symptom burden, lower quality of life
- Despite high utilization of crisis care and high spending, this population often receives **low-value, distressing, service from our health care system**

Teno JM, Clarridge BR, Casey V, et al. JAMA. 2004;291(1): 88–93.
Meier DE. Milbank Q. 2011 Sep; 89(3): 343–380.

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Strategies for Improvement?

Initiating meaningful communication with patients about their goals (what matters the most to them)

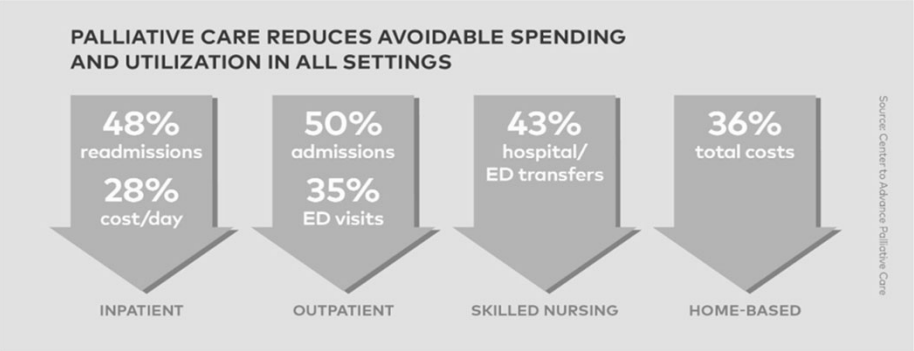
Providing symptom relief, education, and support to improve quality of life for patients and their families

The Case for Improving Communication and Symptom Management Skills

8

Benefits of Palliative Care

- Studies consistently show improvements in both quality measures and resource utilization after palliative care is introduced
- Focuses on the highest-need, highest-cost patients



https://www.capc.org/about/palliative-care/

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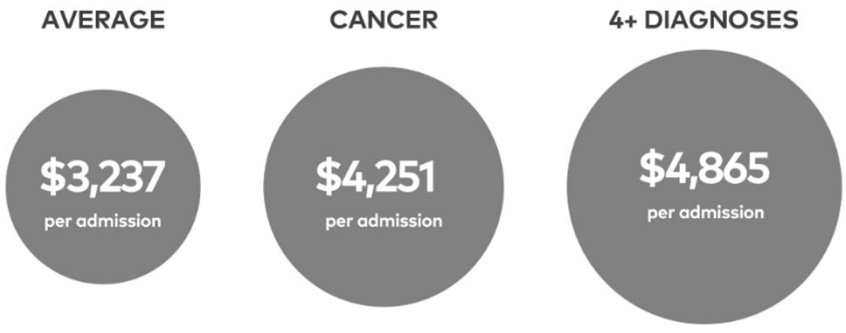
Financial Impact of Hospital Palliative Care

- Robust palliative care services lead to strong financial performance across many parameters including reduction of variable costs per day.



May P, Normand C, et al. JAMA Intern Med, 2018;178(6):820-829.

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Who Provides Palliative Care?

Primary Palliative Care	**Specialty** Palliative Care

WHAT IS IT?
• Preliminary discussions regarding a person's values and goals of medical care
• Comprehensive assessment of pain and non-pain symptoms and first line symptom management
• Assessment of patient/caregiver needs and initial attempts to fill gaps in care
 	
WHO DOES IT?
• Any individual healthcare provider or healthcare team who encounters patients with serious illness
  • Can be performed at any patient encounter
  • Typically, no formal palliative care training or board certifications
	WHAT IS IT?
	• Complex shared decision-making, whole person care
	• Assistance with conflict resolution (family or providers) regarding goals, procedures and disease directed therapies
	• Management of complex (refractory) symptoms that are non-responsive to initial or multiple lines of treatment
	
	WHO DOES IT?
	• An interdisciplinary and collaborative team comprised of those with advanced training, degrees, board certifications and clinical experience
	  • Typically, requires a consult/referral from a provider already involved in the patient's care

Munday D et al. Palliat Med. 2024 Aug 19;38(8):766-769.
https://www.capc.org/blog/palliative-pulse-palliative-pulse-november-2017-learning-from-frontline-clinicians-delivering-primary-palliative-care/

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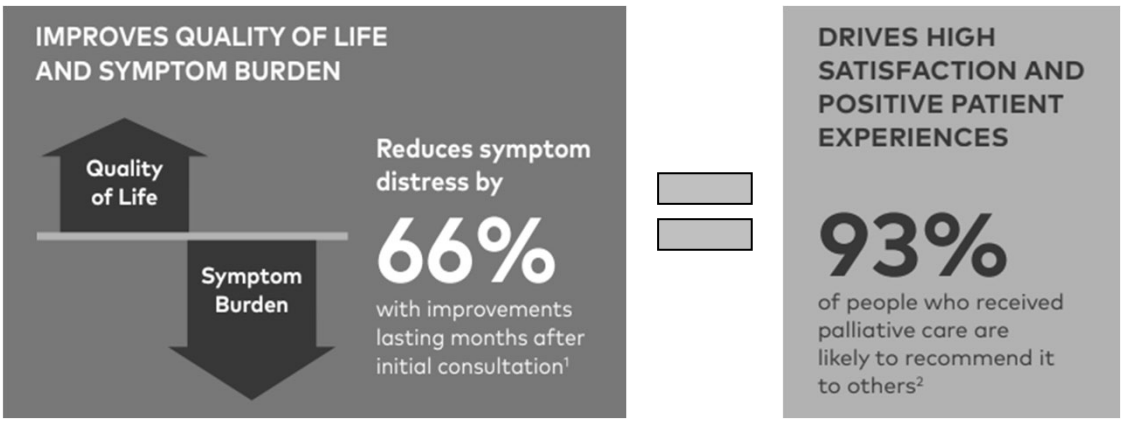
Palliative Care Reduces Symptom Distress



Kavalieratos, D, J Corbelli, and D Zhang. JAMA, (2016): 316(20).
Boehler, A. NICHM Foundation Webinar, "Prioritizing Super-Spenders: Coverage and Care for High-Need Patients." (2017)

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Value of Community Based Palliative Care

- Research shows community-based palliative care **"results in more compassionate, affordable, and sustainable high-quality care."**
- Starts with assessing and meeting the needs of both the patient and the family, it yields unique value for health care organizations
  - Reducing ED utilization
  - Reducing utilization of acute care hospital services
  - Reducing CMS penalties
  - Improving organizations reputation
  - Improving the overall healthcare experience

Yosick L, Crook RE, Gatto M, et al. J Palliat Med. 2019 Sep;22(9):1075–1081.

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CAPC Survey of Community Palliative Care

- In 2019 CAPC released results of a three-year mapping project to identify community-based palliative care programs nationwide
- Identified more than 3,100 sites of community-based palliative care delivery across the country, provided by 890 programs
- Highlights that a growing number of hospitals, health systems, and community-based provider organizations understand the value case for community-based palliative care

Morrison RS, Meier DE, Rogers M, et al. America's Care of Serious Illness: A State-by-State Report Card on Access to Palliative Care in Our Nation's Hospitals. New York, NY: Center to Advance Palliative Care and the National Palliative Care Research Center; 2019.

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Pain Definition

International Association for the Study of Pain (IASP) definition:

"An unpleasant **sensory** and **emotional** experience associated with, or resembling that associated with, **actual or potential** tissue damage"

- A survival mechanism
- Signal from the CNS that something is wrong
- Pain is **always** subjective
- Personal application of the word 'pain' through life experiences
- Unpleasantness of pain is what makes it an innately emotional experience
- Pain experience distinguished from noxious stimulation due to subjectivity

Raja SN, et al. Pain. 2020 Sep 1;161(9):1976–1982.

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Pain Background and Prevalence

"One of the most common reasons adults seek medical care…"

National Health Interview Survey (NHIS) 2019-2021 in the US

- 20.9% (51.6 million) adults had chronic pain
- 6.9% (17.1 million) adults had *high-impact* chronic pain

- Higher prevalences of both associated with **advancing age**
- Higher prevalence of *high-impact* chronic pain in adults with lower socioeconomic status

Rikard SM, Strahan AE, Schmit KM, Guy GP Jr.. Chronic Pain Among Adults — United States, 2019–2021. MMWR Morb Mortal Wkly Rep 2023;72:379–385.
Dahlhamer J, Lucas J, Zelaya, C, et al. Prevalence of Chronic Pain and High-Impact Chronic Pain Among Adults — United States, 2016. MMWR Morb Mortal Wkly Rep 2018;67:1001–1006.

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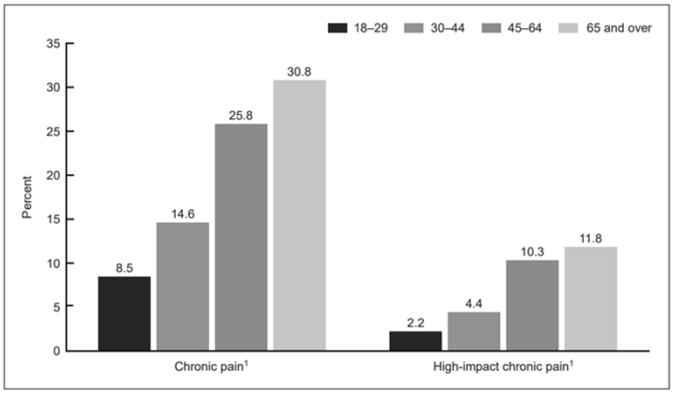
Impact of Chronic Pain

- $560 billion each year in direct medical costs, lost productivity, and disability programs related to chronic pain
- Associated with significant **suffering**, **disability**, **social isolation**
  - Greater negative impact on older adults?

Figure 2. Percentage of adults aged 18 and over with chronic pain and high-impact chronic pain in the past 3 months, by age group: United States, 2019



[1]Significant quadratic trend by age group ($p < 0.05$).
NOTES: Chronic pain is based on responses of "most days" or "every day" to the survey question, "In the past 3 months, how often did you have pain? Would you say never, some days, most days, or every day?" High-impact chronic pain is defined as adults who have chronic pain and who responded "most days" or "every day" to the survey question, "Over the past 3 months, how often did your pain limit your life or work activities? Would you say never, some days, most days, or every day?" Estimates are based on household interviews of a sample of the civilian noninstitutionalized population. Access data table for Figure 2 at: https://www.cdc.gov/nchs/data/databriefs/db390-tables-508.pdf#2.
SOURCE: National Center for Health Statistics, National Health Interview Survey, 2019.

Institute of Medicine. Washington, DC: National Academies Press; 2011.
Dahlhamer J, Lucas J, Zelaya, C, et al. Prevalence of Chronic Pain and High-Impact Chronic Pain Among Adults — United States, 2016. MMWR Morb Mortal Wkly Rep 2018;67:1001–1006.c

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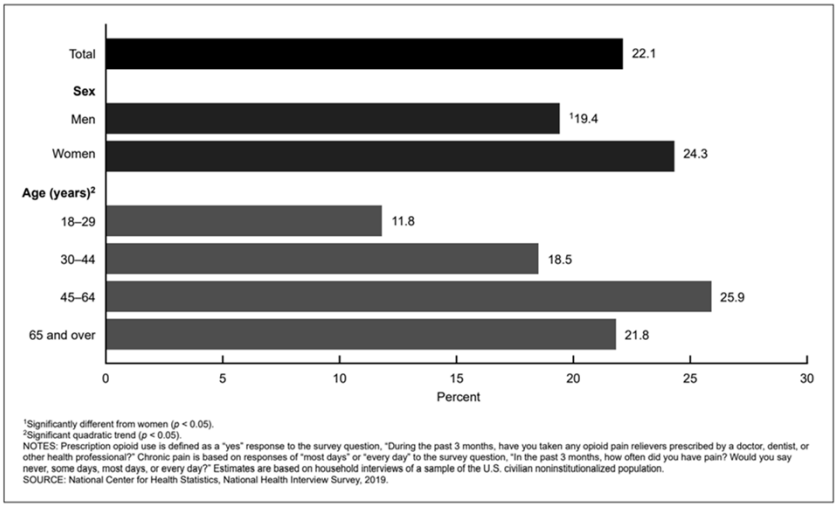
Opioids for Chronic Pain

Figure 1. Percentage of adults with chronic pain who used prescription opioids in the past 3 months, overall and by sex and age group: United States, 2019



[1]Significantly different from women ($p < 0.05$).
[2]Significant quadratic trend ($p < 0.05$).
NOTES: Prescription opioid use is defined as a "yes" response to the survey question, "During the past 3 months, have you taken any opioid pain relievers prescribed by a doctor, dentist, or other health professional?" Chronic pain is based on responses of "most days" or "every day" to the survey question, "In the past 3 months, how often did you have pain? Would you say never, some days, most days, or every day?" Estimates are based on household interviews of a sample of the U.S. civilian noninstitutionalized population.
SOURCE: National Center for Health Statistics, National Health Interview Survey, 2019.

Dahlhamer JM et al. National Health Statistics Report. Number 162. August 5, 2021.

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Classifying Physical Pain

- Pain can result from noxious stimuli or perceived painful stimuli that travels from peripheral nociceptors to central nervous system but can also be the result of *abnormal* nociception and sensitization

Nociceptive Somatic	Nociceptive Visceral	Neuropathic	Nociplastic (2017)
• Noxious stimulus (thermal, chemical, mechanical) causing damage • Inflammatory vs. not • **Skin, bones, joints, soft tissue** • Well-localized, fixed • Sharp, stabbing, throbbing, aching	• Noxious stimulus (thermal, chemical, mechanical) causing damage • Inflammatory vs. not • **Organ distention, ischemia, tumor infiltrate** • Diffuse, poorly localized • Deep, gnawing, angina, cramping, colicky	• Direct neuronal injury or secondary to injury of non-neuronal tissue • Central or peripheral in nature (MS* vs. DPN**) • Travels or moves • Shooting, burning, electric, hot, numbness, tingling * MS (multiple sclerosis) ** DPN (diabetic peripheral neuropathy	• Maladaptive changes in pain processing and modulation **without** evidence of tissue or nerve damage • Pain sensitization and hypersensitivity to noxious **and benign** stimuli (hyperalgesia and allodynia) • Dull, deep, aching +neuropathic features

Yam MF, et al. Int J Mol Sci. 2018;19(8):2164.
Gierthmuhlen J, et al. Semin Neurol. 2016; 36: 462-468.
Boezaart AP, et al. Regional Anesthesia & Pain Medicine. 2021;46(7):629-636.

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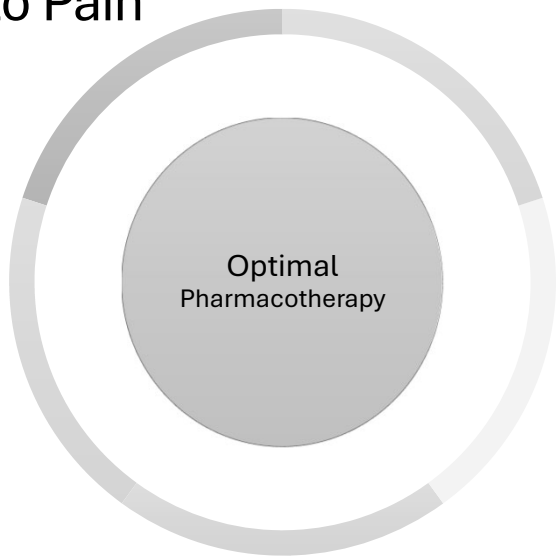
Multimodal Approach to Pain

Optimizing *pharmacologic* interventions will result in

1. **Lower subjective pain reports and improved function**
   - Match the analgesic to the pathogenesis of the pain
2. **Reduced use of opioids and potential harm from opioid-related toxicity**



Yam MF, et al. Int J Mol Sci. 2018;19(8):2164.
Gierthmuhlen J, et al. Semin Neurol. 2016; 36: 462-468.
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Multimodal Pain Management

- Intentional concurrent use of non-opioid analgesics +/- opioids
- **Two** primary goals
  - Improve pain and function
  - Decrease opioid use and opioid-related toxicity

Nociceptive (**Inflammatory**)	Nociceptive (Non-inflammatory)	Neuropathic	Nociplastic (2017)
• Corticosteroids • NSAIDs*	• APAP* • Muscle relaxers • Local anesthetics • Opioids	• Anticonvulsants • Antidepressants • Local anesthetics • Ketamine • ***Certain*** opioids	• Exercise • CBT* • Physical/occupational therapy • Acceptance commitment therapy • Ketamine?
* NSAIDs (non-steroidal anti-inflammatory drugs)	* APAP (acetaminophen)		* CBT (cognitive behavioral therapy)

Yam MF, et al. Int J Mol Sci. 2018;19(8):2164.
Gierthmuhlen J, et al. Semin Neurol. 2016; 36: 462-468.
Boezaart AP, et al. Regional Anesthesia & Pain Medicine. 2021;46(7):629-636.

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AGS Beers Criteria®

- Many of the medication classes used for pain on Beers® List
- Shared decision-making approach
- Consider goals, values, and functional status

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• Corticosteroids • **NSAIDs***	• APAP* • **Muscle relaxers** • Local anesthetics • **Opioids**	• **Anticonvulsants** • **Antidepressants** • Local anesthetics • Ketamine • ***Certain*** opioids	• Exercise • CBT* • Physical/occupational therapy • Acceptance commitment therapy • Ketamine?
* NSAIDs (non-steroidal anti-inflammatory drugs)	* APAP (acetaminophen)		* CBT (cognitive behavioral therapy)

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Physiologic Changes in Older Adults

Comorbidities	Organ function	Stress response
Frailty	Cognitive function	Medication sensitivity

Kaye AD. The Ochsner journal, 10(3), 179–187.
Journal of the American Geriatrics Society. 2009. 57(8), 1331–1346.

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Pharmacokinetic Changes in Older Adults

Absorption			
Decreased oral saliva	Decreased GI motility	Increased gastric pH	Increased gastric emptying
Distribution			
Decreased cardiac output	Decreased serum albumin	Decreased body water	Increased adipose tissue
Metabolism			
Decreased hepatic blood flow	Decreased hepatic mass	Decrease CYP450 function (phase I)	
Excretion			
Decreased renal blood flow	Decreased # and size of nephrons	Decreased GFR	

Borsheski R. Missouri Medicine, 111(6), 508–511.
Kaye AD. The Ochsner journal, 10(3), 179–187.
Journal of the American Geriatrics Society. 2009. 57(8), 1331–1346.

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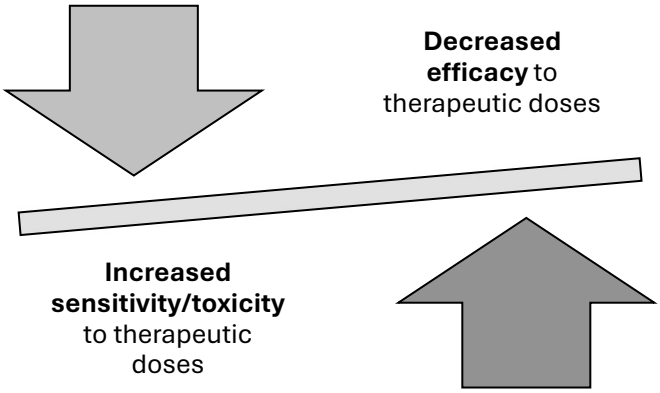
Pharmacodynamic Changes in Older Adults

- Physiologic changes and PK changes are *complex*
- Combination of these changes → **2 primary outcomes:**



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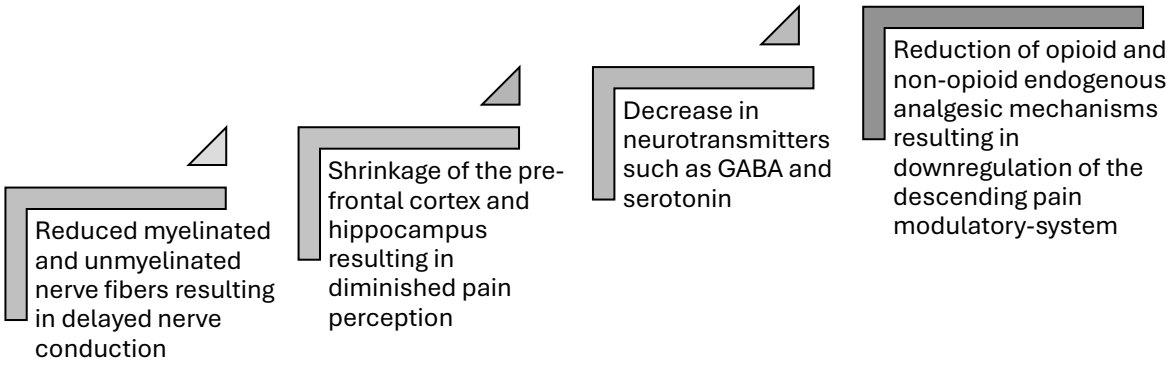
Physiologic Changes with Age That Impact **Pain Perception**



Karp JF. British journal of anesthesia, 2008. 101(1), 111–120.
Molton IR. American Psychologist. 2014. 69(2), 197–207.
González-Roldán AM. Frontiers in Aging Neuroscience. 2020.12.
Gibson SJ. The Clinical Journal of Pain. 2002. 20(4), 227–239.
Grashorn,W. PloS one. 2013. 8(9), e75629.

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Changes with Age That Impact **Pain Manifestation and Reporting**

- Pain may manifest differently in an older adult
  - Agitation, delirium, insomnia, irritability
- Cognitive and speech impairments increase the likelihood that an older adult may not be able to adequately express their pain
- Non-verbal indicators of pain
  - Grimacing, depression, abnormal body movements, vital sign changes, aggressive behavior, altered sleep or PO intake

Testman J. Today's Geriatric Medicine. 2011.
Achterberg WP. Clinical interventions in aging. 2013. 8, 1471–1482.

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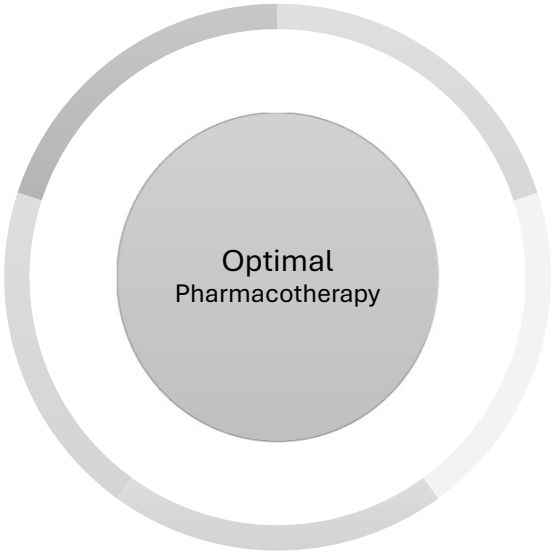
Multidisciplinary Approach to Pain

Even the most optimized multimodal pharmacotherapy regimen often does **not** result in resolution of pain…

WHY?



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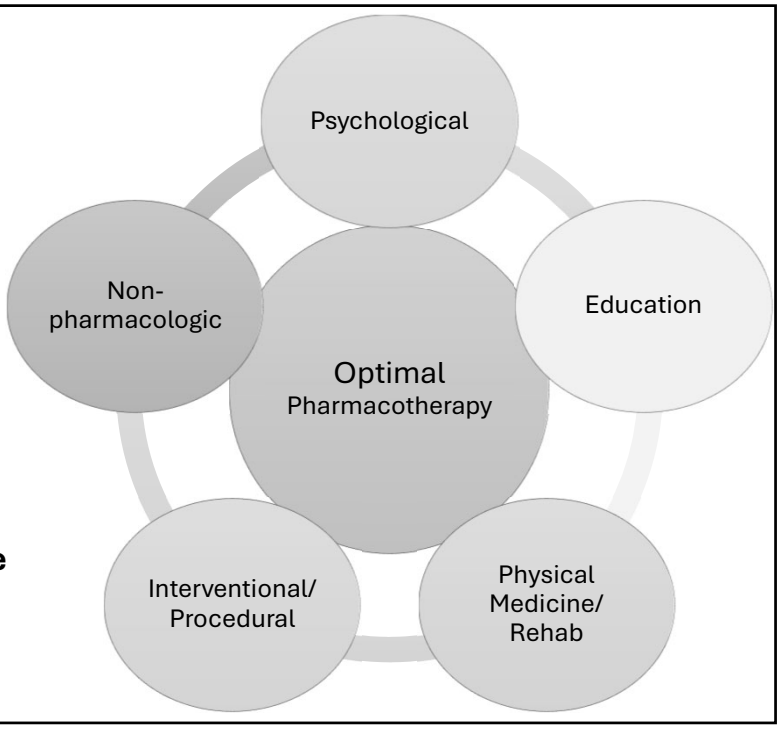
Multidisciplinary Approach to Pain

IASP Recognized:

- Pain is "a psychological concept and not a physical measure"
- The experience of pain should be distinguished from noxious stimulation
- **Pain and nociception are different phenomena**



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Total Pain

A concept that describes the total suffering that a person experiences when they are dealing with serious illness

- Perception of pain can be influenced by various factors
  - Physical, social, psychological, spiritual/existential
- Often occurs in fluctuating patterns
- Requires a multidimensional approach
- Age is an integral part of pain perception and experience

Jepersen et al. Eur J Cancer Care. 2022; 31:e13674.
Mehta et al. Journal of Hospice and Palliative Nursing. 2008. 10(1):p26-32.

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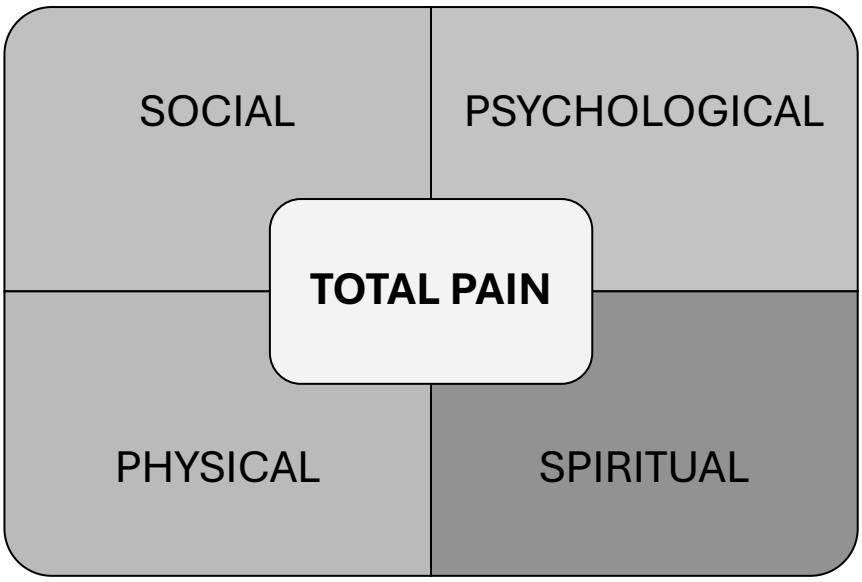

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Mehta et al. Journal of Hospice and Palliative Nursing. 2008. 10(1):p26-32.

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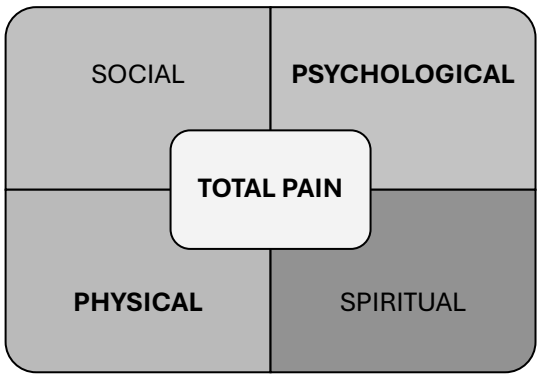
Person Centered Pain Management

PHYSICAL

- From disease
- From treatment
- From co-occurring illness or injury
- Nociceptive and neuropathic

PSYCHOLOGICL

- Anxiety
- Depression
- Mood disorders
- Fear of pain/suffering



Jepersen et al. Eur J Cancer Care. 2022; 31:e13674.
Mehta et al. Journal of Hospice and Palliative Nursing. 2008. 10(1):p26-32.

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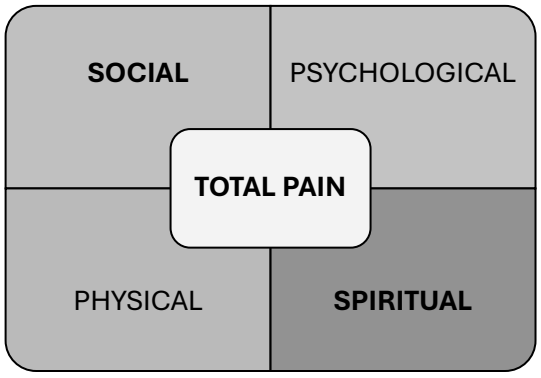
Person Centered Pain Management

SOCIAL

- Financial strain
- Loss of job/career
- Loss of role in family
- Fertility and parenthood

SPIRITUAL

- Anger and grief
- “why me?”
- Loss of faith
- Finding purpose



Jepersen et al. Eur J Cancer Care. 2022; 31:e13674.
Mehta et al. Journal of Hospice and Palliative Nursing. 2008. 10(1):p26-32.

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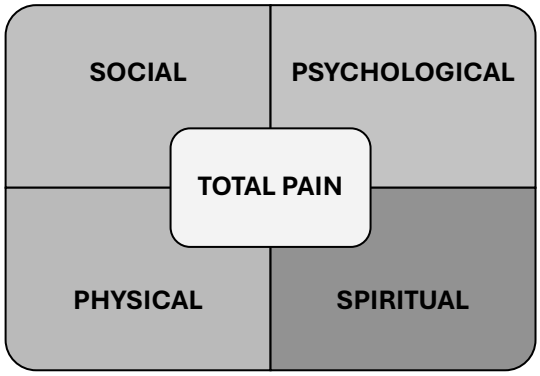
Consequence of Total Pain

- Suffering in any of these categories can present as a **patient complaint of worsening physical pain**
- Traditional analgesics do not treat non-physical pain
- Opioids may unintentionally exacerbate certain pain stressors



Jepersen et al. Eur J Cancer Care. 2022; 31:e13674.
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Patient Case Example

- DO is a 76-year-old F with *recurrent* endometrial cancer with known metastases to the liver. Presents to oncology clinic with complaints of **worsening fatigue, lack of energy, and increased abdominal pain** resulting in her **feeling unable to and uninterested in doing things**. Functional status has declined over the last 3 months. Denies fever, chills, nausea/vomiting, constipation, shortness of breath or chest pain.
- She is currently on 3rd line treatment with pembrolizumab, completed cycle 2, with next scans scheduled to occur after completion of cycle 4.

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Home Med List

- Metformin 1000 mg BID
- Rosuvastatin 5 mg QAM
- Esomeprazole 40 mg daily
- Famotidine 20 mg BID PRN
- Ibuprofen 200-400 mg Q6H PRN mild pain
- Ondansetron ODT 4 mg TID PRN nausea/vomiting
- Prochlorperazine 5 mg Q6H PRN nausea/vomiting, alt. w/ ondansetron
- Lorazepam 1 mg QHS PRN sleep
- Oxycodone ER 20 mg BID
- Oxycodone IR 5 mg Q4H PRN breakthrough, severe pain

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Initial Assessment

- Because of DO's complaints of pain and fatigue, most of the visit was focused on these. DO reports the following:
  - Generally tired, lack of energy, disinterest in most things
  - Irritated that family (she lives in an in-law suite at her daughter and son-in-law's home, with them and 2 grandchildren) won't give her any alone time, they insist on waiting on her hand and foot
  - Pain mostly in abdomen, constant, and occasionally severe (consistent with previous pain reports)
  - Describes pain as constant, aching, deep, localized to lower abdomen and pelvic area. Denies radiation to other areas.
  - Feels the pain regimen is not adequately controlling her pain and she is having difficulty sleeping
  - Taking PRN oxycodone every 4 hours around the clock, setting alarms for overnight

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Initial Assessment and Plan

- Oncology team does not suspect any acute process is occurring, and it is not yet time to complete scans to assess efficacy of immunotherapy.
- Patient is counseled that cancer treatments can be 'draining' especially for older patients, and she should attempt to rest when feeling fatigued.
- DO is encouraged by team that once they increase her pain regimen, she will sleep better, and her fatigue will also improve.
- Pain regimen is adjusted:
  - Take ibuprofen scheduled, around the clock rather than PRN
  - Increase oxycodone ER to 30 mg BID
  - Increase oxycodone IR to 10 mg Q4H PRN breakthrough, severe pain

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Follow Up by Patient

- One week later, DO calls the office and reports:

"I've been trying this new pain regimen for a full week, and I don't feel any improvement in pain. The increased doses of oxycodone have not helped at all, and I haven't missed any doses. I still can't seem to sleep at night, I take the lorazepam like I'm supposed to, and I just lay awake hurting"

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Audience Response Question

What do you think is going on with DO?

A. Patient must be lying, oxycodone ER and IR doses were increased by 50% and 100% respectively, patient must be exaggerating severity of her pain. Tell her to give it more time, it should be helping.

B. Pain appears not responsive to opioids, there must be some neuropathic pain that is happening. Start gabapentin 100 mg TID.

C. Everything appears worse because she is not sleeping consistently. Tell her once she gets a good night's sleep, pain should be better. Increase her Lorazepam to 2 mg QHS.

D. There are likely total pain components contributing to her symptom reports, further assessment is needed to determine best course of action.

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Audience Response Question

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Upon Further Assessment…

- She is devastated about the recurrence of her cancer, feeling constantly sad or numb, but wants to "be strong" for her family so she doesn't say anything
- She knows the likely outcome of recurrent, stage 4 disease, but everyone around her keeps telling her "it will all be okay, keep fighting"
- She lost her independence as the matriarch of the family and is left feeling useless, like a burden to everyone
- She is worried that her disease is worse than the doctors are making it sound like. The treatment probably won't work… it didn't work last time.

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Upon Further Assessment…

- She is fearful of suffering and having poorly controlled pain. Every time her cancer has gotten worse, so has the pain.
- She worries constantly about what is going to happen to her family after she dies. Will they be okay? Will they move on without her? Will they forget about her?
- She really wishes she would get to see her grand-daughter graduate next June but knows she's unlikely to live that long.
- She can't remember ever completing a living will. Is it too late to do that? Would it make a difference?

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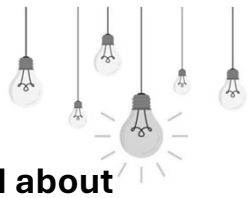
Key Observations



- **Patients will not always offer what is not asked about**
- Non-physical suffering manifests as reported physical symptoms
- Medications are not always the answer
- Medications may be helpful, if you have a good understanding of what the underlying cause is
- Medication adjustments with *no effect* should not be continued
- Address the non-physical things that you can
- Ensure appropriate supports are in place
- Encourage open discussion with family/friends, offer to assist

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Pharmacists Role

- Regardless of practice setting, pharmacists have an extensive role in caring for patients that experience pain
- Regular communication with patients and providers
- Most regularly accessible health care provider to provide education and counseling
  - Medication education/counseling
  - Non-pharmacologic and OTC recommendations
  - Total pain/suffering education (non-physical)
  - Education regarding community based palliative care when appropriate

Murphy L. The Role of the Pharmacist in the Care of Patients with Chronic Pain. Integrated Pharmacy Research and Practice. 2021. 10, 33–41.

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How Pharmacists Can Help

- Have an inquisitive (non-judgmental) attitude
- Apply some primary palliative care skills
- Ask clinical questions to ensure appropriate pharmacotherapy
  - Are their drug interactions that could result in negative outcomes?
  - What is the perceived efficacy and toxicity of a therapy?
  - When does risk of harm seems to outweigh benefit?
  - What if new meds/dose changes do not correlate with expected effect?
- Continuity of care between patient and provider

Murphy L. The Role of the Pharmacist in the Care of Patients with Chronic Pain. Integrated Pharmacy Research and Practice. 2021. 10, 33–41.

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Summary

- Palliative care techniques/strategies are designed to identify and target specific areas of pain/suffering (beyond the physical)
- Palliative care drives high patient satisfaction and positive patient experiences due to decreased symptom distress and increased QoL
- Poor pain control has significant negative impacts on quality of life and is directly linked to increased health care costs
- Patients require individualized, comprehensive assessments and **patient centered treatment plans** that encompass the totality of the pain experience
- Pharmacists play a pivotal role in the management of pain in the older adult population through regular, direct engagement, recommendations, education and counseling

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Impact of Palliative Care on
Total Pain in the Older Adult
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