

IPRCC Portfolio Analysis of Chronic Pelvic Pain Grants

Combined Analysis of Interstitial Cystitis/Painful Bladder Syndrome,
Prostatitis (subset of visceral pain), Vulvodynia, Endometriosis,
Irritable Bowel Syndrome & Nonspecific Pelvic Pain

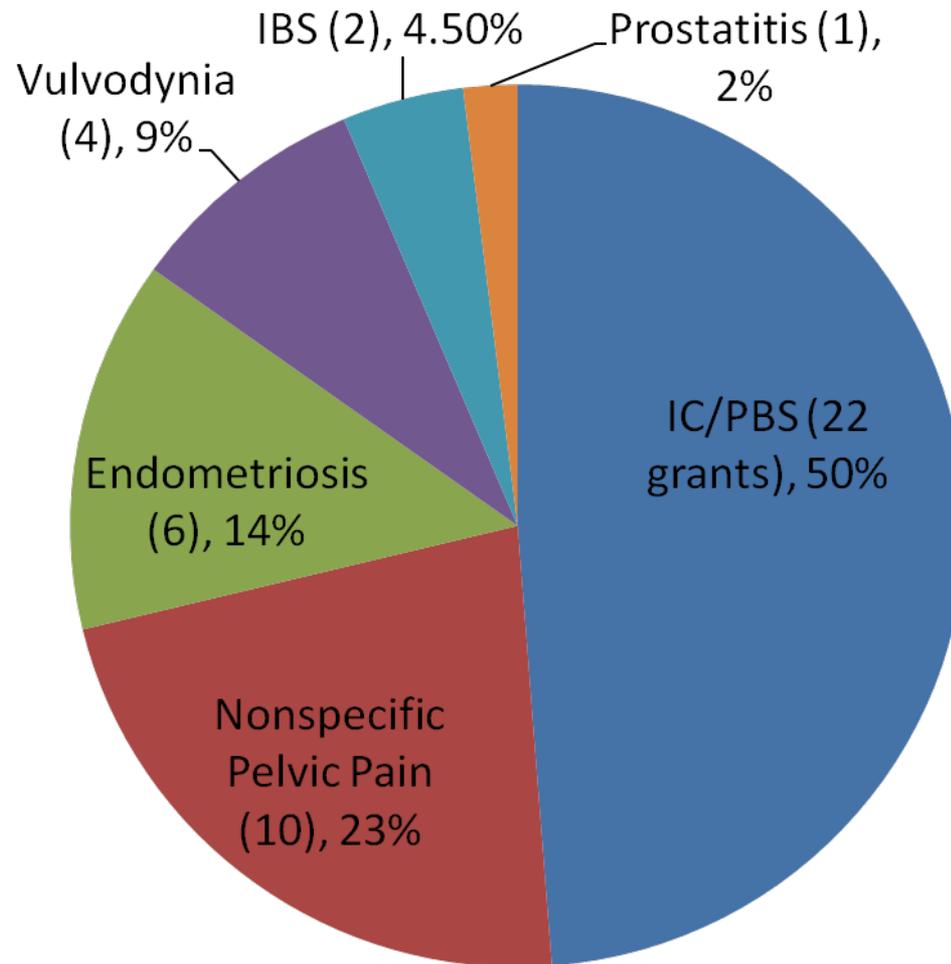
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Portfolio Overview

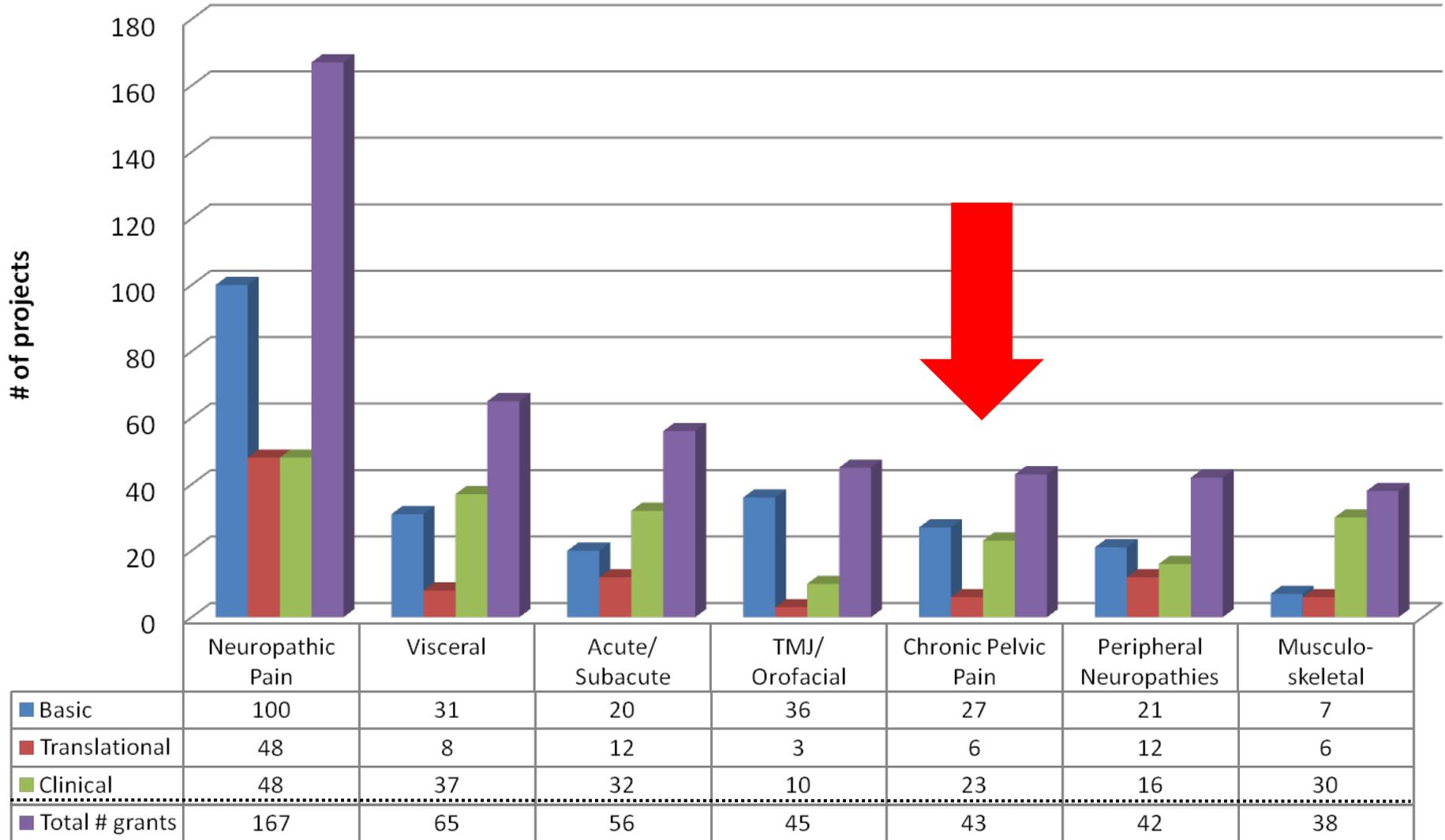
Grants Per Condition

44 Total Grants (FY2011)



To compare number of projects in basic, translational or clinical research for each grouped condition

Basic Translational Clinical Total # grants



*Total # grants does not equal basic + translational + clinical because one grant can belong to more than one category

Chronic Pelvic Pain

Research by Secondary Code (% of Projects)

Chronic Pelvic Pain	% of Projects
1. Neurobiological/glia mechanisms of nociception and pain	22%
5. Development and validation of animal and human pain models	13%
16. Epidemiology of pain and pain disorders	8%
26. Chronic overlapping pain conditions in an individual	8%
2. Genetics and genomics of nociception and pain	6%
7. Pharmacological mechanisms and treatment	6%
18. Pain and women's and minority's health research ¹	6%
12. Development of device and therapy delivery systems	5%
27. Pain and other non-pain comorbidities	5%
3. Other "omics" of pain	4%
9. Biobehavioral and psychosocial mechanisms and treatment of pain	4%
14. Development of informatics, data bases, and information technologies as tools for pain research	4%
8. Non-pharmacological mechanisms and treatment	2%
28. Training in pain research	2%
Others	<2% each

¹Pain and women's and minority's health research: women - 5

N=43

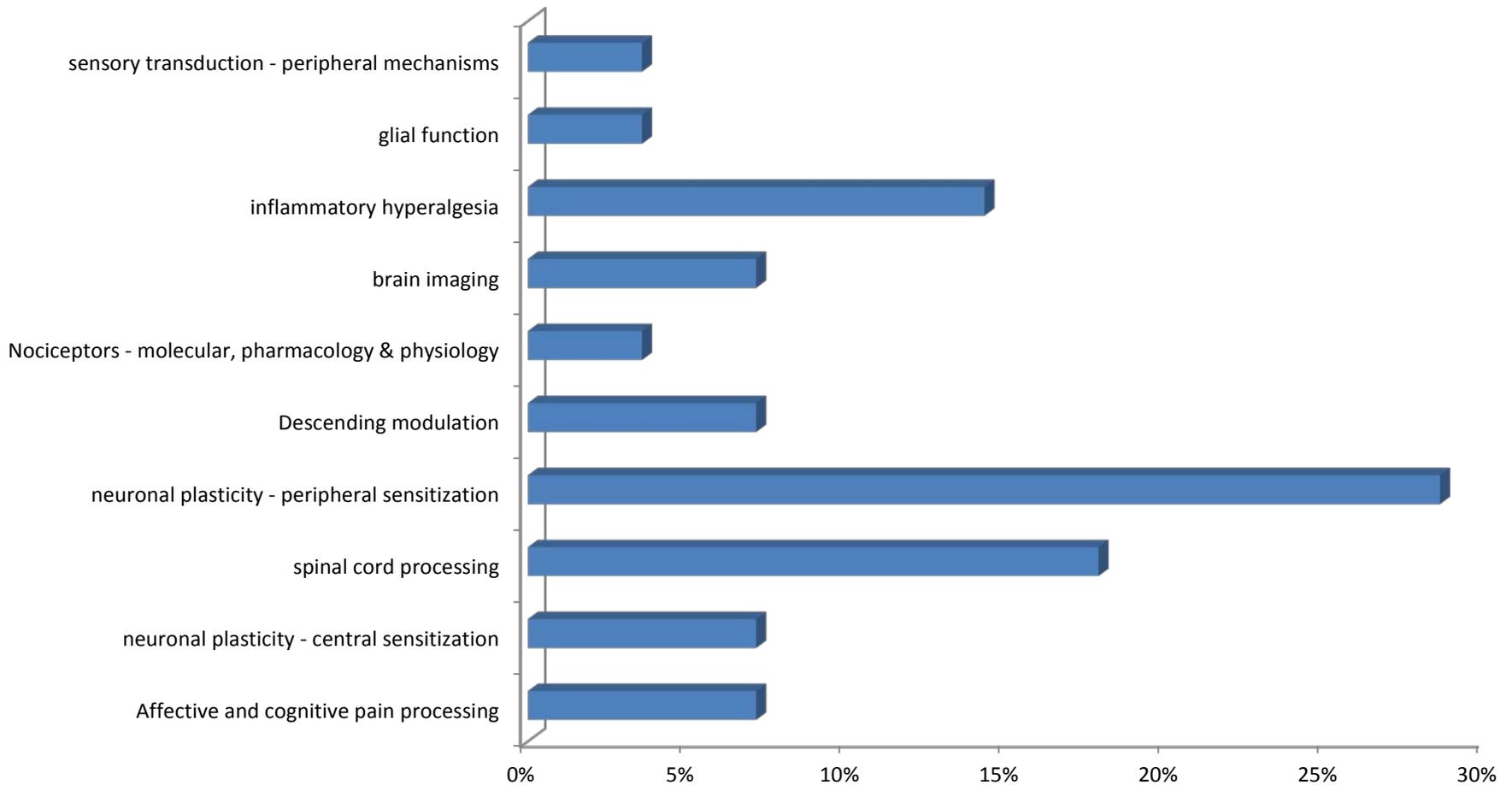
Portfolio Overview

Values		
Count of 1. Neurobiological/glia mechanisms of nociception and pain:	19	23%
Count of 2. Genetics and genomics of nociception and pain:	5	6%
Count of 3. Other "omics" of pain:	3	4%
Count of 4. Mechanisms of and treatments for transitions in pain phases:	1	1%
Count of 5. Development and validation of animal and human pain models:	11	13%
Count of 6. Diagnosis/case definitions:	1	1%
Count of 7. Pharmacological mechanisms and treatment:	5	6%
Count of 8. Non-pharmacological mechanisms and treatment:	2	2%
Count of 9. Biobehavioral and psychosocial mechanisms and treatment of pain:	3	4%
Count of 10. Medical management of pain		0%
Count of 11. Analgesic development:		0%
Count of 12. Development of device and therapy delivery systems:	4	5%
Count of 13. Pain outcomes assessments and measures, and novel health information technology as tools for decision making support of pain management:	1	1%
Count of 14. Development of informatics, data bases, and information technologies as tools for pain research:	3	4%
Count of 15. Pain education		0%
Count of 16. Epidemiology of pain and pain disorders:	7	8%
Count of 17. Health disparities in pain, pain management, and access to care:		0%
Count of 18. Pain and women's and minority's health research	5	6%
Count of 19. Unique populations		0%
Count of 20. Sex and gender differences in pain	1	1%
Count of 21. Comparative effectiveness research:		0%
Count of 22. Pain and substance use and abuse/addiction		0%
Count of 23. Analgesic drug safety		0%
Count of 24. Pain and trauma		0%
Count of 25. Pain prevention		0%
Count of 26. Chronic overlapping pain conditions in an individual	7	8%
Count of 27. Pain and other non-pain comorbidities	4	5%
Count of 28. Training in pain research	2	2%
Count of 29. Health care utilization		0%
	84	100%

Portfolio Overview

Secondary Analysis of #1 (Mechanisms)

Chronic Pelvic Pain - Neurobiological/Glial Mechanisms of Nociception and Pain



% of projects in a secondary code within grouped condition	Grouped Conditions						
	Neuro pathic	Visceral	Acute/ Subacute	TMJ/ Orofacial	chronic pelvic pain	peripheral neuropathi	Musculo-skeletal
1. Neurobiological/gliar mechanisms of nociception and pain:	24%	25%	11%	23%	23%	23%	6%
2. Genetics and genomics of nociception and pain:	8%	3%	2%	9%	6%	6%	2%
3-Other "omics" of pain:	1%	4%	1%	1%	4%	0%	2%
4. Mechanisms of and treatments for transitions in pain phases:	10%	6%	5%	0%	1%	11%	8%
5. Development and validation of animal and human pain models:	7%	9%	5%	11%	13%	9%	8%
6. Diagnosis/case definitions:	1%	0%	0%	1%	1%	0%	8%
7. Pharmacological mechanisms and treatment:	7%	3%	2%	10%	6%	11%	0%
8. Non-pharmacological mechanisms and treatment:	5%	4%	4%	0%	2%	6%	28%
9. Biobehavioral and psychosocial mechanisms and treatment of pain:	3%	9%	6%	7%	4%	5%	11%
10. Medical management of pain	1%	1%	0%	0%	0%	2%	4%
a. Self management approaches (subcategories are all set to zero)	0%	0%	0%	0%	0%	0%	0%
b. Team based treatment approaches	0%	0%	0%	0%	0%	0%	0%
11. Analgesic development:	7%	0%	6%	1%	0%	5%	2%
12. Development of device and therapy delivery systems:	5%	0%	4%	5%	5%	0%	6%
13. Pain outcomes assessments and measures, and novel health information technology as tools for decision making support of pain	2%	6%	6%	3%	1%	3%	6%
14. Development of informatics, data bases, and information technologies as tools for pain research:	1%	2%	1%	1%	4%	0%	0%
15. Pain education	0%	0%	1%	0%	0%	0%	0%
a. Health care provider education (subcategories are all set to zero)	0%	0%	0%	0%	0%	0%	0%
b. Caregiver education	0%	0%	0%	0%	0%	0%	0%
c. Patient education	0%	0%	0%	0%	0%	0%	0%
d. Public education	0%	0%	0%	0%	0%	0%	0%
16. Epidemiology of pain and pain disorders:	0%	3%	5%	1%	8%	0%	0%
17. Health disparities in pain, pain management, and access to care:	0%	0%	0%	0%	0%	2%	0%
18. Pain and women's and minority's health research	0%	3%	2%	1%	6%	2%	2%
a. women (subcategories are all set to zero)	0%	0%	0%	0%	0%	0%	0%
b. minorities	0%	0%	0%	0%	0%	0%	0%
19. Unique populations	3%	4%	7%	1%	0%	3%	2%
a. Pediatric (subcategories are all set to zero)	0%	0%	0%	0%	0%	0%	0%
b. Elderly	0%	0%	0%	0%	0%	0%	0%
c. end of life	0%	0%	0%	0%	0%	0%	0%
d. Disabled	0%	0%	0%	0%	0%	0%	0%
e. military	0%	0%	0%	0%	0%	0%	0%
20. Sex and gender differences in pain	0%	3%	2%	9%	1%	0%	0%
a. Male (subcategories are all set to zero)	0%	0%	0%	0%	0%	0%	0%
b. female	0%	0%	0%	0%	0%	0%	0%
21. Comparative effectiveness research:	2%	1%	4%	2%	0%	0%	4%
22. Pain and substance use and abuse/addiction	0%	0%	0%	0%	0%	0%	0%
23. Analgesic drug safety	1%	1%	1%	0%	0%	0%	0%
24. Pain and trauma	3%	0%	4%	0%	0%	0%	0%
25. Pain prevention	2%	2%	5%	0%	0%	2%	2%
26. Chronic overlapping pain conditions in an individual	1%	1%	0%	1%	8%	2%	0%
27. Pain and other non-pain comorbidities	1%	2%	5%	6%	5%	2%	0%
28. Training in pain research	6%	8%	6%	6%	2%	9%	2%
29. Health care utilization	0%	0%	1%	0%	0%	0%	0%



Gaps in Current CPP Portfolio

- Many Conditions Affecting Millions Not Represented in Analysis Mainly Because of Low/Nonexistent Funding
 - Both “Idiopathic” Pain Disorders & “Organic” Conditions with Associated Chronic Pain
 - Testicular pain: 1 grant
 - Penile pain: 1-3 grants depending on search terms
 - Coccydynia: 1 grant
 - Clitorodynia: 0
 - Pudendal Neuralgia: 0
 - Pudendal Nerve Entrapment: 0
 - Uterine Fibroids: 8 grants
 - Polycystic Ovary Syndrome: 0
 - Dysmenorrhea: 8 grants (already accounted for in this analysis – endo and IC studies)
 - Pelvic Organ Prolapse: 6 grants
 - Dyspareunia: 7 grants (most already account for in this analysis – endo, vulvodynia, gyn pain)

Gaps in Current CPP Portfolio

#4: Mechanisms of and Treatments for Transitions in Pain Phases

Definition: Includes studies specifically focused on understanding the mechanisms and contributing factors that cause acute pain to become chronic and chronic pain to resolve. Includes mechanisms of CNS and PNS maladaptive neuroplasticity as they relate to these transitions. Also includes development and evaluation of prevention and treatment strategies that target transition phases.

– CPP funding (1%) lower than others (5-11%)

– Justification:

- Factors/mechanisms associated with acute urogenital/pelvic incident (e.g., infection, local trauma) turning chronic not understood
- Factors/mechanisms associated with disease progression or resolution poorly understood
- Furthering our understanding, and identifying treatment strategies to target these transition phases, may help to prevent the development of chronic symptoms and/or disease progression

Gaps in Current CPP Portfolio

#8: Non-Pharmacological Mechanisms and Treatment

*Definition: Includes the **mechanisms of analgesia** underlying CAM, physical activity vs. sedenterism, fitness and exercise, procedural and surgical therapies. Also includes **development, validation, evaluation, and management measures of these treatment approaches**. NOTE: Excludes **psychosocial and biobehavioral mechanisms and treatments, which are listed in #9.***

- CPP funding (2%) lower than others (4-28%)
- Justification:
 - Pharmacological intervention alone is unlikely to provide complete/satisfactory relief
 - Non-pharmacological (NP) treatments need to be used in combo to reach therapeutic efficacy
 - Poor understanding of the most appropriate NP treatments for CPP disorders & mechanisms
 - Development/validation of appropriate outcome measures that assess multiple domains of importance (e.g., pain severity/interference, psycho-social-sexual functioning, sleep), are need to study efficacy for CPP conditions and heterogeneous subgroups

Gaps in Current CPP Portfolio

#9. Biobehavioral and Psychophysical Mechanisms and Treatment of Pain

Definition: Biobehavioral mechanisms and treatments includes approaches to understanding how behavioral factors contribute to pain and how the use of behavioral/cognitive conditioning methodology can lessen the impact of pain. Also includes the impact pain has on behavior. Psychosocial mechanisms and treatments includes approaches to understanding pain in the context of a person's social context (expectations, perceptions, thoughts and beliefs, reactions to pain, and response to treatments) and psychological state (affective, emotional influences). Also includes evaluation of treatment approaches that address or apply psychosocial factors to pain management.

– CPP funding (4%) lower than others (3-11%)

– Justification:

- CPP disorders involve to a great extent development of coping skills
- Pain experiences/responses are individual and are influenced by an array of biopsychosocial factors
- Symptom severity doesn't always correlate with patient-reported bother or QoL
- Features suggest important biopsychosocial component to determining morbidity
- Research on these factors could be useful for improving treatment strategies and assessing treatment success

Gaps in Current CPP Portfolio

#10: Medical Management of Pain

(includes self-management and team-based treatment approaches)

Definition: Includes development, validation, and evaluation of self-management approaches to pain care with e-health and m-health technologies such as cell phones, EMA , Web sites, and other systems to train, encourage, and monitor patient behavior and compliance to treatment. Includes development, improvement, and evaluation of team-based approaches to pain management, through engagement of health care providers from multiple disciplines involved in patient care.

- Low across all grouped conditions (e.g., 1-4%) | Nonexistent for CPP
- Justification:
 - Recent studies demonstrate the utility of self-management strategies in the overall treatment of chronic pain
 - Particularly important for CPP conditions, which are very poorly understood, diagnosed/treated and associated with great isolation, invalidation and stigma
 - Chance of one treatment being adequate is low and the utility/necessity of multidimensional team-based care has been recognized as gold standard

Gaps in Current CPP Portfolio

#11: Analgesic Development

*Definition: Research where the main focus is on **translation of research findings into the development of novel drugs for pain**. Includes optimization of candidate molecules, target engagement, pK, toxicological, and **preclinical efficacy studies that support IND criteria and clinical trials**. Also includes development of high throughput drug screens.*

- Low across all grouped conditions (1-7%) | Nonexistent for CPP disorders
- Justification:
 - Great need to translate research findings into the development of novel treatments for CPP disorders
 - Heterogeneity - any one currently available treatment benefits a relatively small percentage

Gaps in Current CPP Portfolio

#13: Pain Outcomes, Assessments, and Measures & Novel Health Information Technology as Tools for Decision Making Support of Pain Management

- *Definition: Includes patient and provider reported outcomes; development and validation of pain rating scales, pain burden, disability, quality of life, and management measures.*

– CPP funding (1%) lower than others (3-6%)

– Justification:

- Great need to develop better outcomes, measures, etc., that include many domains of QoL and impact that can be used to study effectiveness of treatment strategies
- Complementary to #s 8 & 9

Promising, Novel and Innovative Research

Relevance to Other Pain Conditions and Opportunities to Collaborate Potential Overlap / Shared Interest Among NIH ICs & Federal Agencies

#26: Chronic Overlapping Pain Conditions in an Individual

Definition: Includes shared biophysocsocial mechanisms underlying overlapping pain conditions, treatment approaches and population studies of these conditions.

- Recent studies suggest:
 - Many chronic pain disorders co-exist
 - Longer duration of untreated pain increases risk of developing pain in other areas of the body
 - Increased number of body sites of pain, increased probability of recalcitrant treatment
- Data highlights the importance of collective LONGITUDINAL studies of those with only one pain condition and those with coexisting pain disorders to determine both common and unique factors:
 - OPPERA I & II (NIDCR)
 - Program Project: Complex Persistent Pain Conditions: Unique & Shared Pathways of Vulnerability (NINDS)
 - MAPP Research Network (NIDDK)
- At least 8 ICs already fund (and co-fund in many instances) research through various award types
- Efforts could be maximized through:
 - Collaboration and coordination across ICs and federal agencies
 - Not reinventing the wheel and considering supplementary studies to OPPERA, UNC Program Project, MAPP, as well as data sharing, repositories, common data elements, etc.