*Comparative Effectiveness Review Disposition of Comments Report*

**Research Review Title:** *Integrated and Comprehensive Pain Management Programs: Effectiveness and Harms*

Draft report available for public comment from May 24, 2021 to June 21, 2021.

**Citation:** Skelly AC, Chou R, Dettori JR, Brodt ED, Diulio-Nakamura A, Mauer K, Fu R, Yu Y, Wasson N, Kantner S, Stabler-Morris S. Integrated and Comprehensive Pain Management Programs: Effectiveness and Harms. Comparative Effectiveness Review No. 251. (Prepared by the Pacific Northwest Evidence-based Practice Center under Contract No. 75Q80120D00006.) AHRQ Publication No. 22-EHC002. Rockville, MD: Agency for Healthcare Research and Quality; October 2021. DOI: 10.23970/AHRQEPCCER251. Posted final reports are located on the Effective Health Care Program search page.

## Comments to Draft Report

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Comments on draft reports and the authors' responses to the comments are posted for public viewing on the Web site approximately 3 months after the final report is published. Comments are not edited for spelling, grammar, or other content errors. Each comment is listed with the name and affiliation of the commentator, if this information is provided. Commentators are not required to provide their names or affiliations in order to submit suggestions or comments.

This document includes the responses by the authors of the report to comments that were submitted for this draft report. The responses to comments in this disposition report are those of the authors, who are responsible for its contents, and do not necessarily represent the views of the Agency for Healthcare Research and Quality.

## Peer Reviewer, Technical Expert, Public Comment and Author Response

| Commentator & Affiliation | Section | Comment | Response |
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| **Peer Reviewer #1** | Introduction (page 1) | There is comment about limited info on efficacy of opioids, but I would pair it with a brief summary of the evidence there is on efficacy. Otherwise looks a bit biased against use of opioids without acknowledging there is some evidence to say they can help, sometimes. | Thank you for your comments. This report focuses on pain management programs. We believe that the brief background on opioids is sufficient. |
| | Methods | No comment about studies being English only | Thank you for your comments. Restriction to English-language articles was specified in the full methods (Appendix A). This restriction can be added to the main report text. |

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| | Methods | Need to define “pain”. I think the authors mean pain intensity or pain severity. While I doubt there is universally accepted favorite term, the term pain by itself is insufficient. I suppose if you acknowledge above, and carefully definite it early, would be OK | Thank you for your comments. In the literature pain is variably defined and reported. Most studies reported VAS or NRS pain, many calling it pain intensity, others severity, and others provided no definitions. |
| | Methods (Page 7 about the middle) | You say “pain scales”—do you mean NRS? Needs to be clarified | Thank you for your comments. Most studies reported VAS or NRS pain. Others reported pain domains from various multi-domain instruments. The measures reported by each study are in several places including the main body of the report, Appendix B results tables, and Appendix E evidence tables. |

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| | Methods (Page 8 toward bottom) | You refer to clinically important effect using 0-10 scale, but don't say how that is defined/referenced (I know from experience, there is very little data to support what a clinically important effect is) | Thank you for your comments. Appendix A provides additional information on our methods and rationales for effect size. Appendix J provides definitions for magnitude of effect and their correspondence to commonly used instruments. This approach is consistent with what we have done in prior reports on pain management. |
| | Results | You use terms short, intermediate and long term. I would much prefer specific terms (e.g., immediately post intervention, up to 6 months, 6 or months) | Thank you for your comments. We will clarify to indicated that post-intervention means immediately post-intervention. |

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| | Results | Search seems appropriate and pretty successful from my understanding of literature but several studies were not included you might wish to reevaluate or comment on:<br>a. Ahles, T et al 2006 in American Family Medicine was an integrated program<br>b. Work of Kroenke and Bair on depression and pain. Depression was main target among pain patients, but stepped care overlaps with integrated care and I believe much of the work was done with primary care patients. There is other work by same group on interventions in primary care that is notable. | Thank you for your comments.<br><br>We have evaluated Ahles against our inclusion/exclusion criteria and determined it to have an ineligible intervention. The intervention focused on teaching self-management skills, had no apparent physical component, and an unclear psychological component (nurse-educator calls).<br><br>Our search did return a number of citations for the authors listed; exclusions and reasons for exclusion at full |

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| | | | text are in Appendix H. Some may have been excluded at title abstract review. |
| | Results (Middle of page 9) | Middle of page 9 states major psychiatric disorders. I consider depression and PTSD major psychiatric disorders. Perhaps you mean to say psychotic disorders?? | Thank you for your comments. We have changed this to “serious mental illness” to be consistent with what is reported in the other studies. |
| | Results (Page 15) | Page 15 you say Active Comparators. More specifically do you mean here something other than usual care (which is typically not an absence of treatment)? | Thank you for your comments.<br><br>Active comparators include components such as exercise, medication alone. Usual care was usually poorly described or not described at all. |
| | Discussion and Conclusions | Discussion is well-written. It might be helpful to break the research recommendations section into subsections (e.g. | Thank you for your comments. |

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| | | populations; outcomes; terminology, etc) to facilitate easier reading | |
| | General | Yes, meaningful and quite helpful. Though I have some suggestions/questions, I don't think would likely substantively impact conclusions | Thank you for your comments |
| | General | If not already done, in addition to Appendix, I would spell out acronyms on first use (also, I can't find FM in the appendix which appears on page 27 for example) | Thank you for your comments.<br><br>It is included in the appendix section "Abbreviations and Acronyms". FM is spelled out on page 10 at the top. |
| **Peer Reviewer #2** | Introduction | The introduction clearly states the issues and purpose of the report. The background section is also written with a general audience in mind. | Thank you for your comments. |
| | Methods | In general, the methods used are appropriate and adhere to best practice in systematic review and meta-analysis. | Thank you for your comments. |
| | Methods | The meta-analyses presented use follow-up time as the main factor in presenting results. The methods section might include a clear statement that all meta-analyses will be conducted by follow-up time, thus limiting the ability to examine other potential moderators of effect size given the sparseness of the evidence base. Though there appear to be many RCTs particularly of CPMP, there are not sufficient studies to conduct more complex models of effect size heterogeneity given the use of follow-up time as the main factor for examining treatment effectiveness. | Thank you for your comments. Given that most patients enrolled in such programs have chronic pain, it was important to separate out short-term effects from more longer- |

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| | | | term/sustained effects. |
| | Methods | It appears that most of the RCTs included were rated either fair or poor on the Cochrane ROB scale. I am not an expert in the substantive area, but I am wondering if it is possible that studies examining the effectiveness of IPMP or CPMP could reach a level of “good” given that blinding can be difficult in these interventions. Does the inability to use blinding in these studies place too high a burden on the ratings of the evidence in this area? A discussion of the typical design of these studies and the limitations for RCTs in this area might be included in the discussion of the methods. | Thank you for your comments. We have noted in the methods that it is not possible/feasible to effectively blind patients to these types of interventions, like studies of exercise, psychological therapy, and others. The studies were downgraded to fair because lack of patient blinding can still result in bias resulting from patient expectations of treatment, attentional affects, and performance bias. Studies can perform |

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| | | | blinded outcomes assessment and analyses. This approach is consistent with we have done in prior reports on pain management. |
| | Methods | The methods section might note that the risk of bias tool used is the one in place during the conduct of the study rather than the most recent version. | Thank you for your comments. |
| | Results | The results section and the accompanying appendices provide a comprehensive discussion of the results. The amount of detail presented is necessary and appropriate given the heterogeneity across these studies and the variation in effectiveness across follow-up times. I do not know of any studies that should have been included or excluded. | Thank you for your comments. |
| | Discussion and Conclusion | The implications of the major findings are clearly stated. Most importantly, the review describes both the limitations of the review methods and the limitations of the evidence base to address the review's key questions. Related to a comment in the methods section, given the inability to use blinding in many studies, the review might consider including a discussion of the design of a high-quality study to examine the effectiveness of IPMP and/or CPMP. For example, would blinding be possible in any study? What study designs could raise the strength of evidence for these critical interventions? | Thank you for your comments. We have noted in the methods that it is not possible/feasible to effectively blind patients to these types of interventions, like studies of exercise, psychological therapy, and others. The |

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| | | | studies were downgraded to fair because lack of patient blinding can still result in bias resulting from patient expectations of treatment, attentional affects, and performance bias. Studies can perform blinded outcomes assessment and analyses. This approach is consistent with we have done in prior reports on pain management. |
| | General | The report is thorough and well-written. The evidence base for the research questions are complex, but the population and audience for the report is clearly defined. The key questions are appropriate and include important questions about effectiveness of these interventions, whether effectiveness varies across a number of intervention | Thank you for your comments. |

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| | | components, cost-effectiveness, and more general questions generated by the advisory panel. | |
| **Peer Reviewer #3** | Methods | The sensitivity analyses address the issue of low quality studies, but does not address the key issue of heterogeneity in treatment received. The variability was so wide in terms of number of hours of various treatments received that I do not know how they can be included in the same category. | Thank you for your comments.<br><br>For most outcomes, there was little statistical heterogeneity. There were insufficient data to stratify on various potential components of heterogeneity. We attempted to perform stratified analyses based on intervention intensity but given that point estimates and confidence intervals for lower and higher intensity overlapped substantially, these analyses were not very informative. Meta-regression |

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| | | | on program intensity for CPMPs confirmed no statistical interaction. |
| | Methods | Receiving the treatment in Primary Care vs. Not Primary Care may not be the biggest dividing factor. Rather, a program that includes 1 hour of physical therapy or psychological treatment vs. those that offer 12 months are clearly not in the same category, regardless of the setting received. The authors nicely attempted to address this by creating a "number of hours of treatment" threshold but it's not clear that this ecologically valid or informative. | Thank you for your comments.<br><br>We classified programs as CPMP and IPMP based on input from a TEP. These programs are fundamentally different in terms of where care is delivered and how it is coordinated. We have clarified this in several places in the report.<br><br>No standard for classification of such programs or set components is apparent |

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| | | | clinically or in the literature. There were insufficient data to explore all aspects of the heterogeneity you mention. |
| | Methods | In cases where there is no data, the tables and text should clearly state: "no data available". Use of the term "insufficient evidence" is misleading as it implies that data do exist and those data provide insufficient evidence of an effect, when in fact, we simply have no data at all and have no idea what the effect may be. | Thank you for your comments. We do make distinctions between “no evidence” (i.e. no available data”) and insufficient evidence (please see tables 2 and 3 in the full report). |
| | Methods | There was at least one study included that was subacute and not a chronic pain sample. The decision to include this study was not well justified and it seemed tangential relative to the other studies, most of which were studying patients who had been living with pain for years. | Thank you for your comments. Our PICOTS did not exclude studies based on pain chronicity. We have done sensitivity analysis removing the study of subacute pain |

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| | | | and reported on this in the final report. |
| | Methods | I think the authors did the best they could with a very heterogenous literature, but I remain concerned that creating overly broad categories dilutes our understanding of the nuances in the various study methods and the data they yield, and bias toward null findings. | Thank you for your comments. It is not possible within the scope of this review to detail the numerous nuances of the various programs. The forest plots do provide individual study estimates in addition to overall results; many of these showed no differences in effect individually, which contributes to the overall pooled estimates. |
| | Methods | It's not clear to me how CPMPs differ from Physical Activity, when Physical Activity included a range of additional treatments besides just movement. Without clear distinction, there is bias toward finding no difference between the two, which was what was reported. | Thank you for your comments. For inclusion CPMPs (and IPMPS) also |

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| | | | contained availability of psychological support components (at minimum) and medication review or management and components were delivered by multiple provider types, thus differentiating them from programs offering just physical therapy. |
| | Methods | Repeatedly, I found myself a bit perplexed at the comparisons (e.g., CPMP vs. PA or other iterations of one aspect of treatment compared to another). Of much greater interest to me was whether any treatment was beneficial, and if so, to what degree. | It was not within the scope of this report to evaluate and report on individual treatment components.<br><br>Many individual treatments are covered in prior AHRQ reports. |

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| | Methods | The inclusion criteria are quite narrow. For instance, one could include any studies examining psychological or physical movement treatments delivered within a pain clinic environment. | The inclusion criteria relative to the components were very broadly defined and applied. Programs only needed to have the availability of specific components (psychological support, physical reconditioning/activity and medication review or monitoring), recognizing that not all patients may require all three components. |
| | Results | Inclusion of only RCTs eliminates much real-world data. | Thank you for your comments.<br><br>Per the PICOTS (Appendix A), had RCTs not been available, nonrandomized studies would |

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| | | | have been considered with a focus on those that were prospective and controlled for confounding.<br><br>Nonrandomized studies in pain can be misleading due to the subjective nature of pain and impact of patient expectations regarding treatment and attention received on patient reported outcomes, combined with greater potential selection bias and uncontrolled confounding in nonrandomized studies. There are numerous examples of this in the pain literature where |

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| | | | nonrandomized studies have shown a very large response or estimate for effectiveness in response to a treatment which was disproven in subsequent RCTs. For example, non-randomized studies of knee arthroscopy for osteoarthritis reported substantial pain relief where no differences were seen in RCTs comparing it to a placebo procedure. Other examples include the use of vertebroplasty for osteoporotic spinal fractures and use of epidural steroid injections for back pain. |

*Source: https://effectivehealthcare.ahrq.gov/products/integrated-pain-management/research*
*Published Online: October 29, 2021*

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| | Discussion and Conclusion | The authors did a nice job with thoroughly summarizing the limitations. | Thank you for your comments. |
| | Discussion and Conclusion | Again, would start off with the main conclusion of the lack of direct data in Medicare populations and therefore the gap in understanding. Summarize what was found in the non-Medicare studies.<br>Close with a caution in generalizing findings to Medicare recipients and issue a call for direct research in Medicare recipients and to apply lessons learned from this review: (e.g., need to use standardized definitions in research, better standardization of treatments, use of standardized measures as called for by the IOM/NPS report). Lastly, this review and report revealed another critical gap: We know almost nothing about integrated/comprehensive pain care efficacy/effectiveness in non-White patients, let alone non-White Medicare recipients. A greater proportion of Medicare recipients are non-White relative to non-Medicare recipients and thus it is crucial to study these issues (and not just extrapolate data). Please use this as an opportunity to apply suggestion and guidance where it is needed, based on the important gaps you discovered in your review and that made your efforts highly challenging. | Thank you for your comments. There are undoubtedly a number of ways to organize the discussion. We have made edits in consideration of the range of comments received.<br><br>Yes, there are a number of gaps in evidence with regard to patient characteristics, comorbidities, populations of color and the Medicare population, among other gaps. We have attempted to acknowledge such gaps in the discussion. |

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| | | | The full evidence tables (Appendix E) provide what data were available for individual studies. |
| | Discussion and Conclusion | Finally, attrition was a notably limitation in multiple studies, with several commenting on the treatment burden being high and unacceptable to many patients. In a call for better quality research and data, there is also a need to ensure our treatments are convenient and therefore accessible, particularly for a Medicare population. | Thank you for your comments. |
| | General | The review and report was commissioned by CMS to inform Medicare patient care. However, there was a virtual lack of studies on this population. While the authors very nicely outline this in various places of the document (including the limitations), I feel it should be the lead statement. Something along the lines of:<br><br>"Due to a dearth of studies that included Medicare recipients and involved programs that meet our definition of integrated or comprehensive pain care programs, we have insufficient/no data to make any determination of their benefit in this population."<br><br>I just feel this should be stated clearly and upfront in the abstract, and the introduction. I believe there is an imperative not to extrapolate the very heterogeneous data from many other studies that may or may not generalize to Medicare patients (and likely do not), but rather to call on HHS/Congress to authorize spending to conduct the needed | Thank you for your comments.<br><br>Given the lack of studies specifically in Medicare populations the review was scoped to include other populations, based on input from a TEP and the public.<br><br>We believe that the program definitions/inclusion criteria were |

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| | | high-quality studies and provide the relevant data to inform this critical gap in understanding.<br><br>My concern is that there is so much noise in the literature due to narrow inclusion criteria, the heterogeneity in studies (populations, treatments received, duration of treatment, intensity of treatment, length of follow-up and measures used) that its difficult to have much confidence in the assessment, particularly when not including Medicare recipients. It will be easy for the public to make reductive conclusions that may be inaccurate because: we don't know. The high-quality studies in Medicare recipients have not been done.<br><br>Were there additional studies that included Medicare recipients but failed to meet the stringent inclusion criteria for this review? If so, it would be preferred to include those studies as a way to understand what is actually known about pain care in the Medicare population. | reasonably broad, and programs only needed to have the availability of specific components (psychological support, physical reconditioning/activity and medication review or monitoring), recognizing that not all patients may require all three components.<br><br>The discussion does detail concerns related to the heterogeneity and the potential impact on applicability. It also notes that the Medicare population and its needs are also |

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| | | | heterogeneous. Some of these needs may not be dissimilar to those more general population.<br><br>We have evaluated the discussion and conclusions in light of your comments and those of others and have made edits accordingly. |
| **Peer Reviewer #4** | Introduction | The background justification section is very brief which I imagine is the style of these types of reports, but does feel strange in contrast to the depth of the result details that are presented. | Thank you for your comments. |
| | Introduction | The literature referenced does not adequately give the context and motivation for this systematic review. I would suggest adding a brief review of the evidence for the individual components of these multidisciplinary clinics that were required for inclusion (medication review/management, psychology support, and physical reconditioning). For example, insert one sentence on the evidence of PT and other movement-based interventions for chronic pain syndromes and 1-2 sentences for behavioral health treatments (CBT, mindfulness-based etc). It is helpful for the reader to review the strength of evidence for the individual | Thank you for your comments. The focus of this review was on programs as a whole. Individual components were not evaluated. We do refer to other |

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| | | components, before attempting to evaluate the effectiveness of a multidisciplinary or multimodal pain program. | reports that evaluate some of the individual components. |
| | Methods (page 6) | The inclusion and exclusion criteria make sense and are logical. I would suggest adding more precise language around how different components of the multidisciplinary or multimodal models were defined for the purposes of the abstract review. | Thank you for your comments. We feel that this is discussed in the full methods and in the discussion. Both IPMP and CPMP were required to have access to the three primary components delineated. These programs are fundamentally different in terms of where care is delivered and how it is coordinated. |
| | Methods | There is great variability in the types of programs and their components in the published literature. For example, how was medication management defined? What are examples of services that a reviewer would be looking for to meet this inclusion criteria? Medication management by a clinician within an IPMP program might not be distinct from the medication management that happens in usual care. | Thank you for your comments.<br><br>We feel that this is discussed in the full methods and in the |

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| | | However, medication management could also include specialized approaches such as pharmacist review and patient education on medications prescribed for pain. It is not clear to me how this was defined or how liberally a term like this might be applied for study inclusion. Similarly the category of psychological care felt incredibly broad and potentially overly inclusive. I would suggest inclusion of a table with different components defined with potential examples of each biopsychosocial aspect. For example: psychological care (counseling 1:1 or group therapy, CBT, mindfulness-based stress reduction etc.) | discussion. Programs only needed to have the availability of specific components (psychological support, physical reconditioning/activity and medication review or monitoring), recognizing that not all patients may require all three components.<br><br>Details of components were variably reported in studies. The evidence tables (Appendix E) do include detail regarding the components (e.g., CBT, group vs. individual, etc.) as reported in |

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| | | | the individual studies. These are also noted more briefly in the data summary tables (APPENDIX B). The complexity of the individual studies precluded providing more extensive detail of each component.<br><br>The inclusion criteria relative to the components were very broadly defined and applied. Each included study was evaluated by a minimum of 3 team members for information that a multidisciplinary team was involved for the three primary |

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| | | | components. For the psychological component, at minimum studies need to include licensed providers with specific training in counseling, psychology, or psychiatry. In general, we inferred that such programs would have some form of medication review or management if there was physician, pharmacist, PA, ARNP or similar provider's involvement with the team. |
| | Methods (pages 36-48) | While in theory the designation of IPMP vs CPMP is an attractive construct, the CPMP designation is a much more heterogeneous category involving both inpatient and outpatient, rehabilitation, and specialty clinic locations. The variability inherent in the CPMP type programs limits the ability to make comparisons between IPMP or CPMP programs. The approach the authors use to compare program | Thank you for your comments. We classified programs as CPMP and IPMP based on input from a |

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| | | factors (p. 36-48) is helpful in trying to isolate the differences in design and implementation that may lead to greater or lesser impact on pain and functioning. However, given there was very little information available on program factors for IPMPs which limited the utility of thinking about these factors for integrated models. | TEP and the public. These programs are fundamentally different in terms of where care is delivered and how it is coordinated. No standard for classification of such programs is apparent clinically or in the literature. Actually, IPMP are very heterogeneous for other reasons. There would be strengths and limitations to any classification. We are aware of the substantial heterogeneity across programs (and the components) and the challenges of drawing conclusions |

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| | | | between and across them. |
| | Methods | I would include a table in the appendix on the types of pain outcomes measures used in the cited research and the scale and directionality of each outcome measure. There are many different scales and it is difficult to assess how meaningful some of the small improvements in pain or function are especially in comparison to each other (for example, is a smaller number always better for pain and functional status scores). | Thank you for your comments.<br><br>Additional information is found in the Methods Appendix A. Appendix J describes the commonly used outcomes measures and our definitions of effect size for those measures. In many places in the report, we also describe the range for the original scales. This approach is consistent with we have done in prior reports on pain management. |
| | Methods (page 30) | Finally, the authors highlight an improvement of 30% in overall pain or function as clinically significant, but in some causes other absolute values for improvement are included in the results text. I would include a brief citation on why 30% is | Thank you for your comments. |

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| | | the generally accepted level for improvement on many of these measures and be clear than when another % increase is being presented it is in the context of referencing an individual study. | In the methods we indicate that when authors reported the proportion of patients meeting a given threshold for clinically important difference, we would report it. The 30% improvement was provided as an example (e.g., >30% pain relief) only, there was no intent to use this as a threshold for this systematic review. We reported whatever threshold was reported in the individual study. |
| | Results | The amount of detail presented in the results is difficult to digest in text form. The figures 2-11 improve the digestibility of the information substantially in the initial results section. As the results continue it becomes difficult to follow the discussion of studies evaluating program components. I like Table B-2 and Table B-3 in the Appendix on the study | Thank you for your comments. We are glad that you found the tables in the Appendix |

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| | | population characteristics addressing each key question. I think these tables might be better suited in the main report text because they are an efficient summary of the included studies and their variability, particularly for the CPMP comparator studies. Starting on page 36, the authors review included study results in relation to program factors. Some of this information would be better presented in visual form. The information on the study characteristics is nicely presented in Tables B2/B3 in the Appendix but it would be better to have tables for each program factor section (greater vs fewer total program hours, inpatient vs outpatient etc). | helpful. We attempted to adhere to a shorter main report while making tables such as those you mention available to those who want additional information. |
| | Discussion and Conclusion | The discussion suggests areas for future research, with particular focus on the Medicare population, but the quality of evidence is generally weak which implies future research is needed on these types of programs in general care settings with standardization of the types of pain and function outcomes measures used to assess effectiveness. | Thank you for your comments. |
| | Discussion and Conclusion | The discussion section is a clear synthesis of the results. Tables 2 and 3 are particularly nice summaries of the evidence for IPMP and CPMPs. The authors clearly discuss the limitations and applicability of the included results. However, there is minimal text discussing the various demographic groups under-represented in the available studies and the lack of inclusion of higher risk patient populations such as those with active psychiatric disease, substance use, and experiences of trauma, which are quite common comorbidities in patients with chronic pain syndromes. In addition, on page 53 the authors discuss definition of small effects for between group differences – this information is better suited for the methods section. | Thank you for your comments. Most studies did not provide information on under-represented groups; information was insufficient to analyze across studies. The detailed data abstraction (Appendix E) contains what |

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| | | | information was provided by individual study authors.<br><br>We felt it important to provide information on effect size in multiple places in the report. |
| | General | The report is clinically meaningful and useful in so far is it is a very thorough review of the available literature on a relatively understudied topic. The target population and audience are clearly identified in the text, but the studies summarized in the report includes a small proportion of individuals in the Medicare age range (or disability status). Thus, the report has a broader potential audience and applicability given the heterogeneity of studies included in the review. | Thank you for your comments. |
| | General | The report is described as a systematic review to evaluate the effectiveness and harms of IPMP and CPMPs and describe the contextual, process and structural factors that potentially impact outcomes (page 2). However, the authors do not clearly a priori identify the outcomes from which a program is considered effective. Pain is a self-reported experience that can be quantified by pain severity/intensity, but may have more clinical applications when assessed through its impact or interference on functional status, quality of life, and social functioning. The visual analog scale for pain was the most commonly used scale in the included studies, but it is difficult to determine what a clinically relevant difference in visual analog scale would be. It would be helpful to state initially which particular measures and levels of significance were | Thank you for your comments.<br><br>The PICOTS table (Appendix A) and methods in the report and Appendix A indicate the primary outcomes of interest for this review. These were also |

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| | | chosen based on expert consensus and how often included studies used these “gold standard” measures. | specified *a priori* in the registered protocol.<br><br>We are aware of the limitations of self-reported pain and that the VAS/NRS do not adequately describe pain and its impact. Our discussion and recommendations for further research reflect this issue. These measures are, however, what are primarily reported in the studies.<br><br>The original measures used are reported in the summary results tables (Appendix B) and full evidence tables/data |

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| | | | abstraction (Appendix E).<br><br>Appendix J describes the definitions for effect size used for this report. |
| | General | One small additional point - please define “work hardening (p. 9). I am not familiar with this term and although no studies were included with this component, I did not understand the relevance of this statement without looking up the term. | These types of programs are generally described as those focused on specific physical and occupational therapies, activities, etc. needed for return to work. |
| **Peer Reviewer #5** | Structured Abstract | Consider clarifying that the population of interest is adults. Consider mentioning the primary outcomes (function, pain, and changes in opioid use) in the methods paragraph. | Thank you for your comments. We have made some edits. |
| | Evidence Summary ( ES-1, line 15) | “Beneficial effects were usually considered small to moderate.” This is an important point that could be combined with the preceding bullets or elaborated on to explain in plain language that it is unknown whether benefits are patient-important/clinically meaningful. Consider emphasizing this point throughout the text (even more than the authors currently do). | Thank you for your comments. We have evaluated the ES in light of your comments and have considered edits. |

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| | Evidence Summary (ES-1, lines 27-28) | Consider rephrasing as currently reads like pain management should address all the factors listed including those that aren't modifiable (age, sex). | Thank you for your comments. We have evaluated the ES considering your comments and have made some edits. |
| | Introduction | Part of why this is a challenging topic is that there is really no gold standard evidence-based treatment for chronic pain – to date, no specific type of intervention has been shown to be consistently effective and safe. This background may be worth highlighting to underscore the rationale for evaluating combinations of interventions (based theoretically on the biopsychosocial model) compared with single intervention types | Thank you for your comments. We feel that these points have been made throughout the report in various ways. |
| | Introduction | In addition, consider describing some potential harms so the reader has an idea of what the reviewers were looking for (e.g. worsened pain?). Consider always discussing different interventions and outcomes in the same order (i.e. integrated programs before comprehensive and pain before function). Currently, the order is variable in some parts of the introduction making the text harder to follow. | Thank you for your comments. We have attempted to be consistent in the report to first describe integrated then comprehensive programs and to report outcomes in the same order within each section. |
| | Introduction (p. 1, line 17) | Consider rephrasing "growing concern" as a way to describe the crisis of opioid misuse which is now 10+ years old. Could simply state that opioids have known harms and benefits in | Thank you for your comments. Edits are |

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| | | terms of pain management are unclear. Also consider explicitly whether you considered opioid dose reduction/discontinuation as a positive or were generally looking for any association between chronic pain management programs and change in opioid prescribing in either direction. | considered based on the whole of comments received. We only sought to report on the extent to which opioid use changed or not as the result of the program. |
| | Introduction (p.1, lines 30-44) | It is unclear whether this paragraph is being used to describe multimodal pain care or the biopsychosocial model of pain. I think of the biopsychosocial model as describing the factors underlying the pain experience (biological + psychological + social factors) rather than describing the interventions designed to address those factors, but this paragraph reads the opposite. Also, consider adding a citation to a source describing this model (such as Miaskowski C, Blyth F, Nicosia F, Haan M, Keefe F, Smith A, Ritchie C. A Biopsychosocial Model of Chronic Pain for Older Adults. Pain Med. 2020 Sep 1;21(9):1793-1805. doi: 10.1093/pm/pnz329. PMID: 31846035). | We have made some edits in light of your comments. There are no commonly accepted definitions for many of these terms and no consensus on their best use as discussed in many areas of the report.<br><br>The components required and described for the programs are intended to correspond to |

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| | | | addressing the biopsychosocial model.<br><br>Thank you for the recommendation for this background citation. |
| | Introduction (p.2, line 19) | In the VHA system, primary care and PACTs are the same (i.e. primary care is delivered in the PACT model) so it is not accurate to describe these as two entities that work together. | Thank you for your comments. Thank you for this distinction. We have made edits accordingly. |
| | Introduction (p. 3, line 28) | Consider introducing the topic of nociplasticity earlier (in the background) because this term may not be familiar to all readers and relevance to the key question may be unclear. | Thank you for your comments. |
| | Methods ( p. 5, line 39-40) | It sounds like the reviewers initially considered RCTs and controlled observational studies that adjusted for confounding and subsequently decided to limit study selection to RCTs because they were available and observational studies were low-quality. Consider being more explicit that the review excluded all study designs besides RCTs (instead of saying "focused on"). Also, RCTs are generally lowest risk for bias but not always…consider this article (Murad MH, Asi N, Alsawas M, Alahdab F. New evidence pyramid. Evid Based Med. 2016 Aug;21(4):125-7. doi: 10.1136/ebmed-2016-110401. Epub 2016 Jun 23. PMID: 27339128; PMCID: PMC4975798.) stating, "Study design alone appears to be insufficient on its own as a surrogate for risk of bias." Considering that some included trials ended up being poor- | Thank you for your comments. Per the PICOTS (Appendix A), had RCTs not been available, nonrandomized studies would have been considered with a focus on those that were prospective and controlled for |

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| | | quality, may want to expand on the rationale for excluding observational studies. | confounding. Comparative nonrandomized studies specifically enrolling Medicare beneficiaries would have been included. For IPMP, 8 RCTS (across 11 publications) were included; 7 were fair quality. For IPMP only one comparative nonrandomized study contained the program components specified *a priori* but did not control for confounding for pain and was therefore excluded. For CPMP, a large number of RCTs (49 across 67 publications) were included which |

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| | | | encompassed a very broad range of programs and per the PICOTs, nonrandomized studies were not considered. |
| | Methods ( p. 6, Table 1) | There seems to be a discrepancy in how the comparator is described. This table says “any” but preceding paragraphs said compared to “usual care or waitlist, physical activity, pharmacologic therapy, and psychological therapy.” Would clarify as it is unclear whether these 4 comparators were determined a priori. The Table also omits “immediately postintervention” as a timing of interest. | Thank you for your comments.<br><br>These were the comparators reported in the included studies. The report summarizes the available evidence.<br><br>We have added “immediately post-intervention” in multiple places to clarify. |
| | Methods (p. 7, line 47-48) | Why didn’t you say that consistency was not applicable for evidence with a single study? Consider elaborating the rationale. | Additional description of methods for SOE is contained in Appendix A and the AHRQ Methods Guide. |

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| | | | For a single study, the consistency of findings is unknown; we cannot evaluate consistency across studies and a future study may show a different effect. |
| | Methods ( p. 7, lines 53-54) | Consider stating what criteria needed to be met for SOE to be low or moderate (similar to what is stated for insufficient). | Thank you for your comments. Additional description of methods for SOE is contained in Appendix A and the AHRQ Methods Guide |
| | Results | The results are presented clearly and the key messages are generally well-stated. | Thank you for your comments. |
| | Results (p. 8 line 48) | Whenever stating that evidence is insufficient, it's helpful to the reader to say insufficient for what…i.e. for this point, evidence is insufficient to determine the effect of IPMP on opioid prescribing patterns in the short-term. | Thank you for your comments. |
| | Results (p. 9, line 54) | Consider providing definitions of vocational rehab and work hardening and elaborating on why these components are relevant and specifically mentioned. These terms have not been used until this point in the review. Consider explaining why VA studies are specifically highlighted (I assume because VA populations may overlap with Medicare | Thank you for your comments. |

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| | | populations but would be helpful to state explicitly if that is true). | |
| | Results (p. 11, lines 39-42) | For scales, consider providing some context on interpretation (e.g. range of scale is 0-10 with lower scores representing more disability). If too much text, consider listing all scales with some detail in the appendix. | Thank you for your comments. Appendix A on Methods provides additional description. Appendix J outlines the definitions of effect sizes used in this report. The detailed evidence tables (Appendix E) provide the scales for measure used in the individual studies. |
| | Results (p. 13, line 38) | Would avoid the term insufficient when describing results of a single study to avoid confusion with SOE terms. | Thank you for your comments. The term "insufficient" is part of the SOE terminology as described in the Methods and Appendix A. Some single studies were considered to |

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| | | | contain sufficient evidence and the SOE described accordingly. Appendix G contains tables with detailed evaluation of SOE. |
| | Discussion and Conclusion | The beginning section of the Discussion provides a summary of findings but could be improved by focusing on the key points of the review (rather than an extensive summary) and then flowing into the limitations, which is a well-written section that helps to put the findings in context. I found myself wondering if further study/investment in these models which have modest benefits (at best) is actually worth it – is another take on the evidence that these models of pain management are not, on average, clinically effective in a way that matters to patients? Or do the reviewers think that implementation of the right mix of interventions in certain populations and settings and further study of those interventions will show clinically meaningful benefits and is therefore worth further investment? Or do we simply not know? The reviewers have spent more time with this body of evidence than most people – if there is room for informed opinion of what the key take-aways are in terms of further implementation and research of these models, it would be helpful for the reviewers to state their impressions more directly. | Thank you for your comments. We have evaluated the discussion and conclusions in light of your comments and have considered edits. |
| | General | Thank you for the opportunity to review this report, which provides a comprehensive evidence synthesis on pain management programs. | Thank you for your comments. |
| **TEP Reviewer #1** | Introduction | Fine | Thank you for your comments. |

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| | Methods | Yes, given the limitations of available data and quality of studies. | Thank you for your comments. |
| | Results | The evidence tables are very nice. | Thank you for your comments. |
| | Discussion and Conclusion | The contextual question discussion is very useful. | Thank you for your comments. |
| | Discussion and Conclusion (Page 73) | On page 73 under research recommendations would add in addition to research needed on best combination of interventions we also need research on the dose and duration of those interventions. While the definition of high versus low intensity programs is helpful, more detail is needed than number of hours | Thank you for your suggestion. |
| | Discussion and Conclusion (Page 73) | There seems also a need for research about care coordination for pain management program in the Medicare population. There is some mention of assumption of this having occurred and the benefits but care coordination can be provided in a number of various models and so would be an important future research consideration as well. | Thank you for your suggestion. We have added this to the discussion of research gaps and needs. |
| | General (page 8) | Page 8 under Main Points The following 2 bullets seem to contradict- in the 2nd bullet do you mean PT programs provided no improvement in pain???<br>• Comprehensive programs also improved function and pain compared with medications alone at multiple time frames.<br>• Comprehensive programs were associated with a small improvement in function short term compared with physical activity but not at intermediate or long term. There was no improvement in pain at any time point. | Thank you for your comments.<br><br>We have evaluated these bullet points. The second means that there were no differences in pain improvement between CPMP and PT alone. |

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| | | | We have edited for clarity. |
| | General | Given the heterogeneity of the patient population, the variability of intervention type, dose and duration, quality of studies and the studies being done in different regions of the world the evidence review is very nicely done. | Thank you for your comments. |
| **TEP Reviewer #2** | Introduction | Sets the stage appropriately, making clear this review will use standard pain outcomes and the biopsychosocial model. | Thank you for your comments. |
| | Methods | Inclusion, exclusion criteria, search strategies are justifiable and clear. Outcome measures are standard. Statistical methods seem appropriate, though I am not the best to judge | Thank you for your comments. |
| | Methods | What forms of function are addressed and not addressed by standard outcome measures like RMDQ and WOMAC could be clearer. | We reported on the measures used in the individual studies. In the discussion and recommendations for further research we indicate a need for future studies to follow recommendations for using outcomes measures that may be more appropriate for evaluation of pain and its impact on function. |

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| | Results | This is hard to say. There is so much heterogeneity in the programs tested, their components, and populations that any conclusions must be made at a very general level. Figures are helpful. I am not aware of studies that have been omitted that should have been included. | Thank you for your comments. |
| | Discussion and Conclusion | The effectiveness of the tested programs is modest and clearly stated. What could have been stated more clearly is the ratio of benefits to harms as compared to other pain treatments: opioids, NSAIDs, procedures, surgeries. | Thank you for your comments. |
| | Discussion and Conclusion | Some discussion of the declining availability of IPMPs and CPMPs would have been helpful. Also more discussion of insurance coverage and pressures to disaggregate the components of these programs would have been helpful. | Thank you for your suggestion. |
| | General | Report is clinically meaningful in defining benefits and (lack of) harms from IPMPs and CPMPs. It could be clearer about whether the IPMP trials enrolled a less chronic or less severely disabled population. Audience sounds at multiple points as if it is CMS, with many references to the Medicare population. Key questions are appropriate and explicitly stated. | Thank you for your comments. The results and discussion contain some general information about chronicity. Studies generally did not provide detail regarding a definition of or degree of disability. The results summary tables (Appendix B) and detailed evidence tables (Appendix E) contain detailed |

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| | | | demographic information as reported by the individual trials/authors. |
| **TEP Reviewer #3** | Abstract (line 23) | The term “components for physical function” is vague. | |
| | Abstract (line 23) | Was there sufficient homogeneity to warrant meta-analysis? | There was little statistical heterogeneity for most outcomes. |
| | Abstract (lines 24-25) | Is it not possible to report criteria by which effects were classified as small, moderate or large? | Not within word limits; this is described in numerous places in the report and appendices. |
| | Abstract (line 33) | What does “post-intervention” mean? What intervention? | We’ve added clarification that this refers to immediately postintervention. |
| | Abstract (line 35) | What does “compared with specific treatments” mean? What type of treatments? | The specific treatments are listed later in the sentence (i.e., pharmacological treatment, physical therapy); we have amended the sentence. |

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| | Abstract (line 43-44) | What does “specifically enrolled” mean? | There were no studies that enrolled Medicare beneficiaries as a specific population. |
| | Abstract (lines 48-49) | This sentence is tautological, “to the effect that programs are tailored to patient’s needs, our findings are potentially applicable to [ANY POPULATION HERE].” | Thank you for your perspective. |
| | Abstract | Since a meta-analysis was performed, why aren’t the results included? | Space limitations and intention to address a broad audience. The full report includes select meta-analyses (generally for primary outcomes) and Appendix I contains all other meta-analyses for those who are interested in that level of detail. |
| | Evidence Summary | It is not totally clear why the columns of Table A and Table B differ. In other words, for a reader new to the material, it may not be clear why the same outcomes/comparisons weren’t used when assessing IPMPs vs CPMPs. For example, why weren’t IPMPs compared with physical therapy? I presume | The outcomes and comparators differ for IPMP and CPMP based on what |

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| | | this may be due to the nature of the studies and comparisons available, but food for thought. | is reported in the evidence base. Further, for the ES, tables include only outcomes for which the SOE was at least low. Further detail is found in the full report (Tables 2, 3) and Appendix G. |
| | Introduction (page 1, lines 30-51) | Fine, but this is all aspirational and silent about the varied barriers at many levels that prevent this. Requires moving mountains. | Thank you for your comments. We understand that there are many barriers. |
| | Introduction | Would it be helpful to have a figure or table comparing/contrasting IPMP and CPMP? | Thank you for the suggestion. These programs are fundamentally different in terms of where care is delivered and how it is coordinated. |
| | Introduction | Great analytic framework!!!!! With that said, it is really only relevant to IPMP as indicated in the “Objectives” section of the Figure? | Thank you for your comments. We have made some edits to clarify |

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| | Methods/ES (lines 48-50) | Did programs have to have ALL of the components described or just one or more? | Programs only needed to have the *availability of* all three specific components (psychological support, physical reconditioning/activity and medication review or monitoring), recognizing that not all patients may require all three components. |
| | Methods/ES (ES-1, line 52) | Again, I think the term “intervention” is a little non-intuitive. Consider alternative framing (e.g., “referral”, “visit”, “consultation”, “evaluation”, etc). | Thank you for your suggestion. |
| | Methods/ES (ES-1) | State how quality of RCTs were assessed since the ES Results describes them being mostly fair quality. | This is fully described in the report and Appendix A. Appendix F provides assessment of each study. The intent of the ES is to provide a high-level summary. |

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| | Methods (page 5, lines 40-41) | How is “in the absence of RCTs” defined? It is hard to imagine that “none added information beyond what was available in the RCTs” – there would be hundreds of articles, I would speculate, that could be potentially relevant. What does it mean that none added “information”? | If no RCTs had been identified, nonrandomized studies would have been considered per the PICOTS. We have corrected the statement in this section.<br><br>Nonrandomized studies in pain can be misleading due to the subjective nature of pain and impact of patient expectations regarding treatment and attention received on patient reported outcomes combined with greater potential selection bias and uncontrolled confounding in nonrandomized studies. There |

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| | | | are numerous examples of this in the pain literature where nonrandomized studies have shown a very large response or estimate for effectiveness in response to a treatment which was disproven in subsequent RCTs. For example, non-randomized studies of knee arthroscopy for osteoarthritis reported substantial pain relief where no differences were seen in RCTs comparing it to a placebo procedure. Other examples include the use of vertebroplasty for osteoporotic spinal fractures and use of |

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| | | | epidural steroid injections for back pain. |
| | Results | It appears as if “post-intervention” is a fourth timepoint, so that there is “post-intervention” and then short, intermediate and long-term outcomes? A little confusing, as elsewhere, like the Abstract, it suggests just three timepoints, short, intermediate and long term. | We have edited throughout the report to clarify this. |
| | Results (page 8, line 51) | What are examples of “intervention-specific adverse events”? | These are described as report in Table 4. |
| | Results (page 9, lines 34-36) | The exclusion criteria for the trials is noteworthy and might be worth reporting in the Abstract and/or ES. | Thank you for your suggestion. These are detailed in the appendices. |
| | Results (page 9, lines 50-56) | Would it be of interest to note whether any of the trials were telebased and to include this in the Abstract and/or ES? | Few trials provided information on this. One study is cited in KQ2. Appendices B and E provide information on this where available. |
| | Results (page 10, lines 31-39) | Would it be helpful to use the first “pooled difference” statistic (-0.31, 95% confidence interval -0.51 to -0.11) in a sentence so that people know how to interpret it correctly? | Thank you for your suggestion. |
| | Results (summary of findings) | I’m not sure if it is avoidable but the listing of dozens of references after a given sentence is pretty distracting. Is there some bibliographic trick to avoid this? | We are not aware of any such trick since |

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| | | | citations are sequentially numbered per AHRQ format and may be used in multiple places in the report. |
| | Results | It may be helpful to repeat the question that is being examined within the report at the time when “Key Question” is listed. For example, on page 36, line 20, it says “Key Question 2: Program Factors”, but the reader at this point may well not recall what the question is. Perhaps it can be hyperlinked in or provided in shorthand? | Thank you for your suggestion. |
| | Discussion and Conclusion | The discussion is good but VERY dense. I wonder whether the section might be organized with some bolded sub-headers (which could even be self-explanatory complete thoughts) and each paragraph decreased to about half the current length, which would allow for greater use of topic sentences that readers who are interested can quickly scan to get the point of a given paragraph. | Thank you for your suggestion. |
| | Discussion and Conclusion | Applicability. Here again, I wondered if a text box, use of some explanatory subheaders, or other narrative techniques might help to quickly convey the main points | Thank you for your suggestion. |
| | Discussion and Conclusion (page 52, line 6) | I’m not sure that it is clear to readers what “decisional dilemmas” are being entertained. Perhaps the Background could be clarified to more clearly articulate these? | Thank you for your perspective. We believe that this is adequately described. |
| | General | This is expertly done and synthesizes a remarkable amount of information. Major and other comments follow – even my “major” comments were typically stylistic in nature. Great work! Makes me tired just thinking about it. | Thank you for your comments. |

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| | General | Given that this was commissioned by CMS with a stated focus on Medicare-eligible, were analyses performed focused on stratifying by patient age, regardless of insurance coverage? | There were insufficient data to do such analyses. |
| | General | The formatting of the report left me a little confused in the Results about the organization of the findings. It may be helpful to consider outline format or some other nomenclature that helps readers to understand the flow (e.g., IPMP before CPMP, primary outcomes before secondary outcomes, etc). | Thank you for your suggestion. We have attempted to indicate the reporting outline at the beginning of the results. |
| **TEP Reviewer #4** | Introduction | Well written. I have some questions about the choice of dividing programs based on IPMP and CPMP. It is appropriately noted that these programs are defined and categorized in many different ways. The explanation of what is typically included in both types of programs is helpful. However, given that content is similar, I would recommend explaining why these were examined separately. Was there some expectation that effects could differ based on whether the program was "integrated" with primary care or not? I wondered whether this was the most meaningful division, when in reality, other things (like program intensity / duration, which components are included, etc) may be more important drivers of heterogeneity in effectiveness. It would be helpful to address this in the introduction or elsewhere. | These programs are fundamentally different in terms of where care is delivered and how it is coordinated. We have made some edits for clarity.<br>There is no standard way of categorizing programs.<br><br>Contextual question #1 and Appendix C provided additional description of |

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| | | | program components.<br><br>We attempted to perform analyses stratified by intervention intensity, but the analyses were not very informative, as the effect estimates and variability around them were similar regardless of intensity. |
| | Methods | I had some questions about intervention eligibility and description. This emerged because I saw two studies by my team described as "recommendations from a multidisciplinary provider group..." (p19). Our intervention involved having the study team give primary care providers patient-specific OA treatment recommendations. There was no "multidisciplinary provider group" involved in the intervention. I am not sure that these 2 studies actually qualify based on the Intervention definition used because there was no multidisciplinary team, and all patients did not have recommendations that included the required components in the intervention definition (e.g., psychological care, physical reconditioning). Based on these concerns raised regarding these 2 studies that I know well, I would urge authors to ensure that all studies actually meet the intervention criteria or that the intervention criteria actually | Thank you for your comments. Based on them, we have re-reviewed the two studies from your team and the published protocol.<br><br>Given the substantial heterogeneity in the programs and in how |

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| | | reflect the included studies. (I see that this is addressed in the limitation section, but it is easy to miss there...I think the actual statement of the intervention criteria earlier in the paper needs to more accurately reflect the included studies - e.g., not a requirement that all patients got all of the "required" components.) | explicit or vague the descriptions of the components, disciplines involved in delivering them, etc., a minimum of three individuals evaluated each study/program, including review of published protocols, for inclusion in an effort to be as consistent as possible. We erred on the side of inclusion.<br><br>As you mention, for inclusion, programs need to have the *availability* of the primary components, recognizing that not all patients may need all components. (This is stated in |

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| | | | the methods, in the PICOTS and in the published protocol.) There at least had to be the potential for referral to them. The inclusion criteria were applied liberally. For example, we inferred that such programs would have some form of medication review or management if there was physician, pharmacist, PA, ARNP or similar provider's involvement. Multidisciplinary components of care in IPMPS could be via referral coordinated from primary care. |

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| | | | Regarding the studies from your team, the protocol and publications indicated that the intervention "focused on physical activity, weight management, and cognitive behavioral strategies for managing pain" and included the use of "counselors" with training in behavioral change and recommendations for referral to physical therapy and medication. We assumed that the primary care provider also would play a role in medication review and management and had the |

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| | | | ability to refer to additional services (e.g., psychologic services). The protocol states that there was intervention oversight by the study co-investigators. We noted that two co-investigators were from the Department of Psychiatry and Behavioral Sciences at Duke. While the descriptions of personnel and components available were vague, we felt that the studies met the inclusion criteria. There are other included studies that also had vague descriptions of personnel, |

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| | | | components, etc. that we included.<br><br>We have added some additional description for accuracy to reflect your comments. We have also added information in the results and discussion regarding the difficulties of classifying this and some of the other programs. |
| | Results | Good, detailed results presentation. | Thank you for your comments. |
| | Discussion and Conclusion | Comprehensive discussion, addresses key points | Thank you for your comments. |
| | General | This is an important and timely topic. I applaud the effort to review interventions that are multi-factorial and complex and therefore sometimes hard to define. While I think this review is valuable, I think the nature of combining data from these heterogenous interventions has inherent challenges....e.g., it is almost impossible to avoid including "apples and oranges" in the same analysis when the goal is to summarize something as broad as pain management programs.<br>With that in mind, I would urge authors to be very clear about this limitation. Specifically, overall results here do not | Thank you for your comments.<br><br>Yes, there is substantial heterogeneity with respect to programs. This did not, however, |

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| | | necessarily negate any apparent effectiveness of the individual interventions. I think this is more important to emphasize with a topic like this than when summarizing interventions that are more similar to each other. | manifest in substantial statistical heterogeneity in most instances.<br><br>We have attempted to be clear about the limitations of the review and evidence. |
| **TEP Reviewer #5** | Introduction | good | Thank you for your comments. |
| | Methods | Yes I think there simply are not that many formal RCTs of these types of interventions. | Thank you for your comments. |
| | Results | This is where the report is quite excellent - in that it puts these modest results into the appropriate context. | Thank you for your comments. |
| | Discussion and Conclusion | Generally I think the discussion is excellent. However one issue the authors fail to mention is that there are a lot of studies suggesting that in individuals with any number of chronic medical conditions (e.g. diabetes), the presence of chronic pain has been shown to disproportionately impact the management of that other disease. So even mild or modest benefits in pain or function as noted in these programs could lead to downstream benefits that have not been historically measured in RCTs of these interventions. This issue of multi morbidity patients is being increasingly recognized. | Thank you for your comments. Studies rarely provided information on medical co-morbidities or their impact on pain, precluding any meaningful analyses of this.<br><br>We do note in the discussion that patients |

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| | | | with comorbidities, etc. may be best served by programs that can address their specific needs and the need for further research on this. |
| | Discussion and Conclusion | I also think the research implications could be strengthened a bit. Much of the content of these programs can now be easily delivered digitally, and can even be tailored using machine learning paradigms. The programs that were reported on in this report are the best that are now available, but it is highly likely that the interdisciplinary pain management programs of the future will be able to use these newer enabling technologies and advances to make virtual interdisciplinary much less expensive and available. | Thank you for your comments. |
| | General | I think this report is excellent. It does a nice job of summarizing the literature, but even more so what the literature really means. The questions being addressed are appropriate and clear. | Thank you for your comments. |
| **TEP Reviewer #6** | General | While the review of the available literature was admirable, there were several areas specifically which held the conclusions from being more clinically meaningful. | Thank you for your comments. |
| | General | Categorization of Programs The review chose to divide pain programs into integrated and comprehensive and this was largely based on their connection to primary care or specialty settings. However within the context of integrated programs there was also inclusion of a small number integrative programs, namely those in the VA system as well as some programs which included integrative interventions. | Thank you for your comments<br><br>We attempted to make distinctions between integrated |

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| | | While there is some crossover as you mentioned with incorporation of integrative modalities, such as acupuncture, in selected integrated program, the focus of integrated programs is often very different and I am concerned that the reader may equate the two and have inappropriate conclusions on the benefit (or lack thereof) of integrated programs and extrapolate those to integrative programs.<br><br>One way to describe this that might be helpful for differentiation would be to see integrated programs as focuses more on important outcomes, such as pain or function. In contrast, integrative programs and approaches focus more on the person. While integrative medicine programs might serve those with pain, the overall philosophy is that of a whole-person oriented approach to wellness. For example, the Academic Consortium defines Integrative medicine and health as a type of approach which "reaffirms the importance of the relationship between practitioner and patient, focuses on the whole person, is informed by evidence, and makes use of all appropriate therapeutic and lifestyle approaches, healthcare professionals and disciplines to achieve optimal health and healing."<br><br>This whole person approach may incorporate professionals such as health coaches, spiritual and lifestyle counselors, dietitians and similar non-pain focused professionals to focus on areas such as sleep, diet, gut health, metabolism and other areas which may be outside the focus of outcome focused integrated program.<br><br>I think it would be important at the outset, such as on page ES-1 where definitions are provided, to more clearly define integrated and comprehensive programs so they are not confused with integrative medicine approaches or programs | programs (those based in primary care) and the use of integrative treatment modalities (e.g., acupuncture) and formal integrative programs. We have made some edits to reinforce the distinction.<br><br>There are many different program philosophies and approaches. It would be beyond the scope of this review to fully describe all of them. Appendix C provides some additional context regarding the broad range of programs and use of |

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| | | | integrative modalities. We have added some additional context to that discussion related to integrative programs.<br><br>We have made additional edits for clarity. |
| | General | Further Ref: Hansen KA, McKernan LC, Carter SD, Allen C, Wolever RQ. A Replicable and Sustainable Whole Person Care Model for Chronic Pain. The Journal of Alternative and Complementary Medicine. 2019;25(S1):S86–S94. doi:10.1089/acm.2018.0420. | Thank you for your suggestion. We've reviewed it and it doesn't meet our inclusion criteria for the Key Questions; however, the concepts will be described with the contextual question on models and referenced accordingly. |
| | General | Being more explicit that this report did not intend to make conclusions regarding integrative programs will help with confusion following release of the report. Further | Thank you for your comments. |

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| | | recommendations: while unfortunately not possible with this report, integrative programs, such as the VA programs, as well as those with a specific focus on an integrative focus should be evaluated on their own. At the least when looking at integrated programs, those with a conventional integrated approach should be categorized separately from those that are integrative in focus. | We have added clarification to the methods and other places that we are not addressing integrative programs directly. To the extent that such programs are described as part of integrated programs, we would describe them. Studies provided only limited information about integrative approaches. |
| | General | Metabolic underpinning of pain. While it is well recognized that metabolic conditions, including obesity, diabetes and metabolic issues, such as diet and sleep are significantly associate with the progression of pain, there was very little if any mention of these entities. While this may be due to poor methodological reporting or the fact that studies which focused on these areas, did not cover the other areas which where part of the inclusion search, this leaves a large gap on how to use the current evidence with those living with pain and metabolic comorbidities. | Thank you for your comments. Studies did not generally provide information on these aspects, precluding evaluation of their impact for this report. We can mention |

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| | | | these as areas for future research. |
| | General | Recommendation: Future reviews should focus on the benefit of integrated, integrative and comprehensive programs in population who have these comorbidities as well as well as programs which incorporate specific interventions to target metabolic dysfunction in the context of overall treatment. | Thank you for your comments. |
| **Public Commenter #5-8**<br><br>The same anonymous comment was made 4 separate times. It is only listed here once. | General | I am a physician trained at a top institution. I am married to a retired in house senior staff of over 30 years. AHRQ has chosen an inappropriate panel of individuals with conflicts of interest and lack of expertise to prepare a draft without evidence that attempts to baffle with bull, pardon my directness. I have watched many lives ruined since a few years prior to the CDC guidelines and certainly since them. None of the individuals had problems with substances. I had difficulty referring patients for appropriate pain care. Now I can't access appropriate care and neither can my spouse. I lost two family members in agony and a friend of a friend shot himself. My husband received nothing post op after a complicated neurological surgery. I'll stop there. Stop this. Hospice, cancer, and palliative care aren't able to access treatment. | Thank you for sharing your perspective. |
| **David Becker**<br><br>**Affiliation NR** | General | More of the same ol fundercentric frequentist evidentialist vice epistemology with no regard for robust subgroup analysis or heteroscedastic gausssian processes and causal medication analysis. But i guess AHRQ staff were never taught about such nor care to learn. Nothing like data torturing via data dredging to the point of McNamara fallacy. | Thank you for sharing your perspective. |
| | General | More of the same ol weary tired stale unproductive Big Brother stasi antiopioid PROPaganada seeking to destroy Beauchamp and Childreess ethics in pain care and relegate people in pain tomoral and civil vagabondage. No mention of | Thank you for sharing your perspective. |

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| | | health justice or procedural justice- Barracudas have a Catholic spirit compared to the hardheaded and hard hearted stasi  robopathicism of AHRQ. | |
| | General | Suboptimization personified. No regard for new public management nor consociationalism.  Super stare vias antiquarius. AHRQ golden hammer rubber chicken dinnered staff treat everything as if it were a nail. No concern for casuistry or causal medication analysis nor adaptive research design. The personification of regressive ignorance- we would be better of using supertask machines with brute force optimizers. | Thank you for sharing your perspective. |
| | General | We all knew fundercentric AHRQ would continuethe antiopioid politics no matter what the data says- The vice epistemology and vast darkness of AHRQ is on display. | Thank you for sharing your perspective. |
| | General | Mcdonaldized  thick as theives rubber chicken dinnered stasi agents seeking to destroy Beaucahmp and Childress ethics in care. Its remarkable how AHRQ is helping us to not ever cross the quality chasm... | Thank you for sharing your perspective. |
| | General | Machiavellian moral midgetry and vice epistemology thruout the report. AHRQ is the personification of population medicine that procrusteanizes individual need for the sake of political convenience. We should all be thankful AHRQ doesnt give TED talks on care ethics- Barracudas would do a better job of riding a bicycle or doing bikram yoga. | Thank you for sharing your perspective. |
| **Dana Boyte**<br><br>**American Academy of Pain Medicine** | General | The mission statement of the American Academy of Pain Medicine (AAPM) is to “advance and promote the full spectrum of multidisciplinary pain care, education, advocacy, and research to improve the function and quality of life for people with pain.” AAPM members comprise the breath of multidisciplinary care, including pain medicine physicians, clinical and basic science researchers, primary care specialists, and behavioral health professionals. | Thank you for your comments. |

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| | | AAPM is grateful to the Agency for Healthcare Research and Quality (AHRQ) in designing and conducting this important systematic review for comprehensive and integrated pain management programs. The findings of this AHRQ report will not only impact Medicare beneficiaries but will extend to other Federal systems, commercial payers, self-insured payers, and Medicaid state programs.<br><br>Members of AAPM have been working closely with the Alliance to Advance Comprehensive Integrative Pain Management (AACIPM), a multi-stakeholder collaborative, and support the group's comprehensive formal response. In an effort to avoid redundancy, AAPM would like to provide additional comments that are critical to the lives of not only patients suffering with chronic pain, but how our members provide multi- and inter-disciplinary pain care. | |
| | Methods | Four important concerns will be highlighted.<br>1. Sole reliance on RCTs in this systematic review and meta-analysis. The sole reliance of the review on randomized controlled trials diminishes the biopsychosocial complexity of assessing treatment interventions for pain. Findings regarding CPMPs are limited by the AHRQ's methodology of including only RCTs, although well-designed, comparative effectiveness and longitudinal observation studies exist in the medical literature. A small sample of these excluded studies are listed below but this is not inclusive of all studies.<br>1. Ringqvist A, Dragioti E, Bjork M, Larsson B, Gerdle B. Moderate and stable pain reductions as a result of interdisciplinary pain rehabilitation- A cohort study from Swedish Quality Registry for Pain Rehabilitation. J Clin Med. 2019;8:905; doi:10.3309/jcm8060905. | Thank you for your suggestion of citations. We've reviewed them against our inclusion and exclusion criteria.<br><br>If no RCTs had been identified, nonrandomized studies would have been considered per the PICOTS. |

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| | | 2. Bosy D, Etlin D, Corey D, Lee J. An interdisciplinary pain rehabilitation programme: description and evaluation of outcomes. Physiother Can. 2010;62:316-326.<br><br>3. Sing G, Willen S, Boswell M, Janata J, Chelimsky T. The value of interdisciplinary pain management in complex regional pain syndrome type I: a prospective outcome study. Pain Physician. 2004;7:203-209.<br><br>4. Murphy J, Palyo S, Schmidt Z, Hollrah L, Banou E, Van Keuren C, Strigo I. The resurrection of interdisciplinary pain rehabilitation: Outcomes across a Veterans Affairs Collaborative. Pain Medicine<br>2021; 00(0):1-14.<br><br>5. Murphy J, Clark M, Banou E. Opioid cessation and multidimensional outcomes after interdisciplinary chronic pain treatment. Clin J Pain. 2013:29(2):109-117.<br><br>6. Gilliam W, Craner J, Cunnningham J, Evans M, Luedtke C, Morrison E, Sperry J, Loukianova L. Longitudinal treatment outcomes for an interdisciplinary pain rehabilitation program: comparisons of<br>subjective and objective outcomes on the basis of opioid use status. J Pain 2018;19(6):678-689.<br><br>7. Huffman K, Rush T, Fan Y, Sweis G, Vij B, Covington E, Scheman J, Mathews M. Sustained improvements in pain, mood, function and opioid use post interdisciplinary pain rehabilitation in patients weaned from high and low dose opioid therapy. Pain. 2017;158:1380-1394. | Given the large number of RCTs particularly for CPMP, we do not believe this is a limitation.<br><br>Any longitudinal follow-up to included RCTs was also included.<br><br>Nonrandomized studies in pain can be misleading due to the subjective nature of pain and impact of patient expectations regarding treatment and attention received on patient reported outcomes combined with greater potential selection bias and uncontrolled confounding in nonrandomized |

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| | | 8. Sletten CD, Kurklinsky S, Chinburapa V, et al. Economic analysis of a comprehensive pain rehabilitation program: a collaboration between Florida Blue and Mayo Clinic Florida. Pain Medicine 2015;16:898-904. | studies. There are numerous examples of this in the pain literature where nonrandomized studies have shown a very large response or estimate for effectiveness in response to a treatment which was disproven in subsequent RCTs. For example, non-randomized studies of knee arthroscopy for osteoarthritis reported substantial pain relief where no differences were seen in RCTs comparing it to a placebo procedure. Other examples include the use of vertebroplasty for osteoporotic spinal fractures |

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| | | | and use of epidural steroid injections for back pain |
| | Discussion (page 58) | In the “Strengths and Limitation” (p. 58) section, AHRQ specifically states “our review appears to be the most complete summary of RCTs describing IPMPs.” RCTs have significant limitations in studying the efficacy of rehabilitation-based programs because the methods, in part, do not accurately reflect daily clinical practice. AAPM is concerned the thoughtful points in the “Discussion” section including information about decisional dilemmas, strengths and limitations, and applicability, will be ignored or misconstrued by stakeholders. | Thank you for your comments.<br><br>Daily clinical practice of pain management and programs specific to pain management vary widely as do the descriptions of rehabilitation-based practices in the literature for both observational studies and RCTs. |
| | Results | **2. Combining the findings of IPMPs and CPMPs.** We recommend against combining the findings of IPMPs and CPMPs in the Key Points and Conclusion statements. The established *a priori* definitions of IPMPs and CPMPs was a noted necessity, but this did not protect against the deleterious effects that clinical heterogeneity had on the study findings. Even though the review focused on RCTs, a far greater number (41) were included in evidence for CPMPs versus only 10 RCTs for IPMPs. | Thank you for your comments.<br><br>We discuss the challenges you mention in the discussion, strengths and limitations. |

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| | | We appreciate the challenges of summarizing data for this complex area of treatment, but clinical heterogeneity related to (1) treatment intensity; (2) treatment duration; and (3) varying patient populations limits accurate interpretation of the Key Points and Conclusion statements. | The findings for IPMP and CPMP are reported separately. We have edited for clarity if needed.<br><br>While there is substantial clinical heterogeneity within each program type, for most outcomes there was little or no statistical heterogeneity.<br><br>We attempted to perform analyses stratified by intervention intensity. Meta-regression confirmed no difference based on program intensity as defined. These findings need to |

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| | | | be verified in head-to-head trials.<br><br>There were insufficient data on duration or population characteristics to evaluate them across studies. Appendices B and E provide details by study regarding these factors. |
| | Results | **3. CPMPs and impact on opioid use.** Findings regarding opioid use in the Key Points for CPMPs may negatively impact the need to increase access to pain rehabilitation by payers and stakeholders. The report states “evidence on CPMP and changes in opioid prescribing was very limited”. Again, well designed longitudinal observational studies have clearly demonstrated significant reductions in opioid prescribing and in many cases, successful detoxification from opioids during interdisciplinary care. These changes in opioid use are maintained over time but these studies are not included in the review.<br><br>Describing the findings related to opioid prescribing as “limited” does not accurately reflect the current and robust literature as noted in comment #1 above. AAPM is concerned that the findings of this report will limit payers and other groups form increasing access to interdisciplinary pain | Thank you for your comments and perspective.<br><br>Few included studies reported on change in opioid use and this is noted in the report. The focus of the report is at the program level.<br><br>As noted throughout the report there are many potential |

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| | | rehabilitation, which would be included in the definition of CPMPs developed in this review.<br><br>The benefits of these programs and the need for further integration into the current healthcare system have been highlighted in several key documents including the National Pain Strategy, the Pain Management Best Practices Inter-Agency Task Force Report, and the Implications for Clinical Practice, Education, Research, or Health Policy Consideration for Clinical Practice and Health Policy section (p. 61).<br><br>The limited evidence in the report does not reflect the support for "formal comprehensive pain management programs" and noted ability for CPMPs to address patient's individual needs" noted in the "Implications" section and/or may be missed by stakeholders focused on bulleted points in Key Points. | models of interdisciplinary care and it is not possible to capture them all within this report as discussed. |
| | Results | **4. Treatment intensity.** Findings regarding treatment intensity will negatively impact patient access to the indicated level of care. Practitioners use numerous clinical factors to determine treatment intensity including individual patient characteristics, level of physical functioning, comorbid mental health<br>conditions and associated behavioral problems. Recommending a 'one-size-fits-all' approach to treatment intensity sets a potentially dangerous precedent that could have long-term and unintended consequences<br>on the care of patients with chronic pain. | Thank you for your comments.<br><br>As noted throughout the report and seen in the evidence tables, there is much variability in the intensity and components and discussion that many programs attempt to address individual patient needs. There is |

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| | | | no recommendation for a "one-size-fits-all" approach.<br><br>We evaluated the evidence on intensity to the extent possible, noting that the effect estimates and variability around them for high and low intensity programs were similar. We do not make strong conclusions about this. |
| **Jeanne Bradford**<br><br>**No affiliation listed** | General | As an ER nurse I have given narcan many times. ALL were for illegal drug use and all were under 40. STOP the opioid crisis nonsense. There is NOT a prescribed opioid crisis. There is a untreated pain crisis. | Thank you for your comments. |
| | General | Publish studies on the untreated pain crisis. Help humanity. | Thank you for your comments |
| | General | Why is illegal drug use and deaths increasing? | Thank you for your comments. |
| | General | Should not be published. Does not accurately describe the issues with drugs use. A sham. | Thank you for your comments |

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| | General | I have a graduate degree with expertise is research and study design. | Thank you for your comments. |
| | General | I understand the results. Conclusions are not valid and are harmful. What about people with chronic pain that have no choice than to use illegal drugs for pain relief? | Thank you for your comments |
| | Results | 20/100,000 is not statistically significant. | Thank you for your comments. |
| **Public Commenter #9 (Name redacted for privacy)**<br><br>**No affiliation listed** | General | The evidence that non-pharmacological treatment can be helpful on an intermediate to long term basis is non-existent. I agree, there is some evidence that it could enhance pain relief on a short-term basis only. As a long-term chronic pain patient, my concern is that Medicare, insurance companies, hospitals, doctors, etc., will take these recommendations as a basis for eliminating use of opioid pain medications or not providing opioid pain medications UNTIL a patient has tried everything else. As a patient, I have experienced all these modalities and in most cases, without first relieving my pain with opioids, I cannot perform physical therapy, massage, acupuncture, etc. - the pain is overwhelming and prevents me from doing other physical activities. | Thank you for your comments. |
| | General | I seriously question the motivation behind these studies and this report. If you desire to enhance pain relief, this cannot be done if opioid pain medications are not utilized first - along with other supplemental modalities. But even then, the supplemental modalities are temporary, at best. | Thank you for your comments. |
| | General/Results | The results and conclusions do not justify the time and expense other modalities require when the best relief comes from opioid pain medications especially for those of us who suffer as chronic pain patients. We have issues and problems that are not going to be cured and since we must live with this pain for the rest of our lives, the very least Medicare can do is provide us with the most effective pain relief FIRST before other modalities are utilized. | Thank you for your comments. |

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| **Megan Gale**<br><br>**No affiliation listed** | | Dear Dr. Iyer and Respected Reviewers at the Agency for Healthcare Research and Quality:<br>I am responding to the June 2021 AHRQ draft on integrated pain management programs as a clinician who has worked in and with integrative pain management programs and a family member of the active-duty U.S. military family. Thank you to this AHRQ team for the work you have done in designing and conducting this systematic review of comprehensive and integrated pain management programs. An integral part of the Dr. Todd Graham Pain Management Study, this review from AHRQ will substantially influence the design of Medicare benefits, impacting access to evidence-based modalities for the treatment of pain, including non-opioid pain management treatments. And the findings of AHRQ will impact payment design and healthcare delivery far beyond the Medicare program. In the federal health improvement and healthcare delivery sector, AHRQ and Medicare decisions will have ripple effects, heavily influencing access to care for those covered by Medicaid, active-duty military servicemembers, their families, retirees and more who are Tricare beneficiaries, and the Department of Veterans Affairs. | Thank you for your comments. |
| | | **The Medicare and Tricare connection**<br>Tricare, the health insurance program for active-duty military dependents and retirees, is required to cover what Medicare covers. This population is mostly under the age of 65i and is known to have a high rate of chronic painii,iii and poor access to non-pharmacological pain care because most non-pharmacological pain care is not covered by Tricare and/or not available or accessible at the average military treatment facility (no providers, limited providers, long wait lists, etc.) Many military servicemembers and dependents would benefit from coverage of integrative health services as a non-opioid option for pain management and resilience building. However, Tricare does not cover the following evidence-based non- | Thank you for your comments. |

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| | | opioid pain management services: acupuncture, massage therapy, or chiropractic for military dependents (which includes spouses and children) per their website as of 6.15.2021iv. Many Exceptional Family Member Program (EFMP) families (who are active-duty military families) could benefit from having integrative health therapies covered in part or whole by Tricare or Medicarev. The healthcare and resilience of military dependents directly affects our servicemembers and their ability to be mission ready.<br><br>Beyond the federal healthcare system, AHRQ findings are relied upon as trusted systematic reviews which affect standard of care, often cited by hundreds of peer-reviewed journal articles and by national guidelines. When looking at the potential impact on patient care, the influence of AHRQ's work is significant. | |
| | Methods | **Limitations of this AHRQ Draft**: Lingo/Terminology and Inclusion/Exclusion Criteria and Practical Applications of Policy in Current Clinical Care Setting<br>The terms AHRQ used in this draft to define integrated and comprehensive pain management are not industry standard, but I believe you were trying to find a way to categorize what is a growing movement of pain management programs of at least two modalities/services. However, for the program data you are set to capture, your criteria are too narrow and has excluded several important publications of integrated/integrative, multidisciplinary, or interdisciplinary pain management program work. And several of these programs have published work since Sept. 23rd, 2020 (the date you noted you stopped your inclusion criteria for citations for this draft). | Thank you for your comments.<br><br>We classified programs as CPMP and IPMP based on input from a technical expert panel. These programs are fundamentally different in terms of where care is delivered and how it is coordinated |

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| | | | No standard for classification of such programs or standardized terminology that is apparent clinically or in the literature.<br><br>There is substantial variability in how pain is managed and reported in published literature and in clinical practice. |
| | Methods | While you note that the Medicare-eligible patient population is diverse on page ES-3, you also note that your reviewed data set for this draft didn't pick up a wide range of chronic pain conditions (ES-2).<br>1. Your data set doesn't seem to include the pediatric population (who are also eligible for Medicare).<br>2. Your data set doesn't seem to cover the U.S. military population and their dependents, whose care coverage (especially Tricare) would be affected by your final report.<br>3. Your data set was limited to RCTs. Most published research, currently, on integrated/integrative pain management programs at primary care level or at secondary or tertiary care level are not RCTs. RCTs are expensive to undertake, (time, money, other resources). Feasibility studies are often done at early stages. Comparative effectiveness | Thank you for your comments.<br><br>We sought to include Medicare beneficiaries (i.e., adults ≥65 years old and those under 65 years old who qualify for Medicare due to disability). Thus, pediatric or |

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| | | and pragmatic trials are the next most common published research on these programs.<br>4. You noted that you are interested in telehealth application but didn't cite work in this field due to your inclusion/exclusion criteria | other populations that may qualify for Medicare due to disability would have been included.<br><br>Per the PICOTS (Appendix A), had RCTs not been available, nonrandomized studies would have been considered with a focus on those that were prospective and controlled for confounding. Comparative nonrandomized studies specifically enrolling Medicare beneficiaries would have been included.<br><br>Nonrandomized studies in pain can be |

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| | | | misleading due to the subjective nature of pain and impact of patient expectations regarding treatment and attention received on patient reported outcomes combined with greater potential selection bias and uncontrolled confounding in nonrandomized studies. There are numerous examples of this in the pain literature where nonrandomized studies have shown a very large response or estimate for effectiveness in response to a treatment which was disproven in subsequent RCTs. For |

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| | | | example, non-randomized studies of knee arthroscopy for osteoarthritis reported substantial pain relief where no differences were seen in RCTs comparing it to a placebo procedure. Other examples include the use of vertebroplasty for osteoporotic spinal fractures and use of epidural steroid injections for back pain. |
| | Methods | I will include in this letter some of the citations on integrated/integrative pain management programs I believe you should consider in your draft revisions. These citations include pain management programs that include non-drug pain management services such as acupuncture. These citations also include integrative pain management programs done at pediatric hospitals where a majority of the patients are eligible for Medicare and Medicaid. And I included citations of an interdisciplinary pain management program (IPMC) I once worked at, which was created out the U.S. Army Pain Management Task Force initiatives. This IPMC program has been going for a good 10 years and it has taken | Thank you for your suggested citations. None met our inclusion criteria. |

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| | | time for research to be published on the important work they are doing with their patients. I have also included some citations of pain management programs that are specific to other types of chronic pain such as headaches, migraines, and carpal tunnel syndrome. And citations of new expansion of telehealth access to integrative health services during the pandemic and outside of the pandemic. | |
| | Methods | **Timing is a little bit early for published data in the field**<br>On page ES-3 you note under "implications and conclusions" that more evidence from programs would be needed. Your draft on these programs is just a little bit early for all the publications that are still coming out on these programs. I hope you will consider doing this review again in 6-8 years to be able to include the publications that continue to be published. And I hope that you will broaden your criteria of published program data to include other types of research such as pilots and feasibility studies, comparative effectiveness, and pragmatic clinical trials. And I strongly recommend you look at pain management work that affects ALL types of Medicare/Medicaid/Tricare/all federal insurance program beneficiaries to include all age ranges (pediatrics, the military family population, military retirees who are young as 38, and more). | Thank you for your comments. |
| | Results | **Please lead your recommendations for your final draft with "Low or No Adverse Event Rates" Data**<br>I noted in your "main points" section that you don't lead with "low or no adverse event rates found" in these studies. This is a very important point to lead with. In the era of the opioid crisis, leading with a statement about the adverse event rate of programs/therapies is very important. In fact, in this era of the pandemic where we (clinicians and patients) are doing more risk assessment in our daily lives than usual, your "main points" should lead with the largest risk assessment factor | Thank you for your comments. We do provide information on adverse events throughout the report. |

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| | | (which, I believe, is low or no adverse events in the data/evidence set). | |
| | Results | AHRQ's contextual Q1:<br>"What different types of comprehensive, integrated approaches to acute/subacute pain or chronic, nonactive cancer pain management have been proposed or used in clinical practice?"<br>Please see citations in this letter on the following:<br>• Integrated/integrative pain management programs<br>• Emergency department setting for integrative health pain management programs<br>• Oncology programs (chronic, nonactive cancer pain management)<br><br>AHRQ's contextual Q2:<br>"Is there information on the costs or cost-effectiveness of integrated pain management programs in the Medicare or general population?"<br>Please see citations below on the "cost-effectiveness" studies. | Thank you for your suggestions. We've reviewed them against our inclusion and exclusion criteria and potential relevance to the contextual questions. |
| | Results | **Pain Management Programs, the Patient Experience, and Measuring "Hope" as well as Functional Change and other Metrics**<br>On page 8, under "Results" and "Key Points", you note that "integrated pain management was associated with a statistically significant but clinically unimportant effect on pain on a 0 to 10 scale versus usual care…". The language "clinically unimportant", is not great language for the chronic pain patient population. As a clinician, I have seen patients in these programs consistently note that the most important part of their experience was not their improved function or decreased pain but that the program "gave them hope". I recognize "hope" may not be a standardized metric (or maybe it can be?), but it was and is significant for those who | Thank you for your comments. While we acknowledge that "hope" is an important component of care, as you point out measurement of this is challenging. The full report does contain |

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| | | experience chronic pain. Especially consider that risk of suicide and suicidal ideation is consistently higher in the chronic pain population than the general population. This pain management program work is important and makes a significant difference in the lives of patients and their families, even if the scientific metrics for measuring this don't yet exist or aren't consistently used to report this important aspect of the patient and family experience of clinical care. | information on health-related quality of life measures as provide in the included studies. |
| | Results | **"Cost effectiveness" in acupuncture and integrative health programs**<br>Acupuncture in pain management as a non-opioid therapy and integrative health provider type to help with the opioid crisis<br>• Cost-Effectiveness of adding acupuncture and licensed acupuncturists as integrative health providers to pain management programs o In September 2017, the white paper, *Acupuncture's Role in Solving the Opioid Epidemic: Evidence, Cost-Effectiveness, and Care Availability for Acupuncture as a Primary, Non-Pharmacologic Method for Pain Relief and Management*, was published by The Joint Acupuncture Opioid Task Force, chaired by Bonnie Bolash, MAc. https://www.evidencebasedacupuncture.org/wp-content/uploads/2017/09/Acupunctures-Role-in-Solving-the-Opioid-Epidemic-_Final_September_20_2017-1.pdf<br>o Cost Savings noted at an Allina Health inpatient program in Minnesota. JA Dusek, Griffin KH, Finch MD, Rivard RL, Watson D. Cost Savings from Reducing Pain through Delivery of<br>Integrative Medicine Program. The Journal of Alternative and Complementary Medicine. Jun 2018. https://doi.org/10.1089/acm.2017.0203<br><br>Another publication of a pain management program at Abbot Northwestern of Allina Health: "Impact of Integrative Medicine | Thank you for your suggestion. We have reviewed it against our inclusion exclusion criteria. None met our inclusion criteria.<br><br>This report focuses on programs. Studies of isolated interventions (e.g., acupuncture) did not meet our inclusion criteria. They were the subject of previous AHRQ reports on |

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| | | on Pain Management in a Tertiary Care Hospital," published 2010. Abbott Northwestern, an Allina Hospital. Penny George Institute, at the time part of the Bravewell Collaborative.<br>"Optimal inpatient pain management remains a major institutional and therapeutic challenge" *Journal of Patient Safety* published March 2010.<br>o "Cost-Effectiveness of a Team-Based Integrative Medicine Approach to the Treatment of Back Pain" Peter M. Wayne, Julie E. Buring, David M. Eisenberg, Kamila Osypiuk, Brian J. Gow, Roger B. Davis, Claudia M. Witt, and Thomas Reinhold. The Journal of Alternative and Complementary Medicine. Mar 2019.ahead of print<br>http://doi.org/10.1089/acm.2018.0503<br><br>▪This study suggests that treatment with a licensed acupuncturist, when given enough times (not just once or twice), decreases overall hospital incurred costs. Acupuncture was part of a team-based clinical service at a safety net hospital. Location for primary investigator was the family medicine department, Boston University School of Medicine.<br>▪Silver Highfield, E., Longacre, M., Chuang, Y. H., & Burgess, J. F., Jr (2016). Does Acupuncture Treatment Affect Utilization of Other Hospital Services at an Urban Safety-Net Hospital? Journal of alternative and complementary medicine (New York, N.Y.), 22(4), 323–327. https://doi.org/10.1089/acm.2015.0151<br>▪The notes that stood out to me in this paper: -m - p.324 "the current study appears to be the first of its kind to look at the effect of acupuncture use and its association with biomedical healthcare by Medicare and/or Medicaid patients in an urban safety-net population."<br>- p.324 East Asian Medicine. "Patients are queried regarding current medical conditions, pain, medications, and changes | treatment of pain.<br><br>Information on utilization was described if reported in an includable study. Details of what was reported by study is found in Appendices B and E.<br>Contextual information on cost-effectiveness is provided in Appendix C and briefly described in the report.<br><br>Integrative programs were not within the scope of this report unless they were directly part of IPMPs or CPMPs. |

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| | | noted from previous treatments. The nature of Asian medicine—perceiving each person and associated pattern of disease as unique—results in much time being spent talking to patients about the totality of their lives; the presenting problem is merely a jumping-off point to explore their diet, exercise, stress level, and psychosocial milieu. Treatment sessions are also a time during which practitioners often make lifestyle recommendations, including incorporating exercise or mediation; assess whether a "prescription" to the BMC Food Bank would be helpful; hand out informational flyers; and make referrals to other physicians, social workers, or specialists."<br>- p.326 "Interestingly, among patients who receive 10-12 acupuncture appointments, the total number of hospital visits increased after acupuncture but there was a shift toward primary care and away from specialty services." "It is possible that some high-utilizing patients were shifted toward appropriate preventive and less costly modalities as a result of a positive secondary consequence of medical and lifestyle counseling."<br>Acupuncture for chronic pain, cost-effectiveness paper<br>o Yin, C., Buchheit, T. E., & Park, J. J. (2017). Acupuncture for chronic pain: an update and critical overview. Current opinion in anaesthesiology, 30(5), 583–592. https://doi.org/10.1097/ACO.0000000000000501 https://pubmed.ncbi.nlm.nih.gov/28719458/<br><br>• The Acupuncture Evidence Project also has some cost effectiveness data (2017) https://www.asacu.org/wp-content/uploads/2017/09/Acupuncture-Evidence-Project-The.pdf | |

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| | Results | Examples of Integrated and Integrative Pain Management Programs that focus on non-opioid pain management that were not cited in this AHRQ research protocol request<br>2020 and 2021 new publications<br>Dyer NL, Surdam J, Dusek JA. A Systematic Review of Practiced-Based Research of Complementary and Integrative Health Therapies as Provided for Pain Management in Clinical Settings: Recommendations for the Future and A Call to Action [published online ahead of print, 2021 May 1]. *Pain Med*. 2021; pnab151. doi:10.1093/pm/pnab151<br>Hongjin Li, PhD, BSN, Diane M Flynn, MD, Krista B Highland, PhD, Larisa A Burke, MPH, Honor M Mcquinn, ARNP, DNP, Alana D Steffen, PhD, Ardith Z Doorenbos, PhD, RN, FAAN, Pattern of Cumulative Treatment Hours on Pain Impact and PROMIS Outcomes, *Military Medicine*, 2021;, usab142, https://doi.org/10.1093/milmed/usab142 | Thank you for your suggested citations. None met our inclusion criteria. |
| | Results | Workers' Comp…Integrative Health incorporated into Washington State Workers' Comp Program for pain management and return-to-work model of care (a subtype of the functional rehabilitation model)<br>*Presentation on some of the work to include acupuncture and acupuncturists into Washington State Workers' Comp Program*<br>• Taylor-Swanson, L, Stone, J, & Gale, M. (2019) Update on the Washington State Labor & Industries Policy (podium presentation). Society for Acupuncture Research, Burlington, VT, USA.<br><br>*Related publications on this work*<br>• Taylor-Swanson, L. & Gale, M. (2018). Making the Case for Workers' Compensation: Acupuncture for Low Back Pain. *Meridians: JAOM, 5*(3), 16-17.<br>• Taylor-Swanson, L., Stone, J.A., Gale, M., Gaitaud, A., Huson, C., MacPherson, F., Martens, J., Godwin, J., & Yule, | Thank you for your suggestion. We have reviewed it against our inclusion exclusion criteria. None met our inclusion criteria. |

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| | | M. (2018). Systematic review of acupuncture for low back pain: Efficacy and clinically-meaningful change, *Meridians: JAOM, 5*(3), 18-39. | |
| | Results | Children's Hospitals…Integrative Pain Management in Children's Hospitals, citations<br>**Acupuncture and pediatrics, pain management et al**<br>Children with disabling conditions are eligible for Medicare. Many children are helped by acupuncture and integrative health modalities at children's hospitals. Acupuncture, as part of the integrative pain management team, helps these children with pain, sleep, anxiety, and function. Importantly, it is used as part of team care to decrease need for complex medication cocktails that have high or otherwise unwanted adverse event rates. This team care also leads to better outcomes.<br>• Evidence Based Acupuncture's summary on acupuncture and pediatrics<br>o https://www.evidencebasedacupuncture.org/pediatric-acupuncture<br>o Ralston-Wilson, Jaime, E Artola, AM Lynn, AZ Doorenbos (2016). The Feasibility of Developing an Inpatient Acupuncture Program at a Tertiary Care Pediatric Hospital. The Journal of Alternative and Complementary Medicine, 22(6), 458-464. DOI: 10.1089/acm.2015.0347<br>o Ralston-Wilson J, Tseng A, Oberg E, Sasagawa M, Doorenbos AZ, et al. (2013) Utilization of Acupuncture Therapy among Pediatric Oncology Patients at a Tertiary Care Pediatric Hospital. Altern Integ Med 2: 129. doi:10.4172/2327- 5162.1000129<br>o Ralston-Wilson JA, Karlik JB. Intraoperative Multipoint Acupuncture for Reducing Postoperative Nausea and Vomiting in High-Risk Children: A Case Series. A A Pract. 2020;14(2):40-43. doi:10.1213/XAA.0000000000001137 | Thank you for your suggestions.<br><br>Inclusions of integrative therapy outside of a formal IPMP or CPMP was not within the scope of this review. The studies cited did not meet our inclusion criteria. |

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| | | o Gentry KR, McGinn KL, Kundu A, Lynn AM. Acupuncture therapy for infants: a preliminary report on reasons for consultation, feasibility, and tolerability. Paediatr Anaesth. 2012;22(7):690-695. doi:10.1111/j.1460-9592.2011.03743.x<br>o Holmer N, Artola E, Christianson E, Lynn AM, Whitlock KB, Norton S. Feasibility of Acupuncture to Induce Sleep for Brainstem Auditory Evoked Response Testing. Am J Audiol. 2019;28(4):895-907. doi:10.1044/2019_AJA-19-0069<br>o *(manuscript in progress) DiGennaro JL, Dervan LA, Roberts, JS, Artola EM, Ralston-Wilson JA, Lynn AM. Acupuncture as an Adjunct to Pharmacologic Sedation in Medically Ventilated Children in the Pediatric Intensive Care Unit.<br>o Johnson Rolfes, J., Christensen, K., & Gershan, L. A. (2020). Acceptance of Traditional Chinese Medicine in the Neonatal Intensive Care Unit: A Launching Point. *Global Advances in Health and Medicine*. https://doi.org/10.1177/2164956120924644 or https://journals.sagepub.com/doi/full/10.1177/2164956120924644<br><br>Seattle Children's Hospital<br>• NPR story on Robyn Adcock's work at UCSF pediatric hospital: https://www.npr.org/sections/health-shots/2019/08/05/745589634/pain-rescue-team-helps-seriously-ill-kids-cope-in-terrible-times<br>• The use of TCM in the NICU at the University of Minnesota Children's Hospital.<br>• Kundu A, Jimenez N, Lynn A. Acupuncture Therapy for Prevention of Emergence Delirium in Children Undergoing General Anesthesia. Medical Acupuncture, 2008: 20(3)151 – 154. • Kundu A, Berman B. Acupuncture for pediatric pain and symptom management. Pediatr Clin North Am. 2007 Dec;54(6):885-9 | |

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| | Results | Palliative care and acupuncture/integrative health in pain management<br>This is **not** an exhaustive list. Palliative care for pain management is not just for end-of-life/hospice care. Integrated/integrative health as part of pain management is useful for patient-centered team care model.<br>• Stephen Birch, Mark Bovey, Terje Alraek, Nicola Robinson, Tae-Hun Kim, and Myeong Soo Lee. Sep 2020 https://doi.org/10.1089/acm.2020.0032 | Thank you for your suggestion.<br><br>Our scope did not include evaluation of palliative care. |
| | Results | Interdisciplinary Pain Management Programs<br>The Madigan Army Medical Center's Interdisciplinary Pain Management Clinic (IPMC)<br>Madigan Army Medical Center's Interdisciplinary Pain Management Center (IPMC) is a unique tertiary-care pain management program that emphasizes functional rehabilitation and teaching patients self-care tools for their pain management "toolbox" as well as team-based, interdisciplinary clinical care. The following are some citations from this program's work:<br>• Flynn, D. M., Cook, K., Kallen, M., Buckenmaier, C., Weickum, R., Collins, T., Johnson, A., Morgan, D., Galloway, K., & Joltes, K. (2017). Use of the Pain Assessment Screening Tool and Outcomes Registry in an Army Interdisciplinary Pain Management Center, Lessons Learned and Future Implications of a 10-Month Beta Test. Military medicine, 182(S1), 167–174. https://doi.org/10.7205/MILMED-D-16-00212<br>• Flynn, D., Eaton, L. H., Langford, D. J., Ieronimakis, N., McQuinn, H., Burney, R. O., Holmes, S. L., & Doorenbos, A. Z. (2018). A SMART design to determine the optimal treatment of chronic pain among military personnel. | Thank you for your suggestions. None of the citations met our inclusion criteria. |

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| | | Contemporary clinical trials, 73, 68–74. https://doi.org/10.1016/j.cct.2018.08.008<br>• Flynn DM, McQuinn H, Fairchok A, Eaton LH, Langford DJ, Snow T & Doorenbos AZ. Enhancing the success of functional restoration using complementary and integrative therapies: Protocol and challenges of a comparative effectiveness study in active-duty service members with chronic pain. Contemporary Clinical Trials Communications, 13, 2019. https://doi.org/10.1016/j.conctc.2018.100311<br>• Hongjin Li, PhD, BSN, Diane M Flynn, MD, Krista B Highland, PhD, Larisa A Burke, MPH, Honor M Mcquinn, ARNP, DNP, Alana D Steffen, PhD, Ardith Z Doorenbos, PhD, RN, FAAN, Pattern of Cumulative Treatment Hours on Pain Impact and PROMIS Outcomes, Military Medicine, 2021;, usab142, https://doi.org/10.1093/milmed/usab142<br>• Flynn, D., Eaton, L. H., Langford, D. J., Ieronimakis, N., McQuinn, H., Burney, R. O., Holmes, S. L., & Doorenbos, A. Z. (2018). A SMART design to determine the optimal treatment of chronic pain among military personnel. Contemporary clinical trials, 73, 68–74. https://doi.org/10.1016/j.cct.2018.08.008<br>• Justin J Stewart, MC, USA, Diane Flynn, Alana D Steffen, PhD, Dale Langford, PhD, Honor McQuinn, DNP, Ardith Doorenbos, PhD, Evaluating the Relationship Between Initial Injury, Referral to A Pain Clinic, and Medical Retirement from the Army: A Retrospective Analysis, Military Medicine, Volume 186, Issue Supplement_1, January-February 2021, Pages 502–505, https://doi.org/10.1093/milmed/usaa463<br>• Hongjin Li, PhD, MS, BSN, Diane M Flynn, MD, Krista B Highland, PhD, Patricia K Barr, PhD, Dale J Langford, PhD, Ardith Z Doorenbos, PhD, RN, FAAN, Relationship Between Post-Traumatic Stress Disorder Symptoms and Chronic Pain-Related Symptom Domains Among Military Active Duty | |

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| | | Service Members, Pain Medicine, 2021;, pnab087, https://doi.org/10.1093/pm/pnab087<br>*Their telehealth work:*<br>• Flynn D, Eaton LH, McQuinn H, Alden A, Meins AR, Rue T, Tauben D, & Doorenbos AZ. TelePain: Primary care chronic pain management through weekly didactic and case-based telementoring. Contemporary Clinical Trials Communications, 8:162-66, Dec 2017.<br>• Flynn DM, Doorenbos AZ, Steffan A, McQuinn H & Langford DJ. Pain management telementoring, long-term opioid prescribing and patient-reported outcomes. Pain Medicine, 21(2), 266-273, 15 Oct 2020. | |
| | Results | University of California San Francisco Osher Center Citations on their interdisciplinary/multidisciplinary programs<br>• Chao, M.T., Hurstak, E., Leonoudakis-Watts, K. et al. Patient-Reported Outcomes of an Integrative Pain Management Program Implemented in a Primary Care Safety Net Clinic: a Quasi-experimental Study. J GEN INTERN MED 34, 1105–1107 (2019). https://doi.org/10.1007/s11606-019-04868-0<br>• Hurstak, E., Chao, M. T., Leonoudakis-Watts, K., Pace, J., Walcer, B., & Wismer, B. (2019). Design, Implementation, and Evaluation of an Integrative Pain Management Program in a Primary Care Safety-Net Clinic. Journal of alternative and complementary medicine (New York, N.Y.), 25(S1), S78–S85. DOI: 10.1089/acm.2018.039 | Thank you for your suggestion.<br><br>Inclusions of integrative therapy outside of a formal IPMP or CPMP was not within the scope of this review. |
| | Results | Emergency Department (ED) Non-opioid Integrative Pain Management Programs<br>Access to non-opioid pain management in the acute setting, such as the emergency department, is an important level of care-access to stop some kinds of opioid dependency before it gets started, when non-opioid therapy for pain management | Thank you for your suggestion.<br><br>Inclusions of integrative therapies such as acupuncture |

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| | | is appropriate, as determined by a patient-centered clinical care team.<br>Advocate Aurora's program<br>• Utilization of Acupuncture Services in the Emergency Department Setting: A Quality Improvement Study<br>o Burns JR, Kram JJ, Xiong V, Stark Casadont JM, Mullen TA, Conway N, Baumgardner DJ. Utilization of acupuncture services in the emergency department setting: a quality improvement study. J Patient Cent Res Rev. 2019; 6:172-8. 10.17294/2330-0698.1688<br>o More details on the program in the interview with Dr. John Burns at: https://blog01.thehospitalhandbook.com/2018/12/acupuncturists-working-in-emergency.html<br>• The Role of Traditional Chinese Medicine in the Management of Chronic Pain: A Biopsychosocial Approach<br>o Burns J, Mullen TA. The role of traditional Chinese medicine in the management of chronic pain: a biopsychosocial approach. J Patient Cent Res Rev. 2015; 2:192-196. doi: 10.17294/2330-0698.1206<br>Allina's program<br>• Adam S. Reinstein, Lauren O. Erickson, Kristen H. Griffin, Rachael L. Rivard, Christopher E. Kapsner, Michael D. Finch, Jeffery A. Dusek; Acceptability, Adaptation, and Clinical Outcomes of Acupuncture Provided in the Emergency Department: A Retrospective Pilot Study, Pain Medicine, Volume 18, Issue 1, 1 January 2017, Pages 169-178, https://doi.org/10.1093/pm/pnv114 | outside of a formal IPMP or CPMP was not within the scope of this review.<br><br>AHRQ has published other reports that evaluate nonpharmacologic therapies for pain management. |
| | Results | More Pain Management Program citations<br>Advocate Aurora of Wisconsin and Illinois<br>• See emergency dept. studies in section above.<br>• Fink J, Burns J, Perez Morena A, Kram J, Armstrong M, Chopp S, Maul S, Conway N. (2020). A Quality Brief of an Oncological Multisite Massage and Acupuncture Therapy | Thank you for your suggestion.<br><br>Inclusions of integrative therapy outside |

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| | | Program to Improve Cancer-Related Outcomes. The Journal of Alternative and Complementary Medicine, 26(9): 822-826. http://doi.org/10.1089/acm.2019.0371 | of a formal IPMP or CPMP was not within the scope of this review. We did not include patients with cancer. |
| | Results | Mayo Clinic System<br>Mayo Clinic's Integrative Medicine program, Rochester, MN location<br>• Mallory, M., Bauer, B., & Chon, T. (2019). Occipital Neuralgia Treated with Acupuncture: A Case Report. Global Advances in Health and Medicine. https://doi.org/10.1177/216495<br>• Martin DP, Sletten CD, Williams BA, Berger IH. Improvement in fibromyalgia symptoms with acupuncture: results of a randomized controlled trial. Mayo Clin Proc. 2006 Jun;81(6):749-57. doi: 10.4065/81.6.749. PMID: 16770975.<br>• Thicke, L. A., Hazelton, J. K., Bauer, B. A., Chan, C. W., Huntoon, E. A., Novotny, P. J., Sloan, J. A., & Wahner-Roedler, D. L. (2011). Acupuncture for treatment of noncyclic breast pain: a pilot study. *The American journal of Chinese medicine*, *39*(6), 1117–1129. https://doi.org/10.1142/S0192415X11009445<br>• Mallory M, Croghan K, Sandhu N, Lemaine V, Degnim A, Bauer B, Cha Stephen, Croghan I. (2015). Acupuncture in the Postoperative Setting for Breast Cancer Patients: A Feasibility Study. *The American Journal of Chinese Medicine, 43*(01), 45-56. https://doi.org/10.1142/S0192415X15500032 | Thank you for your suggestions. Inclusions of integrative therapies such as acupuncture outside of a formal IPMP or CPMP was not within the scope of this review. |

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| | Results | Huntsman Cancer Hospital and Clinics, University of Utah, Salt Lake City, Utah<br>**Linda B. and Robert B. Wiggins Wellness and Integrative Health Center**<br>• Interview with Dr. Annie Budhathoki<br><br>Online article citation: Gale, MK. (Nov 2019). The Hospital Practice Handbook Project Interview Series: Paths to Practice, Focus on Dr. Annie Budhathoki. https://www.thehospitalhandbook.com/blog/2019/11/22/the-hospital-practice-handbook-project-interview-series-paths-to-practice-focus-on-dr-annie-budhathoki<br>• Related research work for this program is from primary investigator Lisa Taylor-Swanson, PhD.<br>o Two studies can be viewed at their ClinicalTrials.gov weblinks.<br>▪ Acupuncture Treatment of Chemotherapy-Induced Peripheral Neuropathy in Women<br>▪ Acupuncture Combined with Mindfulness: ACUMIND<br>o Taylor-Swanson, L., Budhathoki, A., White, S., & Garland, E. (2019). Enhancing interoceptive awareness: Mindfulness and acupuncture as a combined intervention for chronic pain. *Advances in Integrative Medicine, 6* Suppl. 1, s45<br>o Taylor-Swanson, L., Budhathoki, A., White, S., & Garland, E. (2019). Combined mindfulness and acupuncture in the context of chronic pain: Pilot feasibility and acceptability study protocol. *Advances in Integrative Medicine, 6* Suppl. 1, s83.<br>o Taylor-Swanson, L. White, S., Budhathoki, A. & Garland, E. Enhancing Interoceptive Awareness: Mindfulness and Acupuncture as a Combined Intervention for Chronic Pain (podium presentation). International Conference on Complementary Medical Research, Brisbane, Australia.<br>o 2019. Taylor-Swanson, L, White, S, Budhathoki, A, & Garland, E. Combined Mindfulness and Acupuncture in the | Thank you for your suggestions.<br><br>Inclusions of integrative therapies such as acupuncture outside of a formal IPMP or CPMP was not within the scope of this review.<br><br>AHRQ has published other reports that evaluate nonpharmacologic therapies for pain management. |

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| | | Context of Chronic Pain: Pilot Feasibility and Acceptability Study Protocol (poster). International Conference on Complementary Medical Research, Brisbane, Australia. | |
| | Results | Boston University School of Medicine<br>• Boston University School of Medicine article by Ellen Highfield, LAc. This program's work was cited in the section above on "cost effectiveness". | Thank you for your suggestion. It does not meet our inclusion criteria. |
| | | Cleveland Clinic<br>• Josie Znidarsic, DO, Kellie N Kirksey, PhD, Stephen M Dombrowski, PhD, Anne Tang, MS, Rocio Lopez, MS, Heather Blonsky, MAS, Irina Todorov, MD, Dana Schneeberger, PhD, Jonathan Doyle, | Thank you for your suggestion. No specific citation is provided. |
| | Results | • MCS, Linda Libertini, Starkey Jamie, LAC, Tracy Segall, LMT, Andrew Bang, DC, Kathy Barringer, LISW, Bar Judi, CYTERYT 500, Jane Pernotto Ehrman, MEd, RCHES, Michael F Roizen, MD, Mladen Golubić, MD, PhD, "Living Well with Chronic Pain": Integrative Pain Management via Shared Medical Appointments, Pain Medicine, Volume 22, Issue 1, January 2021, Pages 181–190, https://doi.org/10.1093/pm/pnaa418 | Thank you for your suggestion. It does not meet our inclusion criteria |
| | Results | **Self-care, Self-awareness/Interoception, Encourage Patient Self-Efficacy for chronic pain condition**<br>Pain management programs with integrative health and licensed acupuncturists have a somewhat new metric set in the clinical outcomes toolbox to measure common patient-centered clinical care components: teaching patients tools for self-care and management of their chronic health condition (including pain) and how both direct clinical care and the patient education is affecting the patients' "interoception". | Thank you for your suggestions.<br><br>Inclusions of integrative therapies outside of a |

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| | | "Interoception" is like self-awareness. This self-awareness of one's own health can lead toward a person/patient engaging more in health-promoting behaviors and being aware of their positive effect which encourages these health-promoting behaviors (such as more time spent in those behaviors). For example, in an integrative pain management program, a patient learns tai chi (movement and balance therapy) and practices it between clinical appointments with their licensed acupuncturist and other pain management team providers as part of their overall treatment plan. By noticing improved function and decreased pain from this behavior (practicing tai chi), they continue to practice it and spend increased time in this activity. This helps the patient manage their chronic pain and decreases frequency of flares of the pain condition (versus before learning this self-care practice).<br>Here are some citations that include this new set of clinical metrics:<br>• McPherson F, et al. (2016). Health Perception and Wellness Behavior Survey among Military Beneficiaries. Ann Psychiatry Ment Health 4(2): 1060. https://www.jscimedcentral.com/Psychiatry/psychiatry-4-1060.pdf<br>• Taylor-Swanson, L., Budhathoki, A., White, S., & Garland, E. (2019). Enhancing interoceptive awareness: Mindfulness and acupuncture as a combined intervention for chronic pain. Advances in Integrative Medicine, 6 Suppl. 1, s45<br>• Taylor-Swanson, L. White, S., Budhathoki, A. & Garland, E. Enhancing Interoceptive Awareness: Mindfulness and Acupuncture as a Combined Intervention for Chronic Pain (podium presentation). International Conference on Complementary Medical Research, Brisbane, Australia.<br>• Paterson C. (2006). Measuring changes in self-concept: a qualitative evaluation of outcome questionnaires in people having acupuncture for their chronic health problems. BMC | formal IPMP or CPMP was not within the scope of this review.<br><br>AHRQ has published other reports that evaluate nonpharmacologic therapies for pain management. |

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| | | complementary and alternative medicine, 6, 7. https://doi.org/10.1186/1472-6882-6-7 • Wenham, A., Atkin, K., Woodman, J., Ballard, K., & MacPherson, H. (2018). Self-efficacy and embodiment associated with Alexander Technique lessons or with acupuncture sessions: A longitudinal qualitative sub-study within the ATLAS trial. Complementary therapies in clinical practice, 31, 308–314. https://doi.org/10.1016/j.ctcp.2018.03.009 • On teaching mindfulness or qi gong (both include breathing techniques that induce rest & digest -parasympathetic- response) on resiliency training and its effect on healthcare resource utilization<br>o Stahl JE, Dossett ML, LaJoie AS, Denninger JW, Mehta DH, et al. (2017) Correction: Relaxation Response and Resiliency Training and Its Effect on Healthcare Resource Utilization. PLOS ONE 12(2): e0172874.<br>o Conclusion<br>• Mind body interventions such as 3RP have the potential to substantially reduce healthcare utilization at relatively low cost and thus can serve as key components in any population health and health care delivery system." https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0140212 | |
| | Results | **Telehealth Use and Program Examples**<br>Before and now with the pandemic, access to pain management services via telehealth when a patient's travel to and from the site of direct clinical care is challenging or not accessible, is useful. Telehealth access within an integrative pain management team can be a useful tool for follow up care between clinical appointments. While some pain management programs occasionally made this available pre-pandemic, many of them were able to pivot during the pandemic to make these resources available to patients who could not attend for | Thank you for your comments.<br><br>We sought to include studies delivering CPMP or IMPM via telehealth. Unfortunately, |

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| | | their in-person appointments. And several have continued to use tele- and virtual services as part of the overall treatment plan to engage patient engagement between appointments (practicing self-care tools as directed via individual and group virtual appointments) with in-person check-ins and in-person clinical care, and to engage in health those patients who struggle to get access to transportation to in-person appointments.<br><br>I would like for AHRQ to consider that telehealth (telephonic, virtual direct, and asynchronous) communications and tele-mentoring (such as the University of New Mexico ECHO® programs) be considered as part of the pain management program picture for patient care. I recognize this development is new and that the data is still being published. Here is some published program information that I have collected on this topic so far. “Telehealth”, in 2021, now encompasses patient portal use/email communications, telephone calls to patients, virtual individual telehealth sessions, virtual group health classes, telemonitoring/telemetry, and morevi.<br>For example, integrative health professionals (including licensed acupuncturists) can use telehealth services for some parts of the overall treatment plan for their patients (not all services, but some services like tai chi, qi gong, and other patient education and management can be adapted to telehealth, when necessary, like in a pandemic or when in-person accessibility is an issue).<br><br>The Hospital Handbook Project (HHP) hosted a live, virtual event in June 2020, The Telehealth Roundtable Event, because the community decided it was important to get these examples of telehealth work and pivots in the integrative health field presented and publicly available. | few met our inclusion criteria.<br><br>AHRQ has published previous reports on telehealth in general. |

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| | Results | Citations of Tele-mentoring (ECHO©) as part of an Integrative & Interdisciplinary Pain Management Program<br>I participated, as a licensed acupuncturist IPMC team member, in ECHO© sessions at the Madigan Army Medical Center, which is an ECHO© "hub". Here are some related citations for this telementoring program.<br>• Flynn D, Eaton LH, McQuinn H, Alden A, Meins AR, Rue T, Tauben D, & Doorenbos AZ. TelePain: Primary care chronic pain management through weekly didactic and case-based telementoring. *Contemporary Clinical Trials Communications*, 8:162-66, Dec 2017.<br>• Flynn DM, Doorenbos AZ, Steffan A, McQuinn H & Langford DJ. Pain management telementoring, long-term opioid prescribing and patient-reported outcomes. *Pain Medicine*, 21(2), 266-273, 15 Oct 2020. | Thank you for your suggestions. |
| | Results | Integrative Pain Management Programs where Providers are also doing Telehealth<br>This is **not** an exhaustive list.<br>• June 2020 Telehealth Roundtable Event with Hospital-based Integrative Pain Management Programs. The HHP's June 2020 Telehealth Roundtable Event highlighted telehealth work ongoing and new (per pandemic pivots) for several healthcare system integrated integrative pain management programs.<br>o Gale, MK, Magee P, Burns J, Roofener G, Olson J, West M, and Gahles N. (June 2020). The Telehealth Roundtable for Hospital-based Programs Event Recording with Time Stamp Notations. https://blog01.thehospitalhandbook.com/2020/07/the-telehealth-roundtable-for-hospital.html<br>o Gale, M. (2020). Pre-Event resource: Why Telehealth? What Could a Patient-Centered, Integrative Health Telehealth Program Look Like? (video + summary notes). | Thank you for your suggestions. We've reviewed them against our inclusion exclusion criteria. None of the citations met our inclusion criteria. |

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| | | https://blog01.thehospitalhandbook.com/2020/06/pre-event-resource-why-telehealth-what.html<br><br>• Allina Health of Minnesota<br>o A presentation on their inpatient telehealth pivot, recording published May 2020.<br>o More about Allina's telehealth care plan as of June 2020 published in the HHP hosted Telehealth Roundtable Event, starting at about minute 14. The Allina telehealth access includes patient portal/secure messaging between providers and patients, phone calls with patients in the inpatient setting who cannot have in-person services. Outpatient telehealth services include virtual one-on-one synchronous patient sessions. Group patient education classes include teaching patients self-care tools for pain management.<br>o Allina's "Transforming Pain Shared Medical Visit" with leads Michael Egan, LAc, and Nancy Van Sloun, MD has some information published here: https://account.allinahealth.org/services/855. This work was presented at a fall 2020 Osher conference as a poster presentation, "The Penny George Institute Virtual Transforming Pain Shared Medical Visits at Allina Health."<br><br>• Advocate Aurora of Wisconsin and Illinois has hosted virtual group classes for pain management as part of ongoing clinical care, including tai chi.<br>o For details of their program, listen to the recording the presentation by John Burns, DPT, at the Telehealth Roundtable Event, minute 25.<br><br>• Cleveland Clinic o Using telehealth for Chinese herbal medicine appointments. See Galina Roofener's presentation on this from the June 2020 Telehealth Roundtable Event which starts at minute 45. | |

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| | | • University Hospitals Connor Integrative Health Clinic, Cleveland, Ohio. o Virtual classes in 2020 – 2021 have included yoga, tai chi, qi gong, mindfulness, and more. See their LinkedIn page for the latest (and past) posted schedule(s) of classes.<br><br>• The VA Whole Health program, which already provided some telehealth services, pivoted to offer telehealth more broadly during the pandemic. For some information on their telehealth pain management services as related to integrative health and acupuncture, you can view Juli Olson, DC, LAc's presentation on the Telehealth Roundtable Event recording, starting at minute 34. | |
| | Results | Citations of Integrative Pain Management Programs work, not otherwise listed above<br>This is not an exhaustive list.<br>Kim, H., Mawla, I., Lee, J., Gerber, J., Walker, K., Kim, J., Ortiz, A., Chan, S. T., Loggia, M. L., Wasan, A. D., Edwards, R. R., Kong, J., Kaptchuk, T. J., Gollub, R. L., Rosen, B. R., & Napadow, V. (2020). Reduced tactile acuity in chronic low back pain is linked with structural neuroplasticity in primary somatosensory cortex and is modulated by acupuncture therapy. NeuroImage, 217, 116899. https://doi.org/10.1016/j.neuroimage.2020.116899 | Inclusions individual treatments or integrative treatments was outside of a formal IPMP or CPMP was not within the scope of this review. |
| | Results | Academic Consortium's Evidence-based NonPharm Strategies for Comprehensive Pain Care<br>• The 2018 Academic Consortium Task Force White Paper o Tick, H., Nielsen, A., Pelletier, K. R., Bonakdar, R., Simmons, S., Glick, R., Ratner, E., Lemmon, R. L., Wayne, P., Zador, V., & Pain Task Force of the Academic Consortium for Integrative Medicine and Health | Thank you for your suggestion.<br><br>This publication does not meet our inclusion criteria. |

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| | | (2018). Evidence-Based Nonpharmacologic Strategies for Comprehensive Pain Care: The Consortium Pain Task Force White Paper. *Explore (New York, N.Y.)*, *14*(3), 177–211. https://doi.org/10.1016/j.explore.2018.02.001 | |
| | Results | Cognitive and Mind-Body Therapies for Chronic Low Back and Neck Pain: Effectiveness and Value Final Evidence Report November 6, 2017<br>• https://icer-review.org/<br>• https://icer-review.org/announcements/chronic-pain-evidence-report/<br>• https://icer-review.org/material/back-and-neck-pain-evidence-report/<br>• https://icer-review.org/announcements/chronic-pain-final-report/ | Thank you for suggestion.<br><br>The ICER reports do not specifically evaluate formal pain programs. AHRQ has also published reports on treatment of chronic pain including chronic low back pain that evaluate specific treatments such as those in the ICER reviews. |
| | Results | Menopause and pain<br>Pain is one of the symptoms included in the symptom cluster in the set below (pain, sleep, mood, cognitive concerns, hot flashes)<br>• Taylor-Swanson, L., Woods, N., Mitchell, E., Schnall, J., Cray, L., Thomas, A. & Ismail, R. (2014). Effects of traditional Chinese medicine on co-occurring symptoms during the | Thank you for your suggestions.<br><br>Inclusions these therapies outside of a |

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| | | menopausal transition and early post menopause: A systematic review. Climacteric, 18(2), 142-56.<br>• Thomas, AJ., Taylor-Swanson, LJ., Ismail, R., Woods, NF., Cray, L., Mitchell, E. & Schnall, J. (2014). Effects of soy isoflavones on co-occurring symptoms during the menopausal transition and early post menopause: A systematic review. Maturitas, 78(4), 263-76. doi: 10.1016/j.maturitas.2014.05.007<br>• Ismail, R., Taylor-Swanson, L., Thomas, A., Schnall, JG., Cray, L., Mitchell, ES. & Woods, NF. (2014) Effects of Herbal Preparations on Symptom Clusters During the Menopausal Transition. Climacteric, 18, 11-28.<br>• Woods NF, Mitchell ES, Schnall JG, Cray L, Ismail R, Taylor-Swanson L, Thomas A. (2014). Effects of mind-body therapies on symptom clusters during the menopausal transition. Climacteric, 17(1), 10-22. | formal IPMP or CPMP was not within the scope of this review. The studies cited did not meet our inclusion criteria. |
| | Results | The Acupuncture Evidence Project<br>• The Acupuncture Evidence Project, a comparative lit review 2017 from the Australian Acupuncture and Chinese Medicine Association<br>https://www.acupuncture.org.au/resources/publications/the-acupuncture-evidence-project<br><br>Evidence-based Acupuncture (EBA) summaries<br>• Scientific Overview:<br>https://www.evidencebasedacupuncture.org/acupuncture-scientific-evidence/<br>• Acupuncture for Pain:<br>https://www.evidencebasedacupuncture.org/pain/<br>• Acupuncture for Pediatric Pain and more:<br>https://www.evidencebasedacupuncture.org/pediatric-acupuncture/<br>• Acupuncture for Cancer pain:<br>https://www.evidencebasedacupuncture.org/acupuncture-cancer-pain/ | Thank you for your suggestions.<br><br>Evaluation of specific treatment components such as acupuncture outside of IPMP or CPMP were not within the scope of this review.<br><br>AHRQ has also published reports on pain |

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| | | • Acupuncture for Plantar Fasciitis: https://www.evidencebasedacupuncture.org/acupuncture-plantar-fasciitis/ | management that did include acupuncture. |
| | Results | Pain management programs that include acupuncture for treating headaches, migraines<br>• Yu, X. and Salmoni, A. (2017). Comparison of the Prophylactic Effect Between Acupuncture and Acupressure on Menstrual Migraine: Results of a Pilot Study. Journal of Acupuncture and Meridian Studies, 11(5), 303-314. https://doi.org/10.1016/j.jams.2018.04.003<br>• Kenan Tastan, Ozlem Ozer Disci & Turan Set (2018) A Comparison of the Efficacy of Acupuncture and Hypnotherapy in Patients with Migraine, International Journal of Clinical and Experimental Hypnosis, 66:4, 371-385, DOI: 10.1080/00207144.2018.1494444<br>• Esparham A, Herbert A, Pierzchalski E, Tran C, Dilts J, Boorigie M, Wingert T, Connelly M, Bickel J. Pediatric Headache Clinic Model: Implementation of Integrative Therapies in Practice. Children. 2018; 5(6):74. https://doi.org/10.3390/children5060074<br>• Jiang Y., Bai P., Chen H. et al. (2018). The Effect of Acupuncture on the Quality of Life in Patients with Migraine: A Systematic Review and Meta-Analysis. Front. Pharmacol, 9:1190. doi: 10.3389/fphar.2018.01190<br>• Georgoudis, G., Felah, B., Nikolaidis, P. T., Papandreou, M., Mitsiokappa, E., Mavrogenis, A. F., Rosemann, T., & Knechtle, B. (2018). The effect of physiotherapy and acupuncture on psychocognitive, somatic, quality of life, and disability characteristics in TTH patients. Journal of pain research, 11, 2527–2535. https://doi.org/10.2147/JPR.S178110<br>• Musil, F., Pokladnikova, J., Pavelek, Z., Wang, B., Guan, X., & Valis, M. (2018). Acupuncture in migraine prophylaxis in | Thank you for your suggestions.<br><br>Evaluation of specific treatment components such as acupuncture outside of IPMP or CPMP were not within the scope of this review.<br><br>AHRQ has also published reports on pain management that did include acupuncture. |

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| | | Czech patients: an open-label randomized controlled trial. Neuropsychiatric disease and treatment, 14, 1221–1228. https://doi.org/10.2147/NDT.S155119<br>• Vickers, Andrew J; Vertosick, Emily A; Lewith, George; MacPherson, Hugh; Foster, Nadine E; Sherman, Karen J; Irnich, Dominik; Witt, Claudia M; Linde, Klaus; Acupuncture Trialists' Collaboration (2018). Acupuncture for Chronic Pain: Update of an Individual Patient Data Meta-Analysis. Journal of Pain, 19(5):455-474. DOI: https://doi.org/10.1016/j.jpain.2017.11.005<br>• Pokladnikova, J., Maresova, P., Dolejs, J., Park, A. L., Wang, B., Guan, X., & Musil, F. (2018). Economic analysis of acupuncture for migraine prophylaxis. Neuropsychiatric disease and treatment, 14, 3053–3061. https://doi.org/10.2147/NDT.S174870<br>• Chu H, Seo J., Kim C., Moon Y, Kang D., Lee H., Sung K., Lee S. (2018) Electroacupuncture for migraine protocol for a systematic review of controlled trials. Medicine, 97(17). http://dx.doi.org/10.1097/MD.0000000000009999<br>• Gu, T., Lin, L., Jiang, Y., Chen, J., D'Arcy, R. C., Chen, M., & Song, X. (2018). Acupuncture therapy in treating migraine: results of a magnetic resonance spectroscopy imaging study. Journal of pain research, 11, 889–900. https://doi.org/10.2147/JPR.S162696<br>• Naderinabi, B., Saberi, A., Hashemi, M., Haghighi, M., Biazar, G., Abolhasan Gharehdaghi, F., Sedighinejad, A., & Chavoshi, T. (2017). Acupuncture and botulinum toxin A injection in the treatment of chronic migraine: A randomized controlled study. Caspian journal of internal medicine, 8(3), 196–204. https://doi.org/10.22088/cjim.8.3.196<br>• Liu, L., Zhao, L. P., Zhang, C. S., Zeng, L., Wang, K., Zhao, J., Wang, L., Jing, X., & Li, B. (2018). Acupuncture as prophylaxis for chronic migraine: a protocol for a single-blinded, double-dummy randomised controlled trial. BMJ | |

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| | | open, 8(5), e020653. https://doi.org/10.1136/bmjopen-2017-020653 | |
| | Results | Carpal Tunnel Syndrome (Pain)<br>• Maeda, Y., Kim, H., Kettner, N., Kim, J., Cina, S., Malatesta, C., Gerber, J., McManus, C., Ong-Sutherland, R., Mezzacappa, P., Libby, A., Mawla, I., Morse, L. R., Kaptchuk, T. J., Audette, J., & Napadow, V. (2017). Rewiring the primary somatosensory cortex in carpal tunnel syndrome with acupuncture. *Brain: a journal of neurology*, *140*(4), 914–927. https://doi.org/10.1093/brain/awx015 | Thank you for your suggestion. This study does not meet our inclusion criteria. Evaluation of specific treatment components such as acupuncture outside of IPMP or CPMP were not within the scope of this review. |
| | General | Thank you for your consideration of this response to your open comment period for the June 2021 AHRQ draft on pain management programs. | Thank you for your comments. |
| **Molly Giammarco**<br><br>**National Certification Commission for Acupuncture and Oriental M** | | The National Certification Commission for Acupuncture and Oriental Medicine (NCCAOM)® appreciates the opportunity to comment on the Agency for Healthcare Research and Quality's (AHRQ) Integrated Pain Management Program's draft Systematic Evidence Review (Draft Report).<br><br>As the national certification body for acupuncturists, the NCCAOM seeks to ensure the public's safety and well-being by establishing and promoting national, evidence-supported competence and credentialing standards for the acupuncture profession. Each year, the NCCAOM certifies 12k -15k | Thank you for your comments.<br><br>Evaluation of specific treatment components such as acupuncture outside of IPMP or CPMP were |

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| | | acupuncturists and represents almost 19k nationally Board certified acupuncturists. The NCCAOM continues to advocate for increased access to evidence-based pain-management techniques such as acupuncture-and additional research to enable increased access.<br><br>As a facilitator for evidence-based research, AHRQ significantly influence access to pain management treatments. Now, more than ever, this influence is critical to identifying and facilitating viable pathways to non-opioid and non-pharmacological pain-management treatments. AHRQ continues to make progress in establishing these pathways- and the NCCAOM commends AHRQ for investigating, and subsequently acknowledging, acupuncture as an effective non-pharmacologic treatment for pain. While current research indicates acupuncture as an effective treatment option, much of the literature is limited in scope, expertise, and overall thoroughness. This Draft Report reflects these limitations. | not within the scope of this review.<br><br>AHRQ has published previous reports on pain management that did include acupuncture. This current report does not. |
| | Summary of Evidence | The Evidence Summary<br><br>This Section denotes an overall positive impression of a biopsychosocial model of care found in integrated pain management programs (IPMPs) and chronic pain-management programs (CPMPs), with some improvement in pain, function, and overall quality of life- compared to usual care. The Draft Report mentions the broad range, as well as a combination of services possibly found in IPMPs; however, the Draft Report lumps all IPMP and CPMP evaluations in its strength of evidence (SOE) summary and quality of research.<br><br>The resulting implication is that any one of the service combinations possesses low SOE and only "fair" risk of bias- at best. As such, the Draft Report overlooks the ample strong | Thank you for your comments.<br><br>We feel that we have articulated that the focus of this review is on formal pain management programs throughout the report. |

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| | | evidence for acupuncture's role in reducing pain and improving function.1<br><br>NCCAOM Recommendation: The NCCAOM recommends that AHRQ's Final Report explicitly acknowledge that this review did not evaluate individual services. but rather. pain-management models as a whole. This clarification is essential. The Centers for Medicare and Medicaid Services (CMS), clinicians, payers, and subsequent practice guidelines, may use this Report to add or recommend services that may benefit Medicare's diverse community. The Draft Report's language does not make this distinction-and the resulting implications are a concern. | Evaluation of specific treatment components such as acupuncture outside of IPMP or CPMP were not within the scope of this review.<br><br>AHRQ has published previous reports on pain management that did include acupuncture. This current report does not. |
| | Introduction | The resulting implication is that any one of the service combinations possesses low SOE and only "fair" risk of bias-at best. As such, the Draft Report overlooks the ample strong evidence for acupuncture's role in reducing pain and improving function.[1]<br><br>NCCAOM Recommendation: The NCCAOM recommends that AHRQ's Final Report explicitly acknowledge that this review did not evaluate individual services. but rather. pain-management models as a whole. This clarification is essential. The Centers for Medicare and Medicaid Services (CMS), clinicians, payers, and subsequent practice guidelines, may use this Report to add or recommend | Thank you for your comments<br><br>Evaluation of specific treatment components such as acupuncture outside of IPMP or CPMP were not within the |

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| | | services that may benefit Medicare's diverse community. The Draft Report's language does not make this distinction-and the resulting implications are a concern. | scope of this review.<br><br>None of the SOE tables specifically compares acupuncture to other treatments or includes listing of acupuncture as part of a given program in the SOE tables. Few studies indicated that acupuncture was a component in their program. |
| | Methods | **The Methods Section**<br><br>The Draft Report clearly states its research strategy and review process, per AHRQ's *Methods Guide for Effectiveness and Comparative Effectiveness Review.* This review states that AHRQ relies on randomized-controlled trials (RCTs) because they can have less risk of bias. There is, however, an inherent weakness in RCTs, as shown in the Draft Report. The Draft Report rates six RCTs (referenced as 38, 39, 41, 43-47 in the Draft Report) as "fair quality" and one study (referenced as 40 in the Draft Report) as "poor quality" (Appendix F, Table F-1). | Thank you for your comments.<br><br>Per the PICOTS (Appendix A), had RCTs not been available, nonrandomized studies would have been considered with |

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| | | The major methodological limitation in these fair-qualtiy trials was their inability to effectively bline patients and caregivers to the CPMP. IPMPs also cannot effectively blind patients and caregivers in an RCT. For acupuncture research trials, this is especially true and a major influence in why acupuncture RCTs are rated “low” or “fair quality”. RCTs are better suited to pharmacological studies that can readily mask all participants. | a focus on those that were prospective and controlled for confounding. Comparative nonrandomized studies specifically enrolling Medicare beneficiaries would have been included.<br><br>Nonrandomized studies in pain can be misleading due to the subjective nature of pain and impact of patient expectations regarding treatment and attention received on patient reported outcomes combined with greater potential selection bias |

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| | | | and uncontrolled confounding in nonrandomized studies. There are numerous examples of this in the pain literature where nonrandomized studies have shown a very large response or estimate for effectiveness in response to a treatment which was disproven in subsequent RCTs.<br><br>We have noted in the methods that it is not possible/feasible to effectively blind patients to these types of intervention, like studies of exercise, psychological therapy and others. The studies were |

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| | | | downgraded to fair because it can still result in bias resulting from patient expectations of treatment, attentional affects, and performance bias. Studies can perform blinded outcomes assessment and analyses. |
| | Methods | Key Question 1: What are the effectiveness and harms of integrated or comprehensive pain management programs for Medicare beneficiaries with complex acute/subacute pain or chronic, nonactve cancer pain?<br><br>Population subgroups of interest include those with disabilities (including ESRO), prior nce use dis ological ities (including suicidal behaviors), and degree of nociplastcty.<br><br>Despite the stated subgroups of interest above, all but one ofthe trials the Draft Report references excluded patients with major psychiatric disorders. One tral excluded patients with substance-use disorder, and only one tral with Veterans AMfairs (VA) patients reported comorbidities including post-traumatic stress disorder, anxiety, depression, and prior substance-use treatment. The Draft Report acknowledges these exclusions, but provides no resolution or additional | Thank you for your comments.<br><br>For systematic reviews, we can only evaluate data that are reported in the included studies. We do point out areas for further research that include consideration and evaluation of subgroups and better |

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| | | consideration recommendations for future remediation to this bias.<br><br>Key Question 2: Have any ofthe following factors been evaluated and/or shown impact outcomes in studies of comprehensive or integrated pain management models?<br><br>The Draft Report does not explicitly reference acupuncture in its response to Key Question 1. Research demonstrates that acupuncture, however, can enhance endogenous opiates, such as dynorphin, endorphin, encephalin, and corticosteroid release, which relieves pain and enhances the healing process.*54 The Draft Reports systematic review of IPMPs and CPMPs does not distinguish between the two types of pain.<br><br>The Draft Report does not capture the research that shows acupuncture's efficacy as a standalone service. In early 2020, CMS issued a national coverage decision for acupuncture for chronic lower back pain (cLBP). In doing so, CMS cited the ample evidence that showed acupuncture's efficacy in mitigating cLBP." The NCCAOM is concerned that the Final Report, if not amended to capture this data, will inhibit CMS' progress in providing Medicare beneficiaries coverage for other evidence-based acupuncture services. | descriptions of pain.<br><br>Evaluation of specific treatment components such as acupuncture outside of IPMP or CPMP were not within the scope of this review.<br><br>AHRQ has published previous reports on pain management that did include acupuncture. This current report does not. |
| | Results | **The Results Section**<br><br>The Results Section reports findings consistent with the initial purpose and strategy clearly stated per AHRQ's Methods Guide for *Effectiveness and Comparative Effectiveness Review.* This review states that AHRQ relies on RCTs because they can have less risk of bias. There is, however, an inherent weakness in RCTs, as shown in the Draft Report. The Draft Report rates six RCTs (referenced as 38, 39, 41, | Thank you for your comments.<br><br>We followed accepted methodology for systematic reviews as outlined in the |

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| | | 43-47 in the Draft Report) as "fair quality" and one study (referenced as 40 in the Draft Report) as "poor quality" (Appendix F, Table F-1). [8]<br><br>The major methodological limitation in the fair-quality trials was their inability to effectively blind patients and caregivers to the CPMP. IPMPs also cannot effectively blind patients and caregivers in an RCT. For acupuncture research trials, this is especially true and a major influence in why acupuncture RCTs are rated "low" or "fair quality." RCTs are better suited to pharmacological studies that can readily mask all participants.<br><br>NCCAOM Recommendation: The NCCAOM encourages AHRQ to refine its review process to eliminate these biases for services. | AHRQ methods guide.<br><br>We have noted in the methods that it is not possible/feasible to effectively blind patients to these types of intervention, like studies of exercise, psychological therapy and others. The studies were downgraded to fair because it can still result in bias resulting from patient expectations of treatment, attentional affects, and performance bias. Studies can perform blinded outcomes assessment and analyses. |

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| | Discussion | The Discussion Section outlines the inherent problem with delivering multimodal and multidisciplinary care, but contradicts some of the findings in its Conclusion. The Draft Report's emphasis on RCTs as evidence for a new care model (that exists outside of Medicare or other managed-care settings of similar design), while only including these systems as the evidence itself, is problematic and speaks to the complexity of such study.<br><br>NCCAOM Recommendation: In researching new care models, the NCCAOM recommends that AHRQ identify and pursue new and innovative ways to study such care delivery to eliminate these contradictions or undermine their complexities. | Thank you for your comments.<br><br>A substantial number of RCTS were identified: A total of 41 RCTs on CPMP and 8 RCTs on IPMP were identified. Had RCTs not been available, nonrandomized studies would have been considered with a focus on those that were prospective and controlled for confounding. |
| | References | The Draft Report's commentary on the preceding sections warrants the need for continued and expanded literature reviews.<br><br>NCCAOM Recommendation: The NCCAOM recommends that AHRQ examine the feasibility of using other types of research-beyond RCTs-to ascertain efficacy of integrative pain-management techniques. | Thank you for your comments.<br><br>Inclusions of integrative therapy outside of a formal IPMP or CPMP was |

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| | | | not within the scope of this review.<br><br>Nonrandomized studies in pain can be misleading due to the subjective nature of pain and impact of patient expectations regarding treatment and attention received on patient reported outcomes combined with greater potential selection bias and uncontrolled confounding in nonrandomized studies. There are numerous examples of this in the pain literature where nonrandomized studies have shown a very large response |

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| | | | or estimate for effectiveness in response to a treatment which was disproven in subsequent RCTs.<br><br>For example, non-randomized studies of knee arthroscopy for osteoarthritis reported substantial pain relief where no differences were seen in RCTs comparing it to a placebo procedure. |
| | Abbreviations and Acronyms | This section needs no additional work. | Thank you for your comment. |
| | Appendix | There are additional studies that the Final Report could add to demonstrate acupuncture's efficacy to treat pain; however, for the stated purposes of this Review, stand-alone acupuncture is given more weight. | Thank you for your comments.<br><br>Evaluation of specific treatment components such as acupuncture outside of a |

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| | | | formal IPMP or CPMP were not within the scope of this review.<br><br>AHRQ has published previous reports on pain management that did include acupuncture. |
| | General | General Comments on the Draft<br><br>The NCCAOM encourages AHRQ to continue to delve further into acupuncture research and potentially fund research to strengthen the existing evidence base for acupuncture's effects on chronic pain by initiating specific and thorough acupuncture studies that include-and are led by-nationally certified acupuncturists. The NCCAOM recognizes that the purpose of this Review is to evaluate biopsychosocial models, of which acupuncture may be a part of IPMPs.<br><br>Simultaneously, the NCCAOM expresses concern that the Draft Report does not note the efficacy of individual services that it mentions. The NCCAOM also expresses concern for the Draft Report's heavy reliance on RCTs due to the perception of lowering bias risks. This reliance ignores the inherent bias of the Cochrane Risk of Bias (ROB)-evaluation criteria.<br><br>The NCCAOM recognizes that the current literature pertaining to acupuncture is limited because many studies do not meet standard criteria for systematic, evidence-based research or | Thank you for your comments.<br><br>Evaluation of specific treatment components such as acupuncture outside of a formal IPMP or CPMP were not within the scope of this review.<br><br>AHRQ has published previous reports on pain management that did include acupuncture. |

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| | | "high quality" RCTs. This creates glaring evidence and knowledge gaps.<br>Existing literature shows that acupuncture is safe, effective, and reliable. As such, more research-driven by acupuncturists-is necessary to continue to develop this evidence base to increase access to acupuncture, and enable acupuncture to take a bigger role in integrated pain-management strategies.<br><br>Based on the SOE criteria and Cochrane ROB evaluation criteria, the Draft Report notes that none of the RCTs evaluated were greater than "fair quality" because of the nature of the criteria. The ROB evaluation criteria specifically consider patient masking, the practitioner, and outcome assessors as critical. Given the nature of the practice, researchers cannot mask whether a patient (blinding) receives acupuncture (in any form or method) versus usual care.<br><br>A patient knows if he/she receives acupuncture. A practitioner knows if he/she provides acupuncture. There is a strong evidence base showing that "sham" acupuncture also produces similar effects as "real" acupuncture. This aligns with the concept of "muscle" and "cutaneous" regions as defined within Acupuncture theoretical concepts. The Draft Report's conclusion that acupuncture only provides minor improvement is inadequate given that the lens in which the Draft Report evaluates studies is inherently biased. Thus, the overall SOE suggests an under-rating SOE for including acupuncture in IPMP and CPMP. | |
| | General | While the Draft Report's Conclusion denotes the need for additional evidence, especially from primary care-based programs, it hides the need for standardizing research recommendations. Program standardization, with strong | Thank you for your comments. |

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| | | clinical and patient-based evidence leads to greater access and utilization. Standardization also eliminates the feedback loop of these research conclusions. Individual modality research, especially for acupuncture, have strong evidence bases, but bias and poor implementation results in their underuse.<br><br>Research shows that certain modes of acupuncture improved postoperative pain on the first day after surgery and reduced subsequent opioid use for pain management. Literature consistently supports acupuncture as adjuvant therapy in treating postoperative pain, as evidenced in CMS' and the VA's adoption of acupuncture services for pain management.<br><br>Given the substantial heterogeneity in the terminology that the Draft Report uses to describe pain-management programs, the NCCAOM recommends efforts to standardize terminology. To improve outcomes, the NCCAOM recommends additional research into program structure and implementation practices within systems to understand what can optimize care delivery, and identify components and factors that affect adherence.<br>Research leading to some level of program standardization and their delivery may facilitate a general understanding of the best combinations of interventions.<br><br>The NCCAOM appreciates AHRQ's continued attention to, and acknowledgement of, existing and emerging pain-management techniques and practices. The NCCAOM, however, stresses its concern with excluding effective pain-management strategies with its narrow RCT inclusion criteria for reviewing evidence. While many pain-management practices-such as acupuncture-have existed for centuries, their literature bases for standardized research are limited. | |

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| | | This is in part because integrative pain management can be inherently difficult to measure. An RCT-focus excludes many high quality studies that provide a more comprehensive and robust evidence base for integrated pain-management practices. Thus, evaluating pain- management techniques effectiveness just with RCTs excludes applicable evidence and places more weight on perception. | |
| | General | The NCCAOM strongly recommends that AHRQ's approach this and future evidence reviews with broader inclusion criteria for integrative pain-management studies. As always, the NCCAOM looks forward to AHRQ's continued evaluation of integrative pain- management techniques and stands by as a subject-matter expert and resource. | Thank you for your comments. |
| **Amy Goldstein**<br><br>**Alliance to Advance Comprehensive Integrative Pain Management** | General | We, the undersigned members of the Alliance to Advance Comprehensive Integrative Pain Management, are writing to you in response to the Integrated Pain Management Programs Systematic Review draft report that was published for stakeholder review on May 21, 2021.<br><br>The Alliance to Advance Comprehensive Integrative Pain Management (AACIPM) is a multi-stakeholder collaborative comprised of non-profit organizations representing people living with pain, public and private insurers, patient and caregiver advocates, researchers, purchasers of healthcare, policy experts, and 37 professional trade organizations representing the full spectrum of healthcare providers. These diverse experts are united in a shared interest to advance access to a value-based, person-centered model of integrative pain care focused on maximizing function and wellness that includes biomedical, psychosocial, complementary and integrative health, and spiritual care. It is with this unique perspective that the undersigned members of | Thank you for your comments. |

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| | | AACIPM respectfully offer the following comments in response to AHRQ's Integrated Pain Management Programs Systematic Review.<br><br>AACIPM is incredibly grateful for the efforts of the Agency for Healthcare Research and Quality (AHRQ) in designing and conducting this systematic review of comprehensive and integrated pain management programs. An integral part of the Dr. Todd Graham Pain Management Study, this review from AHRQ will substantially influence the design of Medicare benefits, impacting access to evidence-based modalities for the treatment of pain, including non-opioid pain management treatments. However, **the findings of AHRQ will impact payment design and healthcare delivery far beyond the Medicare program.** In the Federal health improvement and healthcare delivery sector, AHRQ and Medicare decisions will have ripple effects, heavily influencing access to care for those covered by Medicaid, Tricare,[1] and the Department of Veterans Affairs. Beyond the federal healthcare system, AHRQ reviews impact the large commercial sector and the myriad of self-funded companies and institutions also providing healthcare coverage. AHRQ's findings are heavily relied upon as trusted systematic reviews that impact standard of care, as they are often cited by hundreds of peer-reviewed journal articles and by national guidelines.[2] When looking at the potential impact on patient care, the influence of AHRQ's work cannot be understated. | |
| | General | To this end, AACIPM commends the authors for conducting this review, which we know has been a challenging | Thank you for your comments. |

[1] Tricare, the health insurance for active-duty military dependents and retirees, is required to cover what Medicare covers. This population is mostly under age 65 and is known to have a high rate of chronic pain and poor access to non-pharmacological pain care, as Tricare does not cover acupuncture, massage therapy, or chiropractic for military dependents, though this population does seek out these evidence-based services to help them manage their chronic pain (https://www.nccih.nih.gov/health/complementary-health-practices-for-us-military-veterans-and-families).

[2] AHRQ's *Noninvasive Nonpharmacological Treatment for Chronic Pain: A Systematic Review* (2018) has been cited by at least 102 academic journal articles since its release, and the 2020 update has already been cited at least another 33 times. The 2018 version was cited by the *American College of Rheumatology/Arthritis Foundation Guideline for the Management of Osteoarthritis of the Hand, Hip, and Knee* (2019), which itself has been cited by another 452 articles since its release.

*Source: https://effectivehealthcare.ahrq.gov/products/integrated-pain-management/research*

*Published Online: October 29, 2021*

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| | | undertaking given the complexity of the field of study. When read very carefully across its 80 pages, this review highlights the shortcomings of older pain management programs along with highlighting the challenges of RCT-based research efforts in fully and accurately assessing the current state of clinical practice and evidence-informed possibilities for the millions of people with chronic pain. That said, this review's "Main Points" and "Conclusions" sections do not fully integrate these shortcomings, instead implying a generalization of findings that are based on limited and often low-quality evidence. | |
| | General | **AACIPM is respectfully asking for consideration of modifications that will more accurately reflect the review's findings in order to clarify the breadth and nuance of this review for its audiences.**<br>For clarity, you will find our full set of recommendations regarding language changes immediately below (#1), followed by three supporting issues for your consideration:<br>1. Recommendations: Amending the "Main Points" and Abstract Conclusion to More Accurately Reflect the Systematic Review's Findings<br>2. The Impact of AHRQ Reviews on Access to Safe and Effective Pain Management, Including the Weight of Definitions, Language, and Non-Medicare Studies<br>3. The Relevance of Pragmatic Trials, Comparative Effectiveness Studies, Healthcare Utilization Data, and Cost Analyses When Exploring Effectiveness Data for Comprehensive and Integrated Pain Management<br>The Importance of Properly Ranking Quality of Evidence and Ensuring Equity to Provide Appropriate Context for Findings | Thank you for your comments and suggestions. |
| | Key points, abstract, methods | **1. Recommendations: Amending the "Main Points" and Abstract Conclusion to More Accurately Reflect the Systematic Review's Findings** | Thank you for your comments. |

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| | | With respect to the large-scale influence that AHRQ systematic reviews have when determining plan design and coverage decisions, it is imperative that the "Main Points" of this systematic review are impeccably accurate and not subject to misinterpretation. Furthermore, as emphasized in the forthcoming sections of this letter, the evidence underlying this review is sparse and not of high quality, making it even more imperative that any highlighted findings be explicit in their wording, so as not to inappropriately affect payment design and service delivery based on inadequate evidence.<br><br>As we noted in our letter to AHRQ in December 2020, and as acknowledged in this review on Page 1 ("There is not a standardized set of terms or program definitions for pain management programs"), Comprehensive Pain Management Programs (CPMPs) and Integrated Pain Management Programs (IPMPs) are not industry-standard terms.[3] As a result, these terms are likely to be misconstrued by readers to apply to all pain programs that provide comprehensive integrative pain management. The risk of misapplication by payers and other stakeholders is exacerbated by the Main Points as they are currently written, as they do not maintain consistent use of the IPMP/CPMP terminology, but rather use "integrated pain management programs," "comprehensive pain management programs," and "comprehensive programs" seemingly interchangeably. | we classified programs as CPMP and IPMP based on input from a TEP. These programs are fundamentally different in terms of where care is delivered and how it is coordinated<br>As noted, there is not consensus around any standardized categorization or terminology.<br><br>Throughout the methods and report we have indicated the distinction between the IPMP and CPMP.<br>Separate sections and key |

[3] As AACIPM noted in our December 2020 letter to AHRQ, IPMPs and CPMPs are not standard industry terms, and the three components (pharmacotherapy, psychological, and physical reconditioning) proposed in the AHRQ definitions are not industry-standard components. While it may be considered advisable to have all three components in each of these program types, the reality of the healthcare industry is that most programs will have only two of the three components, and patients may be referred outside of the system to access the third component. Many of our collaborators are concerned that IPMPs and CPMP, as currently defined, do not reflect the reality of Pain Management that most patients are receiving, even in cases where we would say the patient is receiving some form of comprehensive integrated pain care.

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| | | | points are made for IPMP and CPMPs. |
| | Structured Abstract ("Conclusions" section on page V) | **Recommendations:**<br>To best reflect the most important takeaways from this systematic review, we recommend amending the "Conclusions" section of the Structured Abstract, found on Page V, to read:<br>**Conclusions.** The improvements in function and pain for CPMPs and IPMPs were consistent with those reported for other therapies for pain, including opioids for chronic pain, nonpharmacologic treatments, and surgery. Further, IPMPs and CPMPs may provide small to moderate improvements in function and small improvements in pain in patients with chronic pain compared with usual care. Evidence regarding harm was limited but generally minor. To the extent that programs are tailored to patients' needs, our findings are potentially applicable to the Medicare population. | Thank you for your suggestions.<br><br>This report does not explicitly evaluate opioids, nonpharmacologic treatment or surgery, thus, we will focus on the findings from included studies.<br><br>AHRQ had published other reports on these treatments. |
| | Evidence Summary<br><br>(Page ES-1) | To avoid misapplication of this review to programs that were not evaluated by the review, and to clearly acknowledge the paucity of evidence, we recommend amending the first three Main Points, found in the Evidence Summary on Page ES-1, to read as follows:<br>• Primary Care Based Integrated Pain Management Programs (IPMPs) improved both pain and function in patients with chronic pain at some, but not all, time frames compared with usual care. The evidence that met the selection criteria for these programs as defined | Thank you for your suggestions.<br><br>The evidence fror this report is from over 78 publications<br><br>We have clarified the ES |

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| | | for this review was limited in number and/or included low-quality evidence.<br>• Specialty Care Based Comprehensive Pain Management Programs (CPMPs) improved function at multiple time points and improved pain immediately after the program as compared with usual care.<br>• CPMPs improved function and pain compared with medications alone at multiple time points.<br>Regarding the current fourth bullet, it is unclear whether "Beneficial effects were usually considered small to moderate" applies to IPMPs, CPMPs, or both. Further, it is unclear what level of evidence this is based upon and if these benefits exist in the short-term, medium-term, or long-term. This bullet should be significantly clarified or deleted.<br>We believe that the fourth bullet should be replaced entirely, instead highlighting a finding from the "Implications and Conclusions" section:<br>• The improvements in function and pain found for CPMPs and IPMPs were consistent with those reported for other therapies for pain, including opioids for chronic pain, nonpharmacologic treatments, and surgery. In the fifth bullet, "Comprehensive programs" should be replaced with CPMP to maintain clarity.<br><br>The sixth bullet should be deleted entirely. This systematic review did not request comparative data on CPMPs versus psychological supports alone, so this bullet is out of place and inappropriate as one of the review's Main Points. In fact, it is our understanding that all single modality studies were rejected by the exclusion standards set forth by AHRQ, so it is unclear why this bullet point is present, as no other single modalities were analyzed, compared, or highlighted in this way. | in consideration of comments made by all reviewers.<br><br>Given that this report does not explicitly evaluate opioids, nonpharmacologic treatment or surgery, we will focus on the findings from included studies<br><br>AHRQ had published other reports on these treatments.<br><br>Active comparators such as PT and psychological therapy alone were part of the scope of the review per the PICOTS. The report |

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| | | The seventh bullet is of vital importance, but it is unclear why AHRQ chose to highlight the limited evidence in only this bullet point. If AHRQ intends to point out the limited evidence regarding potential harm (particularly when a major draw of non-pharmacological treatments for pain is their lower risk of harm versus opioids), AHRQ should similarly point out the limited evidence regarding the potential benefits in the previous bullet points.<br>We recommend amending the seventh and final bullet point to read:<br>Reported harms in CPMP programs were generally minor and no intervention-specific adverse events were reported related to IPMPs. The evidence that met the selection criteria for this review was limited in number. | summarizes the available information from included studies. The limitations are described in the discussion. |
| | General | **2. The Impact of AHRQ Reviews on Access to Safe and Effective Pain Management, Including the Weight of Definitions, Language, and Non-Medicare Studies**<br>Last year, AACIPM responded to AHRQ's proposed research protocol for this systematic review to express a number of concerns on behalf of 56 individual experts in the field of pain management, as well as 13 national organizations, collectively representing millions of patients across the nation.[4] Those concerns related to a number of specific issues, including the definitions of integrated and comprehensive pain management programs being used for purposes of this review and the population scope of the review. We further expressed concern with the study design and outcome measures, as we believe that the inclusion and exclusion standards are likely to result in the omission of vital scientific data and information that would be significant in | Thank you for your comments. We received and considered your prior comments.<br><br>No standard for classification of such programs is apparent clinically or in the literature.<br><br>As noted in the report, we did consult with a technical expert |

[4] https://painmanagementalliance.org/wp/wp-content/uploads/2020/12/AHRQ-AACIPM-Response-Final.pdf

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| | | determining the narrative of integrative pain and clinical outcomes. | panel which included a broad range of disciplines and expertise. They provided input related to terminology, options for categorization, definitions, program components, outcomes and methods was incorporated into the study protocol and methods for this review. |
| | Methods | It is important for us to note that we support fully the use of non-Medicare studies to be considered for Medicare patients, as they include relevant and vital medical information. As we had noted in the past, while included research should be *applicable* to a Medicare population, data that are not considered *exclusively* relevant to a Medicare population should not be excluded, as there are very few studies and programs specific to only this population. Ultimately, AHRQ seems to have heeded our (and the larger community's) advice, as it eventually found that of the 57 randomized controlled trials that fell within their narrow inclusion standards, not a single trial specifically enrolled Medicare beneficiaries. Whether AHRQ took our advice or independently concluded that it would need to extrapolate | Inclusion was never limited to Medicare populations. |

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| | | potentially-applicable data from studies not specific to Medicare beneficiaries, we are grateful to AHRQ for broadening its inclusion standards in this way. | |
| | Results<br><br>(“Main Points” section) | We also appreciate seeing one of our key concerns about the lack of industry-standard terms acknowledged by AHRQ on Page 1 of the draft report, which states, “There is not a standardized set of terms or program definitions for pain management programs” and again on Page 61, which states, “Across the general models as operationalized for this review, there is substantial variation in how programs and their components are delivered, thus, specification of common models or mechanisms is elusive. The models described in this review likely do not fully capture the diversity of programs potentially available in clinical practice.” However, despite this acknowledgement, the “Main Points” section of the review presents these programs as if they are common and standardized models of care, making sweeping statements about the quality of said programs. Such statements run the risk of tainting the reputation of successful comprehensive and integrative programs across the nation that did not fall into AHRQ’s arbitrarily-defined CPMP and IPMP buckets for purposes of this review, and thus were unable to prove their value. **In the “recommendations” portion of this letter, above, you will find our suggestion that these terms be clarified as “Primary Care Based Integrated Pain Management Programs (IPMPs)” and “Specialty Care Based Comprehensive Pain Management Programs (CPMPs)”.** | We do define the integrated programs as primary care based.<br><br>As noted in the report, we did consult with a technical expert panel which included a broad range of disciplines and expertise. They provided input related to terminology, options for categorization, definitions, program components, outcomes and methods was incorporated into the study protocol and methods for this |

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| | | | review. No standard for classification of such programs is apparent clinically or in the literature. Any classification would likely have strengths and limitations. It is likely not possible to capture the full diversity of programs in a single review, particularly given the substantial variability of clinical practice.<br><br>Inclusions of integrative therapy outside of a formal IPMP or CPMP was not within the scope of this review. |

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| | Results<br><br>(“Main Points” section) | Because of the far-reaching effects of AHRQ’s esteemed systematic reviews on patients in nearly every health system across the country, it is imperative that the language chosen to communicate findings within these reviews is exceedingly clear. After a thorough review of the proposed draft report, AACIPM is concerned that the findings of the review, which were largely based on limited and/or low-quality evidence, and which excluded all but randomized controlled trials (RCTs), are not accurate outcomes reflecting of the field of comprehensive integrative pain management.[5] Further, we are concerned that the “Main Points” section, as it is currently written, does not accurately reflect the content of the draft report and will thus be misconstrued and misapplied by those who will make payment design and service delivery choices based upon the findings of this report. This of course would result in devastating reimbursement actions that would likely adversely impact millions of people’s quality of life, activities of daily living, and ability to function and work. | Thank you for your comments.<br><br>Per the PICOTS (Appendix A), had RCTs not been available, nonrandomized studies would have been considered with a focus on those that were prospective and controlled for confounding. Comparative nonrandomized studies specifically enrolling Medicare beneficiaries would have been included. For IPMP 8 RCTS (across 11 publications) were included; 7 were fair quality. For IPMP only |

[5] Tick H, Nielsen A, Pelletier KR, Bonakdar R, Simmons S, Glick R, Ratner E, Lemmon RL, Wayne P, Zador V; Pain Task Force of the Academic Consortium for Integrative Medicine and Health. Evidence-Based Nonpharmacologic Strategies for Comprehensive Pain Care: The Consortium Pain Task Force White Paper. Explore (NY). 2018 May-Jun;14(3):177-211. doi: 10.1016/j.explore.2018.02.001. Epub 2018 Mar 1. PMID: 29735382.

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| | | | one comparative observational study contained the program components specified a prioiri but did not control for confounding for pain and was therefore excluded. For CPMP a large number of RCTs (49 across 67 publications) were included (71% were fair quality) which encompasses a very broad range of programs were identified and per the PICOTs, observational studies were not considered. The majority (75%) of RCTS were fair quality. We have attempted to be clear about the |

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| | | | limitations of the evidence base and review. These are detailed in the discussion.<br><br>. |
| | Methods | **3. The Relevance of Pragmatic Trials, Comparative Effectiveness Studies, Healthcare Utilization Data, and Cost Analyses When Exploring Effectiveness Data for Comprehensive and Integrated Pain Management**<br>As we noted in our previous comments to AHRQ, there is strong agreement among pain management stakeholders that inclusion of data from pragmatic trials, comparative effectiveness studies, healthcare utilization data, and cost analyses is critically important and highly relevant for addressing the question this review was commissioned to answer. We previously recommended that AHRQ accept high quality studies of this design within the review criteria along with RCTs; however, only RCTs were considered for purposes of this systematic review. In limiting the evidence in this way, AHRQ was only able to capture 57 total RCTs for purposes of this systematic review. Even worse, only eight of those RCTs evaluated IPMPs. | Thank you for your comments.<br><br>The number of RCTs identified is substantial.<br><br>Had RCTs not been available, nonrandomized studies would have been considered with a focus on those that were prospective and controlled for confounding. Comparative nonrandomized studies specifically enrolling Medicare beneficiaries |

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| | | | would have been included.<br><br>Nonrandomized studies in pain can be misleading due to the subjective nature of pain and impact of patient expectations regarding treatment and attention received on patient reported outcomes combined with greater potential selection bias and uncontrolled confounding in nonrandomized studies. There are numerous examples of this in the pain literature where nonrandomized studies have shown a very large response or estimate for |

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| | | | effectiveness in response to a treatment which was disproven in subsequent RCTs. For example, non-randomized studies of knee arthroscopy for osteoarthritis reported substantial pain relief where no differences were seen in RCTs comparing it to a placebo procedure. Other examples include the use of vertebroplasty for osteoporotic spinal fractures and use of epidural steroid injections for back pain. |
| | Results<br><br>("Main Points" section) | **We are deeply concerned that AHRQ plans to release a "systematic review" that makes sweeping statements about CPMPs and IPMPs—statements that will greatly affect access to care—based on so few evidentiary resources.** While it seems that AHRQ has attempted to | We obtained input on program |

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| | | clarify that these programs, as defined by AHRQ, are not representative of the diversity and reality of available pain programs, the takeaway by most audiences will not likely reflect any such nuance. Rather, all comprehensive and integrated pain management programs will be lumped into these findings, despite the fact that many of those programs didn't even meet the arbitrary inclusion and exclusion parameters and therefore were not evaluated by AHRQ. Specifically egregious would be making any statement about "integrated pain management programs", a term with limits defined only by AHRQ that only resulted in eight total RCTs. Any and all statements made about IPMPs should be accompanied by a clarification regarding the severe lack of evidence the finding is based upon—particularly if made in the "Main Points" portion of the review (see our recommendations, above). | classification from the technical expert panel which included clinicians and researchers across numerous disciplines. The fact that there is substantial heterogeneity in how pain is managed is described in numerous places in the report.<br><br>We have attempted to be clear about the limitations of the evidence base and review. These are detailed in the discussion, strengths and limitations and applicability sections. |

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| | | | The strength of evidence is delineated for primary outcomes throughout the report and summary tables. These are supported by ratings in in Appendices F and G The limitations of the evidence and review are discussed in detail in the main report. |
| | Methods | What's more, **sole reliance upon RCTs for this particular systematic review is misguided due to their well-recognized shortcomings in the field of comprehensive and integrated pain management.**[6] RCTs were largely developed for, and applied to, single drug agent or surgical interventions. Simply put, one can easily randomize a trial when a drug may be given to one group of patients, other patients receive a placebo, and researchers are able to observe the differences in that single change in treatment. However, in the context of complementary and integrative health and medicine modalities, RCTs are often impractical | Thank you for your comments.<br><br>The relatively large numbers of RCTs included in this review indicates that RCTs are feasible. |

[6] Faber T, Ravaud P, Riveros C, Perrodeau E, Dechartres A. Meta-analyses including non-randomized studies of therapeutic interventions: a methodological review. BMC Med Res Methodol. 2016 Mar 22;16:35. doi: 10.1186/s12874-016-0136-0. PMID: 27004721; PMCID: PMC4804609.

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| | | because the context, practitioner, and sequencing of modalities all play important roles in treatment. In fact, an important shortcoming of the studies cited within the systematic review was the failure to examine the sequencing of complementary and integrative modalities in the course of chronic pain development for a given patient, and the timing of their use with other more conventional pain management modalities, such as surgery, implanted devices, and catheter-infused agents. Sequencing and timing of treatments has been shown to be an important part of successful pain management, and this does not lend itself to RCT studies. Therefore, **it is imperative to analyze pragmatic trials, comparative effectiveness studies, healthcare utilization data, and cost analyses** when making effectiveness determinations in this area of healthcare.[7] | There is substantial heterogeneity in clinical pain management as well as across both observational and RCT study designs. It is not possible to capture all permutations or nuances of the factors mentioned in a single systematic review regardless of study design.<br><br>In general, observational studies may suffer from selection bias and uncontrolled confounding. Nonrandomized studies in pain can be misleading due |

[7] Barnish MS, Turner S. The value of pragmatic and observational studies in health care and public health. Pragmat Obs Res. 2017;8:49-55. Published 2017 May 12. doi:10.2147/POR.S137701

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| | | | to the subjective nature of pain and impact of patient expectations regarding treatment and attention received on patient reported outcomes combined with greater potential selection bias and uncontrolled confounding in nonrandomized studies. There are numerous examples of this in the pain literature where nonrandomized studies have shown a very large response or estimate for effectiveness in response to a treatment which was disproven in subsequent RCTs. For example, non- |

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| | | | randomized studies of knee arthroscopy for osteoarthritis reported substantial pain relief where no differences were seen in RCTs comparing it to a placebo procedure. Other examples include the use of vertebroplasty for osteoporotic spinal fractures and use of epidural steroid injections for back pain. |
| | Methods | Of the studies that did meet the inclusion parameters for this systematic review, most were older, often hospital-based programs with significant resources to dedicate to conducting RCTs, but this simply does not reflect the reality of the way that most comprehensive and integrative pain management is delivered, which significantly hampered AHRQ's pool of evidence. | Thank you for your comments. |
| | Methods | **A number of recent studies, many based in the United States, have reported extensively on the efficacy of programs this report would consider to meet the criteria for a Comprehensive Pain Management Program and** | All suggested citations were reviewed against our |

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| | | **included well-designed comparative effectiveness, longitudinal observational, and pragmatic trials from tertiary, community, and hospital-based outpatient programs.**[8] A number of these studies, including a recent observational cohort study from the VA Health System, importantly include short-term and long-term data related to improved functional outcomes; significant reductions, and many times, elimination of opioids; improved psychosocial function; and sustained improvements in quality of life. Unfortunately, much of this robust and recent literature was not included given this report's reliance on RCTs. | inclusion, exclusion criteria. None met these criteria<br><br>Publications of included RCTs reporting longitudinal findings were included in this report.<br><br>Had RCTS not been available, nonrandomized studies would have been considered as described in the methods.<br><br>Nonrandomized studies in pain can be misleading due to the subjective nature of pain and impact of patient expectations regarding |

[8] See Appendix A.

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| | | | treatment and attention received on patient reported outcomes combined with greater potential selection bias and uncontrolled confounding in nonrandomized studies. |
| | Methods | **Further, there are many impressive and well-documented comprehensive and/or integrated pain management programs around the country that, because of the limited inclusion and exclusion standards, were unable to be analyzed for purposes of this review**. In one example, the Duke Margolis Center for Health Policy and Duke Orthopaedic Surgery have written case studies on numerous pain programs that are comprehensive, integrated and integrative but do not have published RCT studies from their programs. One such case study is about the West Virginia University Center for Integrative Pain Management, the largest health system in an Appalachian state whose top leadership responded quickly to assist in developing solutions to the state's growing opioid crisis. Another example comes from the Comprehensive Pain Program at University of Vermont Medical Center, which is an important example of a provider/payor partnership with Blue Cross Blue Shield of Vermont. As defined by this review, both programs would qualify as CPMPs, as they have embedded or easy access to | Thank you for your comments. |

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| | | multidisciplinary providers and are not based in primary care. Each program includes the minimum components required for this review and more (medication management, behavioral health, exercise management, care coordination), adding that one third of the patients in the West Virginia program are on Medicare or Medicaid. | |
| | Methods | Additional data on the effectiveness of comprehensive and integrated pain management can be found through your federal partners, as many agencies have analyzed this type of care delivery in recent years. The U.S. Department of Health and Human Services Pain Management Best Practices Inter-Agency Task Force was established via Congressional mandate and the FACA 1971 and tasked its members with proposing updates to best practices and issuing recommendations that addressed gaps or inconsistencies for managing chronic and acute pain, ultimately issuing a final report that strongly supports a comprehensive and integrative approach to pain management. The report specifically notes that importance of including complementary and integrative health as a pillar of a multidisciplinary approach to acute and chronic pain treatment and then emphasizes the need to have access to it via telehealth, improved reimbursement, public and provider education. The HHS report also stresses the importance of individualization of care in integrative pain management with treatment modalities selected from a broad range of treatment approaches outlined in the report. This stands in contrast to the AHRQ review's focus on programs with only three modes of treatment – medication, physical activity and psychological support. | Thank you for your comments. |
| | Methods | Further, NCCIH, along with the Departments of Defense and Veterans Affairs, have been studying the effectiveness of comprehensive integrative pain management in the context of their care platforms in active-duty military, dependents, and veteran populations living with chronic pain. Initial publications | All suggested citations were reviewed against our inclusion/exclusi |

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| | | and reports by QUERI are available showing marked beneficial effects of this type of care.[9,10,11] The heterogeneity of the population included in this body of evidence makes it relevant to this review, and its exclusion does a disservice to the entire pain management community, from government and private payers to health care providers, and ultimately to the patients who receive evidence-based care. | on criteria. None met these criteria. |
| | Results | **4. The Importance of Properly Ranking Quality of Evidence and Ensuring Equity to Provide Appropriate Context for Findings**<br>By AHRQ's own admission, the strength of evidence underlying this systematic review is weak. Only 57 total RCTs were included within the review, and fewer than 10 RCTs laid the basis for all statements made in regard to the effectiveness of IPMPs. This poor sample size resulted in four of the eight statements in the "Results" portion of the abstract being based on low strength of evidence, with the other half faring only slightly better with moderate evidence. Further, the "Strengths and Limitations" section acknowledges that, "It was not possible to fully capture the diversity of programs potentially available in clinical practice in this review. This is in part due to the wide variety of programs available clinically, many of which may not be evaluated in the peer-reviewed literature." | Thank you for your comments. |
| | Results | We would also add that people in underserved communities are not represented in the study samples selected for this review and the criteria developed for the review itself did not account for underserved/diverse populations. Chronic pain has been associated with poor health with evidence of particularly high prevalence in patients with healthcare | Thank you for your comments This a limitation to the evidence base. Most studies did not |

[9] The VA Whole Health website provides current presentations and publications on Veterans Whole Health, and is a reference that provides a comprehensive source of all results on individual and combined CIH/M modalities within the VA Whole Health transformation: https://www.va.gov/WHOLEHEALTH/professional-resources/clinician-tools/Evidence-Based-Research.asp

[10] Elwy AR, Taylor SL, Zhao S, McGowan M, Plumb DN, Westfield W, Gaj L, Yan WG, Bokhour BG. Participating in complementary and integrative health approaches is associated with Veterans' patient reported outcomes over time. Medical Care. 2020; 58 (9, Suppl 2): S75-S77.

[11] Elwy AR, Taylor SL. Progress of VA complementary and integrative health research along the QUERI implementation roadmap. Medical Care. 2020; 58 (9, Suppl 2): S125-S132.

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| | | disparities.[12,13] Previous research indicates that residency in low-income neighborhoods correlates with higher cost users of the health care system, especially with regard to chronic pain.[14,15] Furthermore, how this chronic pain is managed often differs between income groups, as lower income patients are more likely to take prescription pain medications and less likely to use exercise to alleviate chronic pain.[16] This emphasizes another reason the results are not generalizable, and further context is encouraged. | provide information on under-represented groups; information was insufficient to analyze across studies. The detailed data abstraction (Appendix E) contains what information was provided by individual study authors. We will note this in the limitations and needs for further research. |
| | Results<br><br>("Main Points" and "Conclusions") | While we appreciate the admission by AHRQ that the evidence is weak, and that AHRQ was unable to capture the diversity of comprehensive and integrated pain management programs, we are deeply concerned that this nuance will not be understood by many audiences without further clarification by AHRQ. **To avoid misapplication of this review to programs that were not evaluated by the review, and to** | The strength of evidence is delineated for primary outcomes throughout the report and |

[12] Morales ME, Yong RJ (2021) Racial and Ethnic Disparities in the Treatment of Chronic Pain. Pain Medicine 22:75-90.

[13] Walker JL, Thorpe RJ Jr, Harrison TC, Baker TA, Cary M, Szanton SL, Allaire JC, Whitfield KE. The Relationship between Pain, Disability, and Sex in African Americans. Pain Manag Nurs. 2016 Oct;17(5):294-301. doi: 10.1016/j.pmn.2016.05.007. Epub 2016 Aug 21. PMID: 27553130; PMCID: PMC5035583.

[14] Grol-Prokopczyk H (2017) Sociodemographic disparities in chronic pain, based on 12-year longitudinal data. Pain 158:313-322.

[15] Webster F, Rice K, Katz J, Bhattacharyya O, Dale C, Upshur R (2019) An ethnography of chronic pain management in primary care: The social organization of physicians' work in the midst of the opioid crisis. PloS one 14:e0215148-e0215148

[16] Turner BJ, Rodriguez N, Valerio MA, Liang Y, Winkler P, Jackson L (2017) Less Exercise and More Drugs: How a Low-Income Population Manages Chronic Pain. Arch Phys Med Rehabil 98:2111-2117.

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| | | **clearly acknowledge the paucity of evidence, we recommend amending the "Main Points" and "Conclusions", with specific suggestions found in the "Recommendations" section of this letter, above.** | summary tables. These are supported by ratings in in Appendices F and G The limitations of the evidence and review are discussed in detail in the main report. |
| | General | Strong statements based upon weak evidence have an unfortunate history of negatively impacting people living with pain in recent years, with the CDC Guideline for Prescribing Opioids for Chronic Pain (2016) being a prime example.[17] Despite many public comments warning the CDC of the potential misapplication of their proposed guideline, itself based on weak or very weak evidence, the finalized guideline made a number of impactful recommendations based upon low quality evidence. While they attempted to clarify within their guideline that practitioners should ultimately base decisions on each individual's unique needs, reiterating that recommendations are not binding one-sized-fits-all rules, the reality was that legislatures across the nation immediately began to adopt the CDC's recommendations—based on weak evidence—as binding law. | Thank you for your comments. |
| | General | Three years after its initial release, the CDC recognized the chaos and harm it inadvertently created with its guideline and released a statement advising against the misapplication of their guideline and offering further clarifications.[18] A year later, CDC established a new Opioid Workgroup and plans to | Thank you for your comments.<br><br>By including RCTS specific to |

[17] https://www.cdc.gov/mmwr/volumes/65/rr/pdfs/rr6501e1.pdf
[18] https://www.cdc.gov/media/releases/2019/s0424-advises-misapplication-guideline-prescribing-opioids.html

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| | | complete updates to their guideline by the end of 2021, because, "Despite the best intensions [sic], they have seen barriers and challenges in implementing the guideline's strategies. Unfortunately, some policies and practices derived from the guideline have been inconsistent with and often go beyond its recommendations."[19] **It is our hope that AHRQ will not add to the body of confusing and low-quality evidence, but rather, will set a new standard for basing findings upon high-quality evidence, or, at the very least, being explicitly clear when making a statement based upon low quality evidence.** | the study questions we attempted to provide the highest quality evidence. The quality of the evidence is described and discussed throughout the report. |
| | General | The Alliance to Advance Comprehensive Integrative Pain Management (AACIPM) and its collaborators sincerely thank you for the work you have invested in this systematic review of comprehensive and integrated pain management programs. AACIPM remains an ally in support of AHRQ efforts, aiming to ensure the result of the time and funds invested in this systematic review produce a result that will benefit the greatest number of American citizens.<br><br>Thank you for considering our recommendations | Thank you for your comments. |
| | General | Appendix A – Suggested Citations for Review by AHRQ<br>Ringqvist A, Dragioti E, Bjork M, Larsson B, Gerdle B. Moderate and stable pain reductions as a result of interdisciplinary pain rehabilitation- A cohort study from Swedish Quality Registry for Pain Rehabilitation. J Clin Med. 2019;8:905; doi:10.3309/jcm8060905.<br>Bosy D, Etlin D, Corey D, Lee J. An interdisciplinary pain rehabilitation programme: description and evaluation of outcomes. Physiother Can. 2010;62:316-326. | We have evaluated these against our inclusion/exclusion criteria. |

[19] https://www.cdc.gov/injury/pdfs/bsc/BSC_NCIPC_Minute_7-22_2020_Certified_Combined_PC.pdf

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| **Public Commenter #11 (Name redacted for privacy)**<br><br>**American Chronic Pain Association** | General | I agree that there is little or no coordination between multidisciplinary providers and there is no central database to track progress and outcomes. Comorbidities make it difficult to track pain programs that focus on mental and physical conditions. There are only a handful of comprehensive pain programs in the U.S. such as Cleveland Clinic (which I completed their program) or Mayo Clinic. Therefore, there is a lack of availability to these programs due to distance, wait list, and cost that make it less of an option for the average pain patient. Outside of these comprehensive programs, a referral is needed and might require several specialists to be involved in the care, thus making more difficult to track. | Thank you for sharing your experience. |

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| | General | The opioid crisis requires even more comprehensive programs to be offered. Care coordination between providers is difficult as there is a shortage of medical staff or doctors and hiring more people is cost prohibitive. | Thank you for your comments. |
| | General | In today's healthcare system in the U.S. there is no clear mechanism of care coordination between multidisciplinary providers and medical management. | Thank you for your comments. |
| | General | The use of acronyms was excessive and difficult to follow throughout the entire document. | Thank you for your comments. A list of acronyms is provided |
| | General | Information overload made it difficult to understand and follow. | Thank you for your comments. |
| | General | As a chronic pain patient of 38 years, I have completed IPMP, CPMP, and chronic pain rehabilitation programs. My pain reduced significantly after the complete chronic pain rehab program compared to IPMP and CPMP. However, its cost prohibitive for most patients and most likely would not be cost effective for the Medicare population. | Thank you for your comments. |
| | General | I found the report difficult to read with too many acronyms and assumptions that only medical professionals would know, such as pain questionnaires. Are these questionnaires the same for all medical providers in the U.S. and what about outside the U.S.? I had to read the entire document twice and take notes to understand fully. | Thank you for your comments. We have attempted to make the evidence summary easiest to read. Providers may use a variety of questionnaires. |
| | Results | The chronic pain questionnaire is not used on a consistent basis by the IPMP model. CBT is mentioned but does this also include dialectical behavior therapy (DBT), biofeedback, | Thank you for your comments. Most studies did |

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| | | etc. It is hard to distinguish between acute and chronic pain in patients with decades of pain symptoms with comorbidities. Does pharmacologic treatment separate prescription from OTC medications because this section mentions acetaminophen? Various countries have different regulations on which medications are Rx vs. OTC. There is no follow-up time period standard between trials. Opioid use was not reported in any trials comparing CPMP with pharmacologic therapy alone. This is vital info that should be included especially with the opioid crisis in the U.S. CPMP vs. psychological section states that Medicare patients were not included. Is age a factor that is tracked in all studies? It was unclear how many trials included Medicare patients. | not provide information on the components you mention. Appendices B and E provide the information as reported in the individual studies. Age was abstracted and is reported in the review.<br><br>We do note the medications that were evaluated as reported by the studies comparing programs to pharmacological therapy alone.<br><br>We state that none of the studies included Medicare patients in several places. |
| | Results | The lack of standardization between the trials with respect to countries involved and age of participants, was difficult to understand the results and conclusions. I think more | Thank you for your comments. |

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| | | summary information would be helpful. It might be easier to follow if the results and conclusions were at the beginning of the document but I was not sure about the rules for this document such as formatting. | |
| | Appendices | I read the Appendix last which answered some of my prior questions but wondered if I should have read it first or along side the main document. Appendix C (pg. (106) gives a great summary. Cost effectiveness applicable to the Medicare population is difficult to measure. | Thank you for your comments. |
| | Discussion<br><br>(page 67) | What about CBD or medical marijuana as an alternative treatment to opioid use? Could CBD be added to pg. 67 next to the word topicals? There are limitations with this due to legality among countries and states. There needs to be a better way to track a pain patients progress throughout the various interventions. This might require regular telemedicine check-in appointments. Telemedicine is one way to decrease the cost of healthcare for all involved. Is there a way for the study in the future to include all types of pain rehabilitation as the focus and less about whether its included in an integrated program? Integrated medicine is not clearly defined and neither is the pain referral process from one provider to another. | Thank you for your comments.<br><br>This review did not evaluate specific components of pain management or alternatives to opioid use.<br><br>AHRQ has published other reviews that involve evaluation of cannabis. |
| Chad Kollas<br><br>Orlando Health Cancer Institute | General | My name is Chad Kollas, and I work as a staff physician for Orlando Health Cancer Institute (OHCI), serving as the medical director for Palliative & Supportive Care. I provide outpatient palliative medicine to patients who receive care at our large regional cancer center. Although I also serve as an officer in the American Academy of Hospice and Palliative | Thank you for your comments. |

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| | | Medicine (AAHPM) and as the Academy's Delegate to the American Medical Association (AMA) House of Delegates, I am writing this comment as an individual, representing my own views. | |
| | General | I am very concerned about the approach to creating this report and its likely relationship to the drafting of the next iteration of Guidelines for Prescribing Opioids for Chronic Pain by the Managing Pain (2016 Pain Guidelines) by the Centers for Disease Control (CDC). I am specifically concerned by the following statement in the preface of the AHRQ Draft Report regarding the Technical Expert Panel: "Technical Experts must disclose any financial conflicts of interest greater than $5,000 and any other relevant business or professional conflicts of interest. Because of their unique clinical or content expertise, individuals with potential conflicts may be retained. The TOO and the EPC work to balance, manage, or mitigate any potential conflicts of interest identified."<br>The development of the CDC 2016 Pain Guidelines was marred by a process that lacked transparency and allowed for disproportionate influence on pain policy by a group of physicians known as Physicians for Responsible Opioid Prescribing (PROP). I have documented these concerns in an article published by Pallimed, in an article entitled "PROP's Disproportionate Influence on U.S. Opioid Policy: The Harms of Intended Consequences" (see https://www.pallimed.org/2021/05/props-disproportionate-influence-onus.html). Despite widespread concerns about the potential for misapplication of the CDC 2016 Pain Guidelines, PROP and the CDC delayed public calls against their misapplication until April 2019, in the setting of a large increase in overdose deaths and suicides that followed the | Thank you for your comments and perspective. |

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| | | Guidelines' implementation. The process and methodology used to create this AHRQ Draft Report apply the same lack of transparency, especially the policy regarding conflicts of interest (COIs) referenced above.<br>Delaying the identification of the authors until after the planned publications of any edited CDC Pain Guidelines would make challenging these conflicts extremely challenging. | |
| | Methods | Additionally, I find the methodology of the study lacking and fundamentally flawed. The results primarily involve an analysis of studies that examine chronic back pain and fibromyalgia, and there is a complete lack of analysis for chronic pain experienced by patients with serious disease. Applying these results to any policies offering recommendation for pain management would substantially increases a risk for harm to patients receiving palliative care, in a manner similar to the harms suffered by patients arising from misapplication of the CDC 2016 Pain Guidelines. The provision of pain management, which should allow for prescribing opioid analgesics when medically appropriate, should be individualized on a case-to-case basis with attention to informed discussions about potential harms and benefits, without the constraints of poorly-conceived clinical guidelines created in a non-transparent process by clinicians with relevant conflicts of interest. | Thank you for your perspective.<br><br>The report summarizes the available evidence. Limitations of the evidence and review are described in the discussion.<br><br>The report does not make policy recommendations. |
| **Richar Lawhern**<br><br>**No affiliation stated** | Results | These comments are jointly submitted by Richard A Lawhern, PhD, and Steven E. Nadeau, MD. Corresponding author is Dr Lawhern. The objective of the Systematic Review as quoted in its abstract is to To evaluate the effectiveness and harms of pain management programs that are based on the biopsychosocial model of care, particularly in the Medicare population. However, is clear from the evidence offered, that the potential for harms is very high in pain management | Thank you for your perspective. |

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| | | programs for which so-called integrated pain management is mandated as a substitute for safe and effective opioid therapy. This may be particularly true for Medicare populations, that receive the highest number of opioid prescriptions while sustaining the lowest rate of overdose-related mortality. It is truly remarkable that this review has been circulated for publication at all, given that the Strength of Evidence assigned to trials reported in the medical literature is weak for at least 18 stated outcomes, and no better than moderate for an additional 16.Conclusions stated in the abstract include: IPMPs and CPMPs may provide small to moderate improvements in function and small improvements in pain in patients with chronic pain compared with usual care. To the extent that programs are tailored to patients needs, our findings are potentially applicable to the Medicare population. We object in the strongest possible terms to this characterization of findings. The fully predictable outcome of this report will be for hospitals and treatment centers to further restrict patient access to safe and effective opioid therapy, in favor of therapy programs that combine placebo-sensitive non-pharmacological therapies with NSAIDS implicated in thousands of hospital admissions every year. | |
| | Results | In the authors experience and research, comprehensive pain management programs (CPMP) and integrative pain management programs (IPMP) implicitly assume that various non-pharmacologic therapies are beneficial. Since no comparative effectiveness studies are reflected in this report (or even an acceptable methodology for doing such studies, such as enriched enrollment, randomized gradual withdrawal designs), we must conclude that the meager beneficial effects reported in the RCTs are likely to be related to placebo effect, Hawthorne effect, or some combination of the two.RCTs referenced in this report have been largely conducted in a climate that severely discourages or limits the single most | Thank you for your perspective.<br><br>We have discussed the limitations of the evidence and the review.<br><br>The authors recognize the |

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| | | effective treatment for the most common types of pain, which are musculoskeletal in origin namely opioids. Even before CDC 2016, management of chronic pain was seriously inadequate and most physicians shied away from using opioids and branded patients seeking dose increases as druggies. One could build an argument that multi-disciplinary care for pain largely constitutes a means for health care providers to believe that they are doing something for the patient regardless of actual measurable benefits -- even as they are unwilling to prescribe adequate pharmacologic therapy. If the foundation of management is seriously inadequate, it is unreasonable to expect that modest add-ons will compensate.Given these extreme limitations, the results of a systematic review like this one are likely to reflect the garbage in garbage out phenomenon. The large heterogeneity of the interventions (reflected in part in the Forest plots) further undermines the validity of any conclusions.In our view, any truly effective strategy for improving pain management would necessarily begin with complete repudiation of the 2016 CDC recommendations and removing CDC from the opioid management business, where it had no valid place to begin with. A second step (not addressed in this report) would be altering re-imbursement to fully compensate physicians who are willing to spend the considerable time and effort needed to provide adequate care for patients in chronic pain. A third step would be greatly enhancing the education and training of physicians in pain management. Given the epidemiology of chronic pain, family physicians and internists must assume a very substantial role beyond their present involvement.Studies referenced in this analysis rarely described psychological co-morbidities and many excluded patients with such co-morbidities. Because depression is the elephant in the room when it comes to treating patients with chronic pain, and effective management | need for enhancing the education of physicians on pain management.<br><br>Where information on the impact of programs on depression and other measure of mental health were reported by included studies, this is described in the full report and detailed in the tables in Appendix B and Appendix E. Not all studies reported on these measures.<br><br>Usual therapy is variably defined or often not defined by studies. There is no standard |

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| | | of depression is in many cases more effective than prescribing opioids, the generalizability of the results of these studies is uncertain and likely very limited. Psychiatrists, to the extent that they will involve themselves at all in co-management of patients with chronic pain, are generally obsessed with opioid-related issues, to the exclusion of everything else. The analysis reported no effect of IPMPs on measures of depression. It reported small effects of CPMPs on depression.It also needs to be born in mind that many alternative therapies, e.g., physical therapy and cognitive behavioral therapy, are very expensive. To justify expenditure for these therapies, large effect sizes must be demonstrated in suitably controlled trials. Such effect sizes have not been reported in this draft, nor have such trials been conducted. We also register strong objection to the interpretation claimed in this report for outcomes of the earlier 2018-2019 AHRQ Systematic Outcomes Reviews for Non-Invasive, Non-Pharmacological Therapies (References 33 and 34). These reports do not establish that for specific chronic pain conditions, many nonpharmacologic treatments did improve pain and/or function. In fact, quite the contrary is true. A deep reading of AHRQ reviews 209 and 227 reveals that the existing trials literature uniformly fails to document the nature of usual therapy as that term is used in trials reports for non-pharmacological therapies. AHRQ investigators simply assumed that usual therapy whatever it was -- was continued in parallel with application of non-pharmacological therapies, without confirming this assumption with original trials authors. This assumption deeply contaminates any conclusions that can be drawn from the trials reported by the AHRQ reviews including the current draft. None of the approximately 220 trials reports reported in Comparative Effectiveness Review 227 comprised a direct either/or comparison of so-called non-invasive therapies versus opioid | agreed upon definition of usual care. Appendix B and Appendix E provide information as reported by the individual study authors.<br><br>It was not within the scope of this report to evaluate replacements for opioid therapy and no such claims or discussions were part of this report.<br><br>The report makes no mandates or policy recommendation regarding preferences for any treatment method. |

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| | | therapy per se. Yet that report is widely cited by CDC as grounds for replacing opioid therapy with so-called alternative medicine therapies as preferred therapies. It is apparent at multiple points in the present draft, that the unspoken AHRQ agenda is to mandate so-called integrated multi-mode therapies in treatment of Medicare patients, in preference to using opioid therapy in this population. However, the report overall offers no consistent evidence of effectiveness for such programs as replacements for opioid or non-opioid pharmacological therapies used alone. | |
| | Results | Appendix B of the AHRQ report offers multiple tables defining the comparisons made between usual care versus a combination of usual care and multi-disciplinary (integrated) therapies. But nowhere in this Appendix or in the main body of the report is discussed what usual care actually comprised in each of the trials. In fact, carefully buried on page 59-60 of the report is the following statement:The majority of trials compared programs to usual care, which was poorly described in most studies. It is possible that a variety of therapies and medications provided as part of usual care or continued in the intervention may have led to an attenuation of the observed effects. Most studies (75%) were considered fair, primarily due to the inability to effectively blind care givers and participants. While these studies were well done, lack of blinding leaves open the opportunity for reporting bias and the influence of a placebo effect for subjective measures such as pain and function. Adherence to programs was poorly reported across trials, making its impact difficult to assess. Time constraints, the need to travel and attend to other obligations were frequently cited as reasons for drop out or lack of adherence. Lack of adherence may attenuate the effect of programs versus usual care. Studies rarely detailed psychological comorbidities (including suicidal behaviors) or medical comorbidities in enrolled populations and many | Thank you for your perspective.<br><br>Usual therapy is variably defined or often not defined by studies. There is no standard agreed upon definition of usual care. |

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| | | excluded patients with such comorbidities. Similarly, specifics of pain diagnoses, pain characteristics (e.g., nociplasticity) and other patient characteristics were not generally reported in studies, precluding evaluation of their impact on treatment response. This characterization is the only place in the report which addresses the confounding and imprecision of outcomes generated by the Trials authors and compounded by the AHRQ writers. In all likelihood, the nature and procedures for determining usual care will have varied significantly between the trials and even between individual medical providers. But AHRQ writers have ignored this heterogeneity, effectively smearing outcomes into a paste of surmises and guesses influenced by the professional self-interests of the various Trials report authors and by the AHRQ writing team itself. Every principal investigator in a medical trial who regularly applies a given methodology in their work, would like to be able to say what we are doing has better outcomes than usual care [whatever that may comprise]. You should be sending patients to us and to similar programs. Clearly the AHRQ report suffers from fatal confirmation biases in its imprecise interpretation of benefits from integrated or comprehensive therapy programs. The AHRQ writers team saw what they wanted to see from the trials, rather than recognizing what was not actually there. | |
| | Results | This report is a classic example of garbage in, garbage out and should be withdrawn without replacement. By ignoring major variations between trials reports concerning what comprised usual care, the AHRQ writing team drew generalized conclusions that are not supported by the very imprecise evidence available. AHRQ must withdraw this highly doubtful scholarship in favor of declaring that the available trials literature does not provide sufficient unambiguous medical evidence to support use of Integrated or Comprehensive Therapies in preference to pharmaceutical | Thank you for your perspective.<br><br>Usual therapy is variably defined or often not defined by studies. There is no standard |

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| | | treatments for pain. Such irresponsible recommendations have the predictable consequence of placing even more seniors at risk for under-treatment of chronic pain. | agreed upon definition of usual care. |
| | General | The nature of the problem is well articulated. But the report ignores the many confounds and lack of precision in the trials literature, to arrive at conclusions that are not supportable as policy for serving Medicare patients with chronic pain. Neither Integrated nor Comprehensive pain management can presently be declared a preferred modality in treating chronic pain, which is what the AHRQ report attempts to support. | Thank you for your perspective |
| **Jacob Marzalik**<br><br>**American Psychological Association** | General | Thank you for the opportunity to comment on AHRQ's draft comparative effectiveness review on integrated pain management programs. The report comprehensively addressed the paucity of reporting of harms and adverse events in RCTs and nicely emphasized the need for further standardization of pain management program terms and we commend the authors for initiating an important, ambitious, and timely review. The following are comments by members with expertise on the topic of chronic pain. | Thank you for your comments. |
| | General | Pain is used as an outcome, but most programs do not target pain itself; rather, they focus more on functioning. While functioning is also listed as an outcome variable, there is great variability in how this is defined**.** | Thank you for your comments. |
| | General | In Key question 1 you note one of the populations of interest include "those with disabilities (including ESRD)." Please define ESRD in the text. | Thank you for your comments. We can spell this out. |
| | General | We appreciate the reporting of subgroup analyses (i.e., percentage of racial/ethnic minorities represented across studies). | Thank you for your comments. |
| | General | We appreciate that the funding for trials was noted when possible. | Thank you for your comments. |

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| | Methods<br><br>(page 8) | On page 8, a statistically significant finding is described as, “clinically unimportant.” Could you provide further information about what that means in this particular case and other instances in which it is used? Even a small reduction in pain might for example be very meaningful to a patient. | Information on effect size is found in the report methods with additional information in Methods Appendix A as well Appendix J which contains a table describing magnitude of effect. |
| | Methods | We suggest adding a note to explain the rationale behind excluding studies that evaluated the incremental value of adding a single treatment modality to another single treatment modality. | Thank you for your suggestion. Adding these types of studies was not within the scope of this report. |
| | Results | The openness to any comparator is a significant positive There is no consistent comparison among programs. For example, some may have “other” integrative therapies How does the presence (or absence) of these additional treatments affect outcomes? | The report summarizes the available evidence for comparators as available in the included studies. |
| | Results | Furthermore, there is a high level of heterogeneity in the components of programs. The training and expertise of the clinicians delivering the services can impact outcome, as can the specific treatment itself. Were the psychological treatments manualized? CBTbased? ACT-based? Incorporate biofeedback or mindfulness? Was the PT focused on core strengthening? Feldenkrais-based? Traditional orthopaedic? | Thank you for your comments. We are aware of these challenges. Studies varied substantially in |

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| | | Aquatic? The degree of variability in available services in the different interdisciplinary/multidisciplinary arms introduces challenges when integrating them together for comparison purposes. | how components were described, delivered, etc. The detailed data abstraction (Appendix E) contains what information was provided by individual study authors. Appendix B provides an overview. |
| | Results | The overall number and quality of the studies (p.9) is low. While this is not a fault of AHRQ (an exhaustive search was completed), it is important to emphasize that overall statements are being made based on a relatively small, lower-quality data set. | We have noted the strength of evidence throughout the report and tables. Appendices F and D provide additional information. |
| | Results | In light of the overall small number of RCTs that met inclusion criteria, particularly for IPMP, has consideration been given to looking at the overall combined impacts of IPMPs and CPMPs compared to usual care, other active comparators, etc.? | Any comparison of IPMP and CPMP would be indirect. We did not make this comparison. |

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| | Results | There is an emphasis on RCTs but many studies that examine effectiveness in this particular area do not meet this criterion due to the nature of the setting (clinical setting in which RCT would be impractical or delaying/not making treatment available to patients not ethical). Is it possible to add some information about this situation to the report? | Thank you for your suggestion. Given that over 45 RCTs are included in this report that include a variety of settings and circumstances, it appears that RCTs are feasible in a variety of circumstances. |
| | Results | As the results of this report have the capacity to influence reimbursement, emphasis on pain not being a primary clinical focus is important to note. Furthermore, the verbiage used to describe the impressions/take home points should be crafted with great care given their implications. | Thank you for your comments. |
| **Kate Nicholson**<br><br>**National Pain Advocacy Center** | General | Thank you for the opportunity to comment on the Draft Report on Integrated Pain Management Programs. The National Pain Advocacy Center (NPAC), https://nationalpain.org, is a nonprofit alliance of scientists, clinicians, civil rights advocates and people with lived experience of pain. Our mission is to advance the health and human rights of people with pain. We have a strong health equity focus and receive no industry funding. | Thank you for your comments. |
| | General | We appreciate the efforts of AHRQ to review Integrated Pain Management Programs. We write to express our concern that the report may lead, not to greater coverage, but to fewer available options for treating pain at a time when access to medication is being limited. Specifically, we fear that the primary “take away” by policy makers and payers may be that | Thank you for your comments. |

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| | | these programs yield small, temporary benefits despite significant costs. | |
| | General, Results Conclusion, "Main Points" | While the Draft Report is transparent about the limitations of the evidence considered, those limitations are not adequately reflected in its main points or conclusions, which are likely to be of greatest interest to policymakers. We appreciate, for example, the acknowledgment that the magnitude of improvement seen with these programs is similar to that for most modalities in treating pain and the implicit recognition that the research on pain treatment in general is not robust. In drafting the final report, we strongly urge AHRQ to clearly label and integrate into its conclusions acknowledged limitations and gaps in evidence and we urge caution about drawing broad conclusions from the especially limited pool of evidence considered. | The strength of evidence is delineated for primary outcomes throughout the report and summary tables. These are supported by ratings in in Appendices F and G The limitations of the evidence and review are discussed in detail in the main report. |
| | Methods | Specific concerns about the evidence include:<br>• The definitions of the programs, their components, and usual care. The report states that there is "substantial heterogeneity in programs and their delivery in included trials" and that the majority of trials compared programs to usual care, which was also poorly described in most studies. | Thank you for your comments. |
| | Methods | • Inclusion/exclusion criteria. We refer to the extensive comments submitted by the Alliance to Advance Complementary and Integrative Pain Management (AACIPM) on the limitations of Randomized Clinical Trials for evaluating | Thank you for your comments |

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| | | programs where multiple modalities, sequencing, and provider and patient choice and engagement may all significantly influence outcomes. | |
| | Methods | • Severity and phenotypes represented and outcome measures. Our final concern with regard to data selection is that most studies involved moderate chronic pain, including non-specific low back, osteoarthritic and musculoskeletal pain, or fibromyalgia. Severe chronic pain conditions are insufficiently represented or missing entirely; disability was poorly characterized; patients with comorbidities were generally excluded, and many studies failed to reference diagnoses at all. Nevertheless, patients with severe pain and significant disability will likely be subject to the same resulting policy choices. | Thank you for your comments.<br><br>Thank you for your comments. We reported on these characteristics to the extent that they were available in the studies that met the inclusion criteria. Please see Appendices B and E. Unfortunately, there was insufficient data to analyze such factors across studies. These limitations are noted in the discussion. |
| | Results | • Quality of included studies. The evidence was all of “fair” or “poor” quality. | Thank you for your comments. |
| | Results | • Quantity of included studies. Strikingly few studies were considered, including only eight specifically related to integrated pain management programs. | Thank you for your comments. Over 78 publications |

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| | | | were included. There were fewer for IPMPs. |
| | General | In sum, we appreciate this contribution to the current state of available research, and AHRQ's call for the need for more research, but we urge AHRQ to carefully craft language that mitigates concerns about equitable access to pain care for the 50 million Americans in daily or near daily pain and, especially, the 20 million Americans with pain that regularly limits work and participation in basic life activities. Integrated and complementary pain management programs are already often poorly covered by payers, which raises significant health equity issues. | Thank you for your comments. |
| **Andrey Ostrovsky, MD**<br><br>**Applied VR** | General | We are grateful for the opportunity to comment on the Agency for Healthcare Research and Quality's (AHRQ) Draft Comparative Effectiveness Review: Integrated Pain Management Programs. We believe this review will be a meaningful contribution to the field of pain management. However, there are<br>several limitations of the draft review that we believe could be strengthened by broader inclusion of real-world evidence (RWE), reconceptualizing pain care delivery to reduce treatment burden, and more standardization of treatment protocols. | Thank you for your comments.<br><br>Per the PICOTS (Appendix A), had RCTs not been available, nonrandomized studies would have been considered with a focus on those that were prospective and controlled for confounding. Nonrandomized studies in pain can be misleading due to the subjective |

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| | | | nature of pain and impact of patient expectations regarding treatment and attention received on patient reported outcomes combined with greater potential selection bias and uncontrolled confounding in nonrandomized studies. There are numerous examples of this in the pain literature where nonrandomized studies have shown a very large response or estimate for effectiveness in response to a treatment which was disproven in subsequent RCTs. For example, non-randomized |

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| | | | studies of knee arthroscopy for osteoarthritis reported substantial pain relief where no differences were seen in RCTs comparing it to a placebo procedure. Other examples include the use of vertebroplasty for osteoporotic spinal fractures and use of epidural steroid injections for back pain. |
| | Methods | First, we are concerned that the review has applied too narrow of an aperture in looking at the existing literature and is missing essential research. This overly limited scope contradicts AHRQ's own charge in refining the review protocol in November 2020 whereby it states, "In the era of COVID-19, consideration of which intervention components and aspects of care coordination and patient monitoring that could be delivered by phone, virtually or via telemedicine may become increasingly important."1 Unfortunately, after issuing this insightful and temporally relevant methodologic viewpoint, AHRQ changed course and in the draft review determined that "No trials of virtually delivered (e.g., telehealth) programs meeting our inclusion criteria were identified." There are | Thank you for your comments.<br><br>All studies suggested were reviewed against our inclusion/exclusion criteria. None met the criteria for inclusion. |

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| | | several problems with this conclusion. First, there are several randomized controlled trials (RCTs) demonstrating clinical efficacy of virtual nonpharmacologic modalities to treat acute and chronic pain, especially virtual reality therapeutics. We will highlight some of those studies below. | |
| | Methods | Second, constraining the literature review to RCTs ignores emerging RWE that is much more practical and efficient for collecting valid learnings. While RWE usually takes the form of cohort studies and the generalizability of a single cohort study is not as meaningful as that of an RCT, an aggregate of RWE studies does shed meaningful light on clinical practice and should be included in this and other AHRQ systematic reviews. For your convenience, we summarize several cohort studies and RCTs demonstrating meaningful efficacy on acute and chronic pain through a virtual modality. | Per the PICOTS (Appendix A), had RCTs not been available, nonrandomized studies would have been considered with a focus on those that were prospective and controlled for confounding. Nonrandomized studies in pain can be misleading due to the subjective nature of pain and impact of patient expectations regarding treatment and attention received on patient reported outcomes combined with |

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| | | | greater potential selection bias and uncontrolled confounding in nonrandomized studies. There are numerous examples of this in the pain literature where nonrandomized studies have shown a very large response or estimate for effectiveness in response to a treatment which was disproven in subsequent RCTs |
| | General | In addition to having broader inclusion of real-world evidence (RWE) in the review, this report could benefit from updating the lens through which pain care delivery is viewed so that treatment burden can be reduced. AHRQ's November 2020 charge to consider virtual care modalities is salient well beyond COVID-19. The draft report is based on studies dating back to 1989, when the internet was first being established. Care delivery and the virtual tools to support it have evolved dramatically since then, reaching an unprecedented pace of adoption during COVID-19. With COVID-19 getting better controlled, the gains of improved user experience using virtual care modalities should not be lost, especially for vulnerable populations suffering from acute and chronic pain.2 | We sought to include studies delivering CPMP or IMPM via telehealth or other virtual care formats. Unfortunately, few met our inclusion criteria. Appendix E provides what |

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| | | | detail was available for individual studies. The report summarizes the available evidence base on such technologies. |
| | Conclusion and Discussion | A key limitation of the studies reviewed in this report is high attrition due to treatment burden such as travel. Virtual reality therapeutics transcend those treatment burdens and the draft report should acknowledge the evolution of treatment modalities that can improve access to evidence-based, virtual pain interventions. AHRQ has acknowledged high attrition and treatment burdens, but it does not make recommendations about how to address these barriers. We kindly request that AHRQ include in the conclusions and recommendations section a need for expanded research on pain interventions that are low-burden and acceptable to patients, particularly for Medicare recipients who are likely to have even greater travel and financial burdens than those in the included studies, which were all non-Medicare. | Thank you for your suggestion. We have added the need for future research to consider these issues and included this in the discussion. |
| | Discussion | Finally, the review could be improved by calling for more treatment standardization. A major challenge with the draft report is the wide variability in the methods of the studies included in the analysis. For example, in the studies that focus on behavioral interventions, there is inclusion of pain psychology treatment of varying intensities and duration. Some programs include two behavioral sessions while others last 6-12 months and have multiple sessions. Some interventions are in-person and some include cognitive | The report summarizes the available evidence. Appendices B and E provide detail as |

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| | | behavioral therapy delivered virtually. Some interventions have booster sessions and others do not. Yet, all of these interventions are all lumped into overly general categories that include either “integrated pain treatment” that is delivered within the primary care context or “comprehensive pain treatment” that is delivered outside of the primary care context. In addition to having a more standardized taxonomy for the interventions, there should also be an acknowledgement of the lack of precision around the different measures that are used and applied at different time points. | reported by individual studies for specific components including format and duration. There was insufficient information across studies to analyze this in any detial.<br><br>We describe the need for future research to include studies leading to some level of standardization of programs and their delivery and describe the need for standardization of terminiology |
| | General | For some background on our organization, AppliedVR is pioneering virtual reality therapeutics to address unmet needs and improve clinical outcomes for patients with serious health conditions. We envision a new era in which VR therapeutics are widely embraced and accessible, opening up a vast exciting new venue for science and discovery with the | Thank you for your comments. |

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| | | potential to improve the lives of millions. AppliedVR is supported by multiple randomized controlled trials demonstrating reduced pain and is a powerful component of the nonpharmacologic armamentarium to treat pain and reduce the development of opioid use disorder.<br>Given our experience leading the development of innovative technology for managing acute and chronic pain, AppliedVR appreciates the opportunity to share some of the research on use of virtual reality therapeutics so that research can be incorporated into the systematic review for integrated pain programs. The following are studies that demonstrate meaningful effect sizes of virtual reality therapeutics on acute and chronic pain. Below, we share the methods and key findings from each study for your convenience. | |
| | Results | **Garcia LM, Birckhead BJ, Krishnamurthy P et al. An 8-Week Self-Administered At-Home Behavioral Skills-Based Virtual Reality Program for Chronic Low Back Pain: Double-Blind, Randomized, Placebo-Controlled Trial Conducted During COVID-19. JMIR 2021;23(2).**<br>Garcia et al (2021) used a national online convenience sample of individuals with self-reported nonmalignant low back pain with duration of 6 months or more and with average pain intensity of 4 or more/10 to enroll and randomize 1:1 to 1 of 2 daily (56-day) VR programs: (1) EaseVRx (immersive pain relief skills VR program); or (2) Sham VR (2D nature content delivered in a VR headset). Objective device use data and self-reported data were collected. The primary outcomes were the between-group effect of EaseVRx versus Sham VR across time points, and the between–within interaction effect representing the change in average pain intensity and pain-related interference with activity, stress, mood, and sleep over time (baseline to end-of-treatment at day 56). Secondary | We have evaluated these against our inclusion/exclusion criteria. |

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| | | outcomes were global impression of change and change in physical function, sleep disturbance, pain self-efficacy, pain catastrophizing, pain acceptance, pain medication use, and user satisfaction. Analytic methods included intention-to-treat and a mixed-model framework.<br>The study sample was 179 adults (female: 76.5%, 137/179; Caucasian: 90.5%, 162/179; at least some college education: 91.1%, 163/179; mean age: 51.5 years [SD 13.1]; average pain intensity: 5/10 [SD 1.2]; back pain duration ≥5 years: 67%, 120/179). No group differences were found for any baseline variable or treatment engagement. User satisfaction ratings were higher for EaseVRx versus Sham VR (P<.001). For the between-groups factor, EaseVRx was superior to Sham VR for all primary outcomes (highest P value=.009), and between-groups Cohen d effect sizes ranged from 0.40 to 0.49, indicating superiority was moderately clinically meaningful. For EaseVRx, large pre–post effect sizes ranged from 1.17 to 1.3 and met moderate to substantial clinical importance for reduced pain intensity and painrelated interference with activity, mood, and stress. Between-group comparisons for Physical Function and Sleep Disturbance showed superiority for the EaseVRx group versus the Sham VR group (P=.022 and .013, respectively). Pain catastrophizing, pain self-efficacy, pain acceptance, prescription opioid use (morphine milligram equivalent) did not reach statistical significance for either group. Use of over-thecounter analgesic use was reduced for EaseVRx (P<.01) but not for Sham VR. The researchers concluded that EaseVRx had high user satisfaction and superior and clinically meaningful symptom reduction for average pain intensity and pain-related interference with activity, mood, and stress compared to sham VR. Additional research is needed to determine durability of treatment effects and to characterize mechanisms of treatment effects. Home-based | |

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| | | VR may expand access to effective and on-demand nonpharmacologic treatment for chronic low back pain. | |
| | Results | **Darnall BD, Krishnamurthy P, Tsuei J, & Minor JD. Self-Administered Skills-Based Virtual Reality Intervention for Chronic Pain: Randomized Controlled Pilot Study. JMIR Form Res 2020;4(7).**<br>Darnall et al (2020) conducted an RCT involving a web-based convenience sample of adults (N=97) aged 18-75 years with self-reported chronic nonmalignant low back pain or fibromyalgia, with an average pain intensity >4 over the past month and chronic pain duration >6 months. Enrolled participants were randomly assigned to 1 of 2 unblinded treatments: (1) VR: a 21-day, skills-based VR program for chronic pain; and (2) audio: an audio-only version of the 21-day VR program. The analytic data set included participants who completed at least 1 of 8 surveys administered during the intervention period: VR (n=39) and audio (n=35).<br>The study found that the VR and audio groups launched a total of 1067 and 1048 sessions, respectively. The majority of VR participants (n=19/25, 76%) reported no nausea or motion sickness. High satisfaction ratings were reported for VR (n=24/29, 83%) and audio (n=26/33, 72%). For VR efficacy, symptom improvement over time was found for each pain variable (all P<.001), with results strengthening after 2 weeks. Importantly, significant time×group effects were found in favor of the VR group for average pain intensity (P=.04), pain-related inference with activity (P=.005), sleep (P<.001), mood (P<.001), and stress (P=.003). For pain catastrophizing and pain self-efficacy, they found a significant declining trend for both treatment groups.<br>The study concluded that high engagement and satisfaction combined with low levels of adverse effects support the | We have evaluated these against our inclusion/exclusion criteria |

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| | | feasibility and acceptability of at-home skills-based VR for chronic pain. A significant reduction in pain outcomes over the course of the 21-day treatment both within the VR group and compared with an audio-only version suggests that VR has the potential to provide enhanced treatment and greater improvement across a range of pain outcomes. These findings provide a foundation for future research on VR behavioral interventions for chronic pain. | |
| | Results | **Venuturupalli RS, Chu T, Vicari M, Kumar A, Fortune N, & Spielberg B. Virtual Reality–Based Biofeedback and Guided Meditation in Rheumatology: A Pilot Study. ACR Open Rheumatology. 2019;1(10): 667–675.**<br>Another study focused on chronic pain, this one by Venuturupalli et al (2019), included 20 participants that were recruited from a rheumatology clinic. These participants included adults with physiciandiagnosed autoimmune disorders who were on a stable regimen of medication and had a score of at least 5 on the pain Visual Analog Scale (VAS) for a minimum of 4 days during the prior 30 days. VAS, part of most composite outcome measurements in rheumatology, is an instrument used to assess pain that consists of a straight line with the endpoints ranging from “no pain at all” and “pain as bad as it could be.” Patients were randomized into two groups that differed in the order in which they experienced the two VR modules. One module consisted of a guided meditation (GM) environment, whereas the other module consisted of a respiratory biofeedback (BFD) environment. Data on pain and anxiety levels were gathered before, during, and after the two modules.<br>The study found that the three most common diagnoses among participants were rheumatoid arthritis (RA), lupus, and fibromyalgia. There was a significant reduction in VAS scores | We have evaluated these against our inclusion/exclusion criteria |

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| | | after BFD and GM (P values = 0.01 and 0.04, respectively). There was a significant reduction in Facial Anxiety Scale after the GM compared with the BFD (P values = 0.02 and 0.08, respectively).<br>The study concluded that VR could be a feasible solution for the management of pain and anxiety in rheumatology patients. Further trials with varying treatment exposures and durations are required to solidify the viability of VR as a treatment option in rheumatology clinics. | |
| | Results | **Use of Virtual Reality Therapeutics Beyond Chronic Pain**<br>Acute Pain<br>Given the direction from the U.S. Department of Health and Human Services to AHRQ to evaluate ways to improve Medicare coverage and payment for treatment for different types of pain, we are also highlighting that virtual reality therapeutics have been found to be useful in treating acute pain as well as chronic pain. | |
| | Results | **Spiegel B, Fuller G, Lopez M, et al. Virtual reality for management of pain in hospitalized patients: A randomized comparative effectiveness trial. PLoS ONE. 2019;14(8).**<br>The Spiegel et al (2019) study was a prospective, randomized, comparative effectiveness trial in hospitalized patients with an average pain score of ≥3 out of 10 points. Patients in the experimental group received a library of 21 VR experiences administered using the Samsung Gear Oculus headset; control patients viewed specialized television programming to promote health and wellness. Clinical staff followed usual care; study interventions were not protocolized. The primary outcome was patient reported pain using a numeric rating scale, as recorded by nursing staff during usual care. Pre- and postintervention pain scores were compared immediately after initial treatment and after 48- and | We have evaluated these against our inclusion/exclusion criteria |

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| | | 72-hours.The results included 120 subjects (61 VR; 59 control). The mean within-subject difference in immediate pre- and post-intervention pain scores was larger in the VR group (-1.72 points; SD 3.56) than in the control group (-0.46 points; SD 3.01); this difference was significant in favor of VR (P < .04). When limited to the subgroup of patients with severe baseline pain (≥7 points), the effect of VR was more pronounced vs. control (-3.04, SD 3.75 vs. -0.93, SD 2.16 points; P = .02). In regression analyses adjusting for pre-intervention pain, time, age, gender, and type of pain, VR yielded a .59 (P = .03) and .56 (P = .04) point incremental reduction in pain versus control during the 48- and 72-hour post-intervention periods, respectively.<br>The study concluded that VR significantly reduces pain versus an active control condition in hospitalized patients. VR is most effective for severe pain. Future trials should evaluate standardized order sets that interpose VR as an early non-drug option for analgesia. | |
| | Results | **Gold JI, Mahrer NE. Is Virtual Reality Ready for Prime Time in the Medical Space? A Randomized Control Trial of Pediatric Virtual Reality for Acute Procedural Pain Management. J Pediatr Psychol. 2018;43(3):266-275.**<br>In the Gold et al (2018) study, 143 triads (patients, their caregiver, and the phlebotomist) were recruited in outpatient phlebotomy at a pediatric hospital and randomized to receive either VR or SOC when undergoing routine blood draw. Patients and caregivers completed preprocedural and postprocedural standardized measures of pain, anxiety, and satisfaction, and phlebotomists reported about the patient's experience during the procedure.<br>The study showed that VR significantly reduced acute procedural pain and anxiety compared with SOC. A significant | We have evaluated these against our inclusion/exclusion criteria |

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| | | interaction between patient-reported anxiety sensitivity and treatment condition indicated that patients undergoing routine blood draw benefit more from VR intervention when they are more fearful of physiological sensations related to anxiety. Patients and caregivers in the VR condition reported high levels of satisfaction with the procedure.<br>The study concluded that VR is feasible, tolerated, and well-liked by patients, caregivers, and phlebotomists alike for routine blood draw. Given the immersive and engaging nature of the VR experience, VR has the capacity to act as a preventive intervention transforming the blood draw experience into a less distressing, potentially pain-free routine medical procedure, particularly for pediatric patients with high anxiety sensitivity. VR holds promise to reduce negative health outcomes for children and reduce distress in caregivers, while facilitating increased satisfaction and throughput in hectic outpatient phlebotomy clinics. | |
| | Results | Mosadeghi S, Reid MW, Martinez B, et al. Feasibility of an Immersive Virtual Reality Intervention for Hospitalized Patients: An Observational Cohort Study. JMIR Ment Health. 2016;3(2).<br>The Mosadeghi et al (2016) study assessed the acceptability and feasibility of VR in a cohort of patients admitted to an inpatient hospitalist service over a 4-month period. They excluded patients with motion sickness, stroke, seizure, dementia, nausea, and in isolation. Eligible patients viewed VR experiences (eg, ocean exploration; Cirque du Soleil; tour of Iceland) with Samsung Gear VR goggles. They then conducted semi-structured patient interview and performed statistical testing to compare patients willing versus unwilling to use VR.<br>The study showed that 510 patients were evaluated; 423 were excluded and 57 refused to participate, leaving 30 | We have evaluated these against our inclusion/exclusion criteria |

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| | | participants. Patients willing versus unwilling to use VR were younger (mean 49.1, SD 17.4 years vs mean 60.2, SD 17.7 years; P=.01); there were no differences by sex, race, or ethnicity. Among users, most reported a positive experience and indicated that VR could improve pain and anxiety, although many felt the goggles were uncomfortable.<br>The study concluded that most inpatient users of VR described the experience as pleasant and capable of reducing pain and anxiety. However, few hospitalized patients in this "real-world" series were both eligible and willing to use VR. Consistent with the "digital divide" for emerging technologies, younger patients were more willing to participate. Future research should evaluate the impact of VR on clinical and resource outcomes.<br>Wong M, Spiegel BM, & Gregory KD. Virtual Reality reduces pain in laboring women: a randomized controlled trial. American Journal of Obstetrics and Gynecology. 2020;222(1). S34.<br>The Wong et al (2020) study involved an open-label, RCT of nulliparous, term women in labor. They included women with a pain score of 4-7 having contractions at least every 5 minutes. They excluded women who had received any pharmacologic pain relief including epidural or with contraindications to VR use. Participants were randomized to up to 30 minutes of either VR or no intervention (Control). Their primary outcome was the difference in differences from pre to post intervention pain score. Prespecified secondary outcomes included pain scores, duration of intervention use, pharmacologic analgesia use, vitals, and obstetric outcomes. They used minimum clinically important difference for sample size calculations which for subjects starting with a baseline pain score of 40-70 mm is 13 mm. With an 80% power and 2- | |

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| | | sided alpha 0.05 starting from a baseline median pain of 55 mm, they would require 40 total subjects.<br>The study found that from 3/2018 to 2/2019, 40 patients were enrolled in and completed the study; 19 were randomized to Control and 21 to VR. Half were inductions and all were latent phase with mean dilatation pre-intervention of 2.5 cm (Control) and 2.8 cm (VR). For the primary outcome – difference in pain score following the intervention – those assigned to the Control arm had a statistically significant increase in pain of +0.58 while receiving VR had a significant reduction in pain of -0.52. (p = 0.03) (Figure 1). Post-intervention heart rate was also higher in the Control arm (86.8 vs 76.3, p = 0.01). Other secondary outcomes did not differ (Table 1).<br>The study concluded that VR was effective for reducing pain in women in labor compared to those receiving no intervention. | |
| | Results | **Anxiety**<br>Both acute and chronic pain can be associated with significant anxiety in anticipation of pain, out of frustration of poorly managed pain, and as part of pain syndromes. Research shows that in addition to treating acute and chronic pain, virtual reality therapeutics are also effective in treating anxiety.<br>Sikka N, Shu L, Ritchie B, Amdur RL, & Pourmand A. Virtual Reality-Assisted Pain, Anxiety, and Anger Management in the Emergency Department. Telemed J E Health. 2019 Dec;25(12):1207-1215.<br>For example, a prospective cohort study by Sikka et al (2019) at a single academic urban tertiary care center involved ED patients with a pain score ≥3 on a numeric rating scale (0-10 integers) for any reason. Patients with stroke, epilepsy, | We have evaluated these against our inclusion/exclusion criteria |

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| | | dementia, or other diseases that may prevent use of VR were excluded. Enrolled patients in the intervention cohort spent 20 min using VR applications. A paired t-test was used to analyze the change of pain, anger, and anxiety scores between pre- and post-intervention. Analysis of variance and linear regression were used to assess the impact of other subject variables (including gender, age, race, and education) on pre-post intervention changes.<br>The study showed that 100 patients were enrolled and 93 experienced the VR intervention. Of these, 57 (61.3%) were women, and mean age was 38 ± 14. Mean anger (2.28 ± 0.8 to 1.92 ± 0.7, $p < 0.0001$), anxiety (2.06 ± 0.8 to 1.81 ± 0.8, $p < 0.0001$), and pain (7.16 ± 2.5 to 6.49 ± 2.7, $p < 0.0001$) levels dropped significantly from pre- to post-intervention. Outcomes of the VR intervention were impacted by subject variables, including education and ethnicity. Pain (1.86 ± 3.3, $p = 0.03$) and anger (1.03 ± 1.4, $p = 0.02$) levels dropped most for those with less than high school education. Linear regression analysis revealed that patients with higher levels of health/quality of life (QOL) had larger mean drop per unit predictor for anger (0.29 [0.09], $p = 0.0013$) and anxiety (0.22 [0.07], $p = 0.001$).<br>The study concluded that VR applications are feasible for ED patients and may lead to reduced pain, anger, and anxiety levels. These outcomes are affected by subject ethnicity, educational status, and health/QOL although independent of the chief complaint. | |
| | General | **Conclusion**<br>In conclusion, we believe that AHRQ's systematic review of integrated pain programs is strong and will be a meaningful contribution to the field of pain management, however, we believe the review could be strengthened by having broader | |

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<tr><td></td><td></td><td>inclusion of RWE, reconceptualizing pain care delivery to reduce treatment burden, and having more standardization of treatment protocols.<br>We hope AHRQ can acknowledge in the final report the important potential of virtual modalities to manage acute and chronic pain as part of integrated pain management programs. With the proliferation of virtual solutions, it is important to separate signal from noise. We are hopeful that the above synthesis of the literature on virtual reality therapeutics helps AHRQ to distinguish science from snake oil and bolsters evidence-based integrated pain management modalities in its systematic review. Virtual reality therapeutics are particularly timely in the COVID-19 and drug overdose eras when the confluence of these two pandemics calls for effective socially-distanced modalities for managing pain without exposing patients to the risks of the SARS-CoV2 virus or opiates.<br>We thank AHRQ for the opportunity to comment. AppliedVR welcomes the opportunity to discuss these comments in further detail, as necessary. If you have any questions regarding these comments, please do not hesitate to contact us at 844-857-0010 or matthew@appliedvr.io.</td><td></td></tr>
<tr><td>Robin Paynter<br><br>Scientific Resource Center for the AHRQ EPC Program</td><td>Methods</td><td>1. TRANSLATION TO PSYCINFO<br><table><tr><td></td><td>C. Revision(s) required</td><td>X</td><td></td></tr></table>Comments: Required changes appear in RED; Recommended changes appear in Purple<br>I ran the original draft review PsycINFO search, retrieving zero results. After reviewing the search I identified some elements in the existing search with recommended and required changes. I also think the entire search could (and probably should) be reworked, as in the revised draft</td><td>Thank you for your comments. Many comments appear to reflect different approaches to designing searches.</td></tr>
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| | | following the original draft. The revised version search yields 125 results.<br><br>**Database: APA PsycInfo 1806 to September Week 2 2020 (original draft review search)**<br>1 Chronic Pain/<br>**2 exp arthralgia/ or exp back pain/ or exp headache/ or exp musculoskeletal pain/ or neck pain/ or exp neuralgia/ or exp nociceptive pain/ or pain, intractable/ or fibromyalgia/ or myalgia/**<br>**Line 2 Required change:**<br>**back pain/ or exp headache/ or myofascial pain/ or neuralgia/ or neuropathic pain/**<br>(original Ovid Medline ALL search appears to have been searched in Ovid PsycINFO without<br>translation, despite the databases having different subject term sources (i.e., MeSH and Thesaurus of Psychological Index Terms)<br>3 Pain/<br>4 chronic.ti,ab.<br>5 3 and 4<br>**6 ("chronic pain" or "persistent pain" or "intractable pain" or "refractory pain" or "diffuse pain").ti,ab.**<br>**Line 6 Recommended change from bound phrase to adjacency search, improves recall:**<br>**((chronic or diffuse or intractable or persistent or refractory) adj1 pain).ti,ab.**<br>**7 (((back or spine or spinal or cervical or leg or musculoskeletal or neuropathic or nociceptive or nociplastic or centralized or radicular or noncancer or "non-cancer" or "non-malignant" or diffuse) adj2 pain) or headache or arthriti* or fibromyalgia or osteoarthriti* or neuropathy or neuropathies).ti,ab.**<br>**Line 7 Recommended change:** | Our research librarian reviewed all comments in detail and evaluated the impact of the changes suggested. The suggested changes do not appear to have impacted the results of this report.<br><br>Given that the search as already been completed and its results implemented, no changes will be made to the strategy in the report.<br><br>It is unclear what platform the commentor is using. The search was re-run on 7-5-2021 ad reported and |

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| | | (((back or spine or spinal or cervical or leg or musculoskeletal or nociceptive or nociplastic or centrali?ed or radicular or noncancer or "non-cancer" or nonmalignant or "non-malignant" or diffuse) adj2 pain) or headache* or arthriti* or fibromyalgi* or osteoarthriti* or osteo-arthriti* or neuropath* or neuro-path*).ti,ab<br>8 or/1-7<br>9 exp Patient Care Planning/<br>10 exp interdisciplinary treatment approach/<br>11 exp multimodal treatment approach/<br>12 exp integrated services/<br>13 Case Management/<br>14 ADD NEW LINE: Required change: PsycINFO has a pain management subject heading<br>Pain Management/<br>15 ((integrated or comprehensive or multidisciplin* or multimod* or interdisciplin* or multicomponent or collaborat* or coordinat* or interprofessional or "inter-professional") adj3 (intervention* or treatment* or therap* or care or program* or model*)).ti,ab.<br>16 ("pain clinic*" or "pain program*" or "pain management" or biopsychosocial or "stepped care").ti,ab.<br>17 or/9-16<br>17 8 and 16<br>18 exp Medicare/<br>19 medicare.ti,ab.<br>20 18 or 19<br>21 17 and 20<br>22 limit 17 to peer reviewed journal<br>Recommended change: remove this limit as it does not add to the search<br>23 exp clinical trials/<br>24 22 and 23 | results in 2,211 citations received.<br><br>Regarding the search translation for PsycINFO: The assumption that the Medline search was not translated for use in PsycINFO is incorrect. The PsycINFO search follows the same format and the Medline search, but the Medline search was not just repeated in PsycINFO. For example, the MeSH term “Interdisciplinary Communication” was translated to “Interdisciplinary Treatment Approach” in PsycINFO |

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| | | **25 (random* or control* or trial).ti,ab.**<br>**26 22 and 25**<br>**27 24 or 26**<br>**Recommended change: simplify logic and improve sensitivity/specificity**<br>**See lines 20-24 in revised version of the search below**<br>**28 limit 27 to english language**<br>**Required change (see section 7 REPORTING on EPC Guidance):**<br>**the rationale behind the English language limit should be discussed in Appendix A search strategy**<br>29 limit 28 to yr="1989 -Current"<br><br>**Ovid PsycInfo 1806 to June Week 1 2021 (a revised version of the search)**<br>1 Chronic Pain/ (14230)<br>2 back pain/ or chronic pain/ or headache/ or myofascial pain/ or neuralgia/ or neuropathic pain/ (26334)<br>3 Pain/ and chronic.ti,ab. (5424)<br>4 ((chronic or diffuse or intractable or persistent or refractory) adj1 pain).ti,ab. (17464)<br>5 (((back or spine or spinal or cervical or leg or musculoskeletal or nociceptive or nociplastic or centrali?ed or radicular or noncancer or non-cancer or nonmalignant or non-malignant or diffuse) adj2 pain) or headache* or arthriti* or fibromyalgia* or osteoarthriti* or osteo-arthrit* or neuropath*).ti,ab. (59842)<br>6 or/1-5 (75515)<br>7 Treatment Planning/ (6345)<br>8 Interdisciplinary Treatment Approach/ (7457)<br>9 Multimodal Treatment Approach/ (1945)<br>10 Integrated Services/ (4138) | according to the term used in the PsycINFO thesaurus.<br><br>Regarding the missing PsycINFO subject heading of Pain Management: This was tested and no additional English language citations were identified that were not already picked up in the search, so it will not result in any extra work. |

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| | | 11 Case Management/ (3252)<br>12 ((collaborat* or comprehensive* or coordinat* or co-ordinat* or interdisciplin* or inter-disciplin* or integrat* or interprofessional or inter-professional or multicomponent or multi-component or multidisciplin* or multi-disciplin* or multimod* or multi-mod*) adj3 (intervention* or treat* or therap* or care or program* or model*)).ti,ab. (73517)<br>13 or/7-12 (89201)<br>14 and/6,13 (2517)<br>15 Medicare/ (2161)<br>16 ("amyotrophic lateral sclerosis" or "als" or disabled or disabilit* or elder or elders or elderly or geriat* or geront* or kidney or "lou gehrig*" or ((mature or older or oldest) adj2 adult*) or medicare or nonagenarian* or octogenarian* or "oldest old" or renal or retired or (senior adj citizens) or septuagenarian* or sexagenarian*).ti,ab. (284342)<br>17 limit 14 to ("380 aged <age 65 yrs and older>" or "390 very old <age 85 yrs and older>") (386)<br>18 or/15-17 (284696)<br>19 and/14,18 (840)<br>20 Clinical Trials/ or Randomized Clinical Trials/ or Randomized Controlled Trials/ (12870)<br>21 (double-blind or randomized or randomly assigned).tw. (122606)<br>(This is a published Ovid PsycINFO filter: Eady AM, Wilczynski NL, Haynes RB. PsycINFO search strategies identified methodologically sound therapy studies and review articles for use by clinicians and researchers. *J Clin Epidemiol.* 2008;61(1):34-40. [Ovid]<br>22 limit 19 to "0300 clinical trial" (42)<br>23 or/20-22 (128305)<br>24 and/19,23 (127)<br>25 limit 24 to english language (125)<br>26 limit 25 to yr="1989 -Current" (125) | |

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| | Methods | **2. BOOLEAN AND PROXIMITY OPERATORS**<br>Comments: Required changes appear in RED; Recommended changes appear in Purple<br>Incorrect Boolean logic in line 8 (see below), because the searches were largely conducted on the Ovid platform this error was replicated across all of the searches (except EBSCOHost CINAHL).<br><br>**Ovid MEDLINE(R) ALL 1946 to September 23, 2020**<br>1 Chronic Pain/<br>2 exp arthralgia/ or exp back pain/ or exp headache/ or exp musculoskeletal pain/ or neck pain/ or exp neuralgia/ or exp nociceptive pain/ or pain, intractable/ or fibromyalgia/ or myalgia/<br>**3 Pain/**<br>**4 chronic.ti,ab,kw.**<br>5 3 and 4<br>6 ((chronic or persistent or intractable or refractory) adj3 pain).ti,ab,kw.<br>7 (((back or spine or spinal or cervical or leg or musculoskeletal or neuropathic or nociceptive or nociplastic or centralized or radicular or noncancer or "non-cancer" or "non-malignant" or diffuse) adj2 pain) or headache or arthriti* or fibromyalgia or osteoarthriti* or neuropathy or neuropathies).ti,ab,kw.<br>**8 or/1-7**<br>**Required change: should read or/1-2,5-7 or just rewrite as 'Pain/ and chronic.ti,ab,kw' and remove extra lines** | Regarding the error in Boolean logic in line 8 of the Ovid searches: While this is an error, it served to be overly inclusive, rather than inappropriately excluding relevant studies. In other words, it made more work for the review team by likely bringing in extraneous citations. |

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| | Methods | **3. SUBJECT HEADINGS**<br>Comment:<br>As detailed in other sections. | |
| | Methods | **4. TEXT WORD SEARCHING**<br>Comments: Required changes appear in RED;<br>Recommended changes appear in Purple<br>Please see recommended changes below identified search lines.<br><br>**Ovid MEDLINE(R) ALL 1946 to September 23, 2020**<br>1 Chronic Pain/<br>2 exp arthralgia/ or exp back pain/ or exp headache/ or exp musculoskeletal pain/ or neck pain/ or exp neuralgia/ or exp nociceptive pain/ or pain, intractable/ or fibromyalgia/ or myalgia/<br>3 Pain/<br>4 chronic.ti,ab,kw.<br>5 3 and 4<br>6 ((chronic or persistent or intractable or refractory) adj3 pain).ti,ab,kw.<br>**Line 6: recommended change to parallel terms used in the PsycINFO search: add diffuse and add adjacency search for improved recall over bound phrase searching.**<br>Add term 'diffuse' so searches match, unless that term was inadvertently incorrectly added to the<br>PsycINFO search. Example:<br>((chronic or diffuse or intractable or persistent or refractory) adj1 pain).ti,ab.<br>7 (((back or spine or spinal or cervical or leg or musculoskeletal or neuropathic or nociceptive or nociplastic or centralized or radicular or noncancer or "non-cancer" or "non-malignant" or diffuse) adj2 pain) or headache or | Thank you for your suggestions. |

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| | | arthriti* or fibromyalgia or osteoarthriti* or neuropathy or neuropathies).ti,ab,kw.<br>**Line 7: recommended changes for truncation and spelling**<br>(((back or spine or spinal or cervical or leg or musculoskeletal or nociceptive or nociplastic or centrali?ed or radicular or noncancer or "non-cancer" or nonmalignant or "non-malignant" or diffuse) adj2 pain) or headache* or arthriti* or fibromyalgi* or osteoarthriti* or osteo-arthriti* or neuropath* or neuro-path*).ti,ab,kw.<br>8 or/1-7<br>9 exp Patient Care Team/<br>10 exp Patient Care Planning/<br>11 Pain Clinics/<br>12 interdisciplinary communication/<br>13 Combined Modality Therapy/<br>14 Case Management/<br>15 ((integrated or comprehensive or multidisciplin* or multimod* or interdisciplin*or multicomponent or collaborat* or coordinat* or interprofessional or "inter-professional") adj3 (intervention* or treatment* or therap* or care or program* or model*)).ti,ab,kf.<br>**Line 15: recommended changes for truncation and spelling**<br>((integrat* or comprehensive* or multidisciplinary or multi-disciplinary or multimod* or multi-mod* or interdisciplinary or inter-disciplinary or multicomponent or multi-component or collaborat* or coordinat* or interprofessional or inter-professional) adj3 (intervention* or treat* or therap* or care or program* or model*)).ti,ab,kf.<br>16 ("pain clinic*" or "pain program*" or "pain management" or biopsychosocial or "stepped care").ti,ab,kf. | |

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| | | **Line 16: recommended changes replacing bound phrases with adjacency search for improved retrieval**<br>((pain adj1 (clinic* or program* or manag*)) or biopsychosocial or "stepped care").ti,ab,kf.<br>17 or/9-16<br>18 8 and 17<br>19 exp Medicare/<br>20 "Centers for Medicare and Medicaid Services, U.S."/<br>21 (medicare or disabled or disabilit* or kidney or renal or "lou gehrig*" or "amyotrophic lateral sclerosis" or "als").ti,ab.<br>22 or/19-20<br>23 18 and 22<br>24 (random* or control* or trial).ti,ab,kf,sh.<br>25 limit 18 to randomized controlled trial<br>26 18 and 24<br>27 limit 26 to "all aged (65 and over)"<br>28 25 or 27<br>29 limit 28 to english language<br>30 limit 29 to yr="1989 -Current"<br>31 23 or 30 | |
| | Methods | **5. SPELLING, SYNTAX, AND LINE NUMBERS**<br>Comment:<br>As detailed in other sections. | |
| | Methods | **6. LIMITS AND FILTERS**<br>Comments: Required changes appear in RED; Recommended changes appear in Purple<br>**Ovid MEDLINE(R) ALL 1946 to September 23, 2020**<br>1 Chronic Pain/<br>2 exp arthralgia/ or exp back pain/ or exp headache/ or exp musculoskeletal pain/ or neck pain/ or exp neuralgia/ or exp nociceptive pain/ or pain, intractable/ or fibromyalgia/ or myalgia/<br>3 Pain/ | Regarding search filters: We are aware of the search filters referenced and have used some of those in the past but experience has taught that no one filter is |

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| | | 4 chronic.ti,ab,kw.<br>5 3 and 4<br>6 ((chronic or persistent or intractable or refractory) adj3 pain).ti,ab,kw.<br>7 (((back or spine or spinal or cervical or leg or musculoskeletal or neuropathic or nociceptive or nociplastic or centralized or radicular or noncancer or "non-cancer" or "non-malignant" or diffuse) adj2 pain) or headache or arthriti* or fibromyalgia or osteoarthriti* or neuropathy or neuropathies).ti,ab,kw.<br>8 or/1-7<br>9 exp Patient Care Team/<br>10 exp Patient Care Planning/<br>11 Pain Clinics/<br>12 interdisciplinary communication/<br>13 Combined Modality Therapy/<br>14 Case Management/<br>15 ((integrated or comprehensive or multidisciplin* or multimod* or interdisciplin*or multicomponent or collaborat* or coordinat* or interprofessional or "inter-professional") adj3 (intervention* or treatment* or therap* or care or program* or model*)).ti,ab,kf.<br>16 ("pain clinic*" or "pain program*" or "pain management" or biopsychosocial or "stepped care").ti,ab,kf.<br>17 or/9-16<br>18 8 and 17<br>19 exp Medicare/<br>20 "Centers for Medicare and Medicaid Services, U.S."/<br>21 (medicare or disabled or disabilit* or kidney or renal or "lou gehrig*" or "amyotrophic lateral sclerosis" or "als").ti,ab.<br>22 or/19-20<br>23 18 and 22<br>**24 (random* or control* or trial).ti,ab,kf,sh.**<br>**25 limit 18 to randomized controlled trial** | adequate and even validated filters miss studies, including the Cochrane RCT filter. For that reason, our librarian relied on the filters built into the databases combined with keywords. |

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| | | **Lines 24-25 recommended changes:**<br>• I am not familiar with the RCT filter used - is it published? If so, please cite it in Appendix A methods section.<br>• The logic works, but it is unnecessarily complicated in my opinion (see revised PsycINFO search lines 20-24 for example of a way to streamline)<br>• If not published, I would highly recommend using the Cochrane RCT filter - it has high sensitivity and specificity (following).<br>Box 3.c Cochrane Highly Sensitive Search Strategy for identifying randomized trials in<br>MEDLINE: sensitivity-maximizing version (2008 revision); Ovid format (p.62)<br>1 randomized controlled trial.pt.<br>2 controlled clinical trial.pt.<br>3 randomized.ab.<br>4 placebo.ab.<br>5 drug therapy.fs.<br>6 randomly.ab.<br>7 trial.ab.<br>8 groups.ab.<br>9 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8<br>10 exp animals/ not humans.sh.<br>11 9 not 10<br>26 18 and 24<br>**27 limit 26 to "all aged (65 and over)"**<br>**Line 27: required change**<br>"all aged (65 and over)" should be supplemented with text-word searching to capture records<br>awaiting full Medline indexing and PubMed records, for instance: | |

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| | | (elder or elders or elderly or ((mature or older or oldest) adj2 adult*) or "oldest old"<br>or (senior adj citizens) or geriat* or geront* or nonagenarian* or octogenarian* or retired or septuagenarian* or sexagenarian*).ti,ab,kf.<br>28 25 or 27<br>**29 limit 28 to english language**<br>**Line 29: Required change (see Section 7: REPORTING for EPC Guidance)**<br>• Use of the English language limit should be explained in the search strategy section (similar to how the date limit is discussed).<br>• Why limit the results from one part of the search but not both (why limit line 28 but not line 23)? Limit to English language for both parts.<br>30 limit 29 to yr="1989 -Current"<br>31 23 or 30 | |
| | Methods | **7. REPORTING**<br>C. Revision(s) required: X<br>Comments: Required changes appear in RED; Recommended changes appear in Purple<br>Required: See EPC Systematic Review Content Guidance subsection (below)<br>• Role of librarian and whether search was peer reviewed were not mentioned.<br>• English language limit is not noted nor justification given in the Appendix A methods section.<br>*EPC Systematic Review Content Guidance*<br>*"Authors should include the elements below when they are important to understanding the* | Thank you for your suggestions. In the methods for the final report we have indicated that searches were conducted by our librarian.<br><br>Language restrictions and justification were noted in the methods. |

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<tr><td></td><td></td><td>methodological approach. Not all elements need be included in all reports.<ul><li>✓ Explain the literature search strategy (e.g., names of required and additional databases, inclusive dates [months/years], including any interim updates of searches).</li><li>Mention role of librarian and/or information specialist and, if true, that searches were peer reviewed.</li><li>✓Include exact search strings.</li><li>✓Mention hand searching reference lists, journal tables of contents, etc.</li><li>✓Describe acquisition and use of FDA documents, Supplemental Evidence and Data for Systematic Reviews (SEADS), Federal Register Notice, etc. (Include dates of portal or submission period.)</li><li>Justify any publication restrictions (e.g., language, search dates).”</li></ul></td><td>Information on dates for publications and justification are also stated in the methods. (Appendix A).<br><br>As noted in the comment “not all elements need to be included in all reports.”</td></tr>
<tr><td></td><td>Methods</td><td>8. OVERALL EVALUATION (Note: If one or more “revision required” is noted above, the response below must be “revisions required”.)<table><tr><td></td><td>C. Revision(s) required</td><td>X</td><td></td></tr></table>Comment:<table><tr><td>As detailed in other sections.</td></tr></table></td><td></td></tr>
<tr><td>Ashley Walton<br><br>American Society of Anesthesiologists</td><td>Methods</td><td>It would be beneficial to include studies with comprehensive pain management programs (CPMP) that include injections/interventions/surgery referrals. This is a common component in many interdisciplinary pain management centers, in addition to behavioral medicine, physical therapy, and medication management centers. But perhaps none were available?</td><td>Thank you for your comments. The focus of the report was on programs overall. To the extent that referrals to</td></tr>
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| | | | these treatments occurred in included studies, this is noted in the evidence tables (Appendix E). Studies generally did not report on the impact of these and thus, no analysis across studies for such components was feasible. |
| | General | The American Society of Anesthesiologists (ASA) applauds the focus of the document on examining outcomes outside of pain scores (including depression scales, etc.), as pain scores are generally problematic/not useful in the chronic pain population. | Thank you for your comments. |
| | General | AHRQ should acknowledge explicitly that IPMPs can offer providers additional resources and treatment options for chronic pain patients to focus on function, quality of life, and coping with chronic pain. Additionally, because of its complex biopsychosocial etiologies, chronic pain management should be offered in a multidisciplinary and coordinated treatment team to provide consistent and comprehensive care for our patients.Cost-effectiveness: This is of course difficult sometimes to quantify and would be an area to highlight for evaluating each programs effectiveness on improving patient function and general wellbeing. CPMP/IPMP quality variability can be significant as well. AHRQ does address the heterogeneity in the discussion section of the report, however. | Thank you for your comments. |

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| | General | ASA greatly appreciates the discussion on the clinical applicability of this meta-analysis. You have emphasized the importance of interdisciplinary care coordination as well as maximizing individualized care and access to available treatment modalities. Often our recommendations on other modalities cannot be tried due to lack of insurance coverage, cost, and access. This can be frustrating for providers and patients. It is unclear whether any of the CPMP programs include injections/interventions/surgery referrals. Perhaps this was excluded from the included studies? This is a common component of many interdisciplinary pain management centers, in addition to behavioral medicine, physical therapy, and medication management. AHRQ does write in the strengths section that while some included studies briefly described access to additional components (e.g., injections, various medical procedures, chiropractic, massage, acupuncture, and others), details of the impact of such components were not described within the context of the full program. Thus, maybe this information was simply not available in the studies examined? | Thank you for your comments.<br><br>Studies did not report on the impact of these individual components and thus, no analysis across studies for such components was feasible. |
| | General | AHRQ recognizes that there are many gaps in the existing evidence for formal pain management programs, particularly those based in primary care (i.e., IPMPs). ASA would recommend that future studies focus on reduction of opioids and improved function. Research should also support integrated pain management programs that also integrate medication assisted treatment and addiction treatment. There is a lack of larger trials and randomized controlled trials (RCTs) are difficult to perform around CPMP/IPMP given that blinding is nearly impossible. In addition, center to center differences can be great, which is a big limitation when comparing programs overall and can lead to the assumption | Thank you for your comments.<br><br>We agree that there are many research needs to be addressed. |

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| | | that all are equal in quality. This is highlighted in the limitations section of the report. | |
| | General | Overall, this document is excellent and provides key details towards maximizing improved pain care, integrated/comprehensive programs with standards of care/quality, and improved access for our elderly population.The document states that the purpose of this study is to assist HHS in evaluating ways to improve Medicare coverage and payment for treatment of acute and chronic pain, particularly through integrated pain management programs and multidisciplinary, multimodal treatment models that involve care coordination as part of the Dr. Todd Graham Pain Management Study. Unfortunately, very little of the document focuses on the payment aspect. AHRQ acknowledges that neither IPMPs nor CPMPs have been widely implemented in the United States. The agency states that reasons include the costs, logistics, leadership support, staffing, and provider training required to develop and implement them as well as the current fee for service reimbursement structure. As patients in need of integrated pain care may be of a higher acuity and complexity, pain medicine specialists and their care teams may benefit from reimbursement incentives to further develop existing clinical settings into integrated pain management programs. | Thank you for your comments.<br><br>It was not within the scope of this review to provide extensive evaluation of the barriers or reimbursement factors related to these programs The information presented in response to the contextual questions (and Appendix C) provided some general descriptions based on the contextual questions posed. |
| | General | Yes; ASA commends AHRQ for identifying in its conclusion that, though the impact on pain function is mildly to moderately beneficial, integrated and comprehensive programs do have a positive impact on patients functions.The | Thank you for your comments. |

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| | | document should also explicitly state that in the setting of the opioid epidemic, the management of chronic pain requires safe, effective treatments without the risk of misuse or addiction. | We agree that chronic pain management requires the use of safe and effective treatments. |
| **Dale West**<br><br>**Academic Consortium for Integrative Medicine and Health** | General | We commend the authors on undertaking the complex task of reviewing the literature on comprehensive pain care in two important health care settings: primary care and specialty pain care. The imperative to address comprehensive pain care is dictated by the overall acknowledgement that the strategies of opioids, procedures and surgery have limited success and there remains a crisis regarding chronic pain, opioid use, diversion and addiction caused by prescription opioids.1 As the US Healthcare system moves towards a new era in pain care, we recognize that patients' unlimited access to opioids are (1) an ineffective treatment strategy and (2) dangerous leading to increased risk of declining function, addiction and death. There is greater understanding of pain mechanisms and variables affecting pain and pain protocols align with more meaningful measures, such as functional goal setting and Quality of Life measures.2 The US Healthcare system is abandoning the ill-informed strategy of 'pain as the fifth vital sign' that played a critical role in driving dose escalation of opioids.3 Healthcare researchers are developing and researching effective opioid taper protocols.4 Despite this progress, opioid related deaths continue to rise reaching an all-time high during the COVID-19 pandemic.5,6 The expansion of research and access to comprehensive, | Thank you for your comments. |

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| | | integrative pain options is critically important as the US Healthcare systems strives to move beyond the missteps of the past.7,8<br>While the stated aim of this AHRQ report is to help healthcare decisionmakers make well-informed decisions, the risks of bias in the draft report warrant clear delineation. | |
| | Results | • **Many of the included randomized controlled trials are dated and not contextualized relative to the opioid era**<br>Assessment of comprehensive pain care cannot occur in a vacuum, ignoring the dominance of opioid use for pain for two decades. The promise and promotion of opioids coincided with a retraction of insurance coverage for multidisciplinary care that created a barrier to access and funded research.9<br>This is apparent in the section entitled **Opioid Use with IPMP,** where the cited studies report no significant difference in opioid prescriptions compared to usual care. But two of the studies cited were published in 2008 (10) and 2009 (11) during the era of the myth of safety in escalating opioid dosages. Opioid reduction was not an object of research or a goal of therapy during this time. As such, these studies must be examined with that major limitation in mind.<br>The context of all aspects of opioid period must be considered when evaluating access, utilization and research of integrative and comprehensive pain care. Attempts to moderate the explosion of opioid access and the myth of opioid safety in increasing dosages have had an impact since 2016.1 As May 2021, 36 states have enacted policy guidelines regarding opioid prescribing. While these policy changes are encouraging, comprehensive pain care access has not recovered in terms of insurance facilitated access or research support. Without adequate research support, studies evaluating the impact of comprehensive pain care access within the opioid era have not been conducted. Reliance on | Thank you for your comments.<br><br>The scope of this report did not include evaluation opioid prescribing, effectiveness, or safety. Other AHRQ reports have examined this. |

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| | | outdated randomized controlled trials conducted during the height of 'opioids are safe' myth is indefensible. | |
| | Results | • **The authors concede many of the studies are small and of poor quality**<br>We agree with the authors that the size, quality and scope of the studies do not support a conclusion regarding integrative and comprehensive pain care. As such, we encourage the authors to revise the review to make this fatal limitation more prominent. | Thank you for your comments.<br><br>We believe that we have extensively discussed the limitations of the review and the evidence. |
| | Results | • **None of the studies specifically enrolled Medicare recipients**<br>Few of the studies included some Medicare recipients, but critically no studies specifically enrolled Medicare recipients. This is an important limitation as Medicare recipients are often at increased risk for chronic pain, with multimorbid and polypharmacy complexities. Firm conclusions about the efficacy (or lack of efficacy) of the CPMPs and IPMPs cannot be supported based on the limited evidence included in this report. | Thank you for your comments. |
| | Results | • **Comprehensive pain care must include all evidence-based non-pharmacologic therapies**<br>The scope of the report is exceptionally narrow in terms of what therapies are defined as comprehensive pain care options. There is ample evidence of effectiveness for specific non-pharmacologic pain care options that are omitted in this paper though supported in specific guidelines.12-17<br>All evidence based non-pharmacologic therapies warrant inclusion as part comprehensive pain care strategies.18 While not encouraging the authors to start at the very beginning, we | Thank you for your comments.<br><br>There are several other AHRQ reports that evaluate the use of nonpharmacologic treatments for pain. |

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| | | strongly suggest that the authors revise their inclusion criteria to include additional studies. | |
| | Conclusions and Discussion | • **This report is evidence of the need for better quality research to assess the gaps that remain in pain care and that point should be made in the report**<br>We think it would be prudent to refrain from conclusions based on the limited nature of the evidence and to instead **identify specific areas of future research that are needed**. One question that is necessary to answer is "what dosage, frequency and combinations of evidence-based non-pharmacologic therapies are most effective for specific pain conditions?" In addition to nonopioid medication options, these studies should include psychological and physical approaches such as acupuncture therapy, manual therapies, and directed movement therapies.18 There is also promising research showing the early use of effective non-pharmacologic therapies in the treatment of pain avoids opioid initiation, averting opioid use and liability.19 The insidiousness of opioid addiction and the potential devastation of chronic use supports confirmation of options that avoid or reduce opioid initiation. | Thank you for your comments.<br><br>The report does discuss limitations of the current evidence, the overall strength of evidence and does make recommendations for further research.<br><br>Citations provided were evaluated against our inclusion/exclusion criteria. |
| | General | In conclusion, while we appreciate the insight of the AHRQ to commission a report of this magnitude for an important area for US Healthcare, we are disappointed with the draft report in its current form as outlined above. We encourage both the AHRQ and the report authors to consider the ramifications of the draft report on comprehensive pain care programs and make the changes as outline above. | Thank you for your comments. |
| **Charis Wolf** | Methods | The Methods section is what drew our attention - we believe the parameters for inclusion excluded too much valuable | Thank you for your comments. |

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| **American Society of Acupuncturists** | | research which would make an authoritative conclusion impossible. We would ask that this be re-assessed. | |
| **Nina Zeldes**<br><br>National Center for Health Research | General | While NCHR agrees with the stated objective of a report evaluating the effectiveness and harms of pain management programs in the Medicare population, this report has several serious limitations. Please see attachment for the full comment. | Thank you for your comments. |
| | General | We are writing to express our views on the Agency for Healthcare Research and Quality's (AHRQ) draft report on integrated pain management programs.<br>The National Center for Health Research (NCHR) is a nonprofit think tank that conducts, analyzes, and scrutinizes research on a range of health issues, with particular focus on which prevention strategies and treatments are most effective for which patients and consumers. We do not accept funding from companies that make products that are the subject of our work, so we have no conflicts of interest. | Thank you for your comments. |
| | Results | While we agree with the stated objective of a report evaluating the effectiveness and harms of pain management programs in the Medicare population, this report has several serious limitations. A major concern is the age of the patients in the trials. The mean age of patients across trials on comprehensive pain management was 45 years old. Only 4 trials cited in the report studied patients with a mean age over 60 years old, and there is no mention of subgroup analyses for any patients over 65 for any studies reviewed. Although a small proportion of Medicare beneficiaries are younger than 65, those younger beneficiaries either have also qualified for Social Security disability for at least 2 years or have been diagnosed with end-stage renal disease. Therefore, the patients studied are not representative of Medicare | Thank you for your comments.<br><br>The report summarizes the available evidence.<br><br>We do discuss the fact that the age of the patients and populations in the studies as |

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| | | beneficiaries, and it would be inappropriate to extrapolate the findings to the Medicare population. | limitations to the review and included studies. |
| | Results | Another major shortcoming is that, as stated in the review, patients in most trials on pain management had moderate chronic pain from musculoskeletal pain and fibromyalgia. This is a limited scope and not representative of the broad range of chronic pain experienced by those in the Medicare population. | Thank you for your comments.<br><br>This is noted as a limitation to the evidence base. |
| | Results | For these reasons, the research reviewed in this report fails to adequately discuss the effectiveness of integrated and comprehensive pain management programs for the Medicare population. The admitted caveat that the “findings are potentially applicable to the Medicare population” [emphasis ours] is not adequate to convey these shortcomings. The report needs to be revised to more clearly indicate these shortcomings and, if possible, determine if subgroup analyses are possible to better determine whether any of the studies have implications for Medicare beneficiaries. | Thank you for your comments. |

# LIST OF CITATIONS PROVIDED BY PEER REVIEWERS AND PUBLIC COMMENTORS AND REASON FOR EXCLUSION

**Key to exclusion codes**

| Exclusion Code | Exclusion Reason |
|---|---|
| 2 | Case-series, applicable (hold for now) |
| 3 | Ineligible population |
| 4 | Ineligible intervention |
| 5 | Ineligible comparator |
| 6 | Ineligible outcomes |
| 7 | Ineligible setting |
| 8 | Ineligible study design |
| 9 | Not a study (trial protocol, letter, editorial, nonsystematic review article) |
| 10 | Systematic review, not directly used, but studies checked for inclusion |
| 11 | Not English language but possibly relevant |
| 12 | Not English language and not relevant |

| Citation provided in comments | Reason for exclusion |
|---|---|
| The impact of integrative medicine on pain management in a tertiary care hospital "Optimal inpatient pain management remains a major institutional and therapeutic challenge" Journal of Patient Safety published March 2010. | 8 |
| 2019. Taylor-Swanson, L, White, S, Budhathoki, A, & Garland, E. Combined Mindfulness and Acupuncture in the Context of Chronic Pain: Pilot Feasibility and Acceptability Study Protocol (poster). International Conference on Complementary Medical Research, Brisbane, Australia. | *Exclude at TIAB* (poster) |
| Adam S. Reinstein, Lauren O. Erickson, Kristen H. Griffin, Rachael L. Rivard, Christopher E. Kapsner, Michael D. Finch, Jeffery A. Dusek; Acceptability, Adaptation, and Clinical Outcomes of Acupuncture Provided in the Emergency Department: A Retrospective Pilot Study, Pain Medicine, Volume 18, Issue 1, 1 January 2017, Pages 169-178, https://doi.org/10.1093/pm/pnv114 | 8, 4 |
| Allina's "Transforming Pain Shared Medical Visit" with leads Michael Egan, LAc, and Nancy Van Sloun, MD has some information published here: https://account.allinahealth.org/services/855. This work was presented at a fall 2020 Osher conference as a poster presentation, "The Penny George Institute Virtual Transforming Pain Shared Medical Visits at Allina Health." | *Exclude at TIAB* (poster) |
| American Massage Therapy Association. Massage Therapy in Integrative Care & Pain Management. (2018). Available at: https://www.amtamassage.org/globalassets/documents/publications-and-research/mt_in_integrative_care_and_pain_management.pdf | 9 |
| Bosy D, Etlin D, Corey D, Lee J. An interdisciplinary pain rehabilitation programme: description and evaluation of outcomes. Physiother Can. 2010;62:316-326. (Mentioned multiple times in comments) | 8 |
| Burns J, Mullen TA. The role of traditional Chinese medicine in the management of chronic pain: a biopsychosocial approach. J Patient Cent Res Rev. 2015; 2:192-196. doi: 10.17294/2330-0698.1206 | 9 |

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| Burns JR, Kram JJ, Xiong V, Stark Casadont JM, Mullen TA, Conway N, Baumgardner DJ. Utilization of acupuncture services in the emergency department setting: a quality improvement study. J Patient Cent Res Rev. 2019; 6:172-8. 10.17294/2330-0698.1688 | 8, 4 |
| Chu H, Seo J., Kim C., Moon Y, Kang D., Lee H., Sung K., Lee S. (2018) Electroacupuncture for migraine protocol for a systematic review of controlled trials. Medicine, 97(17). http://dx.doi.org/10.1097/MD.0000000000009999 | 4 |
| Fan et al. Cost-Effectiveness of adding acupuncture and licensed acupuncturists as integrative health providers to pain management programs o In September 2017, the white paper, Acupuncture's Role in Solving the Opioid Epidemic: Evidence, Cost-Effectiveness, and Care Availability for Acupuncture as a Primary, Non-Pharmacologic Method for Pain Relief and Management, was published by The Joint Acupuncture Opioid Task Force, chaired by Bonnie Bolash, MAc. https://www.evidencebasedacupuncture.org/wp-content/uploads/2017/09/Acupunctures-Role-in-Solving-the-Opioid-Epidemic-_Final_September_20_2017-1.pdf | 8 |
| Darnall BD, Krishnamurthy P, Tsuei J, & Minor JD. Self-Administered Skills-Based Virtual Reality Intervention for Chronic Pain: Randomized Controlled Pilot Study. JMIR Form Res 2020;4(7). | 4, 5 |
| DiGennaro JL, Dervan LA, Roberts, JS, Artola EM, Ralston-Wilson JA, Lynn AM. Acupuncture as an Adjunct to Pharmacologic Sedation in Medically Ventilated Children in the Pediatric Intensive Care Unit. *(manuscript in progress) | *Exclude at TIAB* (4) |
| Dusek JA, Rivard RL, Griffin KH, Finch MD. Significant Pain Reduction in Hospitalized Patients Receiving Integrative Medicine Interventions by Clinical Population and Accounting for Pain Medication. J Altern Complement Med. 2021 Mar;27(S1):S28-S36. doi: 10.1089/acm.2021.0051. PMID: 33788611; PMCID: PMC8035926. | 8 |
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