# Integrative Group Medical Visits and Their Impact on Patients with Chronic Pain


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## ABSTRACT


In traditional western practice, medical visits last approximately 15 minutes with physicians seeing around 11-20 patients per day. The emphasis on standardization of care, efficiency, and cost-effectiveness leads to an often impersonal and incomplete assessment of needs for those suffering from chronic conditions. Additionally, research has shown that this type of medicine accentuates inequalities among socially disadvantaged populations who may not feel adequately represented, understood, and listened to in a traditional patient-physician medical appointment.

Chronic pain is a very prevalent condition in the United States with approximately 20.4% of adults self-reporting suffering with it. It is commonly linked with opioid use, mental health struggles, disability with completing daily tasks, and a general reduction in quality of life. Based on a systematic review of 11 quantitative studies regarding Shared Medical Appointments (SMAs) and patients with chronic pain, this method of health-care proved to be not only effective, but also affordable, increasingly accessible, and lessens the need for expensive pharmaceutical drugs with potentially devastating side effects.


## METHODOLOGY

**Data Collection**:

- Used a list provided by Dr. Jessica Barnhill and Dr. Isabel Roth of 23 published papers studying SMAs for chronic pain
- Went through a large document of survey questions organized by their research team and extrapolated which studies were quantitative vs qualitative
- Selected the 12 studies that used quantitative measures and made a table extracting the name/ year of the study, measures to determine the success of each group, and found outcomes

| Author Name and year | Measures (scale) | Outcome (numbers) -- include n and p values |
|---|---|---|
| Znidarsic, 2021 | Patient-Reported Outcomes Measurement Information System (PROMIS-57) standardized questionnaire | **Statistically significant** improvements in all domains; average opioid use decreased Non-significantly |
| Smith, 2016 | Used a 5-point Likert scale to measure satisfaction and confidence<br>Completed baseline and follow-up assessments of BPI, PSEQ, K10, and health care use in the last month | **No significant differences** between the two assessment formats in outcome except for wait-times<br>The group assessment reduced wait times while maintaining comparable outcomes<br>(**n=211** randomly assigned, n=162 that actually attended -> ended w 90 completing individual assessment and 72 completing group assessment) |

**Data Analysis:**

- Laid out the extracted outcomes and scales from the chart (example pictured above) and organized them into 4 main categories of influence:
  1. Physical comfort/ discomfort
  2. Mental health
  3. Ability to undertake daily functions
  4. Miscellaneous quality of life measures (ie. Naloxone availability, life satisfaction, ability to sleep, cost of care, etc)
- Brief literature review verifying each survey type used by the studies to ensure validity and reliability of measures
- Wrote paragraphs for each of the overarching categories and the studies that fell primarily into each. Described the changes that occurred from start to finish of the intervention periods
- Used the given quantitative, statistical analyses to determine the overall success of the groups as well as which aspect of one's quality of life was impacted the most

## RESULTS

**Four main areas of improvement:**

1. **Physical comfort/ discomfort**
   - Znidarsic, 2021: 178 participants completed an 8-week intervention period and saw statistically significant improvements ($P<0.05$) in their reported PROMIS-57 scores. PROMIS-57 is a scale to measure self-reported pain as well as psychological/ physiological burden.
   - Seesing, 2014: According to the 36-Item Short Form Health Survey, 272 participants and 142 partners showed a mean difference of 2.8 in health-related quality of life between those who attended the SMA and those who did not. These results were also statistically significant ($P<0.05$).
   - Romanelli, 2017: Used the PEG 3-Item questionnaire to determine the influence of 90-minute single encounter SMAs. Within the sample of 135 participants, there was an average increase in confidence in self-managing pain by a margin of +0.44 with statistically significant P-value of $<0.001$.
   - Harpole, 2003: Studied the implementation of SMAs in regards to reported occurrences of severe headaches. Used the Migraine Disability Assessment (MIDAS) and found a significant decrease (21.2 points, $P<0.005$) in reported disability after 6 month intervention of 54 participants. They also found 14.5 fewer days with headaches as opposed to the previous 3 months ($P<0.0001$).
2. **Mental health**
   - Huan, 2020: used many mental health survey measures including the PHQ-9, GAD-7, AAQ-II, SWLS, and SF-12 Health survey in their study of the health impact on female veterans. The results were statistically significant for all of the survey types with P values all under 0.001 (210 participants).
   - Geller, 2015: Statistically significant improvements among the 42 participants after taking the SF-36 questionnaire. The most prominent improvements were in the mental health category ($P=0.042$) and social function ($P=0.007$).
   - Smith, 2016: 211 randomized participants put into either an SMA or individual-style assessment. Found no significant differences (from the conventional care) in psychological or physiological distress based on 5-point Likert scale, but did find significant differences among wait times. Therefore, the two groups had comparable results in effectiveness with a slight advantage in efficiency to the SMAs.
3. **Inability to undertake daily tasks**
   - Rayburn, 2017: Used the Roland-Morris Disability Questionnaire (RMDQ) on 98 participants to measure the changes patients experience after a series of 5 monthly sessions. Average score decreased considerably with a starting average score of around 10 and ending around 4. No statistical analysis was provided, but there was a visible, obvious improvement in daily function.
4. **Miscellaneous improvements in quality of life**
   - Mehl-Madrona, 2016: Studied patients who have chronic pain leading to opiate addiction. There were no patients who subsequently increased opioid use and 17 people who reduced use. In conventional care, no patients reduced use while 48.5% increased.
   - Spelman, 2017: Measured percentage of high-risk addiction patients who were given a naloxone prescription for opioid overdose. Of the 277 patients in the intervention clinic and 244 in conventional care, there was significantly more Naloxone prescriptions following intervention ($P<0.0001$).
   - Seesing, 2015: Used the EuroQol EQ-5D scale and determined that there was a minimal difference in effectiveness between the SMAs and conventional care. They did find, however, a statistical significance among the 272 participants and the cost of care reported. Therefore, the physician could work more efficiently, charging less per patient, without compromising quality of care.

## Key Findings

- 7 of the 11 papers showed significant improvements in pain levels reported by the test subjects following the intervention period
- Although two of the papers showed no statically significant differences in chronic pain between the control and test groups, they did demonstrate a statistical significance in cost of care and wait times
- There were no significant findings demonstrating negative results about SMAs in comparison to one-on-one medical visits

## CONCLUSIONS

Based on these 11 quantitative studies regarding the effectiveness of group medical visits on patients with chronic pain, this style of medicine has proved to have many significant benefits to patients, the practitioners, and the future of medicine as a whole. By combining a patient-centered, whole-systems approach with a dynamic of peer support, participants demonstrated an increase in their overall wellness physically, mentally, and socially. This method of healthcare is not only effective, but also affordable, increasingly accessible, and lessens the need for potentially dangerous and expensive pharmaceutical drugs. All mainstream healthcare facilities should investigate the integration of SMAs into their current practice.

## Recommendations

- **Control groups**: Future studies should make sure they have a clear distinction of a test group and a control group. Some of the studies just compared the results of the participants after intervention to their state before beginning, which made it difficult to draw conclusions on the validity of the method.
- **Scales used**: There was a wide range of scales used to test these results, which made it harder to directly compare the results into one big pool of data supporting the effectiveness of SMAs.
  - In a future study, I would recommend the standardization of PROMIS-57 as the baseline questionnaire for practitioners to use.
  - It is person-centered, monitors physical, mental, and emotional health, and target specifically chronic conditions.
  - By using this survey widespread, we will minimize confusion and bias when it comes to things like wording, tone, and prompting of response questions.

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