

IDENTIFYING EPISODES OF BACK PAIN USING MEDICAL EXPENDITURES PANEL SURVEY DATA: PATIENT EXPERIENCE, USE OF SERVICES, AND CHRONICITY

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ABSTRACT

Objective: To explore the correspondence between “Episodes-of-Pain” and “episodes of care” for individuals with back pain.

Methods: This study was a secondary analysis of Medical Expenditures Panel Survey (MEPS) 2-year longitudinal data. Individual use and utilization of back pain services were examined across ambulatory settings and providers, and linked to MEPS medical condition data to identify individuals with back pain who do not use or who delay or discontinue utilization of health services for back pain. “Episodes-of-Care” and Episodes-of-Pain were approximated through round-by-round temporal mapping of MEPS back pain utilization events data and medical conditions data.

Results: Of 10 193 individuals with back pain, approximately one fifth did not actively seek care for their back pain. Utilization of services for back pain (Episodes-of-Care) does not always correspond with an individual’s full experience of back pain (Episodes-of-Pain). Upwards of 20% of MEPS respondents who use services for some back pain episodes, reported additional episodes for which they do not use services.

Conclusions: These findings suggest that other longitudinal studies based only on data that reflect service use, for example, claims data, may incorrectly infer the nature of back pain and back pain episodes. Many individuals report ongoing back pain that continues beyond their Episodes-of-Care, and many individuals with persistent back pain may use prescription drugs, medical services, and other health services only intermittently. (*J Manipulative Physiol Ther* 2010;33:562-575)

Key Indexing Terms: *Cross-sectional Studies; Back Pain; Episode of Care*

The economic burden of back pain is tremendous, and much interest is directed toward assessing the use of health services for back pain¹ and to better understanding the individual experiences over time of those with chronic back pain. Back pain chronicity has been operationalized in various ways in clinical research. Back pain may be defined as chronic/subacute based on the length of a single continuous episode, for example, as pain duration greater than 4 weeks² or greater than 6 weeks,^{3,4} or as pain that persists for more than 3 months,⁵ or defined as chronic for pain lasting at least 6 months in duration.⁶ Chronic back pain has also been defined as the number of years since the back problem first occurred, for example,

with chronic defined as 5 or more years,⁷ which implicitly recognizes that a chronic back condition may also manifest as repeated “flare-up” acute recurrent back pain episodes over some time frame.^{8,9} As noted in recent reviews, “Episodes-of-Pain” or “Episodes-of-Care” are also somewhat arbitrarily defined in much of the clinical or health services research on back pain, and there is a growing awareness of the need to conceptualize and analyze care-seeking and care provision across episodes and to consider the long-term consequences of pain, functional status, and other outcomes of care.¹⁰⁻¹²

The Medical Expenditures Panel Survey (MEPS) is a readily accessible source of data on health service use and utilization and costs of care for self-reported conditions such as back pain.¹³ The MEPS public use data files have been analyzed to estimate the health care costs and treated prevalence of back pain¹⁴⁻¹⁶; however, such studies largely have reported only cross-sectional point-in-time annualized estimates, or trends over time, based on analyses of data from a series of MEPS 1-year data files. Such time series cross-sectional reports can offer but a limited insight into this problem area, for example, by comparing the overall volume and costs of ambulatory (OutPatient [OP] and Office-Based [OB]) service use to inpatient service use for

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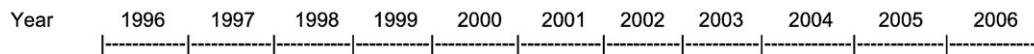
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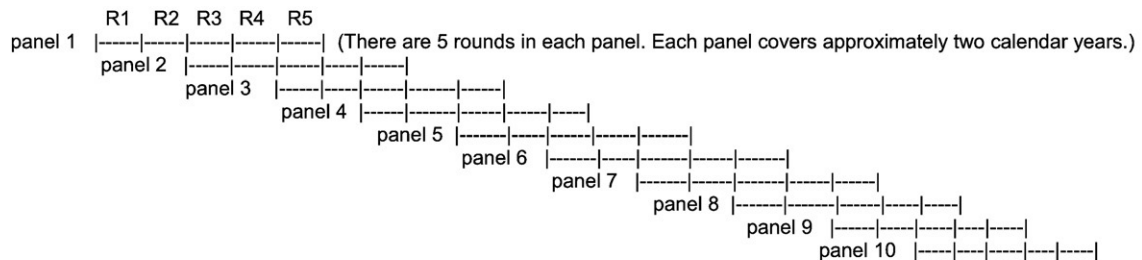
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MEPS annual cross-sectional survey



MEPS 2-year longitudinal panel survey



Note: MEPS Longitudinal Panel 10 covers the 2-years 2005 and 2006; Panel 9 is years 2004 and 2005; Panel 8 is years 2003 and 2004, etc.

Fig 1. Medical Expenditures Panel Survey (MEPS) is 2 separate yet related study designs, an annual cross-sectional survey coupled with a 2-year longitudinal panel survey. MEPS Longitudinal panel 10 covers the 2 years 2005 and 2006; panel 9 is years 2004 and 2005; panel 8 is years 2003 and 2004, and so on.

back pain care. The MEPS longitudinal data files have added potential for rendering a focused insight and a more comprehensive understanding of the range and variation of individual experiences with chronic back pain over time. For instance, individuals who utilize health services for a single limited back pain “episode of care” may be distinguished from those with longer ongoing episodes or from those who experience episodic recurrence of back pain. Given also that non-use of services does not necessarily equate to an individual’s being “free of pain,” MEPS data further affords the opportunity to better understand long-term utilization behaviors for individuals with chronic back pain, for example, by exploring the correspondence between “Episodes-of-Pain” and “episodes of care” for those individuals.

The purpose of this article is to describe the as-yet underexplored potential of MEPS data for more detailed and useful examination and understanding of health service use and utilization over time by adult individuals with chronic back pain. Three dimensions of the added utility of MEPS data will be described: use of the MEPS longitudinal panel structure to examine individual use and patterns of utilization over 2 years, linking across MEPS event file types to examine individual use and utilization across settings and providers, and linking event utilization data with medical condition data in longitudinal MEPS analyses to identify individuals with back pain who do not use or who delay or discontinue utilization of health services for back pain.

METHODS

As shown in [Figure 1](#), the MEPS consists of 2 distinct but related study designs for data collection: a year-to-year cross-sectional survey design and a 2-year longitudinal

panel design. Estimates of health service use for back pain based on the MEPS cross-sectional annual survey, using full-year consolidated data files, may differ somewhat from those generated by analyses of the slightly more complex data file structures of the MEPS 2-year longitudinal panel survey. I report here specifically my examination based on data from the MEPS longitudinal panels. The MEPS panel survey methodology uses an overlapping panel design, and each MEPS panel survey respondent is interviewed 5 times over 30 months and asked to recall their experiences during periods ranging from 4 to 6 months. This recall time period was established for the MEPS on the basis of research¹⁷ which indicated there is limited recall bias for periods of up to 6 months.

All 5 Rounds

Each MEPS panel uses a 2-year longitudinal study design with participants resurveyed during each of 5 separate rounds throughout the 2 years. Approximately 94% of MEPS respondents were in-scope and had data for all 5 rounds of the panel (see [Appendix Note #1](#)). [Table 1](#) reports the total sample sizes of all MEPS respondents for each of the MEPS panels 5 through 10, before and after applying the “all 5 rounds” selection criteria used in this study. Of the 87 302 MEPS participants who were in-scope with data for all 5 rounds, approximately 70% were adults aged 18 or older at the start of the 2-year MEPS longitudinal panel timeframe.

Back Pain

MEPS interviewers recorded verbatim the respondents’ description of their health care conditions. Trained MEPS

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