

Trends from 2001 to 2019 in Workers' Compensation Indemnity Payments and Absences Among Employees with Bone Diseases, Headaches/Migraines, Diabetes, Multiple Sclerosis, Osteoarthritis, Rheumatoid Arthritis and Back Pain

Richard A Brook, MS, MBA^{1, 2, 3}; Nathan L Kleinman, PhD⁴; Ian A Beren, BS⁴; Justin A Schaneman, MS⁴

¹Better Health Worldwide, Newfoundland, NJ. ²The National Payor Roundtable, Glastonbury, CT. ³National Association of Specialty Pharmacy, Washington, DC. ⁴Workpartners, LLC, Loveland, CO.

Background

- Workers' Compensation (WC) is a benefit for United States (US) employees who suffer work-related injuries/illnesses.
- Absences due to WC can have a significant impact on business performance.
- Employers are intensifying efforts to manage WC and make connections with employee health.
- The 2020 Kaiser Family Foundation survey on employer health benefits¹ provides an excellent overview of typical employer coverage for direct medical and prescription costs, however it did not include any information on Workers' Compensation.
- Published research on absence costs and lost time often inappropriately uses:
 - Proxies and subjective data (from surveys) to estimate absences, which:
 - Are subject to recall issues.
 - May report absences or impairments that didn't occur during their work hours.
 - Constant dollars to estimate absence costs across diseases.
- This study focuses on all-cause WC utilization and explores changes from baseline for employees with claims for the following US Agency for Healthcare Research and Quality (AHRQ) categories:
 - Bone diseases (BONE).
 - Headaches/migraines (HM).
 - Diabetes (DIAB).
 - Multiple sclerosis (MS).
 - Osteoarthritis (OA).
 - Rheumatoid arthritis (RA).
 - Back pain (BACK).

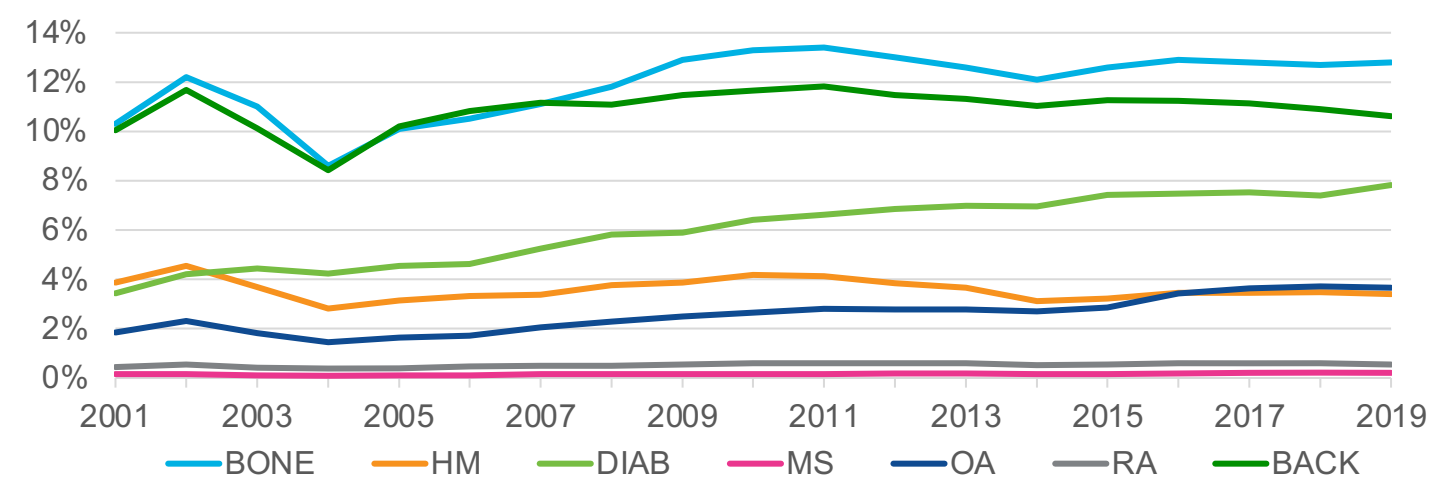
Study Population

- US employees within the Workpartners (formerly HCMS) Research Reference Database (RRDb) from 2001–2019. The Workpartners RRDb contains:
 - Medical and pharmaceutical claims for over 3 million employees and dependents.
 - Enhanced employee demographics (including self-reported race).
 - Job-related employee information (salary, job type, full/part-time status, exempt/non-exempt status).
 - Employees in all states.
 - Claims for 1.1m employees eligible for WC with absence durations and payments.
- The Workpartners RRDb has been used for research in:
 - Painful conditions including fibromyalgia^{2,3}, osteoarthritis³, gout⁴, and Rheumatoid Arthritis⁵.
 - Specialty pharmacy-managed conditions such as Hepatitis-C^{6,7}, multiple sclerosis⁸ and acromegaly⁹.
 - Mental health conditions (including bipolar^{10,11} and major depressive disorders¹²), diabetes¹³, ophthalmic¹³ and numerous other conditions.

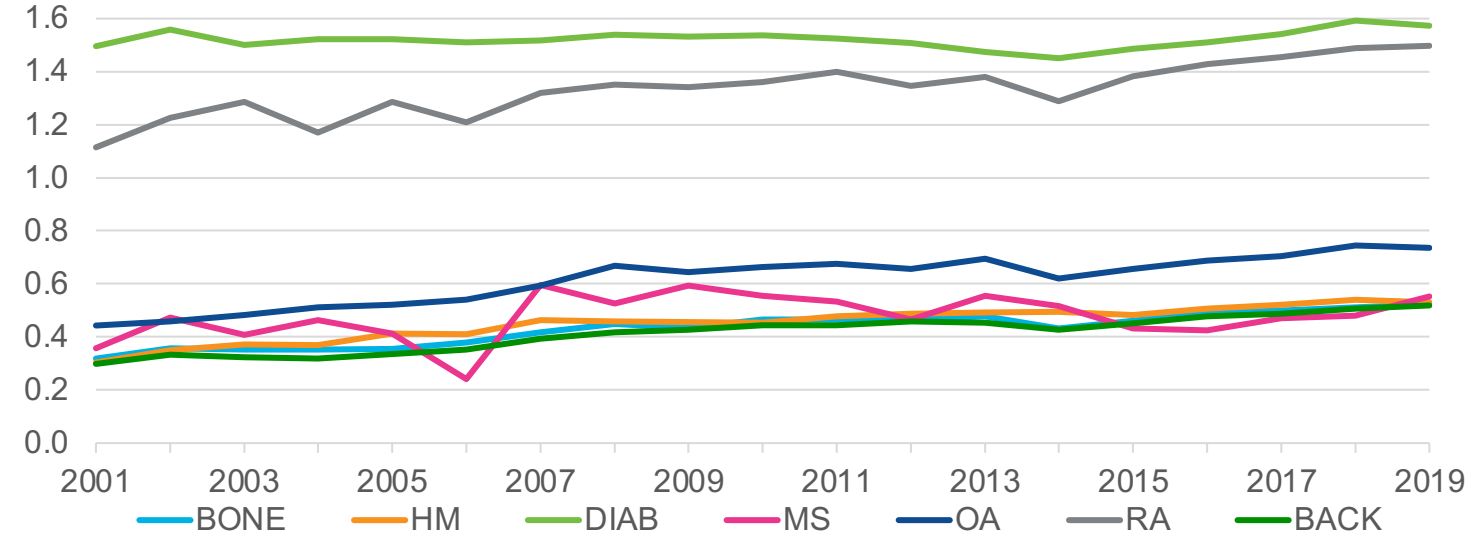
Methods

- Retrospective analysis of US employees with medical claims in the RRDb from the study AHRQ categories.
- For each condition, each year the analysis focused on:
 - The prevalence and Charlson Comorbidity Index score¹⁴ for each year's population.
 - The percent of eligible employees utilizing the workers' compensation benefit.
 - Mean days of leave.
 - Median payments as a percent of salary.
- Workplace accidents were paid under the Workers' Compensation benefit.
- Workers' Compensation payments included lump-sum distributions and potentially extended beyond the year initially incurred.
- Workers' Compensation claims without absence from work (medical only) were excluded.

Annual Disease Prevalence



Annual Charlson Comorbidity Index Scores

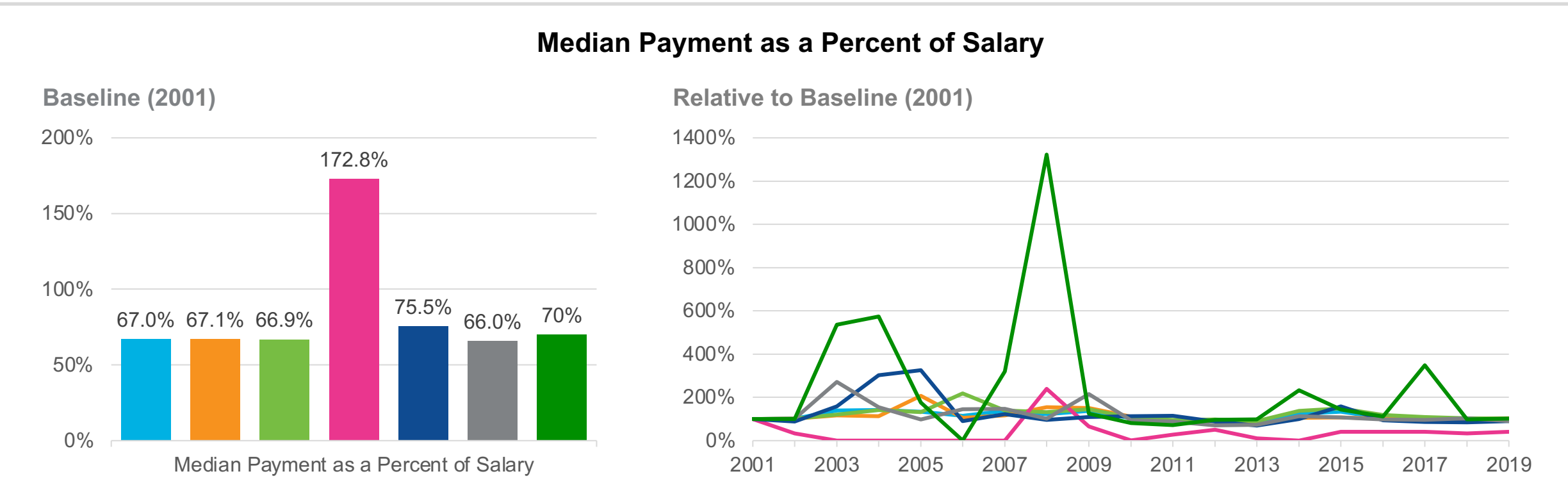
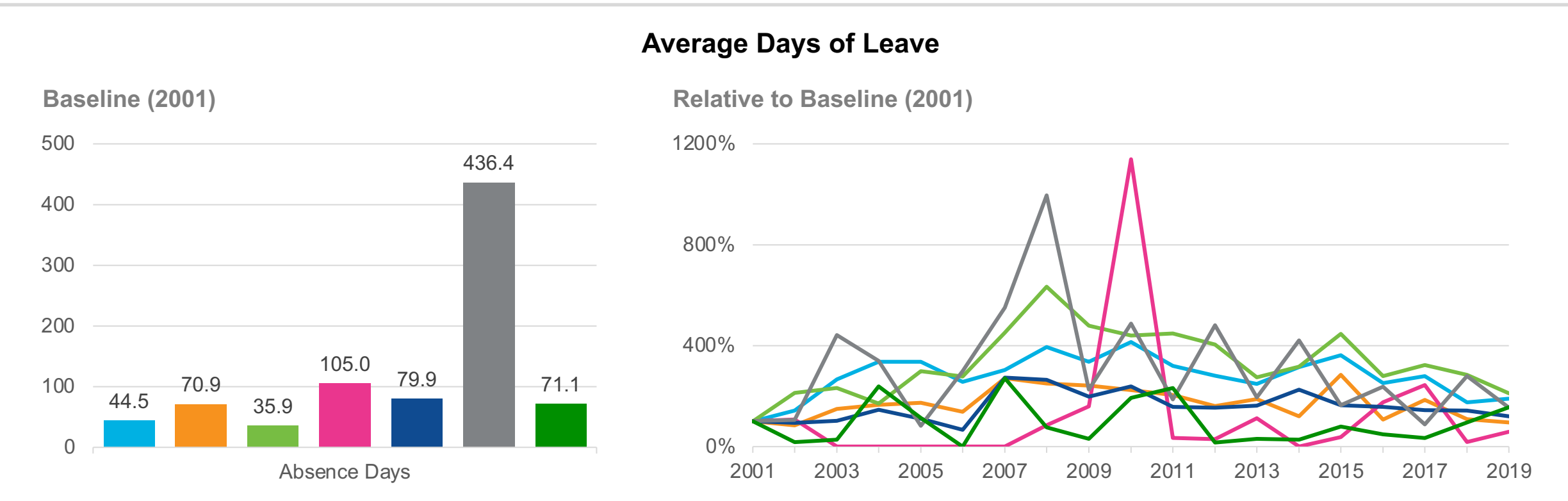
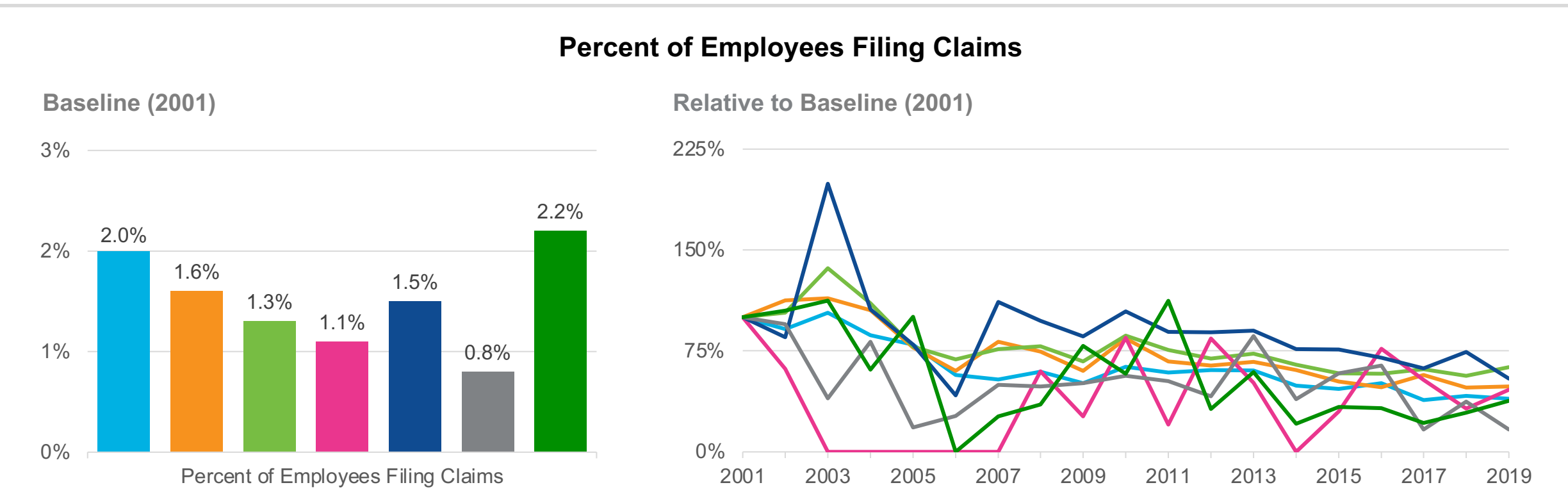


References

- The 2020 Kaiser Family Foundation Survey of Employer Health Benefits. Available at: <http://files.kff.org/attachment/Report-Employer-Health-Benefits-2020-Annual-Survey.pdf>.
- Kleinman NL, et al. *Pain Pract.* 2011;11(5):540-51. ³Kleinman NL, et al. *J Occup Environ Med.* 2009;51(12):1384-93. ⁴Brook RA, et al. *Curr Med Res Opin.* 2006 Jul;22(7):1381-9.
- Kleinman NL, et al. *J Occup Environ Med.* 2013 Mar;55(3):240-4. ⁶Su J, et al. *Hepatology* 2010 Aug;52(2):436-42. ⁷Baran RW, et al. *J Med Econ.* 2015;18(9):691-703. ⁸ Brook RA, et al. *Curr Med Res Opin.* 2009 Jun;25(6):1469-76. ⁹Ribeiro-Oliveira A Jr, et al. *J Med Econ.* 2021 Mar; Mar 5;1. ¹⁰Brook RA, et al. *Am J Manag Care.* 2007 Apr;13(4):179-86. ¹¹Gardner HH, et al. *J Clin Psychiatry.* 2006 Aug;67(8):1209-18. ¹²Kuvadia H, et al. *PCC for CNS Disorders.* 2021 In Press. ¹³Brook RA, et al. *Postgrad Med.* 2015;127(5):455-62. ¹⁴Charlson ME, et al. *J Chronic Dis.* 1987;40:373-83.

Results

Legend: BONE (Blue), HM (Orange), DIAB (Green), MS (Pink), OA (Dark Blue), RA (Grey), BACK (Light Green)



Most Impacted Years

Condition	Highest % Using WC	Highest Days of Leave	Highest Median Payments
BONE	2003	2010	2004
HM	2003	2015	2005
DIAB	2003	2008	2006
MS	2001	2010	2008
OA	2003	2007	2005
RA	2001	2008	2003
BACK	2003	2007	2008

Conclusions

- The prevalence (and associated Charlson Comorbidity scores) of most of these conditions has increased since 2004.
- The percent of employees filing WC claims varies by condition.
- For each condition, the leave lengths and payments as a percent of salary vary over time.
- Using a constant cost or salary replacement factor over time is not accurate or appropriate.

Implications for Policy or Practice

- Analysis of absence benefits is important.
- Estimation of the impact of workplace accident leaves and payments by use of a constant salary-replacement factor is inappropriate.
- Person-level data by year should be used.

