

# Trends from 2001 to 2019 in Workers Compensation Indemnity Payments and Absences in Patients with Bone Diseases, Headaches/Migraines, Diabetes, Multiple Sclerosis, Osteoarthritis, Rheumatoid Arthritis and Back Pain in the United States

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## Background

- United States (US) employee benefits include:
  - Sick Leave (SL) for paid time off, generally without a specific reason.
  - Short- and Long-term Disability (STD and LTD, respectively) for non-work-related injuries/illnesses.
  - Workers' Compensation (WC) for work-related injuries/illnesses.
- Absences due to SL, STD, LTD, and WC can have significant impact on business performance.
- Employers are intensifying efforts to manage these benefits and make connections with employee health.
- The 2020 Kaiser Family Foundation survey on employer health benefits<sup>1</sup> provides an excellent overview of typical employer coverage for direct medical and prescription costs.
  - It did not include any information on Sick Leave, Short- and Long-term Disability or 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 and fixed salary-replacement percentages to estimate absence costs across benefits and diseases.
- This study compares all-cause STD, LTD, and WC utilization and explores changes from baseline for employees with:
  - Bone diseases (BONE).      Osteoarthritis (OA).
  - Headaches/migraines (HM).      Rheumatoid arthritis (RA).
  - Diabetes (DIAB).      Back pain (BACK).
  - Multiple sclerosis (MS).

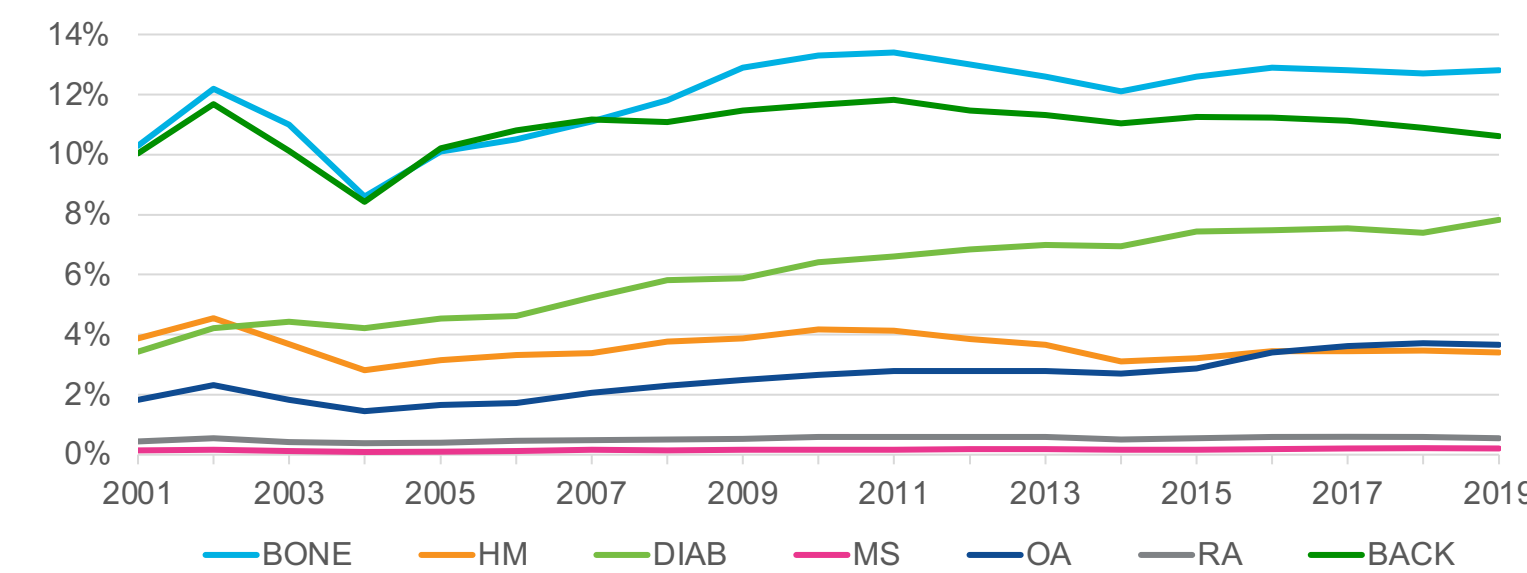
## Study Population

- 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 with absence durations and payments for employee populations eligible for STD=1.2 million, LTD=1.1 million, WC=1.4 million, SL=710,000.
- The Workpartners RRDb has been used for research in:
  - Painful conditions including fibromyalgia<sup>2,3</sup>, osteoarthritis<sup>4</sup>, gout<sup>4</sup>, and Rheumatoid Arthritis<sup>5</sup>.
  - Specialty pharmacy-managed conditions such as Hepatitis-C<sup>6,7</sup>, multiple sclerosis<sup>8</sup> and acromegaly<sup>9</sup>.
  - Mental health conditions (including bipolar<sup>10,11</sup> and major depressive disorders<sup>12</sup>), diabetes<sup>13</sup>, ophthalmic<sup>13</sup> and numerous other conditions.

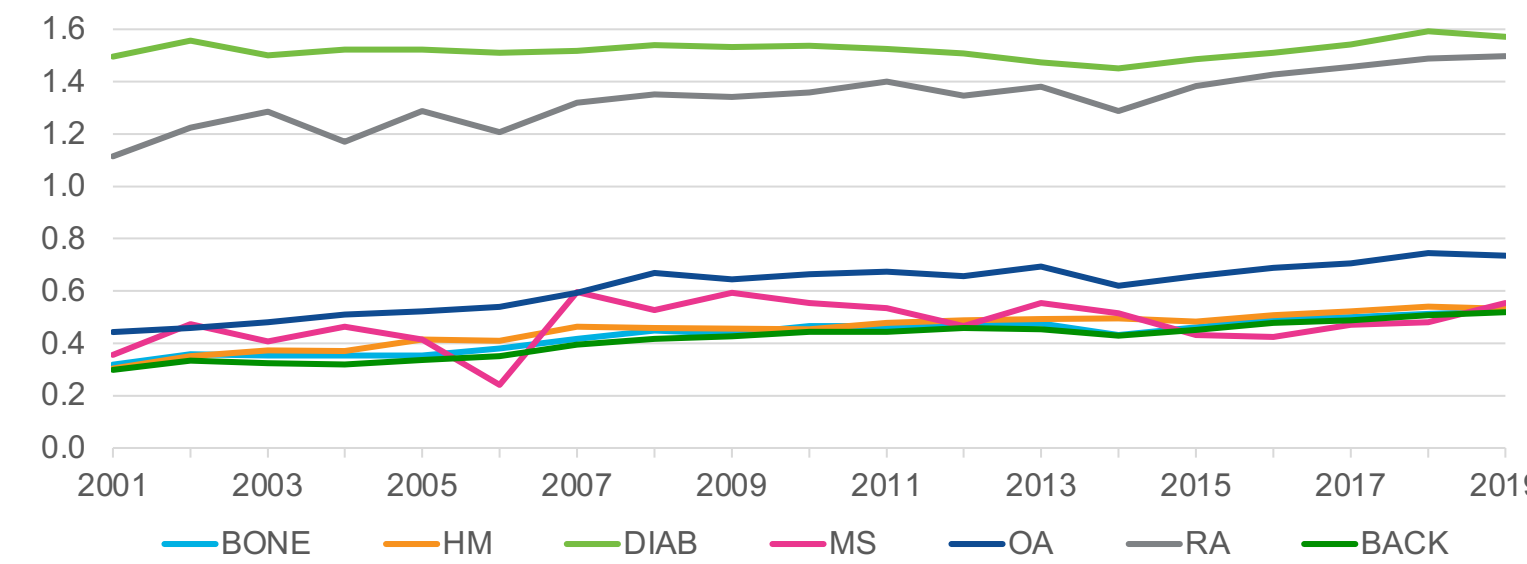
## Methods

- 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 score<sup>14</sup> for each year's population.
  - The percent of eligible employees utilizing each benefit.
  - Mean days of leave.
  - Median payments as a percent of salary.
- Short- and Long-term Disability and Workers' Compensation payments included lump-sum distributions and potentially extended beyond the year initially incurred.
- Workplace accidents were paid under the Workers' Compensation benefit.
- Excluded claims: Workers' Compensation claims without absence from work (medical only) and Sick Leave claims.
- All employees' absences were aggregated based on the initiation year.
- For each benefit, average leave length and median payment were calculated and compared with baseline (2001).
- Due to space limitations, not all trend lines are shown.

### Annual Disease Prevalence



### Annual Charlson Comorbidity Index Scores

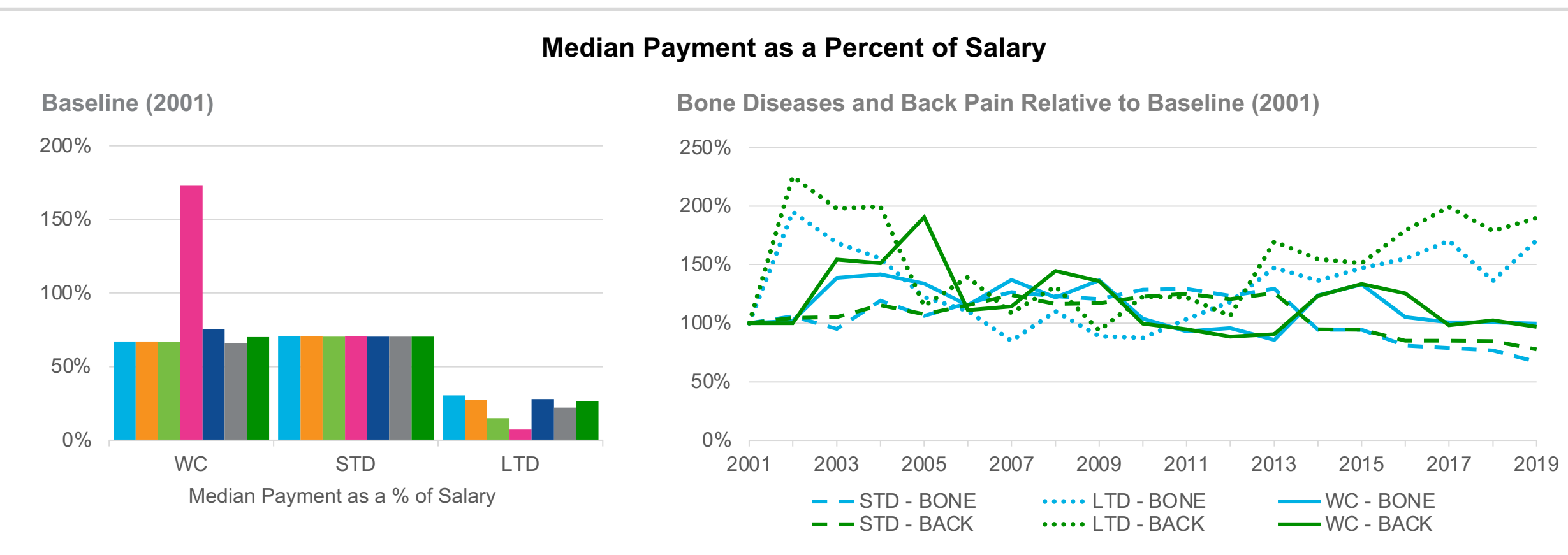
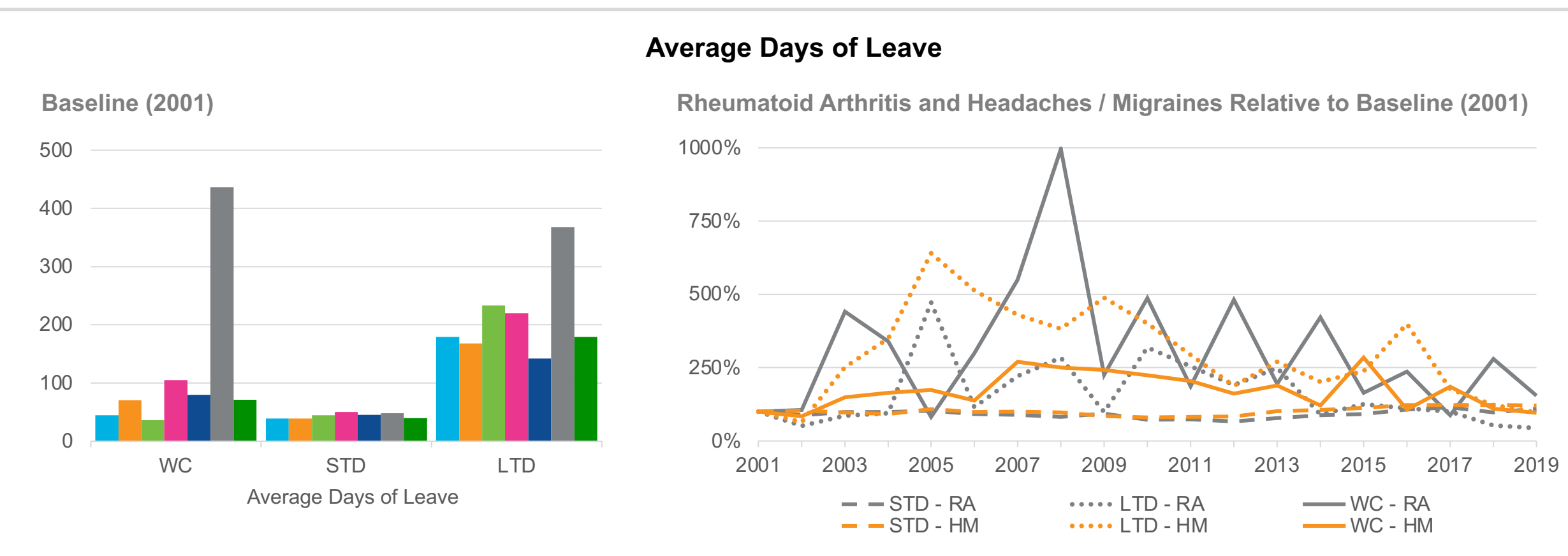
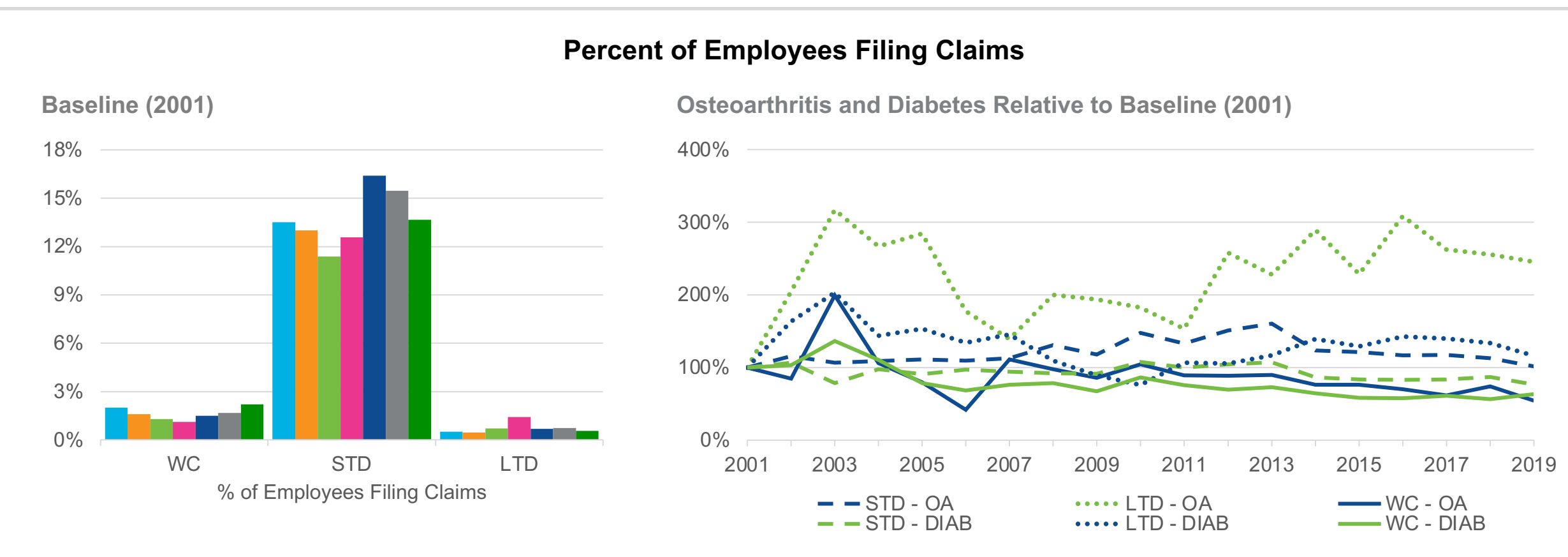


## References

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



### Most Impacted Years

	Highest %			Highest Days of Leave			Highest Median Payments		
	STD	LTD	WC	STD	LTD	WC	STD	LTD	WC
BONE	2013	2016	2003	2017	2005	2010	2013	2002	2004
HM	2013	2018	2003	2018	2005	2015	2013	2002	2005
DIAB	2010	2003	2003	2018	2006	2008	2013	2004	2006
MS	2005	2003	2001	2018	2005	2010	2004	2017	2008
OA	2013	2003	2003	2019	2005	2007	2011	2003	2005
RA	2010	2003	2001	2017	2005	2008	2012	2019	2003
BACK	2013	2003	2003	2017	2008	2007	2013	2002	2005

## Conclusions

- The prevalence (and associated Charlson Comorbidity scores) of most of these conditions has increased since 2004.
- The percent of employees filing STD, LTD, and 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 and disability leaves and payments by use of a constant salary-replacement factor is inappropriate.
- Person-level data by year should be used.

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