

Briefing Paper



IWPR # B298

September 2011

Valuing Good Health in Denver: The Costs and Benefits of Paid Sick Days

Voters in Denver will consider a referendum on the 2011 ballot regarding the issue of requiring employers to provide paid sick days. Using the parameters of the proposed law and publicly available data, this paper estimates the anticipated costs and some of the anticipated benefits of the law for employers providing new leave, as well as some of the benefits for employees. Employees of businesses with ten or more employees are estimated to use an average of 2.5 days annually out of a maximum of 9 that may be accrued, while employees at smaller businesses are estimated to use an average of 2.1 days annually out of a maximum of 5 accrued. The anticipated cost of the law for employers due to lost productivity and increased wages is equivalent to a 20 cent-per-hour increase in wages for employees receiving new leave. The anticipated savings for employers, notably a reduction in costly employee turnover, are expected to have a wage equivalent of a savings of 22 cents per hour. Annually, businesses in Denver are expected to expend \$22.8 million in providing new paid sick days for employees. Providing new paid sick days is expected to yield benefits of \$24.2 million annually, for a net savings for Denver employers of \$1.4 million annually.

Policymakers across the country are increasingly interested in ensuring that workers can take paid time off when they are sick. In addition to concerns about workers' ability to respond to their own health needs, there is growing recognition that, with so many dual-earner and single-parent families, family members' health needs can only be addressed by workers taking a break from their scheduled time on the job. Allowing workers with contagious illness to avoid unnecessary contact with co-workers and customers is a public health issue. Paid sick days also protect workers from being fired when they are too sick to work and offer substantial savings to employers by reducing turnover and minimizing absenteeism.

This briefing paper uses data collected by the U.S. Bureau of Labor Statistics, the U.S. Department of Health and Human Services, the Denver Department of Public Health, and the U.S. Census Bureau to evaluate the likely impact of the Denver paid sick days initiative (Initiative 300). The study is one of a series of analyses by the Institute for Women's Policy Research (IWPR) examining the costs and benefits of paid sick days policies. It estimates how much time off Denver workers would use under the proposed policy and the costs to employers for that sick time. It also uses findings from previous peer-reviewed research to estimate how this leave policy would save money, by reducing turnover, cutting down on the spread of disease at work, helping employers avoid paying for low productivity, holding down nursing-home stays, and reducing norovirus outbreaks in nursing homes.

The briefing paper finds significant economic benefits from the proposed sick time initiative and there are likely to be many other meaningful benefits that cannot be measured with existing data. When workers can take needed time off without fear of being fired, they and their families can obtain necessary health

care more promptly, leading to improved health outcomes, speedier recoveries, and reduced total health care spending. Fewer workers will be fired, suspended, or otherwise penalized for having to stay home when they are ill or have sick family members to care for, improving workers' economic security. The public health benefits are also likely to be considerable, as workers with contagious illnesses will be better able to avoid infecting others, and parents will not have to send sick children to school or child care.

Key provisions of “Initiative 300,” Denver’s paid sick days initiative

- All workers employed within the boundaries of Denver except federal and state workers would accrue paid sick time. Workers at businesses with 10 or more employees would accrue paid sick time up to a maximum of nine paid sick days (72 hours) per year, and businesses with nine or fewer employees would accrue paid sick time up to a maximum of five paid sick days (40 hours) per year. Leave would be usable after 90 days of employment.
- Paid sick time may be used when a worker is ill, for diagnosis or treatment of a worker’s or child’s health condition, for preventive care, or to address the effects of domestic violence, sexual assault, or stalking. Time may also be used in the event that a public official closes a school or place of business due to a public health emergency.

Summary of likely economic impact of “Initiative 300,” Denver’s paid sick days initiative

- About 107,407 Denver workers lack paid sick days—41 percent of the private sector workforce. Of those, about 62,560 are covered by the referendum but have no paid leave of any kind (vacation or paid sick days) and would receive new sick days under the referendum.
- Workers covered by the paid sick days referendum will use an average of 1.59 days of paid sick days annually for their own medical needs.
- On average, workers will use half a day to address family members’ medical needs and half a day for doctor visits.
- Workers utilizing paid sick days after they or their partner give birth to a child are expected to utilize all nine or five sick days available to them, as are those workers utilizing leave to address the effects of domestic violence, sexual assault, or rape.
- Half of all workers with paid sick days do not take *any* days off for illness in a given year.
- Denver employers will pay about \$22,762,842 annually for wages, payroll taxes and payroll-based employment benefits, and administrative expenses associated with new sick days coverage (Table 1).
- Benefits will total \$24,174,223 annually, mainly from reduced costs of turnover, for a net savings to employers of \$1,411,381.
- Workers and their families will enjoy lower expenditures for health care services totaling \$2,406,750 annually. Savings from reduced spread of flu within workplaces total \$138,676 annually.
- The cost per worker per week for covered workers will be \$7.00, or about \$0.20 cents per hour worked. Benefits for employers will be \$7.43 per worker per week. The net savings for employers will be about \$0.43 per worker per week for covered workers.

Other likely benefits: In addition to the benefits discussed above, universal paid sick days will likely create many other significant benefits for employers, workers, families, and the broader community. Those benefits are discussed in this briefing paper.

The estimates presented in this briefing paper assume that all workers eligible for leave under the new policy would know about their new paid sick days. On the contrary, during the early years of the program, it is likely that many workers will be unaware of their new leave benefits and not take any time off under the new law.¹ In particular, workers may not be aware of the multiple uses allowed by the law (see text box above). Thus, both costs and benefits in the early years of a new program may be considerably lower than these estimates.

Table 1. Summary of costs and benefits of Denver Paid Sick Days "Initiative 300"

Summary of costs and benefits	Dollars	Average per-worker cost:	
		Weekly	Hourly
COSTS			
Wages, wage-based benefits, payroll taxes, and administrative expenses of:			
PSD for workers currently lacking any paid leave	\$21,324,628		
Use of PSD for domestic violence	\$222,755		
Use of PSD for parental leave	\$2,915,405		
Currently lost productivity (adjustment to costs)	-\$1,699,946		
Employers' costs	\$22,762,842	\$7.00	\$0.20
BENEFITS			
Lower turnover	\$23,236,971		
Reduced flu contagion	\$937,251		
Employers' savings	\$24,174,223	\$7.43	\$0.22
Fewer nursing stays	\$2,211,568		
Fewer norovirus outbreaks ¹	\$56,506		
Reduced flu contagion	\$138,676		
Workers' savings	\$2,406,750	\$0.74	\$0.02
NET SAVINGS	\$3,818,131	\$1.17	\$0.03
NET SAVINGS FOR EMPLOYERS²	\$1,411,381	\$0.43	\$0.01

Source: Institute for Women's Policy Research Analysis

Note: Columns may not sum to total due to rounding. Monetary amounts are in 2010 dollars.

¹ Based on Korey Capozza's *Methodology in Valuing Good Health in California: The Costs and Benefits of Paid Sick Days* (in 2009 dollars). In addition to these workers, some Denver workers who currently have paid sick days will receive additional days under the paid sick days referendum. This is not likely to have a significant cost impact, because (1) workers with one year of job tenure who have paid sick days are granted an average of eight days (IWPR analysis of the March 2006 National Compensation Survey) therefore the majority of workers with paid sick days already meet the standard of the referendum and (2) most workers will not use their full allotment of paid sick days. (Workers are estimated to take an average of 2.5 days of leave under the proposed referendum.) For some number of workers, though, these additional days will be very important in addressing health needs.

² The row "Net Savings for Employers" refers to the sum of "Employers' Costs" and "Employers' Savings". Additional savings for workers are calculated and included in the row "Net Savings".

Methodology for estimating the cost and benefits of “Initiative 300,” Denver’s paid sick days initiative

The number of Denver workers who will benefit from the proposed policy and the cost and benefits of the proposal are estimated using the following methodology.

1. How many workers will be affected? ²

There are about 259,311 private sector workers in Denver. The share that currently has paid sick days is calculated by occupation by IWPR using the 2010 National Health Interview Survey microdata (technical appendix forthcoming) and data on the number of private sector workers in Denver by occupation from the American Community Survey (ACS). About 107,407 Denver workers lack paid sick days—or 41 percent of the private sector workforce.

Some workers who lack paid sick days do have paid vacation leave or general paid time off. This estimate assumes that employers with this kind of leave program will convert their current policy to one that conforms to the paid sick days referendum, transforming paid vacation days to paid sick days without offering more total days off than they do now.³ The share of workers covered by either vacation or paid sick days (or both) is calculated by occupation from the 2010 National Compensation Survey and data on the number of private sector workers by occupation in Denver from the American Community Survey (ACS).

About 62,560 workers in Denver currently have no paid leave benefits of any kind and are eligible under the proposed legislation. This briefing paper assumes those workers will receive paid sick days under the referendum initiative 300.⁴

2. How many paid sick days will workers take?

a. For their own medical needs:

The average number of days of work that are missed for health reasons is calculated for the U.S. workforce by occupation and firm size from the 2010 National Health Interview Survey (NHIS).⁵ When workers are limited to a maximum of nine days of work loss (large business), workers with paid sick days miss an average of 1.7 days annually for illness and injury, excluding maternity leave. When limited to five days of work loss (small business), workers with paid sick days miss an average of 1.2 days (IWPR analysis of the 2010 NHIS).⁶ About half (50.2 percent) of all workers who are covered by paid sick days plans do not take any days off for illness or injury in a given year.⁷

b. For family care:

According to the U.S. Department of Labor’s 2000 Family and Medical Leave Act (FMLA) Survey of Employees, workers take 0.3 days of FMLA-type leave to care for ill children, spouses, and parents for every 1.0 days of own-health leave (Rutgers University Center for Women and Work 2005).

c. For doctor visits:

Workers with paid sick days visit the doctor an average of three times per year (IWPR analysis of the 2010 NHIS). These visits may be during or outside of work hours or might already be included in time off due to illness or injury in 2(a) above. For the analysis in this briefing paper, the average number of doctor visits is calculated by occupation from the 2010 NHIS. Each visit is assumed to take 1.0 hours of work-time.⁸

For these three leave circumstances, workers in large business are estimated to use an average of 2.5 days annually; while workers in small business are estimated to use an average of 2.1 days per year.

d. For maternity leave:

i. There are an estimated 2,357 births each year to women employed in Denver who currently lack paid vacation and sick leave (IWPR analysis from the 2007–2010 Annual Social and Economic Supplement to the Current Population Survey (ASEC) and 2010 National Compensation Survey).

ii. Each of these workers is expected to take the maximum number of paid sick days, using the additional days (beyond those accounted for in paragraphs 2(a) – 2(c), above) for prenatal care and maternity recovery. This briefing paper estimates that women employed in large business who give birth or adopt a baby would use an additional 6.5 sick days to bring their total of nine, and women employed in small business who give birth or adopt would use an additional 2.9 sick days to bring their total of five.

iii. Half of these pregnant workers are assumed to have an employed spouse or partner who would also use all their paid sick days to accompany the woman to doctor visits or provide care during her pregnancy.

e. To address needs resulting from domestic violence, sexual assault, or stalking:

i. For the purposes of this estimate, data were obtained from the U.S. Department of Justice Bureau of Justice Statistics. The most recent data indicate that in 2008 the rate of intimate partner victimizations for females was 4.3 victimizations per 1,000 females ages 12 years or older. The equivalent rate of intimate partner violence against males was 0.8 victimizations per 1,000 males ages 12 years or older. These figures were used to estimate the incidence of domestic violence and sexual assault in Denver relative to the estimated population, for an estimated incidence of 0.5 percent, affecting about 311 workers who would receive new sick days under the referendum.

iii. It is assumed that workers utilizing sick days to address needs arising from domestic violence, sexual assault, or stalking will utilize days in addition to the average use for other needs. This amounts to 6.5 additional days for covered workers employed in large business and 2.9 additional days for workers employed in small business.

3. How much do workers earn?

Average hourly wages and average daily work hours are calculated by occupation for the private-sector workforce using information for the west region from the 2007–2010 ASEC.

4. What other costs will employers incur?

a. Employers pay certain benefits and taxes as a percent of their payroll: retirement contributions and legally mandated payroll taxes (the employer’s share of Social Security and Medicare taxes, plus federal and state unemployment insurance taxes and workers’ compensation).⁹ These costs are calculated for the Mountain Census Division by occupation from the 2010 National Compensation Survey (NCS).

b. Administrative expenses are estimated at 19 percent of wages. This is one-third the average ratio of administrative costs to benefit payments for state Temporary Disability Insurance programs (TDI) in California, New Jersey, and Rhode Island (U.S. Social Security Administration 2007). TDI is similar to

paid sick days in that both relate to workers' illness-related work absence, but TDI is more complex, involving collection of payroll taxes, evaluation of medical disability, tracking of health status, and long-term benefit periods. It is likely that administration of a statewide TDI program is more expensive than an employer's costs for adding a paid sick days policy to an existing payroll system.

This estimate does not include any costs to employers of replacing workers who are taking paid sick days. These costs will be the same whether a worker is on unpaid or paid leave, so providing wage replacement when a worker is too sick to be on the job does not generate any new replacement costs compared with a worker who is absent without pay. Hiring of temporary workers is likely to be relatively uncommon for the short leaves possible under the proposed paid sick days plan. As a comparison, for longer absences under the federal Family and Medical Leave Act (FMLA), where leaves may total 12 weeks in a year, 12.7 percent of leave-takers report that a replacement worker was hired to fill in for them during their leave (Cantor et al. 2001, Table A2-6.7). It is much more common for work to be covered by other employees or held for the absent worker to address when back on the job.

5. Cost adjustment: Wages currently paid to workers with low productivity

Employers pay substantial wages to employees who are unproductive because of health issues. Goetzel et al. (2004) estimate the average total annual productivity loss, per employee, for the top ten most costly health conditions at between \$217.07, using low productivity loss estimates, and \$1,566.63, using average productivity loss estimates (in 2001 dollars).

Empirical studies document that workers with influenza have worse performance on a variety of tasks than healthy workers. A study that used random assignment of experimentally induced colds and influenza found that "minor illnesses . . . have significant effects on performance efficiency" during both incubation and symptomatic periods (Smith 1989, 68). A follow-up study discovered that performance impairment continues even after clinical symptoms have ended (Smith 1990). The National Federation of Independent Business, a small-business association, reminds employers that "working when you're sick and not up to your best stifles and muddles creativity and depletes energy and stamina" (Townes 2006).

Workers without paid sick days miss fewer days due to illness and injury than workers with paid sick days, when constrained to the maximum provided for by the Denver proposed paid sick days referendum (IWPR analysis of the 2010 NHIS). Other research suggests that productivity during this extra time at work is only 50 percent of normal (Nichol 2001). The total cost to employers of this unproductive time, in terms of wages and associated payroll taxes, is \$1,699,946 million per year. This reflects a cost of illness already being borne by employers.

Table 2. Cost savings from not paying ill workers for unproductive time on the job

Cost factor	Value	Source
Workers currently without paid leave of any kind		IWPR analysis of the American Community Survey (ACS) 2009, National Compensation Survey (NCS) 2010, Current Population Survey, Displaced Worker, Employee Tenure and Occupational Mobility Supplement File 2010 and the Annual Social and Economic Supplement (ASEC) 2007-2010.
Large business	51,383	
Small business	11,177	
Lost productivity currently paid	0.4 days at 50 percent effectiveness	IWPR analysis of the National Health Interview Survey (NHIS) 2010; Nichol (2001).
Average hourly wage		IWPR analysis of the Annual Social and Economic Supplement 2007–2010.
Large business	\$15.89	
Small business	\$13.32	
Average daily work hours		
Large business	7.03	
Small business	6.36	
Average cost of benefits and payroll taxes	21%	IWPR analysis of the National Compensation Survey (NCS) 2010.
Total	\$1,699,946	
Large business	\$1,458,961	
Small business	\$240,986	

Note: Monetary amounts are in 2010 dollars

Table 3. Costs of the Denver paid sick days “Initiative 300”

Cost factor	Value	Source
Workers currently without paid leave of any kind		IWPR analysis of the American Community Survey (ACS) 2009, National Compensation Survey (NCS) 2010, Current Population Survey, Displaced Worker, Employee Tenure and Occupational Mobility Supplement File 2010 and the Annual Social and Economic Supplement (ASEC) 2007-2010.
Large business	51,383	
Small business	11,177	
Average number of paid sick days workers will take		
Large business	2.5	IWPR analysis of the National Health Interview Survey (NHIS) 2010.
Small business	2.1	
Average additional days taken by pregnant women and their partners, and workers addressing needs resulting from domestic violence		
Large business	6.5	IWPR analysis of the National Health Interview Survey (NHIS) 2010.
Small business	2.9	
Average hourly wage		
Large business	\$15.89	
Small business	\$13.32	
Average daily work hours		IWPR analysis of the Annual Social and Economic Supplement 2007–2010.
Large business	7.03	
Small business	6.36	
Average cost of benefits and payroll taxes	21%	IWPR analysis of the National Compensation Survey (NCS) 2010.
Subtotal	\$24,462,788	
Large business	\$21,722,545	
Small business	\$2,740,243	
Adjustment for lost productivity	\$1,657,482	
Large business	\$1,422,140	See Table 2
Small business	\$235,341	See Table 2
Total	\$22,762,842	
Large business	\$18,777,895	
Small business	\$2,546,733	

Note: Monetary amounts are in 2010 dollars

BENEFITS OF THE PROPOSED PAID SICK DAYS POLICY

Ensuring that workers have paid time off work when needed to take care of their own health needs or those of members of their families is likely to lead to improved health outcomes for workers and their families (Lovell 2004). Better health outcomes will reduce health care expenditures and improve the quality of life.

While there is solid theoretical work suggesting the nature of these benefits, in some cases there are no specific empirical data for valuing a benefit. This briefing paper presents an estimate of several benefits of paid sick days and discusses other likely benefits. Future research may provide measures of these benefits that can be added to those analyzed here.

Cost savings #1: Reduced voluntary job turnover

What we can estimate: Having paid sick days reduces voluntary job mobility by three to six percentage points (the effect varies by sex and marital status; Cooper and Monheit 1993). Because workers value paid sick days, when they have that benefit, they are less likely to look for a different job. Workers who experience a health care crisis are also more likely to return to their employer if they have a paid leave policy—more than twice as likely, in the case of women with heart disease (Earle, Ayanian, and Heymann 2006).

If all Denver employers provide paid sick days, this effect on voluntary turnover may be reduced since workers considering a job change will have paid sick days both at their current job and at their potential new job. However, having paid sick days in a current job may increase worker loyalty to the current employer or reduce work/life conflict, even if the same benefit would be offered by any other employer. Since changing jobs is somewhat costly and risky for workers, even a universal paid sick days policy is likely to strengthen the attachment between workers and their current employers.

Other impacts that cannot be measured: Having paid sick days also affects involuntary turnover, by protecting workers from being fired for unauthorized work absences when they are sick or must care for sick family members (Heymann 2000; Earle and Heymann 2002). Seven percent of women's job separations are responses to health issues and another fifteen percent are in response to concern other family or personal reasons (Emsellem, Allen, and Shaw 1999). We lack data for accurately estimating the savings related to lowered involuntary turnover that would flow from the paid sick days proposal, although a recent national survey found that 11 percent of workers have lost a job for missing work when sick or to care for an ill family member (Smith 2008). Any overestimation in savings from voluntary turnover in this analysis will most likely be more than offset by savings in employer expenses from reduced involuntary turnover.

Why turnover is expensive for employers: Turnover entails a variety of costs for employers of which actual outlays to recruit a new worker are only a small portion. Low productivity of new hires, drains on the productivity of the new worker's colleagues and supervisors, human resources processing time for exit and entry, training, and lost productivity during vacancies are also real costs to employers (Phillips 1990). A newly hired low-paid retail worker may lose sales—and customers—during the period the employee is learning about the employer's products and may mistakenly undercharge for products (Johnson and Tratensek 2001).

Careful analyses of the range of impacts associated with turnover provide evidence regarding the true costs to employers. Phillips (1990) reports that replacing a mid-level manager costs 1.5 times the worker's annual salary. An estimate by Johnson and Tratensek (2001) pegs the cost of turnover of retail

workers earning \$7 an hour at \$6,241 or 43 percent of their annual pay. A study of the costs of replacing front-desk associates at two hotels in New York found total turnover costs of 28 percent and 31 percent of annual compensation (Hinkin and Tracey 2000).

A widely cited rubric for calculating turnover costs places them at 25 percent of total annual compensation (Employment Policy Foundation 2002). A slightly more conservative figure of 20 percent is used in this analysis.

Table 4. Cost savings from reduced turnover

Cost factor	Value	Source
Workers currently without paid leave of any kind		IWPR analysis of the American Community Survey (ACS) 2009, National Compensation Survey (NCS) 2010, Current Population Survey, Displaced Worker, Employee Tenure and Occupational Mobility Supplement File 2010 and the Annual Social and Economic Supplement (ASEC) 2007-2010.
Large business	51,383	
Small business	11,177	
Reduction in voluntary turnover	5.3	IWPR calculation of weighted average from Cooper and Monheit (1993), based on Lovell (2005).
Cost of turnover	20%	
Average hourly wage		IWPR analysis of the Annual Social and Economic Supplement 2007-2010.
Large business	\$15.89	
Small business	\$13.32	
Average daily work hours		
Large business	7.03	
Small business	6.36	
Average cost of benefits and payroll taxes	21%	IWPR analysis of the National Compensation Survey (NCS) 2010.
Total	\$23,236,971	
Large business	\$19,942,881	
Small business	\$3,294,090	

Note: Monetary amounts are in 2010 dollars

Cost savings #2: Reduced spread of the flu within workplaces; reduced overall absence and lowered productivity

Employers are increasingly aware of the cost of the spread of disease within workplaces when employees practice presenteeism or go to work while ill. Two of every five employers identify presenteeism as a problem for their organization (CCH Incorporated 2004a). As Dr. Richard Chaifetz notes, presenteeism can lead to “the spread of illness for an even greater reduction in productivity” than would be caused by an individual worker’s absence (ComPsych 2004). Firms with low employee morale are more likely to experience presenteeism than those with better morale (CCH Incorporated 2004b).

Empirical research has documented the widely suspected link between presenteeism and contagion within workplaces. Li, Birkhead, Strogatz, and Coles (1996) find lower rates of respiratory and gastrointestinal

infection among nursing home residents when nurses have paid sick days, demonstrating that the spread of disease is diminished (at least in workplaces involving intimate physical contact) when ill workers can stay home. Potter et al. (1997) report reduced disease and mortality among patients in long-term care hospitals when health care workers are vaccinated against influenza.

Because influenza (the flu) is highly contagious and accounts for 10 to 12 percent of all illness-related employment absences—about the same portion as musculoskeletal disorders (Keech, Scott, and Ryan 1998)—the impact of paid sick days on transmission of the flu virus is likely to be the largest consequence of increased paid leave on the spread of disease in the workplace. Longini, Koopman, Haber, and Cotsonis (1988) estimate the probability of an individual contracting influenza from community contacts at 16.4 percent and from an infected household member at 26.0 percent. Islam, O’Shaughnessy, and Smith (1996) calculate the probability of an individual catching an infection from community contacts during a flu epidemic at 0.168;¹⁰ intra-household disease transmission probabilities per cohabitant are a bit higher (mean of 0.177). These transmission rates suggest that a sick worker who is in the workplace while contagious is likely to infect 1.8 of every ten co-workers.

By a low estimate, five percent of healthy working adults will get the flu in a given flu season (Nichol 2001). Studies find that workers with the flu miss one to five days of work (Nichol 2001). Half of employees out sick with the flu are attended by a caregiver, with an average work-loss of 0.4 days per caregiver (Keech, Scott, and Ryan 1998).

Workers with the flu also incur costs for doctor visits (with 45 percent seek medical care; Nichol 2001), hospitalizations (occurring at a rate of four hospitalizations per 10,000 flu cases; Nichol 2001), and purchase of prescription and non-prescription medications and other treatments (Kavet 1977). In addition, the flu kills one in every 100,000 infected individuals (Nichol 2001).

These factors are combined with workforce data to estimate savings under Denver’s paid sick days referendum from reduced spread of the flu in workplaces (Table 5).

Table 5. Cost savings from reduced spread of the flu within workplaces

Cost factor	Value	Source
Workers currently without paid leave of any kind		IWPR analysis of the American Community Survey (ACS) 2009, National Compensation Survey (NCS) 2010, Current Population Survey, Displaced Worker, Employee Tenure and Occupational Mobility Supplement File 2010 and the Annual Social and Economic Supplement (ASEC) 2007-2010.
Large business	51,383	
Small business	11,177	
Influenza illness rate	5%	Nichol (2001), Table 6.
Contagion rate (i.e., each co-worker's chance of contracting the flu)	18%	Islam, O'Shaughnessy, and Smith (1996).
Assumed number of close daily work contacts	5 co-workers	Islam, O'Shaughnessy, and Smith (1996).
Number of missed workdays per infected co-worker	2	Nichol (2001).
Number of missed workdays for employed caregivers of ill workers	An average of 0.4 lost workdays per caregiver	Keech, Scott, and Ryan (1998).
Lost productivity for infected co-workers on return to work	0.5 days at 50 percent productivity	Nichol (2001).
Average hourly wage		
Large business	\$15.89	
Small business	\$13.32	
Average daily work hours		IWPR analysis of the Annual Social and Economic Supplement 2007– 2010.
Large business	7.03	
Small business	6.36	
Employers' savings	\$937,251	
Large business	\$804,252	
Small business	\$132,999	
Doctor visits for 45 percent of ill workers	Average cost of \$60	Nichol (2001); BlueCross BlueShield of Texas n.d.
Prescription drugs for 42 per 100 ill workers	Average cost of \$58	Kavet (1977), Kaiser Family Foundation webtool (2005, adjusted for inflation).
Workers' savings	\$138,676	
Large business	\$113,901	
Small business	\$24,775	
Total savings	\$1,075,928	

Note: Monetary amounts are in 2010 dollars

Cost savings #3: Reduced expenditures for treating victims of norovirus outbreaks in nursing homes

Paid sick days that allow ill workers to stay home can have important public health impacts, by limiting the spread of contagious diseases. Data are not yet available to measure most of this benefit of paid sick days. One that can be calculated is the cost of health care for nursing home residents and staff who contract norovirus. The estimates of those costs for Denver are described in Table 6.

Table 6. Cost savings from reduced norovirus outbreaks in nursing homes

Cost Factor	Value	Source
Nursing homes that experienced norovirus or GI outbreak in Denver in the last 12 months	18	Personal Communication from the Colorado Department of Public Health
Relative risk of experiencing an outbreak between homes with paid sick days and homes without paid sick days	38%	Li et al. (1996).
Share of nursing home workers with access to paid sick days (nationally)	73%	IWPR analysis of the March 2006 National Compensation Survey.
Number of outbreaks that would be avoided if all nursing home workers had paid sick days	6	IWPR calculation based on Li et al (1996).
Number of residents on nursing houses exposed to higher risk each year	439	Colorado Nursing Home Census Bed Report for: 03/31/2011
Average ratio of staff to residents	53%	Estimated from data from the Kaiser Family Foundation's State Health Facts (2009).
Attack rate for norovirus	30%	California Department of Public Health; Morbidity and Mortality Weekly Report (2007).
Excess number of staff and residents in nursing homes without paid sick days exposed	202	Based on methodology developed by Corey Capozza and David Graham-Squire for Valuing the Good Health in California: The Costs and Benefits of the Healthy Families, Healthy Workplaces Act of 2008 (2008).
Percent of norovirus victims who will require hospitalization	10%	Calderon-Margalit et al. (2005).
Cost of treatment (varies between staff and residents; between those requiring hospitalization vs. out-patient treatment; and by payer)		American Association of Pediatrics; CeraLyte (oral rehydration); Xiao et al. (2004); American Medical Association 2011; Kaiser Family Foundation 2008 and Mayo Medical Laboratories
Medicaid	\$192.77	
Medicare	\$208.28	
Private Insurance	\$203.00	
Total	\$56,506	

Note: Monetary amounts are in 2010 dollars.

Source: Based on methodology developed by Corey Capozza and David Graham-Squire for *Valuing the Good Health in California: The Costs and Benefits of the Healthy Families, Healthy Workplaces Act of 2008* (2008).

Detailed data are not available to estimate savings from other contagious diseases (see text box), although are undoubtedly significant.

The cost of other contagious diseases

The flu is the only contagious disease for which accurate data could be located on transmission rates, work absence, and treatment costs. A comprehensive accounting for the spread of all relatively common contagious diseases—including colds, mononucleosis, hepatitis, strep throat, and conjunctivitis (pink eye)—would certainly be much higher. In addition, costs related to work absence and health care use that result from the spread of disease in child-care or school settings when parents cannot keep their sick children home are not calculated here.

Cost savings #4: Reduced expenditures for short-term nursing home stays

Workers with the flexibility to provide informal care for elderly, disabled, and medically fragile relatives may be able to reduce expenditures for health care, including paid care at home or in nursing homes that might otherwise be financed by Medicaid or Medicare. Certainly, individuals consider the level of informal care available to them in decisions about purchasing formal care. When adult children increase their hours of informal care for their single parents, the likelihood of purchasing home health care and nursing home services decreases, and lengths of stays in nursing homes and hospitals are reduced (Van Houtven and Norton 2004). Because informal care may increase elders' ability to navigate the health care system, informal care increases hospital stays, outpatient surgery, and physician visits. A 10 percent increase in the number of hours of informal care provided to individuals aged 70 and older reduces the probability of entering a nursing home by 0.77 percentage points, from 8.60 to 7.83 (Van Houtven and Norton 2004). Elderly patients discharged from acute care wards will return home at higher rates if they have children, rather than moving to a lower-level care facility of the hospital (McClaran, Berglas, and Franco 1996). Unmarried and childless individuals are more likely to enter nursing homes than others (Freedman 1993), as they less often have an informal caregiver to help them return home.

With nearly 9 million full-time workers providing care to adults aged 50 and older (IWPR calculation from National Alliance for Caregiving and AARP 2004), nearly 1.5 million nursing facility patients at any one time (American Health Care Association n.d.), or roughly 2.7 nursing home admissions per year (IWPR calculation from Mehdizadeh and Applebaum 2003)—78 percent paid for by Medicare or Medicaid (AHCA n.d.)—and average annual per-patient costs of \$58,000 (MetLife 2004), savings to families and taxpayers from reduced nursing home use could be substantial. An even larger number of elderly individuals receive paid care at home (Lo Sasso and Johnson 2002). This group may be particularly affected by their adult children's work hours flexibility—having a child who can respond to medical crises may mean the difference between staying at home and transitioning to assisted living or nursing home facilities.

Preventing short-term nursing home care of medically frail individuals saves money for families and taxpayers and leads to better health outcomes for the individuals themselves. Recognizing this, the government has stated that “preventing premature institutionalization is a major public health goal” (Sahyoun et al. 2001). Savings from reduced short-term nursing home stays are estimated in Table 7.

Table 7. Cost savings from reduced short-term nursing home stays

Cost factor	Value	Source
Caregivers of adults aged 50 and older in Denver	71,736	IWPR estimations based on the National Alliance for Caregiving and American Association of Retired Persons 2009, Figure 1.
Average number of caregivers per care recipient	2	IWPR calculation based on Kramarow et al. (1999).
Percent of private workers with no paid leave	33.69%	IWPR analysis of the American Community Survey (ACS) 2009, National Compensation Survey (NCS) 2010, Current Population Survey, Displaced Worker, Employee Tenure and Occupational Mobility Supplement File 2010 and the Annual Social and Economic Supplement (ASEC) 2007-2010.
Estimated length of nursing home stay averted with paid sick days	1 day per care recipient	Author's calculation based on Kramarow et al. (1999).
Average cost of one day of nursing home stay, semi-private room	\$180	MetLife (2004), monetary amounts are inflated to 2011 dollars.
Total	\$2,211,568	

Note: Monetary amounts are in 2010 dollars

Other benefits to measure when data needed become available

While data are currently lacking to calculate the economic impact of all the consequences of workers not having adequate paid sick days, it is certain that there are many others, in addition to those discussed above, that do impose costs on workers, their families, employers, taxpayers, and society as a whole. Eliminating these costs thus confers benefits on society. They include the following:

1. Additional impacts of presenteeism on employers and workers:

a. Health care expenditures for workers who are sick longer because they are unable to recuperate at home, resulting in extra expenditures for workers and firms.

Without adequate time to regain health, minor medical problems may be exacerbated (Grinyer and Singleton 2000), eventually requiring longer work absence and/or increased treatment costs.

b. Cost to employers of scheduling uncertainties

For example, costs resulting from workers calling in sick at the start of their shifts when they knew the previous day they would have to stay home with a sick child.

c. Improved morale and resultant productivity; impacts on co-workers and customers.

Enhanced worker loyalty and job satisfaction related to having adequate paid time off may translate into gains for employers through improved customer relations. In addition, “if ill health results in more accidents or increased errors, all who explicitly or even implicitly interact with unhealthy employees can become less productive” (Greenberg, Finkelstein, and Berndt 1995, 36).

2. Health and health care utilization impacts on family members when workers cannot provide care

Keeping children at home with contagious diseases like the flu can prevent illness and work absences among their schoolmates’ parents. Because “children are more susceptible to influenza, carry and spread the influenza virus over a longer period of time than adults, and are often the first to get the infection in the community” (King 2004), preventing children from being disease vectors in school and child-care settings can significantly reduce workplace absence and productivity effects among adults.

Children have better short- and long-term health outcomes when they are cared for by their parents (Palmer 1993) and hospital stays are shorter when parents are involved in care (Kristensson-Hallstrom, Elander, and Malmfors 1997). With increased flexibility in attending to sick children, paid sick days are likely to reduce treatment costs and overall length of illness.

Heart attack survivors who perceive that they receive adequate tangible social support have decreased mortality rates and better overall health outcomes than those perceiving inadequate levels of tangible social support (Woloshin et al. 1997). Being married or having children (even if not living nearby) reduces the length of hospital stays for elderly patients in acute care wards (McClaran, Berglas, and Franco 1996). Stroke victims have better functional and social outcomes when they receive high levels of family social support, and are more likely to receive nursing home care if they have low levels of support (Tsouna-Hadjis et al. 2000). Workers with the flexibility provided by paid sick days may be able to positively affect the health status of their relatives with coronary disease and other chronic medical conditions by providing more timely care.

3. Other impacts on families when workers cannot take time needed to provide care

When parents cannot stay home to care for sick children, older siblings may be kept out of school to care for their younger siblings (Dodson and Dickert 2004). These school absences may affect school performance and have long-range impacts on the older children’s education and work productivity.

Informal caregivers whose work schedules are incompatible with the care needs of their relatives may decrease their work hours or even leave the labor force completely (Stone and Short 1990). Paid sick days may provide sufficient leave to many caregivers to allow them to maintain their desired level of employment while continuing to perform their caregiving work as well.

4. Lost wages

Workers would not be suspended or fired for missing work without authorization when they are sick or a family member needs care (Browne and Kennelly 1999; Dodson, Manuel, and Bravo 2002).

5. Reduced expenditures on public assistance

Workers who lose their jobs due to having inadequate paid sick days would be less reliant on public assistance. For instance, 8.7 percent of workers who take an FMLA-type leave and do not receive their full wages during the leave turn to public assistance for support (Cantor et al. 2001, Table A1-4.8).

6. Increased financial stability and economic well-being of families

When incomes are not interrupted by unpaid leave, families experience greater financial stability and economic well-being.

7. The value of workers and their family members feeling better

Better health improves the quality of life for workers and their families.

References

- American Association of Pediatrics. 2008. *Medicaid Reimbursement Survey: Colorado* <<http://www.aap.org/research/medreimpdf0708/co.pdf>> (accessed August 23, 2010).
- American Health Care Association. N.d. *Nursing Facility Patients by Payor*. <http://www.ahca.org/research/oscar/pt_payer_200412.pdf> (accessed March 16, 2005).
- American Medical Association. 2010. *Current Procedural Terminology*. <https://catalog.ama-assn.org/Catalog/cpt/cpt_search_result.jsp?_requestid=692968> (accessed August 23, 2010).
- Appelbaum, Eileen, and Ruth Milkman. 2004. *Paid Family Leave in California: New Research Findings*. University of California Institute for Labor and Employment Paper 02. <<http://repositories.cdlib.org/ile/sci2004/02/>> (accessed July 24, 2006).
- Browne, Irene, and Ivy Kennelly. 1999. "Stereotypes and Realities: Images of Black Women in the Labor Market." In *Latinas and African American Women at Work: Race, Gender, and Economic Inequality*, Irene Browne, ed., pp. 302-326. New York: Russell Sage Foundation.
- Calderon-Margalit, Ronit. 2005. "A Large-Scale Gastroenteritis Outbreak Associated With Norovirus in Nursing Homes." *Epidemiology and Infection* 133(1): 35-40.
- Cantor, David, Jane Waldfogel, Jeffrey Kerwin, Marena McKinley Wright, Kerry Levin, John Rauch, Tracey Hagerty, and Martha Stapleton Kudela. 2001. *Balancing the Needs of Families and Employers: Family and Medical Leave Surveys*. Washington, DC: U.S. Department of Labor. <<http://www.dol.gov/whd/fmla/toc.pdf>> (accessed August 20, 2011).
- (CDC) Centers for Disease Control and Prevention. 2009. *National Health Interview Survey, Sample Adult File*. <http://www.cdc.gov/nchs/nhis/nhis_2009_data_release.htm> (accessed June 2011).
- (CDC) Centers for Disease Control and Prevention. 2010. *National Health Interview Survey, Sample Adult File*. <http://www.cdc.gov/nchs/nhis/nhis_2010_data_release.htm> (accessed June 2011).
- Case, Brady, David Himmelstein, and Steffie Woolhandler. 2002. "No Care for the Caregivers: Declining Health Insurance Coverage for Health Care Personnel and Their Children, 1988-1998." *American Journal of Public Health* 92(3): 404-8.
- CCH Incorporated. 2004a. "Unscheduled Absenteeism Rises to Five-Year High." *HR Management: Ideas and Trends Newsletter* (592): 145-148.
- 2004b. "Flu Vaccination Shortage Means Employers Should Take Special Steps to Combat 'Presenteeism'." *HR Management: Ideas and Trends Newsletter* (593).
- Centers for Disease Control and Prevention. 2005. "Live Births by Race and Hispanic Origin of Mother, and Birth and Fertility Rates: United States, Each State and Territory, and Birth and Fertility Rates, Preliminary 2004." *National Vital Statistics Reports* 54 (December 29): 12.
- 2004. *U.S. National Nursing Home Survey*. <<http://www.cdc.gov/nchs/nnhs.htm>> (accessed March 31, 2008).

- , 2006. *U.S. Norovirus Technical Fact Sheet*.
<<http://www.cdc.gov/ncidod/dvrd/revb/gastro/downloads/noro-factsheet.pdf>> (accessed August 14, 2008).
- , 2007. "Norovirus Activity—United States, 2006-2007." *Morbidity and Mortality Weekly Report*.
<<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5633a2.htm>> (accessed April 14, 2008).
- Colorado Nursing Home Census Bed Report for. 2011.
<<http://www.cdphs.state.co.us/hf/ncf/census2.htm>> (accessed August 29, 2011).
- ComPsych. 2004. *Vast Majority of Employees Work While Sick, According to ComPsych Survey*. Press Release. Chicago: ComPsych. March 8. <<http://www.compsych.com>> (accessed March 17, 2005).
- Denver Department of Health and Human Services. Personal Communication. 2011.
- Cooper, Philip F., and Alan C. Monheit. 1993. "Does Employment-Related Health Insurance Inhibit Job Mobility?" *Inquiry* 30 (Winter): 400-416.
- Dobson, Allen, Joan DaVanzo, and Namrata Sen. 2006. "The Cost-Shift Payment 'Hydraulic': Foundation, History, and Implications." *Health Affairs* 25(1): 22-33.
- Dodson, Lisa, and Jillian Dickert. 2004. "Girls' Family Labor in Low-Income Households: A Decade of Qualitative Research." *Journal of Marriage and Family* 66 (5): 318 – 332.
- Dodson, Lisa, Tiffany Manuel, and Ellen Bravo. 2002. *Keeping Jobs and Raising Families in Low-Income America: It Just Doesn't Work*. Cambridge, MA: Radcliffe Institute for Advanced Study.
- Earle, Alison, and S. Jody Heymann. 2002. "What Causes Job Loss among Former Welfare Recipients: The Role of Family Health Problems." *Journal of the American Medical Women's Association* 57 (Winter): 5 – 10.
- Earle, Alison, John Z. Ayanian, and Jody Heymann. 2006. "Work Resumption after Newly Diagnosed Coronary Heart Disease: Findings on the Importance of Paid Leave." *Journal of Women's Health* 15(4): 430-441.
- Employment Policy Foundation. 2002. "Employee Turnover – A Critical Human Resource Benchmark." *HR Benchmarks* 3 (December): 1-5 (January 3, 2005).
- Emsellem, Maurice, Katherine Allen, and Lois Shaw. 1999. *The Texas Unemployment Insurance System: Barriers to Access for Low-Wage, Part-Time & Women Workers*. New York, NY: National Employment Law Project.
- ERC. 2006. *New Hire Turnover and Outsourcing Recruiting*.
<<http://www.ercnet.org/research/studies/06%20New%20Hire%20Turnover%20and%20Outsourcing%20Survey%20Results.pdf>> (accessed August 25, 2011).
- Expedia.com. 2007. *2007 International Vacation Deprivation Survey Results*.
<http://media.expedia.com/media/content/expus/graphics/promos/vacations/Expedia_International_Vacation_Deprivation_Survey_Results_2007.pdf> (accessed August 28, 2011).
- Freedman, Vicki A. 1993. "Kin and Nursing Home Lengths of Stay: A Backward Recurrence Time Approach." *Journal of Health and Social Behavior* 34(6): 138-152.

Goetzel, Ron Z., Stacey R. Long, Ronald J. Ozminkowski, Kevin Hawkins, Shaohung Wang, and Wendy Lynch. 2004. "Health, Absence, Disability, and Presenteeism Cost Estimates of Certain Physical and Mental Health Conditions Affecting U.S. Employers." *Journal of Occupational and Environmental Medicine* 46 (4): 398-412.

Greenberg, Paul E., Stan N. Finkelstein, and Ernst R. Berndt. 1995. "Economic Consequences of Illness in the Workplace." *Sloan Management Review* 36 (Summer): 26-38.

Grinyer, Anne, and Vicky Singleton. 2000. "Sickness Absence as Risk-Taking Behavior: A Study of Organizational Culture Factors in the Public Sector." *Health, Risk and Society* 2 (3): 7 – 21.

Harris-Kojetin, Lauren, Debra Lipson, Jean Fielding, Kristen Kiefer and Robyn Stone. 2004. *Recent Findings on Frontline Long-Term Care Workers: A Research Synthesis 1999-2003*. Washington, DC. Institute for the Future of Aging Services.

Harrington, Charlene, Helen Carrillo, Brandee Woelagle Blank. 2008. *Nursing Facilities, Staffing, Residents and Facility Deficiencies, 2001 Through 2007*. San Francisco, CA: Department of Social and Behavioral Sciences. University of California.

Heymann, Jody. 2000. *The Widening Gap: Why America's Working Families Are in Jeopardy and What Can Be Done About It*. New York: Basic Books.

Hinkin, Timothy R., and J. Bruce Tracey. 2000. "The Cost of Turnover: Putting a Price on the Learning Curve." *Cornell Hotel and Restaurant Administration Quarterly* 41(3): 14-21.

Islam, M. N., C. Dennis O'Shaughnessy, and Bruce Smith. 1996. "A Random Graph Model for the Final-Size Distribution of Household Infections." *Statistics in Medicine* 15 (4): 837-843.

Johnston, Cecilia, Haoming Qui, Jhon R. Ticehurst, Conan Dickson, Patricia Rosenbaum, Patricia Lawson, Amy B. Strokes, Charles J. Lowenstein, Michael Kaminsky, Sara E. Cosgrove, Kim Y. Green and Trish M. Perl. 2007. "Outbreak Management and Implications of a Nosocomial Norovirus Outbreak." *Clinical Infectious Diseases* 45(5): 534-40.

Kaiser Family Foundation. 2009. *Average Price of Retail Prescriptions Filled, 2009*. <
<http://www.statehealthfacts.org/comparetable.jsp?ind=268&cat=5> > (August 15, 2011).

-----, 2009. *State Health Facts 2007: Colorado : Nursing Homes*. <
<http://www.statehealthfacts.org/profileind.jsp?cat=8&sub=97&rgn=31>> (October 11, 2009).

Kavet, Joel. 1977. "A Perspective on the Significance of Pandemic Influenza." *American Journal of Public Health* 67 (11): 1063 – 1070.

Keech, M., A. J. Scott, and P. J. J. Ryan. 1998. "The Impact of Influenza and Influenza-Like Illness on Productivity and Healthcare Resource Utilization in a Working Population." *Occupational Medicine* 48 (2): 85 – 90.

King, James C. 2004. Quoted in *Study Shows School-Based Nasal Influenza Vaccinations Significantly Reduce Flu-Related Costs in Families*. Press Release. University of Maryland Medical Center, May 25. <
http://www.umm.edu/news/releases/flumist_study.htm > (Accessed March 10, 2009).

Kinsman, Michael. 2006. "Paid Leave a Relative Success. State Program Catching on with Men." *The San Diego Union-Tribune*, <http://www.signonsandiego.com/uniontrib/20060618/news_1n18leave.html> (accessed June 18 2006).

Kramarow, E., H. Lentzner, R. Rooks, J. Weeks, and S. Saydah. 1999. "Health Care Access and Utilization." *Health and Aging Chartbook*. Hyattsville, Maryland: National Center for Health Statistics. <<http://www.cdc.gov>> (accessed April 17, 2005).

Kristensson-Hallstrom, Inger, Gunnel Elander, and Gerhard Malmfors. 1997. "Increased Parental Participation in a Pediatric Surgical Day-Care Unit." *Journal of Clinical Nursing* 6 (7): 297 – 302.

Li, Jiehui, Guthrie S. Birkhead, David S. Strogatz, and F. Bruce Coles. 1996. "Impact of Institution Size, Staffing Patterns, and Infection Control Practices on Communicable Disease Outbreaks in New York State Nursing Homes." *American Journal of Epidemiology* 143 (10): 1042 – 1049.

Longini, Ira M., Jr., James S. Koopman, Michael Haber, and George A. Cotsonis. 1988. "Statistical Inference for Infectious Diseases: Risk-Specific Household and Community Transmission Parameters." *American Journal of Epidemiology* 128 (10): 845 – 859.

Lo Sasso, Anthony T., and Richard W. Johnson. 2002. "Does Informal Care from Adult Children Reduce Nursing Home Admissions for the Elderly?" *Inquiry* 39 (10).

Lovell, Vicky. 2004. *No Time to be Sick: Why Everyone Suffers When Workers Don't Have Paid Sick Leave*. IWPR Publication No. B242. Washington, DC: Institute for Women's Policy Research.

----- . 2005. *Valuing Good Health in Massachusetts: An Estimate of Costs and Savings for the Paid Sick Days Act*. IWPR Publication No. B249. Washington, DC: Institute for Women's Policy Research.

McClaran, Jacqueline, Robin Tover Berglas, and Eliane Duarte Franco. 1996. "Long Hospital Stays and Need for Alternate Level of Care at Discharge." *Canadian Family Physician* 42 (3): 449 – 461.

Mehdizadeh, Shahla, and Robert Applebaum. 2003. *A Ten-year Retrospective Look at Ohio's Long-term Care System*. Scripps Gerontology Center of Miami University. <<http://aging.ohio.gov/resources/publications/retrospective.pdf>> (accessed September 1st 2011).

MetLife. 2004. *The MetLife Market Survey of Nursing Home & Home Care Costs*. Westport, CT: MetLife Mature Market Institute.

Milkman, Ruth. 2008. *New Data on Paid Family Leave*. Los Angeles, CA: UCLA Institute for Research on Labor and Employment. <<http://www.familyleave.ucla.edu/pdf/NewData08.pdf>> (accessed February 29, 2008).

National Alliance for Caregiving and AARP. 2009. *Caregiving in the U.S.* Bethesda, MD, and Washington, DC. <<http://www.caregiving.org/data/CaregivingUSAllAgesExecSum.pdf>> (accessed February 22nd, 2010)

Nichol, Kristin L. 2001. "Cost-Benefit Analysis of a Strategy to Vaccinate Healthy Working Adults Against Influenza." *Archives of Internal Medicine* 161 (3): 749 – 759.

Palmer, Sarah J. 1993. "Care of Sick Children by Parents: A Meaningful Role." *Journal of Advanced Nursing* 18 (2): 185 – 191.

- Phillips, Douglas J. 1990. "The Price Tag on Turnover." *Personnel Journal* 2162(12): 58-61.
- Potter, Jan, David J. Stott, Margaret A. Roberts, Alexander G. Elder, B. O'Donnell, Paul V. Knight, and William F. Carman. 1997. "Influenza Vaccination of Health Care Workers in Long-Term-Care Hospitals Reduces the Mortality of Elderly Patients." *Journal of Infectious Diseases* 175 (1): 1-6.
- Prospective Payment Assessment Commission. 1992. *Optional Hospital Payment Rates*. Congressional Report no. C-92-03 (Washington: ProPAC).
- Rutgers University Center for Women and Work analysis of data from U.S. Department of Labor, *Family and Medical Leave Surveys, 2000 Update*. April 12, 2005.
- Sahyoun, Nadine R., Laura A. Pratt, Harold Lentzner, Achintya Dey, and Kristen N. Robinson. 2001. "The Changing Profile of Nursing Home Residents: 1985-1997." *Aging Trends* 4. Hyattsville, MD National Center for Health Statistics.
- Smith, Andrew. 1989. "A Review of the Effects of Colds and Influenza on Human Performance." *Journal of the Society of Occupational Medicine* 39: 65-68.
- . 1990. "Respiratory Virus Infections and Performance." *Philosophical Transactions of the Royal Society of London, Series B, Biological Sciences* 327 (4): 519 – 528.
- Smith, Tom W. 2008. *Paid Sick Days: A Basic Labor Standard for the 21st Century*. <<http://www.publicwelfare.org/AboutUs/documents/PollReportFINALa.pdf>> (accessed August 20, 2008).
- Stone, Robyn I., and Pamela Farley Short. 1990. "The Competing Demands of Employment and Informal Caregiving to Disabled Elders." *Medical Care* 28 (6): 513 – 526.
- Tsouana-Hadjis, Evie, Kostas N. Vemmos, Nikolaos Zakopoulos, and Stamatis Stamatelopoulos. 2000. "First-Stroke Recovery Process: The Role of Family Support." *Archives of Physical Medicine and Rehabilitation* 81(7): 881-887.
- Townes, Glenn. 2006. "Your Health and Your Business: Is There a Connection?" National Federation of Independent Business.
- U.S. Bureau of Labor Statistics. 2010. Unpublished data from 2010 National Compensation Survey. Washington, DC.: U.S. Bureau of Labor Statistics.
- U.S. Department of Commerce. Bureau of the Census. 2010, Current Population Survey, Displaced Worker, Employee Tenure and Occupational Mobility Supplement File
- U.S. Department of Commerce. Bureau of the Census. American Community Survey. 2009. Calculations by the Institute for Women's Policy Research based on Ruggles et al., *Integrated Public Use Microdata Series: Version 5.0* [Machine-readable database]. Minneapolis: University of Minnesota, 2010. <<http://usa.ipums.org/usa/>> (accessed August 19, 2010).
- U.S. Social Security Administration. 2007. *Annual Statistical Supplement, 2006*. Washington, DC: U.S. Social Security Administration. <<http://www.ssa.gov/policy/docs/statcomps/supplement/2006/9c.pdf>> (accessed March 17, 2008).

Van Houtven, Courtney Harold, and Edward C. Norton. 2004. “Informal Care and Health Care Use of Older Adults.” *Journal of Health Economics* 23 (11): 1159 – 1180.

Woloshin, Steven, Lisa Schwartz, Anna Tosteson, Chiang-Hua Chang, Brock Wright, Joy Plohman, and Elliott Fisher. 1997. “Perceived Adequacy of Tangible Social Support and Health Outcomes in Patients with Coronary Artery Disease.” *Journal of General Internal Medicine*. 12(10): 613–618.

Xiao, Hong, Janet Barber, and Ellen S. Campbell. 2004. “Economic Burden of Dehydration Among Hospitalized Elderly Patients.” *American Journal Health-System Pharmacy* 61(23): 2534-40.

Zingg, Walter, Carlo Colombo, Thomas Jucker, Walter Bossart, and Christian Ruef. 2005. “Impact of an Outbreak of Norovirus Infection on Hospital Resources.” *Infection Control and Hospital Epidemiology* 26(3): 263.

¹ It can be difficult to inform workers of changes in their employment benefits. For instance, three years after California’s new paid family leave program went into effect, only a quarter of workers knew about their new right to take paid leave (Milkman 2008), despite the requirement that employers notify their employees of their right to paid family leave.

² Information on average hourly wages and average daily work hours are calculated from 2007–2010 Annual Social and Economic Supplement to the Current Population Survey for all businesses in the West census region. Sample sizes are not sufficient to limit these analyses to Denver.

³ While it is the clear intent of the paid sick days referendum that workers have a separate benefit of paid sick days, in addition to any other paid leave they have, as drafted the referendum would accept a paid time off leave program that could be used for illness as meeting the requirements of the referendum. This estimate assumes that employers that currently offer paid vacation leave, but no paid sick days, would convert their vacation leave into a general paid time off program covering both vacation and sick leave and, thus, workers in such firms would not receive additional paid time off under the law. They would, however, receive important protections against dismissal or other penalties for using their statutorily mandated paid sick days.

⁴ In addition to these workers, some Denver workers who do have paid sick days will receive additional days under the paid sick days referendum. This is not likely to have a significant cost impact, because (1) workers with one year of job tenure who have paid sick days are granted an average of eight days (IWPR analysis of the March 2006 National Compensation Survey), and (2) most workers will not use their full allotment of paid sick days. For some number of workers, though, these additional days will be very important in addressing health needs.

⁵ State-level data are not available from the National Health Interview Survey.

⁶ This assumes that work-loss reported in the 2010 NHIS includes own medical needs only, excluding doctor visits. However, due to respondent discretion in interpreting the survey’s questions, reported work-loss “because of illness or injury” may include time off work to care for others and for doctor visits, in addition to time for workers’ recuperation. To the extent that this occurs, the estimates presented here of days taken under the paid sick days proposal may overestimate actual leave-taking.

⁷ This is consistent with online survey research finding that a substantial share of workers with paid vacation leave does not use their full allotment (35 percent; Expedia.com 2007).

⁸ This estimate of the time involved in visiting the doctor is very conservative, in order to allow for some workers who may seek treatment at times when they are not scheduled to work. With travel and waiting time, a doctor visit could easily take two to four hours.

⁹ Other employer-provided benefits such as health insurance and paid holidays are typically costed as a monthly premium or annual allotment. A worker who is granted leave with pay would not cost an employer any more for these benefits than would a worker taking time off without pay.

¹⁰ This is the mean of six rates derived from data on three disease outbreaks.

Funding for this study was provided by the Ford Foundation and the Annie E. Casey Foundation. For further information please contact Dr. Kevin Miller at miller@iwpr.org. This briefing paper was written by Dr. Kevin Miller and Claudia Williams.

For more information on IWPR reports or membership, please call (202) 785-5100, email iwpr@iwpr.org, or visit www.iwpr.org.

[The Institute for Women's Policy Research](#) conducts rigorous research and disseminates its findings to address the needs of women, promote public dialogue, and strengthen families, communities, and societies. The Institute works with policymakers, scholars, and public interest groups around the country to design, execute, and disseminate research that illuminates economics and social policy issues affecting women and families, and to build a network of individuals and organizations that conduct and use women-oriented policy research. IWPR, an independent, non-profit, research organization also works in affiliation with the graduate programs in public policy and women's studies at The George Washington University.