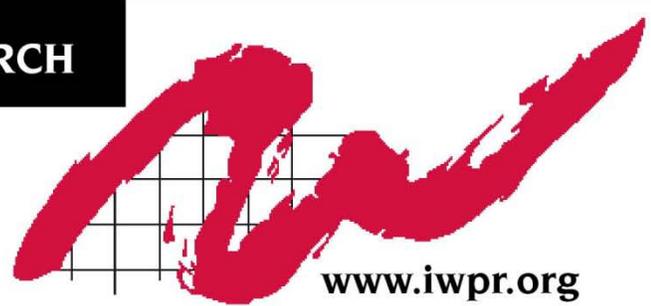


Briefing Paper



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Valuing Good Health in Vermont: The Costs and Benefits of Earned Health Care Time

1. Summary

Policymakers across the country are increasingly interested in ensuring that workers can earn paid time off to use 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 also sometimes require workers to take time off from their job. Allowing workers with contagious illness to avoid unnecessary contact with co-workers and customers has important public health benefits. Earned health care time also protects workers from being disciplined or fired when they are too sick to work, helps families and communities economically by preventing lost income due to illness, and offers savings to employers by reducing turnover and minimizing absenteeism.

Legislators in Vermont are considering Bill H.208, "An Act Relating to Absence from Work for Health Care and Safety." Using the parameters of the proposed legislation and publicly available data, the Institute for Women's Policy Research (IWPR) 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.

The briefing paper uses data collected by the U.S. Bureau of Labor Statistics, the Centers for Disease Control and Prevention, the Vermont Department of Health, and the U.S. Census Bureau to evaluate costs and benefits of Vermont's H.208. It estimates how much time off Vermont workers would use under the proposed policy and the costs to employers for that sick time. This analysis also uses findings from previous peer-reviewed research to estimate cost-savings associated with the policy, through reduced turnover, reduced spread of contagious disease in the workplace, prevention of productivity losses from employees working while sick, minimized nursing-home stays, and reduced norovirus outbreaks in nursing homes. The study is one of a series of analyses by IWPR examining the effects of earned health care time policies.

The analysis, which quantifies only a subset of potential benefits, finds a net economic benefit from the proposed legislation. Likely additional benefits from earned health care time, not quantified in this analysis include: reduced health care spending due to reduced public contagion and more timely and regular preventive care and treatment; improved economic security among families who receive pay on sick days and are less likely to be fired or disciplined for taking sick time; and improved school outcomes and reduced contagion in schools, when parents can avoid sending sick children to school or child care.

Key provisions of H.208 “An Act Relating to Absence from Work for Health Care and Safety”

- All employees have the right to earned health care time.
- Employees shall accrue at least one hour of earned health care time, to be used as either earned sick or safe time, for every 30 hours worked.
- Employees would accrue paid time off to a maximum of seven earned paid healthcare days (56 hours) per year.
- Earned health care time may be used for personal illness, to care for family members, for preventive care, or in case 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.
- Employers already offering equal or more generous paid sick time or paid time off or any type of paid leave that can be used for the sick leave purposes defined in the law would be unaffected and employers who aren't currently meeting the minimum standard may meet the requirement with the same flexibility.

Who will access and use earned health care time?

- In Vermont, approximately 57,530 private sector workers and about 4,690 state and local government workers currently lack paid leave benefits of any kind (including vacation) and are eligible to receive new leave under H.208.
- Employees are estimated to use an average of 2.4 days annually out of a maximum of seven that may be accrued, excluding maternity.
 - Workers covered by the earned sick and safe time law will use an average of 1.5 earned days for their own medical needs.
 - On average, workers will use half a day to address family members' medical needs and about a third of a day for doctor visits.
 - Workers will use all of their seven days of earned health care time after they give birth to or adopt a child. Half of their partners will also use all of their earned sick days.
 - Victims of domestic violence that take time off will also use all of their allotted seven days of earned health care time.

How much will earned health care time cost businesses?

- Annually, Vermont employers are expected to expend about \$21 million in providing new earned health care time for employees. This cost of the law for employers— which accrues due to lost productivity and increased wages, including benefits and administrative expenses—is equivalent

in size to a \$0.19 per hour increase in wages for employees receiving new leave, or about \$6.53 per week for covered workers (Table 1). Covered workers work on average 6.8 hours per day.

- Covered workers who give birth and half of their partners are expected to use all of their available earned health care time, for an additional annual cost of \$776,000.
- Workers without earned health care time currently come to work sick, work at less than full productivity, resulting in current productivity losses of about \$1.8 million annually; this represents an adjustment to expected costs of implementing the proposed law.
- The costs for business of the spread of flu within workplaces, when employees go to work while ill, are about \$894,000 million annually. The costs for families of the spread of flu and norovirus are estimated to be about \$1 million in doctor visit and prescription costs. These costs are likely to be underestimated as they only account for a subset of contagious illness (the flu and norovirus). A comprehensive accounting of the spread of all common contagious diseases—including colds, mononucleosis, hepatitis, strep throat, and conjunctivitis (pink eye)—would reflect much higher costs.

What benefits will earned health care time produce?

- Providing new earned health care time is expected to yield benefits of \$24 million annually for employers, largely due to savings from reduced turnover. The anticipated benefits for employers are expected to have a wage equivalent of a savings of \$0.23 per hour, or about \$7.74 per week for covered workers (Table 1).
- When estimating anticipated benefits for employers against costs for employers from “An Act Relating to Absence from Work for Health Care and Safety,” \$4 million is expected in net savings for employers, equivalent to \$1.22 per worker per week for covered workers (Table 1).
- Workers and their families will enjoy lower expenditures for reduced nursing stays totaling almost \$2 million annually.
- The community will spend about \$5 million less annually on health care expenses as a result of reduced emergency department use. About half of these savings (\$2.5 million) is predicted for public health insurance programs—and taxpayers—as a result of making earned health care time universally accessible in Vermont.
- In addition to the benefits listed above, earned health care time will likely create many other significant benefits for employers, workers, families, and the broader community. These benefits are likely to include: improved health and more efficient utilization of health care for family members of workers who use earned health care time to provide care; improved public health through reduced spread of contagious disease; improved family economic security as a result of wage replacement and stable employment; and reduced expenditures on public assistance programs due to improved family economic security.

The estimates presented in this briefing paper assume that all workers eligible for leave under the new policy would know about their new earned health care time. 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. 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 Vermont’s H.208, “Act Relating to Absence from Work for Health Care and Safety”

Costs and benefits	Dollars	Average per-worker costs/savings	
		Weekly	Hourly
COSTS			
<i>Wages, wage-based benefits, payroll taxes, and administrative expenses of:</i>			
PSD for workers currently lacking any paid leave	\$22,067,928		
Use of PSD for domestic violence	\$149,987		
Use of PSD for parental leave	\$776,148		
Currently lost productivity (adjustment to costs)	\$1,766,407		
Employers' costs	\$21,227,657	\$6.56	\$0.19
BENEFITS			
Lower turnover	\$24,157,376		
Reduced flu contagion	\$894,243		
Employers' savings	\$25,051,620	\$7.74	\$0.23
Reduced nursing stays	\$1,911,323		
Reduced norovirus	\$58,178		
Reduced flu contagion	\$973,732		
Reduced emergency department visits	\$5,097,926		
Community savings	\$8,041,158	\$2.49	\$0.07
Net Savings for Employers	\$3,823,962	\$1.18	\$0.03
NET SAVINGS	\$11,865,121	\$3.67	\$0.10

Source: Institute for Women’s Policy Research Analysis.

^a Net savings of the proposed Bill H.208, “An Act Relating to Absence from Work for Health Care and Safety” for eligible workers.

2. Access and Use of Earned Health Care Time under Bill H.208, “An Act Relating to Absence from Work for Health Care and Safety”

The number of Vermont workers who will benefit from the proposed policy and the cost and benefits of the proposal are estimated below.

How many workers will be affected?

The share of workers covered by either vacation or earned health care time (or both) is calculated by occupation from the 2010 National Compensation Survey (NCS). Data on the number of workers by occupation in Vermont is from the 2011 American Community Survey (ACS). In Vermont, approximately 57,530 private sector workers and about 4,690 local and state government workers currently lack earned health care time. About 62,200 of these workers have no paid leave benefits of any kind (including vacation) and are eligible to receive new leave under H.208.

Some workers who lack earned health care time 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 proposed law, transforming paid vacation days to earned health care time or general-use paid time off without offering more total days off than they do now.²

Some Vermont workers who currently have paid time off will receive additional days under the proposed law. This is not likely to have a significant cost impact, because (1) workers with sick days with pay are granted an average of eight or nine days, therefore little or no change will be needed for most employer policies (U.S. Bureau of Labor Statistics 2012) and (2) most workers will not use their full allotment of earned health care time (see below).

How much earned health care time will workers take?

To care for their own medical needs, their families' needs, and for doctors' visits, workers are estimated to use an average of 2.4 days annually. Methods for calculating expected leave amounts are described below.

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 using data from the 2011 National Health Interview Survey (NHIS).³ When workers are limited to a maximum of seven days of work loss, workers with earned health care time miss an average of 1.5 days annually for illness and injury, excluding maternity leave. About half of all workers who are covered by earned health care time do not take any days off for illness or injury in a given year.

For family care

According to the U.S. Department of Labor's 2000 Family and Medical Leave Act Survey of Employees (FMLA) 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).

For doctor visits

Workers with earned health care time visit the doctor an average of three times per year (IWPR analysis of the 2011 NHIS). These visits may be during or outside of work hours or might already be included in time off due to illness or injury. For the analysis in this briefing paper, the average number of doctor visits is calculated by occupation and by business size from the 2011 NHIS. Each visit is assumed to take 1.0 hours of work-time.⁴

For maternity leave

There are an estimated 4,400 births and adoptions each year to women employed in Vermont, and about 800 of these women currently lack paid vacation and sick leave (IWPR analysis from the 2009–2012 Annual Social and Economic Supplement of the Current Population Survey (ASEC) and 2010 National Compensation Survey).

Each of these workers is expected to take the maximum number of earned health care time using the additional days for prenatal care and maternity recovery. This report estimates that women who give birth or adopt a baby would use an additional 4.6 sick days to bring their total of seven.

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

Table 2. Costs of Vermont’s H.208 “Act Relating to Absence from Work for Health Care and Safety”

Cost factor	Value	Source
Workers currently without paid leave of any kind	62,219	IWPR analysis of the 2011 American Community Survey; the 2010 National Compensation Survey; the 2010 Current Population Survey Displaced Worker, Employee Tenure and Occupational Mobility Supplement File; and the 2009-2012 Current Population Survey Annual Social and Economic Supplement.
Average number of earned sick days workers will take	2.4	IWPR analysis of the 2010-2011 National Health Interview Survey.
Average additional earned days taken by new mothers, their partners, and victims of domestic violence	4.6	IWPR analysis of the 2010-2011 National Health Interview Survey and the 2009-2012 Current Population Survey Annual Social and Economic Supplement.
Average hourly wage	\$16.08	IWPR analysis of the 2009-2012 Current Population Survey Annual Social and Economic Supplement
Average daily work hours	6.76	IWPR analysis of the 2009-2012 Current Population Survey Annual Social and Economic Supplement
Average cost of benefits, payroll taxes, and administrative costs	31 percent of wages	IWPR analysis of the 2010 National Compensation Survey and U.S. Social Security Administration 2007
Subtotal	\$22,994,064	
Adjustment for lost productivity	\$1,766,407	IWPR analysis of the 2010-2011 National Health Interview Survey; the 2009-2012 Current Population Survey Annual Social and Economic Supplement; and Nichol (2001).
Total	\$21,227,657	

Note: Monetary amounts are in 2012 dollars

For domestic violence victims

Vermont's "Act Relating to Absence from Work for Health Care and Safety" would also guarantee Vermont workers the ability to access services for domestic violence, sexual assault, and stalking, without the risk of losing wages or a job. While a relatively small number of Vermont workers will likely need paid time off for these purposes, this job-protected paid time off could be critical to building family safety and security.

For the purposes of this estimate, data were obtained from the U.S. Department of Justice Bureau of Justice Statistics (Catalano 2012). The most recent data indicate that in 2010 the rate of intimate partner victimizations for females was 3.6 victimizations per 1,000 females ages 12 years or older. Applying this rate to the Vermont working population, we estimate there are about 224 individuals that are victims of domestic violence and do not have access to paid leave of any kind. From the National Intimate Partner and Sexual Violence Survey (CDC 2011) we know that only about 28 percent of victims of violence take time off from work. We used these figures to estimate the incidence of domestic violence in Vermont relative to the eligible population. Seventy workers are estimated to take time off work for reasons related to domestic violence or stalking. We assume these workers will take the maximum number of days allowed under earned health care time. This amounts to 4.6 additional days for covered workers.

3. Employer Costs of Implementing Earned Health Care Time

How much do workers earn?

Average hourly wages and average daily work hours are calculated by occupation for the Vermont workforce using information for the New England region from the 2009–2012 ASEC (see Table 2). Sample sizes are not sufficient to limit these analyses to Vermont.

What other costs will employers incur?

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).⁵ These costs are calculated for the New England Census Division by occupation from the 2010 NCS.

Administrative expenses are estimated at 18 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 earned health care time 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 state-wide TDI program is more expensive than an employer's costs for adding an earned time policy to an existing payroll system.

Will employers need to replace workers taking earned health care time?

By definition, employers pay wages that are equal to each worker's productivity or the value they produce for the employer. If an employer elects to hire a temporary worker to fill in for a worker using earned health care time, there is no additional net employer expense; the presence of a replacement worker means no productivity is lost. Thus, while employers hiring replacements will pay wages to two workers, the net impact accounting for both wages and productivity will be the same as if no replacement were

hired. As an illustration, assume a worker and her replacement (if any) are paid \$100 for a day’s work; replacement workers generate productivity equivalent to their pay (\$100) and, thus, earned health care time is only generating additional costs for one worker, not two (Table 3).

Net employer costs, either with or without a replacement worker, are accounted for in the estimate of wages and payroll taxes for workers receiving earned health care time (Table 2). Hiring of temporary workers is likely to be relatively uncommon for the short leaves possible under the proposed law. A 2010 survey of employers providing earned health care time in San Francisco found that only 8.4 percent of employers reported “always” or “frequently” hiring a replacement for a sick worker, with 23.6 percent of employers saying they “rarely” hire replacement workers (Drago and Lovell 2011).

Table 3. Analysis of cost of replacing workers using earned health care time

Absence/Replacement Situation	A. Wage Cost	B. Productivity	Employer's Net Cost of Absence (= A - B)
Without Earned Health Care Time			
Absent worker not paid, not replaced	\$0	0%	\$0
Absent worker not paid, replaced	\$100	100% (= \$100)	\$0
With Earned Health Care Time			
Absent worker paid, not replaced	\$100	0%	\$100
Absent worker paid, replaced	\$200	100% (= \$100)	\$100

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). 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 \$1.8 million per year (Table 4). This reflects a cost of illness already being borne by employers.

Table 4. 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	62,219	IWPR analysis of the 2011 American Community Survey; the 2010 National Compensation Survey; the 2010 Current Population Survey Displaced Worker, Employee Tenure and Occupational Mobility Supplement File; and the 2009-2012 Current Population Survey Annual Social and Economic Supplement.
Lost productivity currently paid	0.4 days at 50 percent effectiveness	IWPR analysis of the 2010-2011 National Health Interview Survey; the 2009-2012 Current Population Survey Annual Social and Economic Supplement; and Nichol (2001).
Average hourly wage	\$16.08	IWPR analysis of the 2009-2012 Current Population Survey Annual Social and Economic Supplement
Average daily work hours	6.76	
Average cost of benefits, payroll taxes, and administrative costs	31 percent of wages	IWPR analysis of the 2010 National Compensation Survey and U.S. Social Security Administration 2007
Total	\$1,766,407	

Note: Monetary amounts are in 2012 dollars

4. Benefits of the Proposed Earned Health Care Time 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 report presents an estimate of several benefits of earned health care time and discusses other likely benefits. Future research may provide measures of these benefits that can be added to those analyzed here.

Reduced voluntary job turnover

What we can estimate: Having earned health care time 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 earned health care time, 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 Vermont employers provide earned health care time, this effect on voluntary turnover may be reduced since workers considering a job change will have earned health care time both at their current job and at their potential new job. However, having earned health care time 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 earned health care time policy is likely to strengthen the attachment between workers and their current employers.

Table 5. Cost savings from reduced turnover

Cost factor	Value	Source
Workers currently without paid leave of any kind	62,219	IWPR analysis of the 2011 American Community Survey; the 2010 National Compensation Survey; the 2010 Current Population Survey Displaced Worker, Employee Tenure and Occupational Mobility Supplement File; and the 2009-2012 Current Population Survey Annual Social and Economic Supplement.
Reduction in voluntary turnover	5.3	IWPR calculation of weighted average from Cooper and Monheit (1993), based on Lovell (2005).
Cost of turnover	20 percent of annual compensation	
Average hourly wage	\$16.08	IWPR analysis of the 2009-2012 Current Population Survey Annual Social and Economic Supplement
Average daily work hours	6.76	
Average cost of benefits, payroll taxes, and administrative costs	31 percent of wages	IWPR analysis of the 2010 National Compensation Survey and U.S. Social Security Administration 2007
Total	\$24,157,376	

Note: Monetary amounts are in 2012 dollars

Other impacts that cannot be measured: Having earned health care time 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 15 percent are in response to concern to 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 earned health care time proposal, although a recent national survey found that 16 percent of workers have lost a job for missing work when sick or to care for an ill family member (Smith and Kim 2010). 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).

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. 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.

Reduced spread of the flu within workplaces; reduced overall absence and improved 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).

Table 6. Cost savings from reduced spread of the flu within workplaces

Cost factor	Value	Source
Workers currently without paid leave of any kind	62,219	IWPR analysis of the 2011 American Community Survey; the 2010 National Compensation Survey; the 2010 Current Population Survey Displaced Worker, Employee Tenure and Occupational Mobility Supplement File; and the 2009-2012 Current Population Survey Annual Social and Economic Supplement.
Influenza illness rate	5 percent	Nichol (2001), Table 6.
Contagion rate (i.e., each co-worker’s chance of contracting the flu)	18 percent	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	\$16.08	IWPR analysis of the 2009-2012 Current Population Survey Annual Social and Economic Supplement
Average daily work hours	6.76	
Employers' savings	\$973,732	
Doctor visits for percent of ill workers	Average cost of \$34	Nichol (2001); American Medical Association (2013)
Prescription drugs for 42 per 100 ill workers	Average cost of \$111	Kavet (1977), Kaiser Family Foundation (2013)
Workers' savings	\$171,560	
Total savings	\$1,145,291	

Note: Monetary amounts are in 2012 dollars

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 earned health care time, 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 earned health care time 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;⁶ 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 (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 Vermont’s earned health care time law from reduced spread of the flu in workplaces (Table 5).

Reduced expenditures for treating victims of norovirus outbreaks in nursing homes

Earned health care time that allows 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 earned health care time. 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 Vermont are described in Table 7.

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 and norovirus are the only contagious diseases 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.

Table 7. Cost savings from reduced norovirus outbreaks in nursing homes

Cost factor	Value	Source
Nursing homes that experienced norovirus or GI outbreaks in Vermont in the last 12 months	29	Personal Communication from the Vermont Department of Health.
Relative risk of experiencing an outbreak between homes with paid sick days and homes without paid sick days	38 percent	Li et al. (1996).
Share of nursing home workers with access to paid sick days (nationally)	73 percent	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	9	IWPR calculation based on Li et al (1996).
Number of residents on nursing houses exposed to higher risk each year	645	Estimated from data from the Kaiser Family Foundation's State Health Facts (2010).
Average ratio of staff to residents	4%	Estimated from data from the Kaiser Family Foundation's State Health Facts (2010).
Attack rate for norovirus	30 percent	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	194	Based on methodology developed by Korey 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 percent	Calderon-Margalit et al. (2005).
Cost of treatment		
Medicaid	\$36,461	American Association of Pediatrics; CeraLyte (oral rehydration); Xiao et al. (2004); American Medical Association 2013; Kaiser Family Foundation 2010 and Mayo Medical Laboratories (2012).
Medicare	\$8,864	
Private Insurance	\$12,852.78	
Total	\$58,177.54	

Note: Monetary amounts are in 2012 dollars

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 29.8 million full-time workers providing care to adults aged 50 and older (IWPR calculation from National Alliance for Caregiving and AARP 2009), nearly 1.4 million nursing facility patients at any one time (Kaiser Family Foundation 2010), and average per day costs of roughly \$250 (Metlilfe 2012), 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 8.

Table 8. Cost savings from reduced short-term nursing home stays

Cost factor	Value	Source
Caregivers of adults aged 50 and older in Vermont with no paid leave	7,707	IWPR estimations based on the National Alliance for Caregiving and American Association of Retired Persons 2009, Figure 1, and IWPR analysis of the 2011 American Community Survey (ACS) 2010.
Average number of caregivers per care recipient	2	IWPR calculation based on Kramarow et al. (1999).
Estimated length of nursing home stay averted with paid sick days	1 day per care recipient	IWPR's calculation based on Kramarow et al. (1999).
Average cost of one day of nursing home stay, semi-private room	\$248	Metlife Mature Market Institute (2013).
Total	\$1,911,323	

Note: Monetary amounts are in 2012 dollars

Health care savings resulting from reduced use of hospital emergency departments

Earned health care time allows workers to take time away from work for medical appointments, rather than waiting until after their work hours, at which point they might opt to utilize hospital emergency services. Analysis of data from the NHIS has shown that workers with earned health care time are less likely than workers without earned health care time to utilize hospital emergency departments, even after accounting for variables such as age, income, education, and health insurance access. It is estimated that a lack of earned health care time contributes to 1.3 million preventable emergency department visits each year nationally. These visits are more expensive than a visit to a primary care physician for the same condition; and, thus, if these preventable emergency department visits were replaced by primary care visits, health care costs would be decreased by over \$1.1 billion per year nationally, of which over \$500 million is currently paid by public insurance programs such as Medicaid (Miller, Williams, and Yi 2011).

It has been estimated that in Vermont, universal access to earned health care time would prevent about 6,000 emergency department visits per year among private sector workers and their families. These prevented visits would result in a health care cost reduction of about \$5 million (2012 dollars) annually (Table 9). These potential cost savings would be shared by hospitals, physicians, patients, private insurers, and public health insurance programs such as Medicaid and the State Children’s Health

Insurance Program (SCHIP). Analyses of data on those receiving public health insurance reveal that savings of \$2.4 million (about one half of the total savings) is predicted for public health insurance programs—and taxpayers—as a result of making earned health care time universally accessible in Vermont.

Table 9. Cost-savings from reduced emergency department Visits

Cost factor	Value	Source
Preventable ED Costs	\$852	IWPR analysis of the 2008 Medical Expenditure Panel Survey.
Overall number of preventable ED visits with Earned Sick Days	5,983	IWPR analysis of the 2010–2011 National Health Interview Survey.
Overall cost premium for ED visits	\$5,097,926	IWPR analysis of the 2010–2011 National Health Interview Survey; the 2010 National Compensation Survey, and the 2008 Medical Expenditure Panel Survey.
Number of preventable ED visits with Earned Sick Days for those using public health insurance	2,823	IWPR analysis of the 2010–2011 National Health Interview Survey.
Cost premium for ED visits for those using public health insurance	\$2,405,545	IWPR analysis of the 2010–2011 National Health Interview Survey; the 2010 National Compensation Survey, and the 2008 Medical Expenditure Panel Survey.

Note: Calculations limited to private sector workers, monetary amounts are in 2012 dollars

5. 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 earned health care time, 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.

Additional effects of presenteeism on employers and workers:

- Length and cost of illness: 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.
- 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.
- Morale and resultant productivity: 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).

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

- **Reduced illness among children:** 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 childcare settings can significantly reduce workplace absence and productivity effects among adults.
- **Improved health outcomes for children:** 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, earned health care time is likely to reduce treatment costs and overall length of illness.
- **Better family support:** 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 earned health care time 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.

Other effects on families when workers cannot take time needed to provide care:

- **Reduced school absences:** 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.
- **Respite for caregivers:** 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). Earned health care time 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.

- Fewer 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). Reduced expenditures on public assistance: Workers who lose their jobs due to having inadequate earned health care time would be less reliant on public assistance. For instance, 8.7 percent of workers who take an FMLA-type (Family and Medical Leave Act) leave and do not receive their full wages during the leave turn to public assistance for support (Cantor et al. 2001).
- 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.
- The value of workers and their family members feeling better: Better health improves the quality of life for workers and their families.

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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.

²While it is the clear intent of the earned sick days law that workers have a separate benefit of paid sick days, in addition to any other paid leave they have, as drafted the law would accept a paid time off leave program that could be used for illness as meeting the requirements of the law. 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.

³State-level data and below are not available from the National Health Interview Survey.

⁴This 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.

⁵Other 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.

⁶This is the mean of six rates derived from data on three disease outbreaks.