



## Valuing Good Health in North Carolina: The Costs and Benefits of Paid Sick Days

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### Executive Summary

Policymakers across the country are increasingly interested in ensuring that workers have paid sick days. 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 be addressed only by workers taking time from their scheduled hours on the job. Paid sick days policies allow workers with contagious illnesses to avoid unnecessary contact with co-workers and customers and, thus, are a fundamental public health measure. Paid sick days protect workers from being fired when they are too sick to work and offer substantial savings to employers by reducing turnover and minimizing absenteeism.

North Carolina lawmakers are now considering the Healthy Families and Healthy Workplaces Act. The Institute for Women's Policy Research (IWPR) has estimated the costs and benefits of the Healthy Families and Healthy Workplaces Act, using government-collected data, peer-reviewed research literature, and a thoroughly vetted methodology. Below are key findings from IWPR's cost-benefit analysis. The full report will be available on the IWPR website.

### KEY FINDINGS

#### *Half of workers will benefit directly*

- 1,635,000 North Carolina private-sector<sup>1</sup> workers lack paid sick days—50 percent of the workforce.
- 926,000 North Carolina workers have no paid leave or vacation whatsoever and will receive new paid sick days under the bill—28 percent of the workforce.<sup>2</sup>

#### *Benefits will substantially outweigh costs*

- North Carolina employers will pay \$308 million annually for wages, payroll taxes and payroll-based employment benefits, and administrative expenses (Table 1).
- Benefits for employers will total \$418 million annually, largely from reduced costs of turnover.
- Employers statewide will save \$111 million annually as a result of the Act.
- The weekly cost of the policy for newly covered workers will be \$6.39 per worker and savings will be \$8.69 per worker, for a net savings of \$2.30 per worker per week.

#### *Improved public health will save millions of dollars*

- Paid sick days reduce the spread of serious contagious diseases such as the flu and norovirus.
- Workers will save \$9 million annually on flu-related costs and short-term nursing home stays for relatives.
- Getting timely medical care will improve care and treatment, reducing costs for providers and patients.

## Key provisions of the proposed Healthy Families and Healthy Workplaces Act

- Workers (both full- and part-time) earn paid sick time at the rate of 1 hour of paid sick time for every 30 hours worked up to the maximum of 7 paid sick days in a year, or 4 days for workers at businesses with 10 or fewer employees.
- Paid sick time may be used for diagnosis or treatment of a worker’s or family member’s health condition or to address the psychological, physical, or legal effects of domestic violence, sexual assault, or stalking.
- The 12-month period for an employee’s accrual and use of leave shall be calculated from the date of hire.
- Employers may require medical certification for any absence that exceeds three consecutive days, and employers that already provide paid time off meeting the requirements of the Act are not required to provide additional days.

**Table 1. Summary of Costs and Benefits of the Proposed Act**

|  |                       | Per worker per week                                     |   |
|--|-----------------------|---|---|
|  |                       | Averaged over workers newly covered by the proposed Act | Averaged over North Carolina private-sector workforce |
| <b>Costs to Businesses</b>   |                       |   |   |
| Wages, wage-based benefits, payroll taxes, and administrative expenses | \$ 308,000,000        | \$6.39  | \$1.77  |
| <b>Benefits to Business</b>  |                       |   |   |
| Reduced turnover   | \$ 389,000,000        |   |   |
| Reducing lost productivity   | \$ 19,000,000         |   |   |
| Reduced flu contagion  | \$ 11,000,000         |   |   |
| <b>Other Benefits</b>  |                       |   |   |
| Reduced medical expenses   | \$ 2,000,000          |   |   |
| Fewer nursing home stays   | \$ 7,000,000          |   |   |
| <b>Total Benefits for Businesses</b>                                   | <b>\$ 418,000,000</b> | <b>\$8.69</b>   | <b>\$2.41</b>   |
| <b>Net Savings for Businesses</b>                                      | <b>\$ 111,000,000</b> | <b>\$2.30</b>   | <b>\$0.64</b>   |

Source: Institute for Women’s Policy Research

<sup>1</sup>Although the proposed Act does apply to government employees, comprehensive data on public sector employees were unavailable. The estimate presented here only includes private-sector employees. Most full-time government employees in North Carolina receive paid sick days.

<sup>2</sup>Some North Carolina workers who currently lack paid sick days are covered by paid vacation or other paid leave policies, which are likely to be modified to reflect the requirements of the Act should it become law. These workers will receive important protections against dismissal or other penalties under the proposed policy, but IWPR’s estimate assumes they will not receive additional leave.

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**For more information on IWPR reports or membership, please call (202) 785-5100, email [iwpr@iwpr.org](mailto:iwpr@iwpr.org), or visit [www.iwpr.org](http://www.iwpr.org).**

The Institute for Women’s Policy Research (IWPR) 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 policy makers, scholars, and public interest groups to design, execute, and disseminate research that illuminates economic and social policy issues affecting women and their families, and to build a network of individuals and organizations that conduct and use women-oriented policy research. IWPR’s work is supported by foundation grants, government grants and contracts, donations from individuals, and contributions from organizations and corporations. IWPR is a 501 (c) (3) tax-exempt organization that also works in affiliation with the women’s studies and public policy programs at The George Washington University.

## **Valuing Good Health in North Carolina: The Costs and Benefits of the Healthy Families and Healthy Workplaces Act**

Policymakers across the country are increasingly interested in ensuring the adequacy of paid sick days policies. 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 diseases to avoid unnecessary contact with co-workers and customers is a fundamental public health measure. Paid sick days protect workers from being fired when they are too sick to work, offer substantial savings to employers by reducing turnover and minimizing absenteeism.

This report uses data collected by the U.S. Bureau of Labor Statistics, the U.S. Department of Health and Human Services, the North Carolina Department of Public Health, and the U.S. Census Bureau to evaluate the likely impact of the Healthy Families and Healthy Workplaces Act. The study is one of a series of such analyses conducted by the Institute for Women's Policy Research (IWPR) in the last several years that examine public policy development related to paid sick days. It presents an estimate of how much time off workers would use in North Carolina under the proposed policy and what the costs would be for employers for that sick time. It also employs findings from peer-reviewed research literature 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.

While this report calculates significant benefits from the sick time proposal, 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 should be able to get health care more promptly when it is needed, leading to improved overall 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; this will improve workers' economic security. The public health impact is also likely to be considerable, as workers with contagious diseases will be better able to avoid infecting others, and parents will not have to send sick children to school or leave them in child-care centers.

### **Key provisions of the proposed Healthy Families and Healthy Workplaces Act**

- Workers (both full and part-time) earn paid sick time at the rate of one hour of paid sick time for every 30 hours worked up to the maximum of four paid sick days in a year for businesses that employ 10 or fewer employees and seven paid sick days for businesses that employ more than 10 employees .
- Paid sick time may be used for diagnosis or treatment of a worker's or family member's health condition and preventive care. Paid sick time is also available to allow an employee to address the effects of domestic violence, sexual assault, or stalking.
- The 12-month period for an employee's accrual and use of leave will begin at the date of hire.
- Employers may require medical certification for any absence that exceeds three consecutive days. The employer shall not require certification from a health care provider employed by the employer.

## **Summary of likely impact of the Healthy Families and Healthy Workplaces Act**

This estimate assumes 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 very likely that many workers will be unaware of their new leave benefits and thus not take any time off under the new law.<sup>1</sup> 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.

### **Main research findings regarding the likely impact of the Healthy Families and Healthy Workplaces Act**

- 1,635,015 workers from North Carolina lack paid sick days – 50 percent of the private-sector workforce.
- Workers covered by the Healthy Families and Healthy Workplaces Act will use an average of 1.7 days of paid sick days annually for their own medical needs, excluding maternity leave.
- On average, workers will use one day for family care and doctor visits.
- Half of all workers with paid sick days do not take *any* days off for illness in a given year.
- North Carolina employers will pay \$308 million annually for wages, payroll taxes and payroll-based employment benefits, and administrative expenses (Table 1).
- Total benefits for Business will total \$418 million annually, mainly from reduced costs of turnover, for a net savings to employers of \$111 million.
- Workers and their families will enjoy lower expenditures for health care services totaling \$9 million annually. Savings from reduced spread of flu within workplaces total \$11 million.
- The cost per worker per week for covered workers will be \$6.39, and savings will be \$8.69. Averaged over the entire North Carolina private-sector workforce, the average weekly per-worker cost will be \$1.77, and benefits will be \$2.41. The net savings will be \$2.30 per worker per week for covered workers, or \$0.64 per worker per week averaged over the entire North Carolina private-sector workforce.

**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. While the data needed to calculate the dollar value of those benefits are not yet available, it is reasonable to anticipate savings from:

1. Improved health outcomes and speedier recoveries for workers and their families.
2. Greater family economic stability from more consistent employment tenure and fewer days off without pay.
3. Fewer workers being fired or suspended for taking needed but unauthorized time off.
4. Increased scheduling certainty for employers when workers can be open about upcoming medical appointments for themselves and their families.
5. Improved workplace morale when all workers feel their employers offer the support they need.
6. Reduced expenditures on public assistance for workers who are fired due to having inadequate paid sick days.

**Table 1. Summary of costs and benefits of the proposed North Carolina Healthy Families and Healthy Workplaces Act**

|  | <b>Total</b>         | <b>Per worker per week</b>                                  |   |
|--|----------------------|---|---|
|  |                      | Averaged over workers covered by the ordinance <sup>a</sup> | Averaged over North Carolina private-sector workforce |
| <b>Costs to Businesses</b>   |                      |   |   |
| Wages, wage-based benefits, payroll taxes, and administrative expenses | <b>\$308,000,000</b> | <b>\$6.39</b>   | <b>\$1.77</b>   |
| <b>Benefits to Businesses</b>  |                      |   |   |
| Reduced turnover   | \$389,000,000        |   |   |
| Reduced lost productivity  | \$ 19,000,000        |   |   |
| Reduced spread of the flu at work                                      | \$ 11,000,000        |   |   |
| <b>Other Benefits</b>  |                      |   |   |
| Reduced short-term nursing home stays                                  | \$ 7,000,000         |   |   |
| Reduced medical expenses of flu  | \$ 2,000,000         |   |   |
| <b>Total benefits for Businesses</b>                                   | <b>\$418,000,000</b> | <b>\$8.69</b>   | <b>\$2.41</b>   |
| <b>Net Savings for Businesses</b>                                      | <b>\$111,000,000</b> | <b>\$2.30</b>   | <b>\$0.64</b>   |

Note: In 2008 dollars.

<sup>a</sup> In addition to these workers, some North Carolinians who currently have paid sick days will receive additional days under the Healthy Families and Healthy Workplaces Act. 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), so the majority with paid sick days already meet the standard of the Healthy Families and Healthy Workplaces Act; and (2) most workers will not use their full allotment of paid sick days. (Excluding maternity leave, workers are estimated to take an average of 2.6 days of Healthy Families and Healthy Workplaces Act leave.) For some number of workers, though, these additional days will be very important in addressing health needs.

## **Methodology for Estimating the Cost and Benefits of the Healthy Families and Healthy Workplaces Act**

The number of North Carolina 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?<sup>2</sup>

There are about 3,343,563 private-sector workers in North Carolina (Quarterly Census for Employment and Wages, 2007 BLS). The share that currently has paid sick days is calculated by industry by the Institute for Women's Policy Research using March 2006 National Compensation Survey microdata for the South Atlantic region and data on the number of workers in North Carolina by industry from the Quarterly Census for Employment and Wages. More than 1,630,000 North Carolina workers—50 percent of the North Carolina private-sector workforce—currently does not have paid sick days (1,635,015).

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 Healthy Families and Healthy Workplaces Act without offering more total days off than they do now.<sup>3</sup> The share of workers covered by vacation and/or paid sick days is calculated by industry by the Institute for Women's Policy Research from March 2006 National Compensation Survey microdata for the South Atlantic region and data on the number of workers in North Carolina by industry from the Quarterly Census for Employment and Wages. Over 900,000 North Carolina workers currently have no paid leave benefits (925,871).<sup>4</sup>

Although the Healthy Families and Healthy Workplaces Act does mandate paid sick leave coverage for public-sector employees, data on the status of government workers in North Carolina was incomplete as of the publication of this report. As a result, government workers were not included in this estimate. Most full-time public workers in North Carolina already have paid sick leave coverage, however – the most likely impact of the Healthy Families and Healthy Workplaces act for public employees would be for those part-time employees who are not already covered by paid sick leave policies.

Workers would accrue paid sick days from their date of hire under the Healthy Families and Healthy Workplaces Act.

### 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 industry and firm size from the 2007 National Health Interview Survey (NHIS).<sup>5</sup> When workers are limited to a maximum of seven days of work loss for large business and a maximum of four days for small businesses workers with paid sick days miss an average of 1.7 days annually for illness and injury, excluding maternity leave (IWPR analysis of the 2007 NHIS).<sup>6</sup> (Those without paid sick days miss an average

of 1.4 days annually.) **More than half (54 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.**<sup>7</sup>

**b. For family care:**

According to the U.S. Department of Labor's 2000 Family and Medical Leave Act Survey of Employees, **workers take 0.33 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 3.2 times per year** (IWPR analysis of the 2007 NHIS). These visits may be during or outside of work hours or may already be included in time off due to illness or injury in 2(a) above. For this analysis, the average number of doctor visits is calculated by industry from the 2007 NHIS. Each visit is assumed to take 1.0 hours of work-time.<sup>8</sup>

**For these three leave circumstances, workers are estimated to use an average of 2.6 days annually.**

**d. For maternity leave:**

i. There are an estimated 52,162 births each year to women employed in the private sector in North Carolina who currently lack paid vacation and sick leave (IWPR analysis of national data from the 2005-2008 Annual Social and Economic Supplement to the Current Population Survey (ASEC)).

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 or maternity recovery. This report estimates that employed women who give birth would use an additional 4.4 days (to bring their total to 7) if they work in large business and 1.9 (to bring their total to 4) if they work in small businesses.

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.

3. How much do workers earn?

Average hourly wages and average daily work-hours are calculated by industry for the private-sector workforce using findings for the South Atlantic Census region from the 2005-2008 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).<sup>9</sup> These costs are calculated for the South Atlantic Census Region by industry from the 2007 Employer Costs for Employee Compensation survey (U.S. Bureau of Labor Statistics 2008).

b. Administrative expenses are estimated at 1.8 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 state-wide TDI program is more expensive than an employer's costs for adding a paid sick days policy to an existing payroll system.

**Table 2. Healthy Families and Healthy Workplaces Act**

| <b>Cost factor</b>  | <b>Value</b>   | <b>Notes / Source</b>   |
|---|--|---|
| Number of North Carolina workers who currently lack paid leave  | 925,871  | IWPR analysis of Current Employment Statistics data from the Quarterly Census for Employment and Wages 2007 and of the March 2006 National Compensation Survey. |
| Average number of days of paid sick days workers will take  | Varies by industry and business size from 1.3 to 2.2   | IWPR analysis of the 2007 National Health Interview Survey (NHIS).  |
| Additional days taken by pregnant employed women and their partners, to bring their use to the maximum provided for in the proposal | Large firms: 4.4 days<br>Small firms: 1.9              | IWPR analysis of the 2005-2008 ASEC.  |
| Average hourly wage   | Varies by industry and firms size from \$8.6 to \$21.9 | IWPR analysis of the 2005-2008 ASEC.  |
| Cost of benefits and payroll taxes as share of hourly wage  | Varies by industry, from 16 percent to 26 percent      | U.S. Bureau of Labor Statistics (2008).   |
| Administrative expenses   | 1.8 percent of wages                                   | U.S. Social Security Administration (2007).   |
| <b>Total</b>  | <b>\$308 million</b>                                   |   |

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, 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.

## **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 increase 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 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 North Carolina 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. Having paid sick days in a current job may increase worker loyalty to the current employer, however, 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 15 percent 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 guidance on 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). This figure is used in this analysis to estimate employers’ savings under the Healthy Families and Healthy Workplaces Act from reduced turnover.

**Table 3. Cost savings from reduced turnover**

| <b>Cost factor</b>  | <b>Value</b>                                       | <b>Notes / Source</b>   |
|---|--|---|
| Number of North Carolina workers who currently lack paid leave                    | 925,871  | IWPR analysis of Current Employment Statistics data from the Quarterly Census for Employment and Wages 2007 and of the March 2006 National Compensation Survey. |
| Percentage point reduction in voluntary turnover when paid sick days are provided | 5.0  | IWPR calculation of weighted average from Cooper and Monheit (1993), based on Lovell (2005).  |
| Cost of turnover  | 25 percent of total compensation                   | Employment Policy Foundation (2002).  |
| Average hourly wage, workers who lack paid sick days                              | \$12.06 for small firms<br>\$12.86 for large firms | IWPR analysis of the 2005-2008 ASEC.  |
| Wages as percent of total compensation  | 20 percent   | U.S. Bureau of Labor Statistics 2008.   |
| <b>Total</b>  | <b>\$389 million</b>                               |   |

## Cost savings #2: 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 10 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 an average of 0.5 fewer days due to illness and injury than workers with paid sick days, when constrained to the maximum provided for by the North Carolina Healthy Families and Healthy Workplaces Act (IWPR analysis of the 2007 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 \$19 million per year.

**Table 4. Cost savings from not paying ill workers for unproductive time on the job**

| Cost factor  | Value  | Notes / Source  |
|--|--|---|
| Number of North Carolina workers who currently lack paid leave | 925,871  | IWPR analysis of Current Employment Statistics data from the Quarterly Census for Employment and Wages 2007 and of the March 2006 National Compensation Survey. |
| Lost productivity currently paid                               | 0.4 days at 50 percent effectiveness               | IWPR analysis of the 2006 NHIS; Nichol (2001).  |
| Average hourly wage, workers who lack paid sick days           | \$12.06 for small firms<br>\$12.86 for large firms | IWPR analysis of the 2005-2008 ASEC.  |
| Average daily work-hours, workers who lack paid sick days      | 6.9  | IWPR analysis of the 2005-2008 ASEC.  |
| Cost of benefits and payroll taxes as share of hourly wage     | Varies by industry, from 16 percent to 26 percent  | U.S. Bureau of Labor Statistics (2008).   |
| <b>Total</b>   | <b>\$39 million</b>                                |   |

Monetary amounts are in 2008 dollars.

### **Cost savings #3: 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 that occurs when sick employees go to work, a practice known as presenteeism. 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;<sup>10</sup> 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 10 co-workers.

By a low estimate, 5 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 (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 North Carolina Healthy Families and Healthy Workplaces Act from reduced spread of the flu in workplaces (Table 6). Detailed data are not available to estimate savings from other contagious diseases (see text box), although they would without doubt be 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, e.g., colds, stomach flu (norovirus), mononucleosis, hepatitis, strep, and 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 settings when parents cannot keep their sick children home are not calculated here.

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

| <b>Cost factor</b>  | <b>Value</b>  | <b>Source</b>   |
|---|---|---|
| <b>Employers' wage costs</b>  |   |   |
| Number of North Carolina workers who currently lack paid leave        | 925,871   | IWPR analysis of Current Employment Statistics data from the Quarterly Census for Employment and Wages 2007 and of the March 2006 National Compensation Survey. |
| 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      | 50 percent of workers with flu receive care; 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, workers who lack paid sick days                  | \$12.06 for small firms<br>\$12.86 for large firms                                      | IWPR analysis of the 2005-2008 ASEC.  |
| Average daily work-hours, workers who lack paid sick days             | 6.9   | IWPR analysis of the 2005-2008 ASEC.  |
| Cost of benefits and payroll taxes as share of hourly wage            | Varies by industry, from 16 percent to 26   | U.S. Bureau of Labor Statistics (2008).   |

|                                       |  |  |
|---------------------------------------|--|--|
|                                       | percent  |  |
| <b>Subtotal</b>                       | <b>\$11 million</b>                                |  |
| <b>Workers' medical costs</b>         |  |  |
| Doctor visits for infected co-workers | 45 percent of ill workers, at average cost of \$60 | Nichol (2001); BlueCross BlueShield of Texas n.d.      |
| Prescription drugs                    | 42 per 100 ill workers, at average cost of \$53    | Kavet (1977), Kaiser Family Foundation webtool (2005). |
| <b>Subtotal</b>                       | <b>\$ 2 million</b>                                |  |
| <b>Total</b>                          | <b>\$12 million</b>                                |  |

Monetary amounts are in 2008 dollars.

#### **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 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 in the United States (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, Table 1)—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 utilization 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 Appendix Table 6.

**Table 6. Cost savings from reduced short-term nursing home stays**

| Cost factor   | Rate                     | Source  |
|---|--------------------------|---|
| Number of caregivers of adults aged 50 and older employed full-time in North Carolina | 264,607                  | IWPR calculation based on National Alliance for Caregiving and AARP (2004), Tables 2 and 5, and state-level population data.                                    |
| Average number of caregivers per care recipient                                       | 2                        | IWPR calculation based on Kramarow et al. (1999).   |
| Percent of North Carolina workers with no paid leave                                  | 28 percent               | IWPR analysis of Current Employment Statistics data from the Quarterly Census for Employment and Wages 2007 and of the March 2006 National Compensation Survey. |
| 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                       | \$177                    | MetLife (2004), figure inflated to 2008 dollars.  |
| <b>Total</b>  | <b>\$6.5 million</b>     |   |

Monetary amounts are in 2008 dollars.

### **Other benefits to measure when needed data 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 benefit 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: 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 from workers who call at the start of their shifts to say they're ill, 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 when they have contagious diseases like the flu can prevent illness and work absence 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); 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 being more able to provide 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 quality of life for workers and their families.

## References

- American Association of Pediatrics. 2008. *Medicaid Reimbursement Survey: North Carolina*. <<http://www.aap.org/research/medreimpdf0708/il.pdf>> (October 23, 2008).
- American Health Care Association. N.d. *Nursing Facility Patients by Payer*. <[http://www.ahca.org/research/oscar/pt\\_payer\\_200412.pdf](http://www.ahca.org/research/oscar/pt_payer_200412.pdf)> (March 16, 2005).
- American Medical Association. 2008. *Current Procedural Terminology*. <[https://catalog.ama-assn.org/Catalog/cpt/cpt\\_search\\_result.jsp?\\_requestid=692968](https://catalog.ama-assn.org/Catalog/cpt/cpt_search_result.jsp?_requestid=692968)> (October 23, 2008).
- 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/scl2004/02/>> (July 24, 2006).
- Blue Cross and Blue Shield of Texas. N.d. *Health Care Fact Sheet: Doctor's Office vs. E.R.* <[http://www.bcbstx.com/employer/hccc/8710\\_685\\_503.doc/](http://www.bcbstx.com/employer/hccc/8710_685_503.doc/)> (April 18, 2005).
- 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, Mareena 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/asp/fmla/main2000.htm>> (January 20, 2001).
- 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/nrhs.htm>> (March 31, 2008).

- . 2006. *U.S. Norovirus Technical Fact Sheet*.  
<<http://www.cdc.gov/ncidod/dvrd/revb/gastro/downloads/noro-factsheet.pdf> > (August 14, 2008).
- . 2007. “Norovirus Activity—United States, 2006-2007.” *Morbidity and Mortality Weekly Report*. <<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5633a2.htm>> (April 14, 2008).
- ComPsych. 2004. *Vast Majority of Employees Work While Sick, According to ComPsych Survey*. Press Release. Chicago: ComPsych. March 8. <<http://www.compsych.com>> (March 17, 2005).
- 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 <[www.epf.org](http://www.epf.org)> (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>> (March 25, 2008).
- Expedia.com. 2007. *2007 International Vacation Deprivation Survey Results*.  
<[http://media.expedia.com/.../promos/vacations/Expedia\\_International\\_Vacation\\_Deprivation\\_Survey\\_Results\\_2007.pdf](http://media.expedia.com/.../promos/vacations/Expedia_International_Vacation_Deprivation_Survey_Results_2007.pdf)> (March 28, 2008).
- 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.

Goetzl, 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 Woleslagle 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.

North Carolina Department of Public Health. Personal Communication. 2008.

North Carolina Department of Employment Security. 2008. Current Employment Statistics Program. <http://www.ides.state.il.us/>

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.

Johnson, Walter E. and Dan M. Tratensek. 2001. "Employee Turnover." *Do-It-Yourself Retailing* 180 (6).

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. 2005. *Average Price of Retail Prescriptions Filled, 2003*. <<http://www.statehealthfacts.org>> (July 15, 2008).

----- . 2008. *State Health Facts 2006: Distribution of Certified Nursing Facility Residents by Primary Payer Source*. <<http://www.statehealthfacts.org/comparebar.jsp?ind=410&cat=8>> (October 23, 2008).

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](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](http://www.signonsandiego.com/uniontrib/20060618/news_1n18leave.html)> (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>> (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://www.scripps.muohio.edu/scripps/publications/documents/SGC0070TenYearRetrospective.pdf>> (April 17, 2005).

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>> (February 29, 2008).

National Alliance for Caregiving and AARP. 2004. *Caregiving in the U.S.* Bethesda, MD, and Washington, DC.

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 21<sup>st</sup> Century*. <<http://www.publicwelfare.org/AboutUs/documents/PollReportFINALa.pdf>> (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.

The 1987 Nursing Reform Act Federal Regulations: 42 CFR 483.25., reintroduced as the Patient Safety and Abuse Prevention Act, senate bill 1577. [http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110\\_cong\\_bills&docid=f:s1577rs.txt.pdf](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_bills&docid=f:s1577rs.txt.pdf) (November 20, 2008)

Tsouna-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. <[http://www.nfib.com/object/IO\\_27823.html](http://www.nfib.com/object/IO_27823.html)> (July 17, 2008).

U.S. Bureau of Labor Statistics. 2008. *Employer Costs for Employee Compensation—December 2007*. UDL 08-0331. Washington, DC.: U.S. Bureau of Labor Statistics. <<http://www.bls.gov/news.release/pdf/ecec.pdf>> (March 12, 2008).

U.S. Census Bureau. 2006. *American FactFinder Annual Population Estimates*. <<http://factfinder.census.gov>> (October 30, 2008).

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>> (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.

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<sup>1</sup> It can be very 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 know 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.

<sup>2</sup> Information on average hourly wages and average daily work hours are calculated from 2005-2008 Annual Social and Economic Supplement to the Current Population Survey for all businesses in the East North Central census region. Sample sizes are not sufficient to limit these analyses to Illinois.

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<sup>3</sup> While it is the clear intent of the proposed Illinois Healthy Workplace Act that workers have a separate benefit of paid sick days, in addition to any other paid leave they have, as drafted the proposal would accept a paid time off leave program that could be used for illness as meeting the requirements of the proposal. 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.

<sup>4</sup> In addition to these workers, some Illinoisans who do have paid sick days will receive additional days under the Healthy Workplace Act. 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.

<sup>5</sup> State-level data are not available from the National Health Interview Survey.

<sup>6</sup> This assumes that work-loss reported in the 2007 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.

<sup>7</sup> 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).

<sup>8</sup> 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.

<sup>9</sup> 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.

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

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