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Abstract

This study records the impact on workforce retention of the nearly doubling of wages for homecare workers in San Francisco County over a 52-month period. Using descriptive statistics and logistic regression analysis I find that the annual retention rate of new providers rose from 39 percent to 74 percent following significant wage and benefit increases and that a $1 increase in the wage rate from $8 an hour – the national average wage for homecare – would increase retention by 17 percentage points. I also show that adding health insurance increases the retention rate by 21 percentage points.

Introduction

Between 1996 and 2002, due to a confluence of political forces, including unionization of the workforce, the establishment of a consumer-labor coalition and a campaign for a living wage ordinance, wages for In-Home Supportive Services (IHSS) workers in San Francisco County more than doubled. In March 2000, healthcare benefits were added to the compensation package and in October of the same year, the Living Wage Ordinance took effect and dental benefits were added.[i] IHSS jobs now pay $10 an hour in San Francisco and even part-time workers receive medical, dental and vision care benefits making them among the best jobs available to low skilled female workers, and especially for new immigrants.[ii] But IHSS jobs have not always been good jobs. As recently as 1995, all IHSS independent providers in California earned the state minimum wage, which was $4.25 at the time, and none received benefits of any kind.

The primary concern of this study is to examine the impact of the nearly doubling of wages and the addition of healthcare benefits on the stability of the IHSS workforce in San Francisco County.[iii] Using descriptive statistics and logistic regression analysis, the study examines the impact of the wage and benefit increases on workforce retention. This study is one of the very few large-scale empirical investigations of the effect of wages on labor market outcomes in any direct care industry, and possibly the only such study specifically addressing conditions in the homecare industry. The project is based on a unique database, which matches approximately 18,000 San Francisco County homecare workers to the 15,500 service recipients they cared for between November 1997 and February 2002.

The principal conclusion[iv] reported in this article is that:

- The annual <u>retention rate of new workers</u> rose by 89 percent, or alternatively, the turnover rate fell by 57 percent;

Logistic regression analyses also show that:

- Wage increases and health and dental insurance all contributed to increasing the retention rate of new workers;

- Were it not for the wage increases, a large proportion of the workforce would have left for other jobs in the tight labor market that prevailed until 2001 in San Francisco;

- A $1 an hour increase from an hourly wage of $8.00 – the average wage paid to homecare workers in the U.S. - increases the probability of a new worker remaining for a year by 17 percentage points;

- Adding health insurance increases the probability of a new worker remaining for a year by 21 percentage points;

- At a wage equal to the California state minimum wage of $6.75, even if health insurance was offered, the turnover rate of new workers would be 56 percent a year; without health insurance the turnover rate would approach 75 percent a year;

- While the turnover rate is slightly lower for people caring for family members, wage and benefit increases have roughly the same marginal effect on retention of both family and non-family providers.

The paper will first provide some background on IHSS, the homecare workforce and its working conditions. Section 2 explains the scope and method of the study. Section 3 presents the results of substantial wage and benefit increases. In section 4, I discuss the labor market outcomes. Section 5 concludes the paper.

1 Background

What is homecare?

Homecare is the first stage in the continuum of long-term care that is provided to a large population of frail elderly, working-age disabled, and disabled children in the United States. It is estimated that 13 million people needed long-term care in 2000, of which 11.6 million received community-based care, mainly homecare. Informal, that is unpaid, caregivers provide most of the home-based long-term care, but in 2000 there were approximately 1.5 to 2 million people providing formal long-term care in home and community-based settings and an additional 1 million providing formal care in institutional settings.[v]

The number of people in need of long-term care, especially in the community setting, is expected to double in the next 50 years to 27 million. Since women between the ages of 25 and 54 provide most long-term care, and since this population is expected to increase by only 9 percent by 2050, the current widespread shortage is expected to worsen as the growth in the number of people over 65 greatly outpaces younger cohorts of the population (Stone & Wiener 2001). Without a reliable workforce to deliver quality care, homecare services fail and the burden falls on expensive residential care facilities and on families.

Many consumers of formal homecare services are low-income elderly individuals or disabled people of working age whose services are paid for through Medicaid. In California, where it was estimated that approximately 1.6 million people needed some level of informal or formal home aide in 2000 (MPI 2001), there are now over 265,000 low-income people receiving formal home care services through the Medicaid-supported In-Home Supportive Services (IHSS) program (CDSS 2002b).[vi]

In contrast to the usual practice in other states of providing publicly funded homecare services through agencies that contract directly with the state, 85 percent of California IHSS service hours are provided through the independent provider mode and 95 percent of IHSS providers are independent providers.

Under the independent provider mode, the consumer has the option to directly hire, to train and to supervise the caregiver while state and county agencies set the wage and benefit rate and pay the provider. So although consumers have little control over the monetary conditions of work, the consumer is responsible for replacing a provider who quits. Every time a consumer hires a new provider, she has to explain the organization of her household and her specific care needs and work out a new and often complicated set of understandings about how to accomplish the necessary tasks within the intimate setting of her home. Thus, consumers and providers alike have an interest in establishing matches that are mutually respectful, trusting and of long duration.

Working conditions and retention

Typically, a homecare assistant will arrive in the morning to help a consumer out of bed, to bathe and dress them and assist them with their morning meal. In the case of an elderly person, they may transport them to a day health facility or, for the more independent of working age, help them get to work. The homecare worker may shop for food, clean the house, do laundry, and in some cases help manage the household finances. The severely impaired clients of working age may require assistance for much of the day to travel to and from and function effectively at work. Such an intimate relationship between provider and client works for the consumer only if the two can develop a high degree of trust. That trust will depend, among other factors, on the continuity of the relationship between the consumer and provider. [vii]

The conditions of IHSS employment are often difficult and hazardous. While many homecare workers prefer the flexibility and opportunity to work in the client's own home to nursing home work, it does mean that the job may require weekly or even daily travel to multiple sites, and that the worker has limited control over the conditions of her worksite. Homecare workers at times face real physical hazards such as frequent heavy lifting, contact with bio-medical hazardous materials, travel in unsafe neighborhoods and even physical abuse from clients or their family members.

Despite its significance, homecare work has been so undervalued that there is already a severe shortage of workers and turnover is estimated to be 40 percent a year nation-wide (Stone & Wiener 2001). Most homecare workers, who on average earned $8.00 an hour nation-wide in 2001 (BLS 2003), find it difficult to achieve the financial stability necessary to stay with the job. The average duration of matches between a consumer and provider is thus an important measure of stability and quality of care, and yet, as of the end of 1997, only 68 percent of all San Francisco IHSS providers and only 28 percent of all new providers would still be there a year later.[viii] A 68 percent retention rate, here measured as the percent of workers who are still providing homecare after a year, is equivalent to a 32 percent turnover rate.

If the turnover rate of homecare providers is contrasted to the annual turnover rates of nurses aides (100%) and home health care givers (50%) (Dawson 2000; Massachusetts Health

Policy Forum 1999; North Carolina Division of Facility Services 1999, 2000), homecare retention seems quite high. However, if one considers that the homecare giver, unlike a nurse's aid or home health care worker, is often the only person the client can depend on, having to replace 32 percent of providers seems like an intolerably large number of new providers that must be found every year just to serve the existing client base.[ix]

Homecare is one of the most important jobs available to low-skilled working women, and especially recent immigrants and so the economic rewards of this employment significantly affect the economic well being of many poor families in San Francisco and nation-wide. Thus, any improvement in compensation for homecare workers may potentially mitigate the problem of worker supply and reliability in the industry, while at the same time significantly and materially affecting the quality of life for a large share of poor working women at the very bottom of the wage distribution. San Francisco County, where wages for homecare workers doubled in a five-year period, provides concrete evidence of this.

Who are homecare workers?[x]

Who providers are explains a lot about why retention is low or turnover is so high. On the whole they are very poor women of color and/or recent immigrants with low levels of education, who have access to a very limited range of low wage jobs. Most are doing the job only part-time while simultaneously working other jobs. The wages and benefits they receive for homecare relative to other jobs available to them should significantly impact their attachment to the job, though the compensation effect may be mitigated by the non-market nature of family care giving. In over half of all cases, providers are caring for a member of their family. The jobs available to native-born African Americans and whites are significantly better than those available to non-native born workers and even many native-born Latinos, given the segmented nature of the labor market and the prevalence of ethnic job niches.

Table 1 shows that in November 1997, nearly half of the 5,700 providers in San Francisco were Russian or Chinese, most of whom were probably immigrants.[xi] Ten percent of providers were Latinos, many of whom were probably immigrants from Mexico or Central America. Thirty percent were native-born English-speaking African-Americans or whites. The

remaining 13 percent were immigrants from other South and Southeast Asian countries. The proportion caring for family members varies somewhat by ethnicity, with Whites and Russians least likely, and Blacks and Latinos most likely to be caring for a family member. The labor force was so segmented by ethnicity that 86 percent of the 7,000 matches in November 1997 were between providers and recipients of the same ethnic group. Only white providers, who were also likely to be caring for Latino, Russian or Black recipients, had crossed ethnic boundaries in any significant numbers. Given the variation across ethnic groups in access to jobs and cultural norms about family care-giving, this study will examine whether the impact of the wage and benefit increases varies significantly by ethnicity and the family relationship between caregiver and recipient.

Most of the providers worked part time at IHSS work. For example, on average the workforce worked 89 hours per month, or just over 20 hours per week, while the median was 75 hours. Only 25 percent of the workforce worked more than 110 hours per month. Latinos averaged 103 hours, with only 25 percent working more than 142 hours, or nearly full time.[xii]

The data used in this study do not provide any direct measure of the income or economic status of providers. However, a 1999 survey of San Francisco IHSS providers, taken when the wage had already reached $7 an hour, found that the annual income from all jobs of 46 percent of providers was less than $10,000 and 64 percent earned less than $20,000 a year. Sixty-nine percent of the Chinese providers, 46 percent of Spanish-speaking and 42 percent of English-speaking providers earned less than $10,000 a year at any job (San Francisco Health Plan 1999). In a more recent survey of Alameda County IHSS workers, we found that the mean individual income for providers was $13,361 and the mean family income was $22,512 (Howes, et al. 2002). Thirty-five percent of Alameda County IHSS workers had family incomes that put them below the poverty line at a time when the wage rate was already $8.50. It is quite possible that most IHSS workers in 1997 earning $5.69 an hour lived below the poverty line. Since a consumer's income cannot exceed more than about $966 a month to qualify for the service, most consumers must have individual incomes in the range of $10,000 to $12,000 a year, suggesting consumers and providers share similar economic status.

In sum, the homecare workforce is composed of very poor native-born and immigrant women who work part-time, often at multiple jobs. Despite the low pay, IHSS jobs are probably very important in the poor communities of San Francisco. For the very poor family providers of the Chinese, Latino and Black communities, the IHSS wages, when combined with the SSI payments to the recipient, may constitute the entire household income. For others, like the Russian immigrants, IHSS jobs may be the only job they can do while learning English and retraining for a new career in the United States. For many older Russian and Chinese immigrants, who will never learn English, it is one of the few, and one of the best jobs they will ever have in the U.S.

2 Scope and method of study

This study examines the effect on labor market outcomes of economic events over a 52-month period from November 1997 to February 2002.[xiii] The period of analysis is punctuated by a number of events that may have impacted a provider's decision to enter or exit the workforce. During the first 8 months, there was little economic incentive for providers to change their behavior. The first substantial wage increase above the minimum wage occurred in June 1998. During this period, the San Francisco economy was expanding rapidly and unemployment rates were less than 3 percent so it is unlikely that IHSS jobs would have been economically attractive relative to other available jobs. Other factors, such as family commitment or a preference for part-time work might have attracted providers to the job. In July 1998 the wage rose for the first time to a level more than $1 above the minimum wage.[xiv] In March 1999, the HEALTHYWORKERS plan made individual health insurance available to any IHSS employee who had worked a minimum of two months and who worked at least 25 hours in one of those months. In September 1999, as the San Francisco Living Wage Campaign neared completion, the county raised the wage to $9 per hour, $3.25 above the state minimum wage. In January 2000, individual dental insurance was added and all workers were automatically signed up for the program. When combined with the health insurance benefit, IHSS became one of the very best jobs available to low skilled workers, especially those who did not have English-language skills. The wage rose to $9.70 in July 2000 and again to $10.00 in January 2001.

At the same time wages and benefits were increasing in IHSS, however, a very tight labor market in San Francisco would have provided rapidly increasing wages and job opportunities in other occupations as well, presumably offsetting some of the effect of the IHSS wages on retention and making it necessary to control for labor market conditions in the empirical analysis of the effect of wages and benefits. The San Francisco labor market was expanding until late 2000, with the unemployment rate dropping from 3 percent in 1998 to 2.1 percent in 2000. By 2002, in the wake of the dot.com crisis, unemployment had risen to 5.9 percent. Employment in the leisure and hospitality industries grew through 2001, while employment in education and health services grew only through 2000. Despite the overall declines, among the occupations experiencing the fastest growth rates are janitors and cleaners, salespersons, cashiers and waiters and waitresses, all occupations in which IHSS workers routinely find jobs (California EDD 2004).

Although there are numerous anticipated labor market effects, including an increase in the length of matches between consumers and providers, an increase in the supply of workers and perhaps hours worked, the principal objective of this paper is to examine the effect of wage and benefit increases on retention of the workforce. I expect the significant improvement in compensation for homecare workers to raise the retention rate of workers in the labor market. As noted earlier, 20 percent of providers leave the job annually.

Since many IHSS consumers hire family members, however, market signals may be muted by commitment and obligation. For example, a provider who is working for a family member, not because it is the best job, but because they are the best person to do the job, may be more likely to stay in a bad job. So turnover is expected to be lower for family providers and the effect of wage and benefit increases is expected to be less than in the case of non-family providers.

The results presented here include descriptive statistics that compare retention of both new workers and all workers at the beginning and end of the study period to see if there has been an improvement. In order to gauge the relative effect of wage increases, health and dental benefits and whether or not the provider is a family or non-family, on retention, I have conducted

a logit regression analysis, regressing the probability of a new worker lasting a year or longer on wages and a set of indicator variables as specified in the equation below.

Model Specification and variables

The model being estimated in this study has the following specification and will be estimated using logit regression:

$$\ln\left(\frac{P_{it}}{1-P_{it}}\right) = \beta_0 + \beta_1 Wage_t + \beta_2 Wage_t * Family_{it} + \beta_3 Family_{it} + \beta_4 HealthIns_t + \beta_5 DentalIns_t + \beta_5 SFEmpl_t + \varepsilon_{it}$$

Where,

- $\ln\left(\dfrac{P_{it}}{1-P_{it}}\right)$, where P_{it} is the probability of the *i*th new provider lasting at least a year from date of entry, where entry date is given by month *t*;

- $Wage_t$ is the wage rate in San Francisco County at time *t*;

- $Wage_t*Family_{it}$ is an interactive variable that measures the effect of the wage in month *t* if the *i*th provider is a family provider;

- $Family_{it}$ is a dummy variable which indicates whether the ith provider is a family provider or not at time *t*;

- $HealthIns_t$ is a dummy variable which indicates whether health insurance is available to all eligible providers at time *t*;

- $DentalIns_t$ is a dummy variable which indicates whether dental insurance is available to all providers at time *t*;

- SF Employment$_t$ measures the employment level in San Francisco at time *t*.

Measuring retention

For the purposes of this study, retention will be measured as the probability of a new provider lasting more than one year in the workforce from the date of entry. Providers leave, or are not retained, for many reasons, some of which do not interrupt the care of their consumer. As

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described in some detail below, the measure of retention used in this paper will focus only on the retention that is important for continuity of care.

Over the 52-month period between November 1997 and February 2002, a total of 18,000 unique providers worked for IHSS consumers in San Francisco. Many cycled in and out of the IHSS workforce, so that there were a total of 22,600 entries and 13,300 exits, with an average of about 7,000 providers working in any given month over the period of the study. No doubt, many of those providers entered the workforce because they agreed to care for a family member or friend or neighbor and many left permanently when their consumer lost eligibility. Evidence from statewide data tells us that about 20 percent of recipients are terminated every year for a variety of reasons including death, placement in an out-of-home facility, or because they move out of state or become ineligible or just disappear (CDSS 2002a). If a provider quits IHSS when and because her consumer is terminated, that quit does not disrupt the care of an IHSS consumer, although it could be argued that IHSS is losing a skilled provider from its labor force. But in other cases, when a provider leaves the workforce, she leaves behind an eligible consumer who may experience difficulties, including a lapse in service or the inconvenience of having to train a new provider.

For the purpose of analyzing retention in this paper, I focus on the failures to retain (turnover) that may cause difficulties for the consumer and exclude separations that occur "naturally" because the consumer has been terminated. A provider who leaves the workforce at the same time as her consumer is assumed to be leaving because the specific job she was doing ended and she had never intended to work for anyone other than that consumer, as would be the case for many family providers as well as people caring for a friend or neighbor. In contrast, "turnover" (failure to retain) is defined as a quit in which the provider leaves the service before her consumer is terminated. Of course, there will be cases in which the provider leaves because the consumer found someone else they prefer, but it is not possible to make the distinction between voluntary and involuntary match ends with the CMIPS data.

During the period of analysis, of the 13,800 providers who were terminated for any reason, only 5,700 left an eligible consumer behind. Because we are excluding the 8,100

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providers who left at the same time as their consumers, the population of analysis for this paper includes the 8,700 providers who remained in the service over the period of analysis and the 5,700 who left a consumer behind when they separated.

Retention is measured, in this analysis, as the probability of a new entrant remaining in the workforce for a year or longer. Because there is so much turnover in the workforce, with 62 percent of all providers leaving in the 4 year period, new entrants always represent a large share of the provider population. However, since the data is truncated at both ends it is not possible to do an analysis of trends in retention for the entire workforce. If a wage or benefit improvement increases the probability of a provider staying with the job, then the percent of providers who remain in the job for at least a year after entry should increase.

Finally, a considerable number of consumers and providers exit and reenter the service, sometimes numerous times.[xv] Providers may exit and reenter because they are attached to consumers who are doing the same. On the other hand, for many providers, exit and entry patterns may reflect the nature of the low wage labor market in which many jobs are highly substitutable. Even though the consumer or provider may reenter the service, the exit represents disruption of the service for the consumer. Therefore, for the purposes of measuring provider retention, I have treated any provider who exits and reenters, and in which there is a two-month hiatus, as a new provider. If both provider and consumer exit together, the exit is not treated as turnover, and therefore not included in the population or measure of retention.

Independent Variables

Wages are set administratively by the county and all workers in San Francisco are paid the same hourly wage at any point in time.[xvi] The wage variable takes on the value of the wage rate for each month during the analysis. The wage rate changed five times during the period of study.

A Family dummy variable, and its interaction with the Wage variable, are included to capture the effect of being a family provider and to discern whether this effect is influenced by

the Wage.[xvii] As noted earlier, I expect that family providers' retention is less affected by a wage increase. I assume their commitment to the job has less to do with remuneration than with family obligation, but that the impact of Family varies across ethnic groups due to differences in cultural norms about care-giving.

The county offered an identical individual health insurance package to all eligible providers beginning in October 1999. Some, but not all workers, signed up for the HEALTHYWORKERS program. Unfortunately, I do not have data to show whether individuals signed up or not, so the health insurance variable is a dummy variable coded 1 in the months during which insurance was available. A similar dummy variable was constructed for dental insurance which became universally available in January 2000. In this case, all workers were immediately enrolled, so having individual level data on whether or not they were enrolled would not improve the analysis, though data on usage, also not available, would.

A variable measuring the employment level in San Francisco was included to capture the effect of employment trends in the local labor market which might affect provider retention. The San Francisco labor market was very tight and expanding through much of the period of analysis for this study, and the occupations that provide alternative employment to IHSS workers were among the fastest growing in the County. Thus I would expect a negative coefficient on SF Employment since as the employment level in San Francisco increased providers would be pulled out of homecare into alternative rapidly expanding occupations.

Finally, because of the significant labor market segmentation by ethnicity, and because alternative jobs as well as cultural factors which influence a provider's decision to provide homecare vary by ethnicity, I have estimated the equations separately for each ethnic group.

Data

The analysis was conducted using the Case Management, Information and Payroll Services (CMIPS) database for San Francisco County. Each county in California submits information to the state about the demographic characteristics and authorized hours for every

recipient and every provider of IHSS services. The state compiles the data, uses them for pay-roll purposes and returns the data to the counties for their own use. While the data are confidential, the San Francisco Public Authority and Department of Social Services have authorized the use of these data for the purpose of this analysis, subject to the constraints imposed by confidentiality.

The dataset indicates the beginning date on which the consumer is authorized to receive service and the date that the provider begins to provide service to each consumer. It also indicates the end date for service for each consumer. Using these data it is possible to determine when each match begins and ends and when each provider and each consumer enters (if after November 1997) and exits the service (if before February 2002), thus allowing analysis of trends in turnover of the workforce. Because I can match the provider to their consumer, I can also remove those providers who enter and exit with their consumer. Details of the demographic composition of both the workforce and the consumer population are also available, including details on race, ethnicity, and gender. [xviii]

3 Results

Trends in retention – descriptive statistics

To determine whether there was any change in the retention trend, I contrasted the percent of providers, excluding those who exited with their consumers, that had lasted a year or more for the four-month period including November 1997 to February 1998 to the percent lasting a year or more for the four months beginning in November 2000 (Table 2a). In 1997-98, only 78 percent of these providers were still in the workforce after a year, while by 2000-01, 85 percent of were still in the workforce a year later, which provides some support for the hypothesis that wage and benefit increases raised retention rates. Retention increased for all ethnic groups though the increase for Whites and Russians, which groups already had the highest retention rates, was fairly small. The table also shows similar increases in retention for family and non-family providers. The aggregate numbers mask some widely different trends among ethnic groups. In particular, there was an especially large increase in retention among African-American and Latino non-family providers and an actual decline in retention of white non-family providers.

Retention among new providers who did not exit with their consumers – adjusted retention – showed a huge increase (Table 2b). Thirty-nine percent of all new providers in the four months between November 1997 and February 1998, excluding those that left for natural reasons, remained for at least a year (a turnover rate of 61 percent). By 2001, retention had risen 89 percent to 74 percent. (This represents a 57 percent decline in the turnover rate which fell from 61 percent to 26 percent.) The smallest increase in retention, which was still 32 percent, was among Russians who already had much higher retention rates than other ethnic groups. Even Whites, for whom retention of all providers had only increased marginally, saw a very large increase in new provider retention. In the aggregate, the adjusted retention rate for non-family providers increased by 94 percent and for family providers by 81 percent. Several things stand out in the data disaggregated by ethnicity and family. The retention rate for new Black non-family providers increased by almost 300 percent and even for new family providers more than doubled. Among white providers, it was the family provider retention rate which showed the greatest gains, nearly tripling.

Regression results

Logistic regression analysis was conducted to parse out the causal determinants of the changing impact of the independent variables on the probability of a new worker remaining in the workforce for a year after entering. This paper presents the regression results only for the retention of new workers, adjusted to net out those workers who left with their consumer. The logit analysis for all new workers, including those who left with their consumers, was also performed with similar results.[xix]

Table 3 summarizes the variables used in the regression analysis, their meaning and basic descriptive statistics. For new workers that entered during the period between November 1997 and February 2001,[xx] adjusted for natural exits, the sample average probability of a provider lasting a year from entry was 68.3 percent. The average retention rate varied by ethnicity, ranging from 76 percent among Russians to 55 percent among African-Americans. The average entry wage for new providers through February 2001 was $8.85. Over the 41-month period, 81.8 percent of providers had access to health insurance and 71.3 percent had access to dental

insurance. In 51 percent of observations of new providers, the provider was matched to a family consumer.

Table 4 shows the results of a logit analysis regressing the probability that an individual provider lasts more than a year beyond their entry month on the independent variables. The estimated coefficients and their standard errors are presented. Based on z-statistics (not shown) all variables for total providers are significant at the 1 percent level. However, for large sample logit analysis, the Baysian information criterion (BIC) value provides a more reliable measure of significance (Pampel 2000; Raferty 1995). Specifically, the BIC value for each coefficient refers to the difference in model information with and without the independent variable. BIC values less than or equal to 0 indicate little support for including the variable. BIC values are also presented in Table 4. The table notes indicate the degree of significance measured by each range of BIC values.

Chi-squared statistics for all regressions are sufficiently high to reject, at a very high level of significance, the null hypothesis that the combined variables have no explanatory power. Pseudo R-squareds, which are a measure of the improvement in the log likelihood relative to the baseline, are recorded in the table, and range between .39 and .47. The coefficients in a logit analysis (which measure the increase in the logged odds of the dependent variable due to a one unit increase in the independent variable) have little intuitive meaning other than to indicate whether the direction of change is the predicted one. If the estimated coefficient on an independent variable is negative, then the probability of lasting a year due to a one unit increase in the independent variable declines.

From Table 4, we see that for the total population, an increase in the Wage rate has a positive effect on retention and that the coefficient is very strongly statistically significant. The Family variable is very strongly statistically significant in the aggregate but its inclusion is not justified for Latinos or Blacks and only positively or weakly positively justified for the other ethnic groups. Similarly the Wage*Family variable is also very strongly statistically significant in the aggregate, but its inclusion is not justified for Latinos, Chinese or Blacks and only slightly statistically significant for Russians and Whites. In other words, while in the aggregate there is

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evidence that being a family provider reduces the retention rate relative to non-family providers, the disaggregated analysis does not strongly support differences in family and non-family providers. Health Insurance showed the predicted positive effect and the estimate is very strongly statistically significant at the aggregate level and strongly or very strongly statistically significant at the disaggregated level. Dental Insurance also has the predicted effect and is of very strong statistical significance at the aggregate level. At the disaggregated level, the inclusion of Dental Insurance is not justified for African-Americans. Finally the coefficient on the SF Employment is negative and very strongly statistically significant at both the aggregate and disaggregated level. This is consistent with the hypothesis that as employment in San Francisco increases, workers are drawn out of homecare.

The more intuitive method of presenting results of a logit analysis is to show the marginal probability associated with a 1 unit increase in each independent variable, measured either from the mean of the dependent variable or from the mean of all the other independent variables. Table 5 shows the marginal probability of a new worker lasting a year or more associated with a one unit increase in each independent variable, evaluated at the mean of all the other independent variables. Of course, since the underlying functional form in logit analysis is non-linear, the marginal probabilities depend on the levels of all the other independent variables, as well as the level of the dependent variable. So I have also provided, in Table 6, the marginal probabilities for each independent variable first holding the value of all independent variables at their mean, and second setting the wage at the California minimum wage rate of $6.75, holding the other independent variables at their means.

Table 5 shows that there is a 12 percentage point increase in the probability of staying in the workforce for more than a year if the wage increases by $1, where the mean value of the wage is $8.50. The results in Table 5 suggest that on average, new family providers are 23 percentage points less likely to last a year than new non-family providers, but that the effect of a wage increase on their propensity to remain is positive so that at the margin a $1 wage increase measured at the mean of all the independent variables, will increase family providers' probability of staying a year by 3 percentage points more that of non-family providers. As discussed above, the coefficients on the Family and Wage*Family variables are either not statistically significant

or only marginally statistically significant suggesting that on the whole, family and non-family providers are similarly likely to remain in the workforce for a year.

Both Health and Dental Insurance have a large effect on retention rates, increasing the probability of remaining a year or more by 17 and 19 percentage points in the aggregate results. Both coefficients are very strongly statistically significant in the aggregate regression and highly quantitatively significant with a large marginal effect for all ethnicities, but especially for Blacks and Whites. With the exception of Dental Insurance for African-Americans, which coefficient is not statistically significantly different from 0, all coefficients are very strongly statistically significant.

Finally, the SF Employment variable, which is strongly statistically significant in both the aggregate and disaggregated ethnicity level results, indicates that the probability a homecare worker will remain in the workforce for a year declines over time due to changes in local labor market conditions. At the mean of employment, the estimated marginal probability of remaining in the workforce for a year decreases by 1.6 percentage points when the San Francisco employment level rises by 1,000. Since the San Francisco employment level increased by 35,000 from 397,000 to 432,000 between November 1997 and December 2000, employment growth in the SF labor market would have had a numerically significant impact on the probability of workers remaining for a year. Table 5 indicates that the effect of changes in the employment level were much greater for African-Americans and Whites, than for the other ethnic groups. In fact, an increase in San Francisco employment from the mean of 404,000 to 432,000 would have reduced African-American retention by 140 percent and White retention by 244 percent.

Table 6 shows the marginal and total probabilities of remaining for a year at wage rates of $6.75, $8.00, $8.85, and $10.00, holding other independent variables at their means. In the aggregate, the marginal probability associated with a wage increase declines from 18 percent at $6.75 to 7 percent at $10.00. However, the disaggregated figures show that the diminishing marginal probability is driven entirely by Latino, Chinese and Russian providers, and that Black and White providers actually have increasing marginal probabilities with rising wage rates.

Finally, Table 7 shows the difference in the probabilities of remaining a year associated with having Health and Dental Insurance available to all, versus having no insurance. If there were no Health Insurance, the model predicts that, holding all other variables at their mean, the probability of new providers lasting a year would be only 61 percent. When Health Insurance is added the probability rises by 21 percentage points to 82 percent. The marginal effect of going from no Dental Insurance to Dental Insurance is 22 percentage points. Holding Wage and Health Insurance at their means, adding dental insurance increases the probability of lasting a year from 62 to 84 percent.

4 Discussion

The results of the regression analysis support the hypothesis that wage and benefit increases will increase the retention rate for new entrants, especially when netting out those new providers who entered and left with a distinct client. While new entrant retention remains low at 74 percent compared to retention of all providers (85 percent), the retention that most matters for the security of consumers – that which excludes natural exits - has risen significantly for both family and non-family providers. The results do not support the hypothesis that changes in wages and benefits will have a smaller impact on family providers relative to non-family providers, although here the results are more mixed. The results support the hypothesis that trends in the local labor market would have drawn people out of homecare over most of the period of analysis and confirm that retention would actually have fallen but for the wage and benefit improvements.

The effect of wage increases on the marginal probability of retention varies across both ethnic groups and at different levels of the wage rate. Of particular note is that the marginal effect of wages is at a maximum at fairly low wage rates for Latinos, Chinese and Russians, while it rises, approaching a maximum, at much higher wage rates for Whites and Blacks. Table 6 shows that at the aggregate, if the wage were $6.75, a $1 increase would increase retention by 18 percentage points, while at $8.85 a one dollar increase would improve retention by only 12 percentage points. But for Blacks and Whites a $1 increase in the wage at $8.85 increases retention by over 50 percentage points. In a previous paper (Howes 2003) I found that the alternative jobs which are available to homecare workers varied by ethnicity. When asked what

jobs they had left or currently held in addition to their IHSS jobs, Blacks and Whites consistently reported being in higher paying jobs than Latinos, Chinese or Russians. Thus, the results of the other study, when combined with the evidence from this study, suggest that for Blacks and Whites the wage in homecare must reach a much higher level before homecare becomes an acceptable alternative to their other jobs.

As noted above, the increase in the retention rate of Black non-family providers and White family providers is especially large (Table 2). The evidence from the regression analysis again supports the notion that the wage at the beginning of the period of analysis was far below the threshold that would make it attractive to either group, but that by the end of the period, as the wage approached $9 and $10 an hour, it was reasonably competitive, especially when combined with health insurance. The best explanation I can offer for why the retention rate for White non-family providers increased by only half the rate of family providers is that many had come into IHSS in the process of transitioning from welfare, but by 2000 were leaving IHSS to find the full time jobs which were required under the CALWORKS program. It is not possible to statistically test this hypothesis because of the problems of multicollinearity that are caused by the fact that the CALWORKS reforms occurred at the same time that health insurance and dental benefits were added. However, we know there was a sudden increase in the number of White providers immediately after the CALWORKS program started and an equally sudden decline in the number of white providers when the number of hours of work that was required to participate in CALWORKS was increased, which fact supports the hypothesis that welfare reform helps explain the trends in white non-family retention.

The fact that there is very little difference, at the disaggregated level, in the responsiveness of family and non-family providers to wage increases is surprising. A common belief in the field of long term care is that family providers are doing it for love rather than money. But these results suggest that even when love is a factor, providers still need to eat and feed their families, which means that they still have difficulty taking on the job of providing homecare for their family members if the pay is low.

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The results reveal that health insurance had a much larger marginal impact on Blacks and Whites than on other ethnic groups. Health insurance was introduced in this market when the wage was $7.00 an hour, which is above the wage rate that has the greatest marginal effect for Latinos, Chinese and Russians, but well below the wage rate that has the maximum effect for Blacks and Whites. It is possible that wages had already drawn sufficient numbers from the first group to partially dampen the effect when health insurance was introduced. For Whites and African-Americans, perhaps what distinguished this job from their other low wage jobs initially was health insurance and so the marginal effect of health insurance on Blacks and Whites was greater.

Dental insurance is associated with marginal probabilities that are somewhat larger than those of health insurance, except for Whites and Blacks. In the case of Blacks, the coefficient on dental insurance is statistically insignificant. Dental insurance was introduced in this market at the same time that individuals involved in the welfare-to-work program in California were being asked to increase their hours of work to 40 per week. Since it is difficult to disentangle the effects of these two developments, I suspect the predicted positive effect of dental insurance is being offset by the negative effect of increased work requirements for welfare recipients, especially for Black and White providers.

Finally, the results for the San Francisco employment variable fully support the hypothesis that trends in the local labor market were drawing people out of homecare. Were it not for the wage and benefit increases, the model predicts that the retention rate would have been much lower. In fact the model suggests that in the case of Blacks and Whites, there would have been virtually no retention, but for the wage and benefit increases. Until late 2000 or even into 2001, the San Francisco labor market was very strong and there was significant growth in the kinds of jobs homecare workers take when they are not doing homecare.

5 Conclusion

This paper has reported the results of a study of the impact of a significant wage increase on an ethnically diverse, low wage, largely female and immigrant workforce in San Francisco.

Over the four-year period in which the wages and benefits increased, the retention rate for all providers rose by 9 percent and for new providers by 89 percent. Alternatively, the turnover rate fell by 31 percent for all providers and by 57 percent for new providers. The model estimates that a $1 wage increase from $8 – the average hourly wage paid to most homecare workers nation-wide – would increase the retention rate by 17 percentage points, holding other factors constant. The impact of going from no health insurance to health insurance for all is estimated to increase the probability of a provider lasting a year from 61 to 82 percent. Dental insurance appears to have a similar marginal impact on retention of 22 percentage points. By and large, family providers are found to be just as likely to work longer if they are paid a living wage as are non-family providers.

The increase in retention associated with wage and benefit increases affects all ethnic groups. What is particularly striking is that the wage and benefit increases have greatly reduced the differences in retention among ethnic groups, raising, for example, African-American non-family and White family provider retention rates up to levels which are comparable to the population. The results support the view that wages must rise above $9 an hour and health insurance must be included to get any substantial improvement in retention among white and African American providers. While these two groups represented only 20 percent of the San Francisco workforce as of February 2002, more than 50 percent of providers state-wide are White or African American. In other research, I have shown that there is a very high degree of same ethnicity matches among providers and consumers. Thus, if there is a shortage of African-American and White providers, the recipients in those communities may have a particularly difficult time finding providers.

The country is facing rising demand for and thus probable critical shortages of long term care workers over the next 40 years and homecare offers the most cost effective mode of providing long term care for many of the elderly and disabled. The results of this study suggest that an adequate and stable workforce depends critically on offering competitive wages and health insurance. What constitutes competitive compensation varies by ethnic group, but what is clear is that no matter what group providers belong too, all are more likely to stay in homecare as the wage rises and health insurance is added.

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Table 1 Providers by Ethnicity and Family Relationship to Recipient, Nov 1997

		Total workforce	Percent family providers
Latino	10%	588	67%
Chinese	21%	1,198	53%
Russian	25%	1,434	48%
Black	14%	820	68%
White	16%	925	43%
Filipino	5%	269	78%
OtherAsian	5%	280	75%
Other	3%	175	56%
Total	100%	5,689	56%

Table 2 Workforce Retention: [a]

a. Percent of All providers who remained in workforce for at least one year, adjusted to remove natural exits [b]

	Family			Non - Family			Total		
	1998	*2001*	*change*	*1998*	*2001*	*change*	*1998*	*2001*	*change*
Latino	0.80	0.89	12%	0.56	0.76	34%	0.72	0.84	17%
Chinese	0.83	0.90	8%	0.70	0.80	15%	0.77	0.86	12%
Russian	0.85	0.86	2%	0.77	0.80	4%	0.81	0.83	3%
Black	0.73	0.85	16%	0.47	0.78	64%	0.65	0.82	27%
White	0.79	0.88	12%	0.84	0.81	-3%	0.82	0.84	2%
Total	***0.82***	***0.88***	8%	***0.73***	***0.80***	9%	***0.78***	***0.85***	***9%***

b. Percent of New providers who remained in workforce for at least one year, adjusted to remove natural exits [b]

	Family			Non - Family			Total		
	1998	*2001*		*1998*	*2001*		*1998*	*2001*	*change*
Latino	0.52	0.78	50%	0.28	0.57	104%	0.41	0.68	65%
Chinese	0.39	0.79	103%	0.28	0.67	140%	0.34	0.75	122%
Russian	0.62	0.80	29%	0.56	0.74	34%	0.58	0.77	32%
Black	0.36	0.80	121%	0.16	0.63	287%	0.27	0.72	166%
White	0.27	0.73	170%	0.31	0.55	78%	0.29	0.65	120%
Total	***0.44***	***0.80***	81%	***0.34***	***0.67***	94%	***0.39***	***0.74***	***89%***

[a] Workforce retention measures the percent of the workforce that remains for a year after entry. [b] Adjusted retention measures worker retention as a proportion of all those providers who did not leave with their consumer (including those who remained and those who left although their consumer remained).

Table 3 Variables Included in Logit Regression Model of Workforce Retention

Variable	Definition	Sample Average[a]	SD
Dependent Variable			
Total Workforce Retention	Probability that a new worker will remain for a year after entry	0.68	0.46
Latino Retention	Probability that new Latino worker will remain for a year after entry	0.61	0.49
Chinese Retention	Probability that new Chinese worker will remain for a year after entry	0.69	0.46
Russian Retention	Probability that new Russian worker will remain for a year after entry	0.76	0.42
Black Retention	Probability that new Black worker will remain for a year after entry	0.55	0.50
White Retention	Probability that new English-speaking white remain	0.65	0.49
Independent Variables			
Wage Rate	Wage rate at time t	$8.85	1.573
Wage Rate*Family	wage rate at time t * family for individual i at time t 0 if otherwise	4.487	4.648
Family	1 if provider i is related to consumer 0 if otherwise	0.495	0.500
Health Insurance	1 if there is health insurance available to all providers at time t 0 of otherwise	0.818	0.386
Dental Insurance	1 if there is dental insurance available to all providers at time t 0 if otherwise	0.713	0.452
SF Employment	San Francisco employment at time t (000s)	406.9	11.991

[a]means are for total workforce to month 41

Table 4 Logit Results of Probability of a New Provider Remaining in Workforce for a Year of More after Entry

Coefficients	Total	Latino	Chinese	Russian	Black	White
Wage	0.737****	0.527****	0.804****	0.645****	1.019****	0.795****
(SE)[a]	(0.039)	(0.100)	(0.074)	(0.070)	(0.144)	(0.117)
BIC value	361.8	25.2	116.2	81.3	47.4	43.2
Wage*Family	0.205****	0.136	0.173**	0.218**	0.136	0.240*
	(0.035)	(0.099)	(0.062)	(0.074)	(0.100)	(0.123)
	31.4	-0.8	5.1	5.8	-0.9	1.2
Family	-1.403****	-0.664	-1.033	-1.424*	-0.779	-1.892*
	(0.302)	(0.854)	(0.537)	(0.627)	(0.894)	(1.089)
	18.4	-2.0	0.9	2.3	-1.9	0.4
Health Insurance	1.035****	0.922***	0.613****	1.404****	0.820***	1.596****
	(0.090)	(0.266)	(0.169)	(0.169)	(0.262)	(0.314)
	129.0	9.4	10.3	65.7	7.1	23.0
Dental	1.155****	1.461****	0.819****	1.457****	0.450	1.243****
	(0.116)	(0.326)	(0.223)	(0.225)	(0.372)	(0.349)
	95.6	17.4	10.6	38.8	-0.9	10.0
SF Employment	-0.097****	-0.093****	-0.086****	-0.105****	-0.085****	-0.117****
	(0.003)	(0.009)	(0.006)	(0.007)	(0.009)	(0.010)
	902.4	91.5	206.3	234.3	96.7	144.2

Coefficients	Total	Latino	Chinese	Russian	Black	White
Constant	32.539****	32.104****	27.919****	36.436****	25.070****	39.058****
	(1.252)	(3.719)	(2.307)	(2.630)	(3.289)	(3.747)
	672.4	71.8	143.6	189.0	55.4	105.9
N=	10,574	1,031	2,979	3,037	1,395	1,216
Pseudo R sqrd	0.374	0.319	0.319	0.394	0.376	0.467

[a]standard errors are in parentheses and BIC values are below.

[b]BIC value: *0-2 weak; **2 – 6 positive; ***6 – 10 strong; ****10 + very strong

Table 5 Marginal Probability of New Provider Remaining in Workforce for a Year or More after Entry at Mean of Independent Variables[a]

	Total	Latino	Chinese	Russian	Black	White
Wage	0.123	0.100	0.133	0.081	0.688	0.575
Wage*Family	0.034	0.026	0.029	0.027	0.092	0.174
Family	-0.235	-0.126	-0.170	-0.178	-0.526	-1.370
Health Insurance	0.173	0.175	0.101	0.176	0.533	1.155
Dental Insurance	0.193	0.276	0.135	0.182	0.337	0.900
SF Employment	-0.016	-0.018	-0.014	-0.013	-0.057	-0.084

[a] Measures the marginal probability of a worker remaining a year or more associated with an additional unit of the independent variable, measured at the mean of the independent variables.

Table 6 Marginal Probability and (total probability) of New Provider Remaining in Workforce for a Year of More after Entry at various wage levels [a]

	Total		Latino		Chinese		Russian		Black		White	
Marginal probabilities associated with $1 increase in wage and (total probabilities) at given wage levels												
$6.75	0.18	(0.44)	0.15	(0.57)	0.24	(0.52)	0.17	(0.70)	0.23	(0.11)	0.36	(0.19)
$8.00	0.17	(0.66)	0.12	(0.65)	0.18	(0.66)	0.11	(0.77)	0.47	(0.47)	0.46	(0.57)
$8.85	0.12	(0.79)	0.10	(0.75)	0.13	(0.79)	0.08	(0.85)	0.67	(0.68)	0.57	(0.72)
$10.00	0.07	(0.90)	0.07	(0.84)	0.07	(0.90)	0.04	(0.92)	0.89	(0.87)	0.69	(0.87)

[a] Measures the marginal probability of a worker remaining a year or more associated with an additional $1 of wage, measured at the mean of the other independent variables. Numbers in parentheses are total probability of provider remaining in workforce for a year at each wage rate.

Table 7 Probability of New Provider Remaining in Workforce for a Year of More after entry Associated with Health and Dental Insurance [a]

Probability of remaining 1 yr or more	Without	With	Marginal probability
Health Insurance	0.61	0.82	0.21
Dental Insurance	0.62	0.84	0.22

[a] Measures the probability of a worker remaining a year or more when there is no health insurance or no dental insurance and when all have access to insurance, holding other independent variables at their mean. Final column is the marginal probability associated with adding health insurance or dental insurance.

Endnotes

[i] Under the Living Wage Ordinance the city was required to pay at least $9 an hour to any employee who worked on a county service contract or who worked on city property. It is difficult to separate the effects of the Living Wage Ordinance, which was supported by the Union (SEIU), from the effects of union bargaining with the Public Authority in as much as wages for IHSS workers were increased to the level required by the Ordinance a full year before the Ordinance took effect. Since the political campaign for the Ordinance probably influenced the Board of Supervisors' decision to raise wages, this study, in effect, examines the impact of the wage increase – due to both bargaining <u>and</u> the Living Wage Ordinance.

[ii] IHSS jobs represent about 20 percent of all the low wage jobs done by women in San Francisco County where approximately 20 percent of workers work for less than $11 an hour. IHSS represents a very large share of the jobs available to low skilled immigrant women (Howes 2002).

[iii] This study focuses only on the "independent providers" which comprise over 95 percent of the IHSS workforce.

[iv] In a longer, largely descriptive paper (Howes 2002) I report several other conclusions, including that the match length between a provider and consumer increased, the supply of workers rose significantly and that the proportion of same ethnicity matches between providers and consumers increased, all apparently due to wage and benefit enhancements.

[v] The Bureau of Labor Statistics estimates that there were 1.8 million formal long-term care workers, including 414,000 homecare workers, nation-wide in 2002 (BLS 2003). However, BLS counts only those homecare providers who work at wage and salary employment in nursing and personal care facilities, residential care facilities and home health services, which excludes some of the principal modes in which homecare aides are employed, namely through temporary help agencies, public agencies or as self-employed independent providers. In California alone, there are currently 300,000 people working as independent providers of homecare through public agencies and there are an estimated 100,000 in six other states that have similar public programs (LeBlanc, et al. 2001). There is virtually no information about the number of people who work as independent contractors to those private employers.

[vi] If the consumer's services are covered under Medicaid, they cannot hire their spouse or in the case of a minor, their parent, but they can hire other family members, friends and neighbors. Consumers who do hire spouses or parents can be covered under what is called the Residual program, which is funded entirely by the state. Half the consumers in San Francisco currently choose a family member or relative and at the state level half of all consumers indicate that they have hired a family member, friend or neighbor (CDSS 2001).

[vii] In a book of drawings Karen Sherr (2002) has illustrated the relationship between an elderly Irish client and her Filipina homecare worker. The book describes the fear and anxiety and loss of privacy that may grip the client when a new person enters her house to provide these services. It also illustrates the vulnerability of the provider, who must balance the complicated needs of her own very low income household with those of her client.

[viii] Author's calculations from CMIPS data.

[ix] As is discussed later in this paper, some of the turnover should be considered a natural consequence of the death or reclassification of clients. An alternative measure, one that measures retention and therefore nets out those providers who leave service because they are attached to a client that leaves, turnover was closer to 27 percent.

[x] The descriptive statistics that follow are calculated using November 1997 data from the San Francisco Case Management, Information and Payroll System (CMIPS) database which is provided to the county by the state. This is the first month the data were available. Because the wage rate did not begin to rise significantly above the state minimum wage until July 1998, the workforce in 1997 represents the workforce before the impact of significant improvements in compensation.

[xi] Thirty-seven percent of all recipients are foreign-born (CDSS 2002a). Since many recipients are being cared for by friends or neighbors, in all likelihood, many of the providers are foreign-born as well.

[xii] Although most IHSS workers work part-time at their IHSS work, many of them probably have other jobs. Howes, et al. (2002), found that 40 percent of providers in Alameda County, California, which is across the Bay from San Francisco, had more than one job, and 45 percent of the workforce worked more than full time at all jobs.

[xiii] Data availability set the constraint on the period of analysis, as data were available beginning only in November 1997 and at the time of the analysis through February 2002.

[xiv] This wage increase coincides with the beginning of the CalWorks program. CalWorks was the California version of Welfare Reform and it is possible that some entry and exit into the workforce was linked to the effect of new work requirements. Approximately 12 percent of workers in Alameda County reported that they had been on welfare immediately before taking the job. However, the inclusion of a variable to capture the effects of CalWorks was not significant in the logit regression analysis, possibly due to multicollinearity problems, as will be discussed below.

[xv] Twenty-six percent of all recipients who left IHSS services in California between August 1998 and December 2001 returned during that period (CDSS 2002a).

[xvi] Some consumers may augment their providers IHSS wage. In a survey in Alameda County (Howes, et al. 2002), where the wage was only $8.50 at the time, we found that 7 percent said consumers sometimes paid extra and only 2 percent said they usually or always received extra money from their consumer. Such data are not available for San Francisco. But the small numbers who regularly supplement their providers wages in homecare suggest this is not an important consideration.

[xvii] In an earlier specification, I included two dummy variables to capture the effect of being a non-family same-ethnicity provider (NFSE) and a non-family different-ethnicity (NFDE) provider (with family provider as the base category). I expected both NFSE and NFDE providers to be of shorter duration than family providers and that the NFDE would have the shortest duration. However, there was no real distinction between NFSE and NFDE effects on retention.

[xviii] Seventy-two percent of the workforce is female. Gender did not prove to be a statistically significant explanatory variable and so was not included in final regressions.

[xix] Those results are not presented in part because, as suggested above, I am more interested in turnover of new workers whose departure disrupts their consumers lives and in part to limit the paper to a manageable length.

[xx] The averages are for the period up to February 2001, because I am measuring the probability of a provider lasting one year into the future. Since the data end in February 2002, the probability of lasting a year is measured for each month up to February 2001.