



EVALUATION OF THE IMPACT OF WIC SECTION 4681.4 (RATE INCREASE) ON STAFF TURNOVER FOR DIRECT SUPPORT WORKERS IN LICENSED COMMUNITY CARE FACILITIES FOR PEOPLE WITH DEVELOPMENTAL DISABILITIES 1998 – 2000

SUBMITTED TO:

**CALIFORNIA
DEPARTMENT OF DEVELOPMENTAL SERVICES**

SUBMITTED BY:

USC UNIVERSITY AFFILIATED PROGRAM

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We also wish to thank the owners and employees of the following community care facilities, who allowed us to take the photographs included in this report:

- Brown Family Home, Los Angeles, CA
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- TLC, Downey, CA
- Veronica Sur Residential, Granada Hills, CA
- Villa Esperanza, Agora, CA
- Westhaven/Maple Lodge, Compton, CA

For those readers of this report who have never visited one of California's 4,451 community care facilities, the photographs provide information that the words, tables, and figures in this report cannot adequately communicate.

Our thanks to Jack Morgan, Office of Developmental Disability Services, Mental Health and Developmental Disability Services Division, Oregon Department of Human Resources, for sharing the model used by the state of Oregon to document wages, benefits and turnover in their direct support workforce.

Finally, we wish to thank the staff of the California Department of Developmental Services, whose decision to evaluate this important piece of legislation will assure ongoing attention to the important issues surrounding the adequate staffing of California's community care facilities.

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I. PURPOSE OF THE STUDY

The purpose of this two-year study was to determine the impact of the rate increase mandated under Welfare and Institutions Code Section 4681.4 on direct support worker turnover in California Community Care Facilities (CCFs) for people with developmental disabilities. This report summarizes findings from two years of data collection, which began with the first rate increase in January, 1999, and ended with the second and final rate increase, which was implemented in January, 2000.

The overall study was designed to answer the following questions:

1. What are the characteristics of individuals who own and operate community care facilities in California?
2. What are the characteristics of individuals who provide direct support in community care facilities?
3. How were the two rate increases (9.3% January 1, 1999 and 9.5% January 1, 2000) utilized by CCFs?
4. What has been the long-term impact of the facility rate increases on direct support worker wages and benefits?
5. Has the turnover rate of direct support staff in CCFs decreased since the rate increases?

II. METHODS

A. YEAR 1 STUDY DESIGN

In Year 1, the study utilized the following three methods to collect data:

1. A 2-page written survey requesting baseline information on staff turnover, wages, and benefits (prior to and after the first rate increase) was mailed by the Department of Developmental Services to all 4,451 CCFs in the state. 1,423 surveys were returned and analyzed.
2. We conducted in-depth telephone interviews of the owners of 84 CCFs stratified across service levels.
3. We conducted in-depth telephone interviews of employees of the 84 CCFs (not to exceed 5/facility)—yielding a sample of 186 employees.

A brief description of each of the instruments and the methodology used for sample determination follows.

State survey. A 2-page survey was sent to all 4,451 community care facilities (CCFs) in the state of California, to collect baseline data on the characteristics of owner/licensees, types of consumers served, the staffing of CCFs, current wages and benefits paid to direct care staff, staff turnover, owner perceptions of factors necessary to improve staff recruitment and retention. Questions utilized the full calendar year *January, 1998 – December, 1998*, as the point of reference for some items, and the month *December, 1998*, for others. The dates were chosen to pre-date the rate increase.

Owner interview. A 160-item (91 questions, some with multiple parts) protocol was utilized to interview participating owners by telephone. Items were designed to yield a variety of responses including *yes/no*, likert scale ratings (*strongly agree to strongly disagree*), and *open-ended* (e.g., what is the lowest wage earned by direct support workers in this facility?). Domains of inquiry were the same utilized for the state survey but designed to yield more detailed information in each of the areas. Additional areas of inquiry included owner perceptions of the quality and level of supervision provided to employees, the quality of their direct care staff, and perceptions of the adequacy of the current rate structure. The owner interview averaged 45 minutes to complete.

Employee interview. A 122-item telephone survey was utilized to interview employees of facilities where Owner data were available. Questions parallel to those utilized for the Owner survey were developed for this protocol. The interviews averaged approximately 20 minutes to complete. As a whole, employees did not offer unsolicited additional information as frequently as did owners. Interviews were conducted in English, Spanish, and Tagalog.

B. YEAR 2 STUDY DESIGN

During year 2, the study design was modified as follows. First, the state survey was not repeated this year. Instead, the Project significantly increased the sample size for owner and employee telephone interviews in Year 2. See Table 1a for a summary of methods utilized in Years 1 and 2 of this study.

Method	Used in Year 1	Used in Year 2
Statewide mail-in survey	Yes	No
Owner telephone interviews	Yes	Yes
Employee telephone interviews	Yes	Yes

Second, the telephone interview schedule was modified to address the following problems associated with the Year 1 instrument: (1) wage data reported by owners and employees did not adequately reflect the “cost” of room and board for employees who lived on site, (2) benefits data did not adequately reflect the full array of possible uses for the rate increase, (e.g., reduced co-pay, adding family members to an existing benefit). Consequently, because some of the items were modified, the full comparability of data between years 1 and 2 on these items was compromised.

Estimates of wage, benefits, and staffing for both years were referenced to December (the last month of the calendar year). Inquiries regarding staff turnover utilized the full calendar year January 1 – December 31 of the year in question. Table 1b contains a summary of the reference points for wage, benefits, and turnover data for the two years of this study.

Type of Data	Prior to the Rate Increase(Baseline)	After the First Rate Increase	After the Second Rate Increase
Wages	December, 1998	December, 1999	December, 2000
Benefits	December, 1998	December, 1999	December, 2000
Turnover	Jan. 1998 – Dec. 1998	Jan. 1999 – Dec. 1999	Jan. 2000 – Dec. 2000
Other Data	1998	1999	2000



MERGING YEAR 1 AND YEAR 2 DATA SETS

Over the two years of the study, we collected interview data on owners and employees of 362 facilities statewide. Interview data from 84 facilities were collected in Year 1 and data on an additional 278 facilities were collected in year two. As there are obvious benefits to merging data from years 1 and 2 to increase our sample size, we conducted some initial comparisons of results from Year 1 and Year 2 to determine whether there was a notable difference between the two samples.

EDUCATIONAL LEVEL

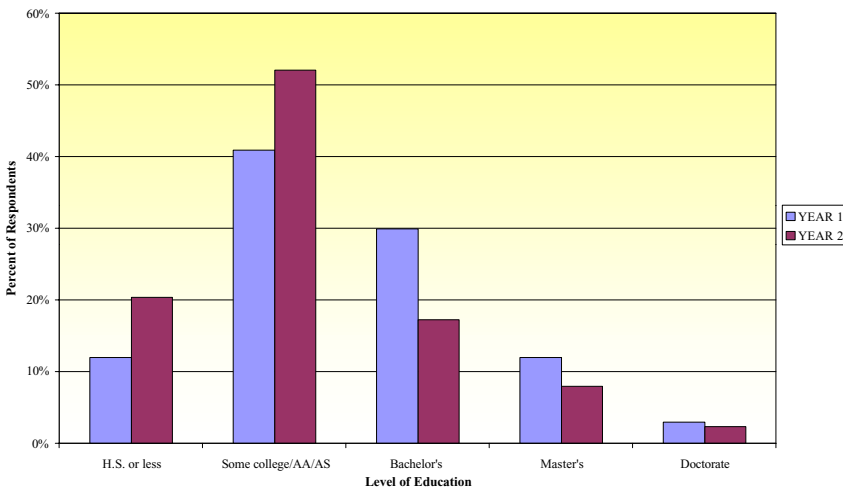


Figure 1. Comparison of Educational Level of Owners – Years 1 and 2

Figures 1 and 2 illustrate the results of our comparison of owner educational level and ethnicity between Year 1 and Year 2. These comparisons revealed higher educational levels in Year 1 owners when compared to Year 2 owners.

Moreover, we interviewed more Filipino owners in Year 2 and fewer African-American and Hispanic owners. Although not shown here, there were many more Asian/Pacific Islander employees in Year 2 of the study (27% compared with 17% in Year 1). This increase was primarily due to an increase in the number of Filipino workers interviewed in year 2.

ETHNICITY

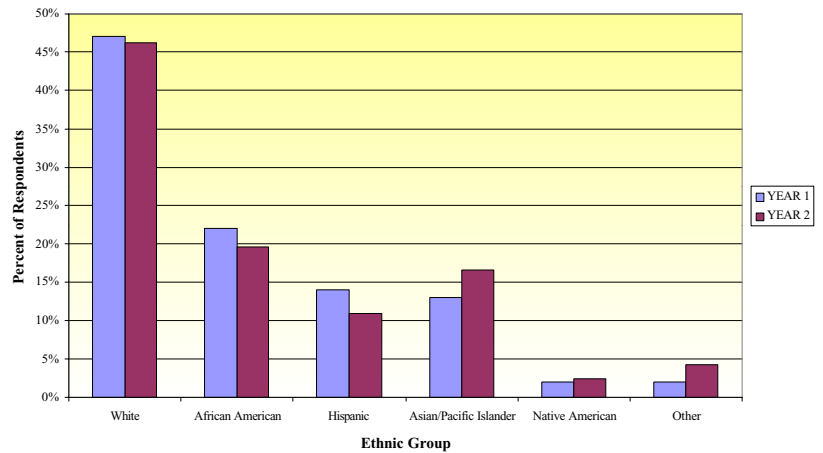


Figure 2. Comparison of Ethnicity of Owners – Years 1 and 2

GEOGRAPHIC DISTRIBUTION

We then examined the geographic distribution of facilities in Year 1 and compared it to our sample for Year 2. Figure 3 shows that the Year 1 sample consisted of almost twice as many facilities in the south than facilities located in northern and central California combined.

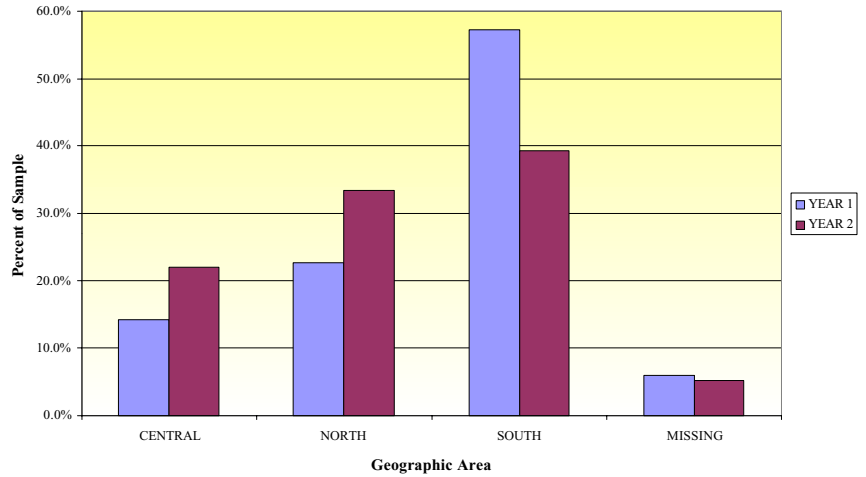


Figure 3. Comparison of Geographic Representation of Participating Facilities in Years 1 and 2

SERVICE LEVEL DISTRIBUTION OF PARTICIPATING FACILITIES

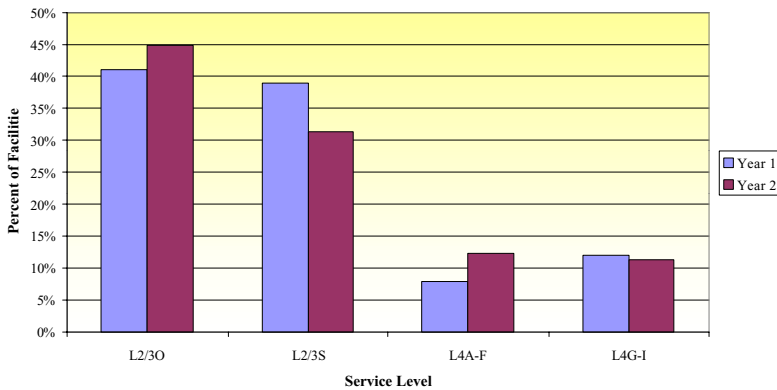


Figure 4. Distribution of Participating Facilities, by Service Level

Finally, we compared the service level distribution of Year 2 participating facilities to those participating in Year 1, and found there was a slight increase in Level 2/3 owner-operated facilities (+5%) and Level 4 A-F facilities (+4%), and a decrease in the participation of Level 2/3 staff operated facilities (-8%), in the second year. We actively recruited Level 4 A-F facilities because of the exceedingly small sample size for this cell in Year 1.

The above four analyses show differences in the owner and facility samples for Year 1 and Year 2, suggesting that each year's sample may represent different subsets of the total population of CCFs. While we have no assurance that the combined data-set is totally reflective of the population of CCFs statewide, we have reason to believe that *this combined sample more closely approximates the population of CCFs*, than either sample individually. Hence, the **findings contained in this report are based on analyses of the Year 1/Year 2 combined dataset, where appropriate**. Analyses which utilize either Year 1 or Year 2 data uniquely are so identified.

C. LIMITATIONS OF THE STUDY

All of the data for this study were derived from self-reports by owners and direct support staff. Owner respondents to the telephone interviews were contacted using a stratified random selection process (see Section III – The Sample). However, as with studies relying on voluntary cooperation of subjects, our results are limited by the self-selection process inherent in interview studies (i.e., subjects who agree to participate may be different than subjects who cannot be contacted or refuse to participate).

Fewer owners in Year 2 agreed to be interviewed (26%) than in Year 1 (37%). This may be due to a change in our method of conducting interviews between the two years of data collection (we utilized research staff in year 1 and a survey research firm for part of year 2), or some other unknown environmental factors.

The significant role of biased responses when individuals volunteer for studies should not be under-estimated. While we do not know its full effects, it is very possible that the findings reported in this study may not accurately reflect conditions within the entire network of community care facilities in California.

III. THE SAMPLE

Sampling Method (Stratified Random Sampling by Service Level): There are potentially 13 service levels in the CCF system (Level 2 owner-operated; Level 3 owner-operated; Level 2 staff-operated; Level 3 staff operated; Level 4 A–I), reflecting the level of care provided in these facilities. Individuals with more severe disabilities are served in higher level facilities. The reimbursement rate for facilities increases with the level of care provided. For parsimony, we collapsed these service levels into four categories: Level 2/3 owner-operated; Level 2/3 staff-operated; Level 4 A-F; Level 4 G-I. We selected subjects using a stratified random sampling process utilizing these four categories.

Sample Size: Over the two years of the study, we collected mail-in survey data on 1,423 facilities statewide (Year 1 only) and owner interview data on 362 facilities (Years 1 and 2). Data were incomplete on some of these facilities, so the sample size for each analysis contained in this report varies based on missing data. Of the 362 facilities in our combined sample, we have 2-year longitudinal data on 47 facilities. The sample size for Years 1 and 2 is described in Table 2.

Table 2. Sample Sizes by Data Source				
Method	Used in Year 1	Used in Year 2	Repeated Interviews	Total
Statewide mail-in survey	1,423	0	0	1,423
Owner telephone interviews	84	325	47	362 (Unduplicated Count)
Employee telephone interviews	186	302	*	488

Geographic Representation: We sorted CCF geography based on their regional center affiliation. Facilities in the central region included those affiliated with the following four regional centers: Central Valley, Kern, San Andreas, and Valley Mountain. The northern region consisted of six regional centers: East Bay, Far Northern, Golden Gate, North Bay, Alta, and Redwood Coast. The southern region consisted of the following eleven regional centers: Eastern Los Angeles, Harbor, Lanterman, North Los Angeles, San Gabriel Valley/Pomona, South Central LA, Westside, Inland, Tri-Counties, Orange County, and San Diego.

* Employees were not specifically asked whether or not they had previously participated in our study in Year 1. Furthermore, for reasons of confidentiality, employees were only asked to tell us their first names during Year 2 so it is not possible to cross reference the list of employees who completed both surveys. Therefore, we have no accurate estimate of the number of employees who completed the survey during Year 1 and again during Year 2.

While there are, in reality, more facilities in southern California, we made a concerted effort to increase our sample in Year 2 to reflect more northern and central facilities. Figure 5 displays the geographic representation of the Year 1/Year 2 samples combined.

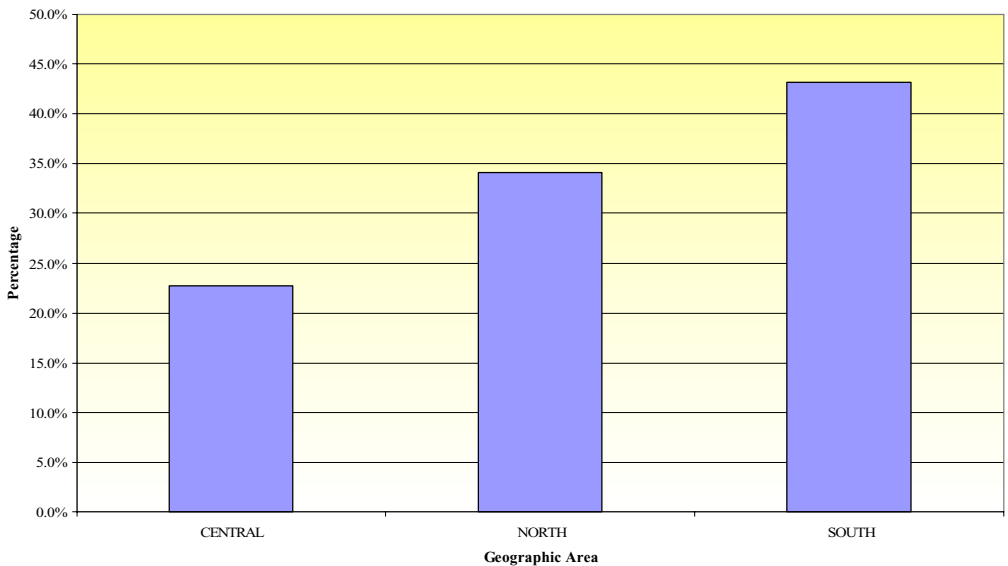


Figure 5. Geographic Representation of Participating Facilities – Years 1 & 2 Combined

PARTICIPATING FACILITIES

When compared to the statewide distribution (Figure 6b), our sample across both years is *over-representative of owner-operated facilities and under-representative of Level 2/3 staff operated facilities* (see figure 6a). Across both years, we found owner-operators easier to reach and when contacted, more willing to participate.

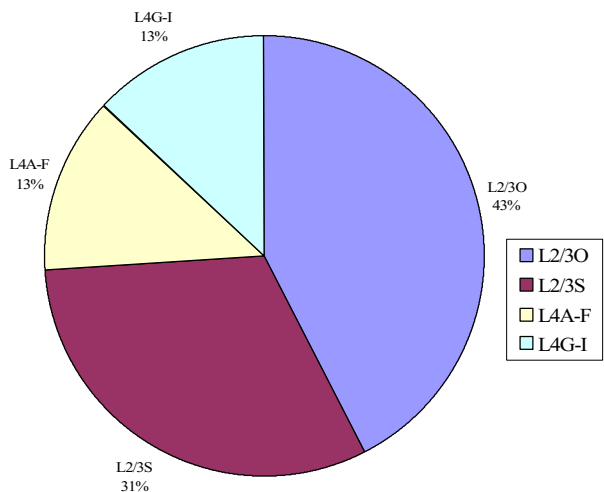


Figure 6a. Sample Distribution by Service Level (Years 1 & 2 Combined n=362)

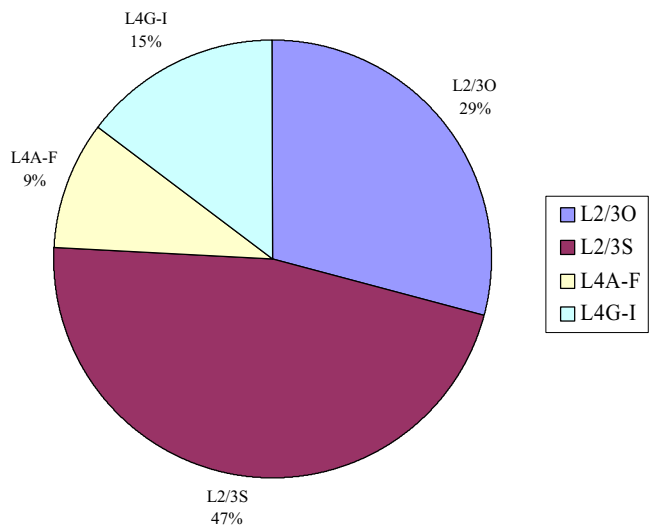


Figure 6b. Distribution of the Total CCFs in California by Service Level (N=4,451)

YEAR 1 FOLLOW-UP OF OWNER INTERVIEWS

In an attempt to examine longitudinal changes, we attempted to re-interview the original 84 owners from year 1, during year 2 of the study. Notably, many owners who participated in Year 1 were not willing to participate in Year 2. As an incentive to participants, we sent letters to all 84 original owners offering them a \$50 incentive to participate. In response to this offer, 15% of the owners who had already participated in Year 2 interviews requested the incentive, and an additional 8 (~10% of the original sample) changed their minds and agreed to be interviewed.

Service Level	Owner Sample Year 1	Owner Sample Year 2	% of Year 1 Sample Completing Survey in Year 2
L2/3O	34	21	87.5%
L2/3S	33	15	45.5%
L4A-F	7	6	85.7%
L4G-I	10	5	50.0%
Grand Mean	84	47	60.0%

As can be seen in Table 3, we were able to re-interview only 60% of owners from Year 1. While the reasons are not known, there appeared to be a service level bias to subject participation in the Year 2 follow-up. Owners from Level 2/3 owner-operated facilities (87.5%) and those from Level 4 A-F facilities (85.7%) were more likely to be contacted and, then agree to be re-interviewed, than owners from Levels 2/3 staff-operated (45.5%) and Level 4 G-I (50%) facilities. These differences appear significant, but the small cell sizes for Levels 4A-F and 4G-I are notable.

EMPLOYEES

Our combined Year 1/Year 2 employee sample was 488, with 186 employees from 84 facilities participating in Year 1 and an additional 302 employees from 315 facilities in Year 2. As Figures 7, 7a and 7b show, the majority of our employee sample across both years came from staff operated facilities, with the largest representation of employees from Levels 2/3 staff operated facilities, followed by Level 4 facilities.

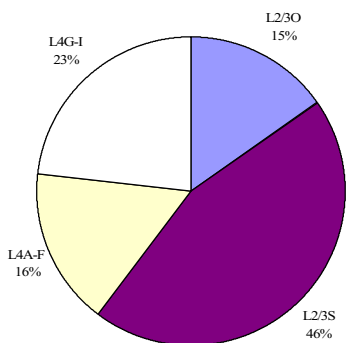


Figure 7. Percentage of Employees by Service Level Years 1 & 2 Combined (n=488)

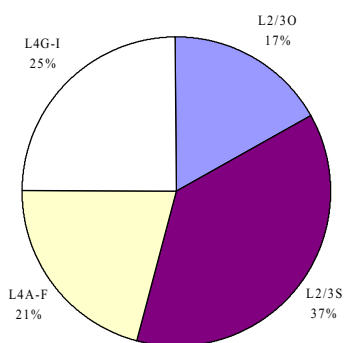


Figure 7a. Percentage of Employees by Service Level Year 1: Employee Interviews (n=186)

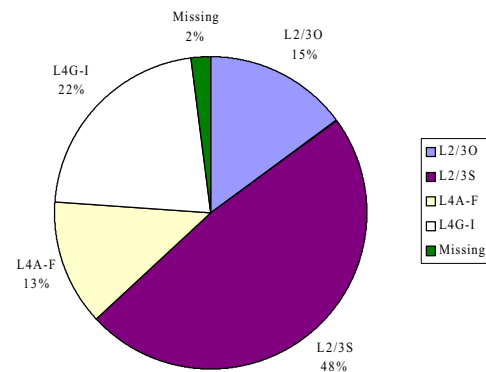


Figure 7b. Percentage of Employees by Service Level Year 2: Employee Interviews (n=302)

IV. FINDINGS

(Note: The following results reflect owner and employee reports which have not been verified through other means)

A. WHAT ARE THE CHARACTERISTICS OF FACILITIES IN THE SAMPLE?



FOR PROFIT V. NON-PROFIT

CCFs may be “for-profit” or “non-profit” entities. Table 4 displays the tax status of the CCFs in the sample. It shows that 57% of the facilities were for-profit facilities and 33% were non-profit facilities. We had missing data on approximately 10% of the facilities.

Staffing	Service Level				Total
	2/3O	3S	4A-F	4G-I	
For-Profit	54%	55%	67%	69%	57%
Non-Profit	39%	31%	24%	27%	33%
Missing	8%	15%	10%	4%	10%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Although we did not anticipate that this would be a factor of significance when we began this study, we found that the CCFs tax status predicted some of the variance in employee turnover. See section on Regression Analysis on page 33.

CHARACTERISTICS OF CONSUMERS SERVED



FACILITY CENSUS

Figure 8 displays the distribution of the average number of consumers residing in participating facilities across the four service levels. As can be seen, 60-77% of the facilities served 3-6 clients (with many serving the maximum 6 clients), across all the service levels. Notably, 11-23% of facilities across all service levels served two clients or less, and 4-27% of the facilities in this study, served 7 or more (with the majority in Level 2/3 staff-operated facilities). Overall, more facilities served fewer clients than they were licensed for (approximately 8.6%), and fewer facilities licensed for 7 or more actually served this number (approximately 2.4%).

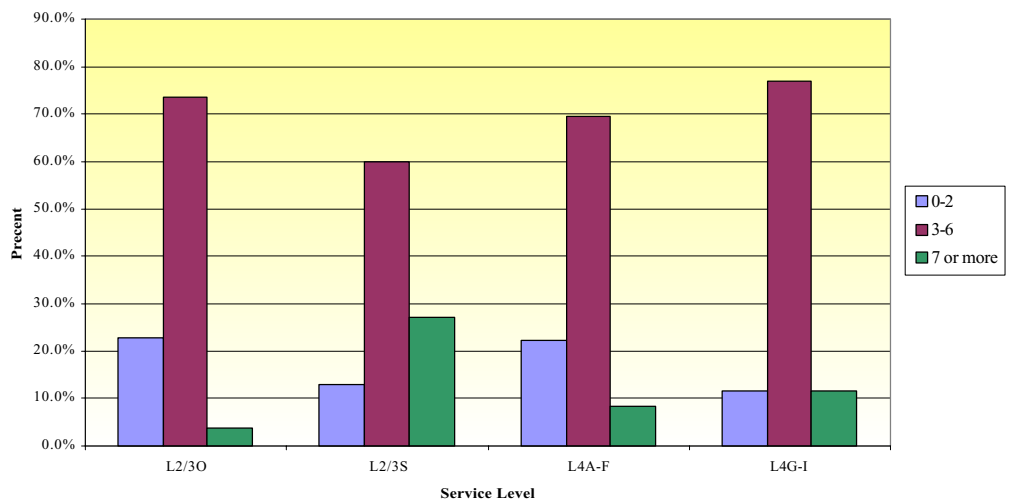


Figure 8. Average Number of Consumers/Facility by Service Level

EMPLOYEE CASELOAD

The mean number of consumers per employee per shift was as follows for each service level: Level 2/3O (4.5), Level 2/3S (5.1), Level 4A-F (4.4), Level 4G-I (4.1). Examination of the mean caseload suggests that there is relatively little difference in average caseload by service level. This may be due to the common practice in many CCFs that all workers are "responsible" for everyone in the home (which some employees reported to us during their interview). Hence, these data would be

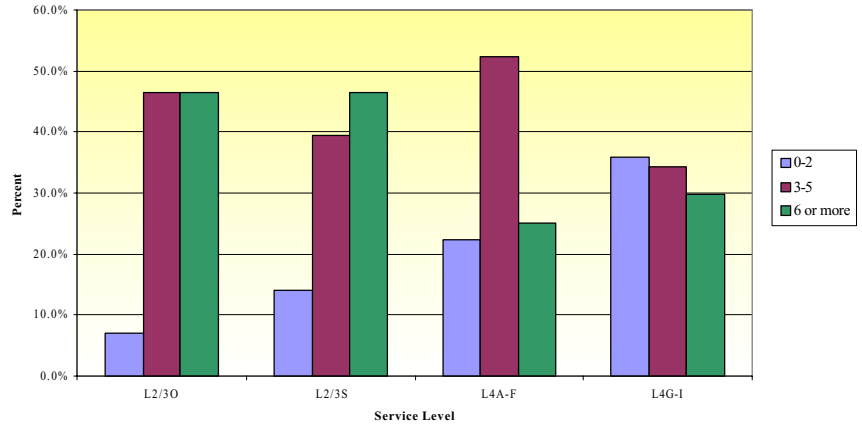


Fig. 9. Mean Caseload for Employees by Service Level

inflated. Because the standard deviations of each mean was large for most service levels, we then looked at a breakdown of caseload by the following categories: 0-2 consumers, 3-5 consumers, more than 6 consumers, in order to visualize the variability within these means. Figure 9 displays the relationship of service level to average caseload. As can be seen, generally speaking, the higher the service level, the lower the staff/client ratio, which would be expected. It is notable that even in higher level facilities (Level 4), 25-30% of employees in facilities reported they had caseloads of 6 or more. Over 45% of employees in Level 2/3 facilities reported caseloads of 6 or more. This may be interpreted as a symptom of the reporting problem noted above (where staff in a facility see the entire facility caseload as their responsibility), or it may be a symptom of the difficulty facilities experience recruiting and retaining workers, leaving remaining workers with higher than normal caseloads.

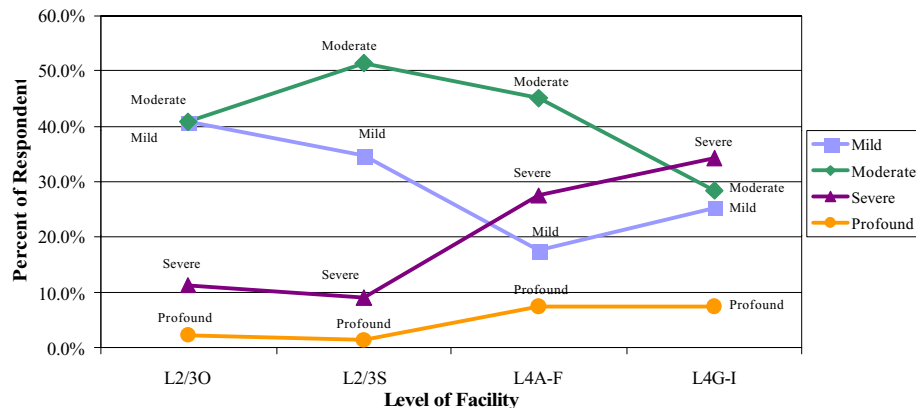


Figure 10. Severity of the Needs of Consumers Served, by Service Level

The relationship of caseload to the increasing severity of disability in the consumers served as service level increases is confirmed in Figure 10. Employees in 34% of Level 4 G-I facilities reported serving consumers with severe needs compared to employees in approximately 27% of Level 4 A-F facilities, and only 12% of owner-operated facilities and 9% of Level 2/3 staff- and owner-operated facilities. Conversely, employees in 40% of owner-operated facilities reported serving consumers with mild disabilities and 33% of Level 2/3 staff-operated facilities reported serving these consumers. Not surprisingly, the greatest overlap across service levels is with consumers with moderate disabilities. Forty percent (40%) of employees in Level 2/3 owner operated, 45% in Level 4 A-F facilities, and 52% in Level 2/3 staff-operated facilities reported serving consumers with moderate disabilities; employees in 28% of Level 4 G-I facilities reported serving these consumers. Important for continuity, the majority (80%) of direct support workers reported that they work with the same consumers all of the time.

TYPE AND LEVEL OF STAFFING

The staffing of facilities varies depending on service level. The availability of full-time work has been found to be related to a stable workforce. Within our sample, we found facilities utilized full-time, part-time, and on-call workers. Service level impacted the types of workers used as shown in Table 5. As can be seen, the majority of staff-operated facilities utilize a mix of full-time and part-time employees. Twenty-one to thirty-three percent (21%–33%) of facilities utilize full-time staff only. Fifteen percent (15%) of owner-operated facilities utilize on-call staff only.

Staffing	Service Level			
	2/30	L2/3S	4A-F	4G-I
Full-Time only	26%	33%	21%	27%
Part-time only	25%	9%	9%	8%
On-call only	15%	1%	0%	0%
Full-time/Part time	23%	47%	58%	54%
Full-time/On-call	2%	7%	3%	0%
Full-time/Part-time/ On-call	9%	2%	3%	11%
Part-time/On-call	0%	0%	6%	0%
Total Sample Size	65	96	33	37

B. WHAT ARE THE CHARACTERISTICS OF INDIVIDUALS WHO OWN AND OPERATE COMMUNITY CARE FACILITIES?



EDUCATIONAL LEVEL OF OWNERS

Almost 60% of the owner workforce participating in this study had at least a high school diploma and some college. Another 17% reported having a bachelor's degree, 8% reported earning a Master's degree, and 2% reporting having a doctorate. See Figure 11.

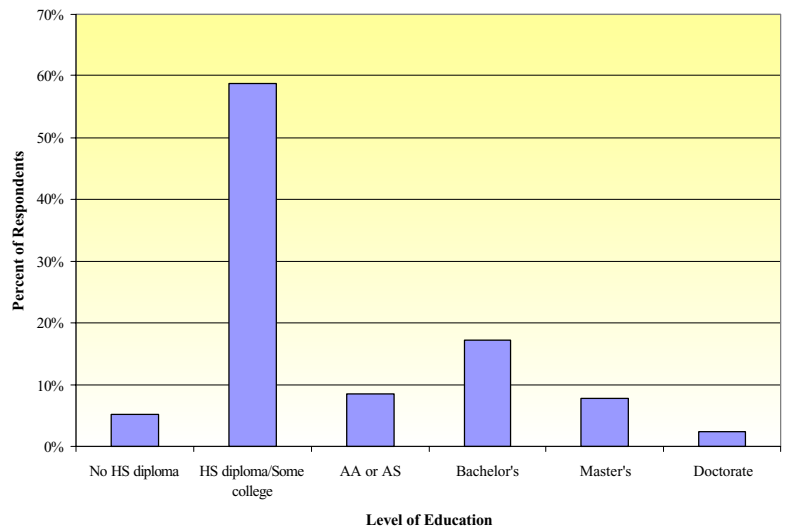


Figure 11. Level of Education of Owners Years 1 & 2 Combined (n=330)

ETHNICITY AND LANGUAGE

As can be seen in Figure 12, *over half of CCF owner/licensees participating in this study were people of color (54%)*. Twenty percent (20%) were African Americans, 11% were Hispanic, 17% were Asian/Pacific Islanders (primarily Filipino), 2% were Native American, and 4% identified themselves as “other.” Approximately 46% of the owners participating in the interview were White. *English is the language most owners (96%) reported speaking*. Owners also report speaking Tagalog (9%), Spanish (2%), and other Asian languages such as Korean, Vietnamese, and Chinese (2%).

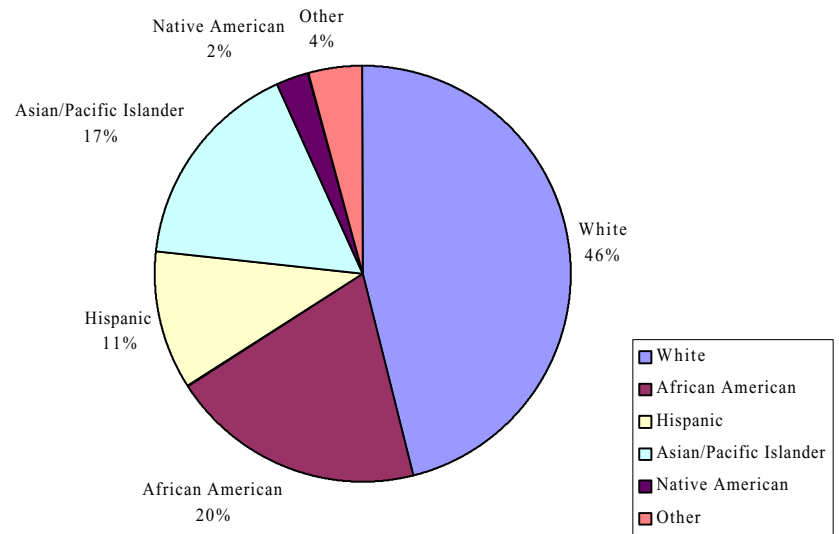


Figure 12. Ethnicity of CCF Owners
Years 1 & 2 Combined (n=373)

TENURE IN THE CCF BUSINESS

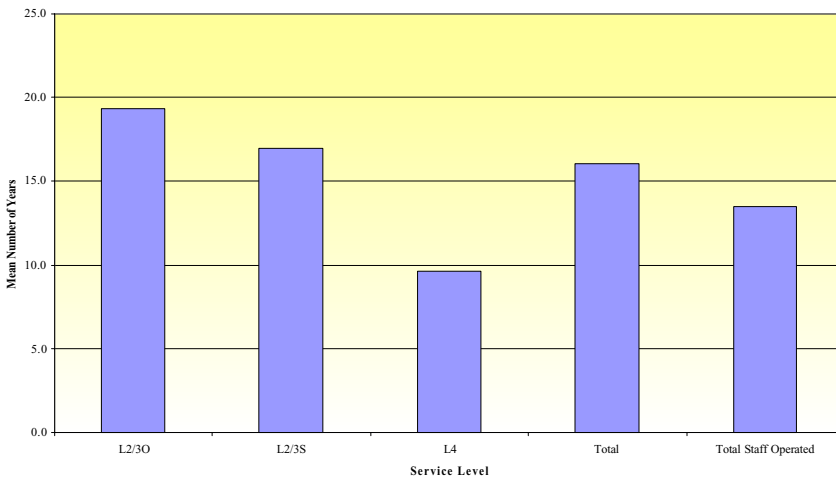


Figure 13. Number of Years Owners Have Been in the CCF Business
Years 1 & 2 Combined (n=325)

Across all service levels, the owner workforce appears to be a stable workforce in the CCF industry. See Figure 13. Owners of lower-level facilities tended to report a longer tenure (e.g., the average length of tenure for owner-operated facilities was 16 years). This may be related to a higher frequency of family-owned and operated businesses, which are passed on to children within these lower service levels.

A SNAPSHOT OF INDIVIDUALS WHO OWN AND OPERATE CCFs

Table 6 displays a typical profile of a CCF owner/licensee. As can be seen, the average owner of a community care facility is over fifty years old, has a high school diploma and some college, is non-white, speaks English, and has over sixteen years of experience in the CCF industry.

Table 6. Profile of CCF Owners/Licensees Combined Year 1 and 2 Samples (n=325)	
Age	53 years old
Educational Level	H.S. Diploma/Some College(59%)
Ethnicity	Non-White/African-American, Hispanic, or Asian/Pacific Islander(54%)
% Speaking English	96%
Mean Years in CCF Business	16 years

Generally speaking, as service level increases, owners are younger, have more education, and have been in the CCF business less time. The trend towards higher education in higher service levels may reflect the need for more skills and knowledge to meet the more challenging needs of consumers served in these facilities. Notable is the advanced age of owners in Level 2/3 owner-and staff-operated facilities, which is suggestive of an aging owner workforce. This may impact the availability of community care residential options at this level in the next five years.

Table 7. Comparison of CCF Owner Profiles by Service Level Combined Year 1 and 2 Samples				
	LEVEL 2/3O (n=143)	LEVEL 2/3S (n=96)	LEVEL 4 A-F (n=38)	LEVEL 4 G-I (n=37)
Age	58 years old	52 years old	48 years old	44 years old
Education: <i>BA and above</i>	18%	32%	34%	42%
Ethnicity: <i>Non-White/African-American, Hispanic, or Asian/Pacific Islander</i>	50%	50%	49%	53%
% reporting they speak English	96%	97%	96%	96%
Mean Years in CCF Business	19 years	17 years	10 years	9 years

C. WHAT ARE CHARACTERISTICS OF DIRECT SUPPORT WORKERS IN COMMUNITY CARE FACILITIES?

GENDER, AGE, ETHNICITY, LANGUAGE SPOKEN

Table 8 contains a demographic profile of direct support workers in this study. From this, we see that the average direct support worker is an older female who is a person of color. Specifically, 70% of direct support workers in this study were female and the average age of the employee was 40 years. Unlike other studies but reflective of the demographics of California, over half of the workforce are people of color (59%). A majority of workers interviewed reported English as their primary language (68%). Spanish and Tagalog are the most frequently spoken non-English languages within the direct support workforce. Nineteen percent (19%) of the workers reported Tagalog as their primary language, while 9% reported that Spanish was their primary language.

Gender	Female (70%)
Age	40 years old
Ethnicity	African-American, Hispanic, Asian/Pacific Islander (59%)
% speaking English	68%
Most frequently spoken non-English Language	Tagalog (19%)



SOCIO-ECONOMIC STATUS (SES) OF WORKERS

The field continues to question whether current wages constitute a “living wage” for direct support workers. This question was investigated by examining the life circumstances of workers, again using the combined Year 1 and Year 2 employee sample. As can be seen in Table 9, the direct support workers interviewed for this study have the characteristics of populations lacking a “living wage.” For example, we found that the educational level of most Direct Support Worker’s is similar to that of most “minimum wage” positions, e.g., 66% of the direct support workers reported having a high school diploma. Of these, 36% stated they had some college (but no degree). Of the remaining workers, approximately 10% did not finish high school, 5% reported having an AA/AS degree, and ~19% had a Bachelor's degree or above. Not surprisingly, direct support work was the primary source of income for those interviewed for this study; also notable is that approximately one-fifth of workers reported they worked at a second job, suggesting a perceived need to subsidize current wages.

Table 9. Socio-Economic Status of Direct Support Workers Employee Interview Year 1/Year 2 Combined Sample (n=488)	
Educational Level <i>High School Diploma/Some College</i>	66%
% Single	45%
% with more than 1 wage earner in the family	21%
% that drive to work	61%
Works at 2nd job	23%
% primary wage earner	59%



Similarly suggestive, 21% of workers reported living in households where there was another wage earner and 59% reported being the primary wage earner in their household. Of those who reported being the primary wage earner, 68% reported having a second job. Surprisingly, 61% reported driving to work instead of using public transportation. This is likely related to the need for private transportation due to the unusual start and stop times for shifts, which do not always coincide with public transportation schedules. We also asked employees how many hours/week they worked across all of their jobs. A fairly large number of employees reported they worked more than 40 hours/week

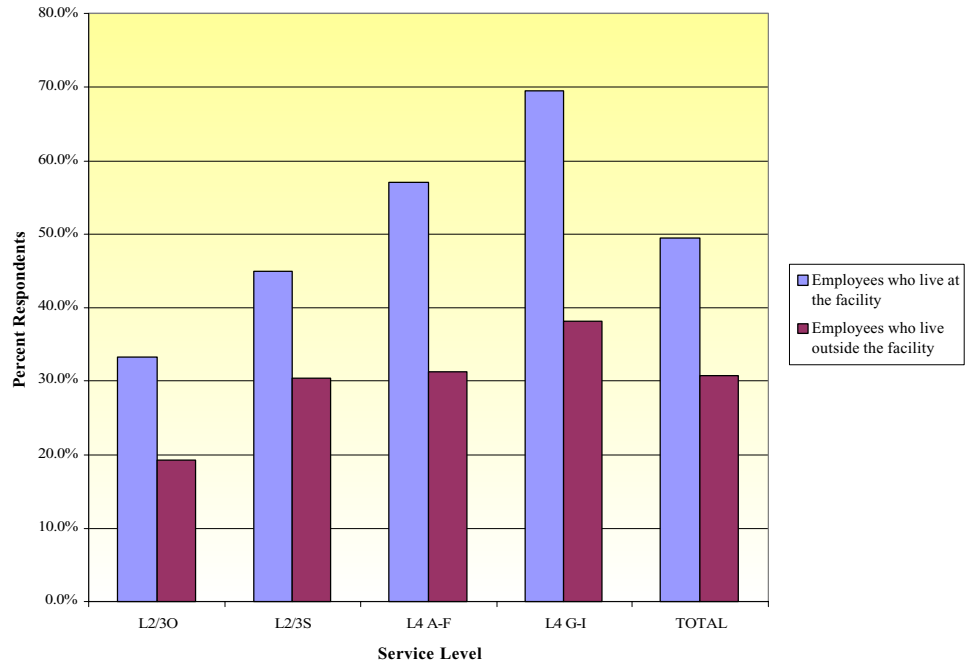


Figure 14. Percent of Employees Reporting Working More Than 40 Hours Per Week (Including All Jobs)

(28-52% of workers interviewed). However, when we sorted these data by employees who lived at the facility and those who lived outside the facility, the larger majority of workers who reported working more than 40 hrs/week were those who lived at the facility. See Figure 14. It is notable that 19-38% of employees who did not live at the facility, reported they work more than 40 hours/wk across all of their jobs.

As Table 10 reveals, the profile of workers varies depending on service level. For example, educational level of direct support workers increases with service level. Also, more workers are single, as service level increases. It is notable that fewer workers are in families with more than one wage earner, as service level increases. This may be suggestive of better compensation for workers at higher levels of service.

Table 10. Comparison of Direct Support Worker Socio-Economic Status (SES) by Service Level Combined Year 1 and 2 Samples			
	LEVEL 2/30 (n=75)	LEVEL 2/3S (n=213)	LEVEL 4 (n=193)
Educational Level: <i>H.S. Diploma/Some College</i>	24%	28%	70%
Educational Level: <i>B.A./B.S. and above</i>	12%	22%	18%
% Single	35%	40%	54%
% Primary Wage Earner	57%	61%	54%
% with More than 1 Wage Earner in the family	30%	22%	15%
Works at 2nd Job	16%	23%	24%
% that Drive to Work	59%	55%	70%

EMPLOYEES WHO LIVE-IN AND ARE RELATED TO OWNERS

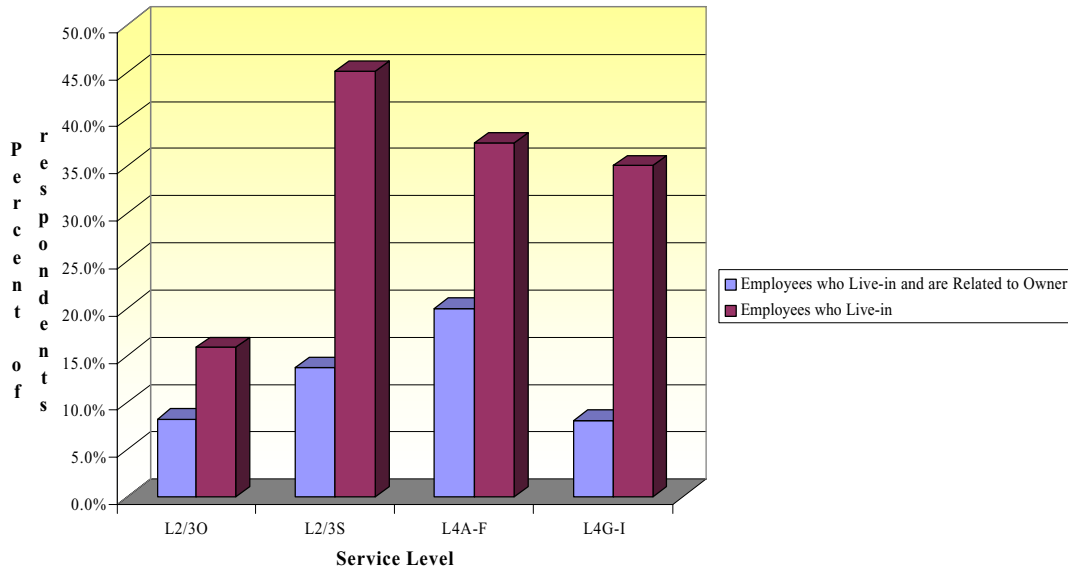


Figure 15. Percent of Employees Living in Facilities and are Related to Owners

Wages can be impacted when employees live at facilities. Figure 15 displays the percentage of employees who live at facilities by service level. As can be seen, 35-45% of employees in staff-operated facilities live at the facilities. Among these, 5-18% are also related to the owners of the facilities.

PERCENTAGE OF DIRECT SUPPORT WORKERS WHO ARE RELATED TO OWNERS

In this study we attempted to document the extent to which informal networks are used to meet the staffing needs of CCFs. The data in Table 11 show the mean facility percentages of staff who were related to their employer (owner), by service level. It should be noted that we had "full-time," "part-time" work status separated in Year 1 and Year 2. However, we had "on-call" data partialled out in Year 1 only; hence, the sample base for each of these varied as noted in the table. Overall, it appears that approximately 20.4% of employees across all service levels were related to their owners. When staff-operated facilities only are considered, 17.7% of employees were related to their owners. It is notable that the percentage of "relative" workers decreased as service level increased, with the highest frequency in owner-operated facilities (~33% of employees), and the lowest frequency in Level 4 G-I facilities (9%).

Table 11. Mean Percentage ^a by Facility of Staff who are Related to Owners by Full-Time, Part-Time, On-Call Year 1/Year 2 Owner Data						
Service Level	% of Staff who are Relatives					
	Full-Time ^b	Part-Time ^b	On-Call ^c	Total ^d	n facilities Year 2	n facilities Year 1
L2/3 Owner operated	27.1%	45.8%	25%	32.9%	146	34
L2/3 Staff operated	68.9%	25.7%	5.4%	22.0%	102	33
L4 A-F	60.7%	35.7%	3.6%	18.4%	40	7
L4 G-I	56.3%	37.5%	0%	9.0%	37	10
All facilities	54.2%	34.3%	10.2%	20.4%	325	84
Staff-operated facilities only	65.3%	29.7%	42.4%	17.7%	179	50

^a Mean % for each facility was averaged

^b Year 2 data only

^c Year 1 data only

^d Combined Year 1/Year 2 data

We then examined whether relatives were hired differentially for full-time, part-time, or on-call positions. As Table 11 reveals, within each service level with the exception of owner-operated facilities, of those who were related to their owners, the majority of "relative" workers were hired for full-time positions, followed by part-time, then by on-call. Within owner-operated facilities, more part-time employees were related to the owners, than full-time and on-call.

These data indicate that the challenges of recruiting and hiring direct support workers in CCFs have led to informal solutions to staffing — specifically the recruitment of relatives and family members for salaried positions. The utilization of family members to staff CCFs represents opportunities for owners to find workers in an industry that complains of significant difficulties with worker recruitment and retention. At the same time, from a business point of view, the use of family members as workers may pose some dilemmas for worker supervision and performance.

D. HOW WAS THE RATE INCREASE UTILIZED BETWEEN 1998–2000? WAGES PAID TO DIRECT SUPPORT WORKERS

YEAR 1

BEFORE AND AFTER THE FIRST RATE INCREASE: *HOW WAGES WERE CALCULATED*

As was reported in the Year 1 Report, data on wages before and after the first rate increase were collected through owner reports and employee reports.

Owner Reports: Because we initially anticipated that owners would have difficulty or be less cooperative in reporting actual wages paid to each of their employees, we asked them to report lowest and highest wages paid to their workers during December, 1998 (before the rate increase) and December, 1999 (after the first rate increase). *Average wage paid to direct support workers was then calculated by averaging the lowest and highest wages reported for a single facility by owners for these datapoints.* There are both advantages and disadvantages to this method of calculating average wage.

The advantage to this method is the greater potential to obtain responses to this question. Verifying our assumptions that this type of question would be easier

to respond to by owners, 84.5 % of owners in the Year 1 telephone interviews provided us with responses to these questions (15.5% were missing), compared to 29% in Year 2 when we tied wages to specific employees. However, the responses for these questions were also influenced by the fact that *many owners stated that they couldn't remember the exact amount of wages paid for the periods requested.* Although all owners were encouraged to consult their records to provide us with accurate information, only a few actually did this.

The obvious limitation of this method is that averaging lowest and highest hourly wage paid to workers does not reflect the number of new and veteran employees in facilities. For example, if there are more new employees in a facility (with entry level salaries), the computed average wage is likely to be higher than the true estimates of average wage for that facility. *What is reported about owner reports of employee wages before and after the first rate increase may be influenced by variations in owner recall and the limitations of estimating mean wage per facility by averaging lowest and highest hourly wage.*

Employee Reports: Employees were asked to recall actual wages earned in December, 1998 and after the first rate increase in December, 1999. While the majority of employees responded to these questions, *many stated that they couldn't remember their exact wages.* Moreover, very few knew their actual hourly rate. Instead, they reported the amount of their bi-monthly or monthly check. This required calculating the hourly rate by dividing the amount earned by the hours worked for the period in question. However, the accuracy of this calculation was influenced further by employee reports that they worked variable hours from week to week; hence wages earned also varied from paycheck to paycheck. Consequently, their recall of actual wages earned was compounded by the absence of consistent earnings. *What is reported in this document about employee reports of wages earned may be influenced by variations in recall and employee clarity about their salary.*

YEAR 2

AFTER THE SECOND RATE INCREASE: *HOW WAGES WERE CALCULATED*

Owner Reports: Recognizing the limitations of the calculation of wages paid to workers in Year 1, we attempted to correct this problem in Year 2 by asking owners to report actual wage paid to every employee in their facility. We computed actual wages reported for individuals, thereby eliminating the biases associated with averaging lowest and highest hourly wage in Year 1. We also attempted to account for the estimated costs of room and board for those employees who live at their facility, which made the questions more complicated to answer.

Using this method, each owner was asked to name (or somehow identify) each employee, and then to provide us with the wage that employee was making, and the # of hours/week the employee worked. Owners were allowed to report hourly, weekly, or monthly wages. Of those who provided wage data, 71% reported the hourly wage for full-time employees, 0% reported a weekly wage, and 29% reported a monthly wage. 89% reported hourly wages for part-time and on-call, and 11% reported monthly wages for this group.

For those who reported monthly wages, these were reduced to an hourly wage by dividing this amount by the number of hours worked during the period in question. While still imperfect, this method seemed to have more promise for providing us with more exact estimates of wages paid to employees.

We, however, found that *many owners could not remember exactly what their workers made or they refused to name their workers or give their initials, ostensibly out of respect for their confidentiality.* Consequently, we initially had missing data on owner reports of employee wages in 71% of the facilities that participated in the study. In an attempt to correct for this problem, we later re-contacted owners who had initially refused and assured them that the information that we were requesting regarding employee wages was strictly confidential. Many owners were still unwilling to provide us with the information. However, an additional 17% of facilities cooperated after the second contact, ultimately providing us with owner reports of employee wages in 46% of participating facilities.

DID DIRECT SUPPORT WORKER WAGES CHANGE BEFORE AND AFTER THE RATE INCREASE — 1998 – 2000?

The intent of WIC 4681.4 was for licensees to utilize the rate increase given to facilities to enhance direct support worker wages and benefits. Our two-year study suggests that wages did increase across all service levels since the implementation of WIC 4681.4.

CHANGES IN WAGES 1998–2000: MEAN WAGES

EMPLOYEE REPORTS

As was discussed above, employees were asked what their wages were in December, 1998 (before the rate increase), in December 1999 (after the first rate increase), and in December 2000 (after the second and final rate increase). Table 12 contains the mean wage employees reported receiving in December, 1998, just prior to the rate increase and mean wage reported by employees in December, 2000 (after both rate increases).

Table 12. Changes in Wages by Service Level Paid to Direct Support Workers, 1998 – 2000 Employee Reports						
Service Level	Mean Wage • Before the rate increase (1998)	Mean Wage • After the 1st rate increase (1999)	Mean Wage • After the 2nd rate increase (2000)	Difference in Wages After the 1st rate increase (1998–1999)	Difference in Wages Between the 1st and 2nd rate increase (1999–2000)	Difference in Wages After the 1st and 2nd rate increase (1998–2000)
L2/3O	\$7.59 (n=46)	\$8.23 (n=46)	\$9.82 (n=26)	+\$0.64	+\$1.59	+\$2.23
L2/3S	\$7.83 (n=24)	\$8.83 (n=24)	\$9.82 (n=95)	+\$1.00	+\$0.99	+\$1.99
L4A-F	\$6.90 (n=24)	\$9.49 (n=24)	\$11.37 (n=22)	+\$2.59	+\$1.88	+\$4.47
L4G-I	\$7.69 (n=21)	\$9.64 (n=21)	\$10.64 (n=36)	+\$1.95	+\$1.00	+\$2.95
Grand Mean with Owner Operated	\$7.56 (n=115)	\$9.02 (n=115)	\$10.18 (n=179)	+\$1.46	+\$1.16	+\$2.22
Grand Mean Staff Operated	\$7.55 (n=69)	\$9.13 (n=69)	\$10.24 (n=153)	+\$1.58	+\$1.11	+\$2.69

As can be seen in Table 12 and in Figure 16, workers at each service level reported increases in their wages after each of the two years of rate increase. The average increases over the two years was \$2.69, ranging from \$1.99/hr (for Level 2/3 staff-operated facilities) to \$4.47/hr (for Level 4A-F facilities).

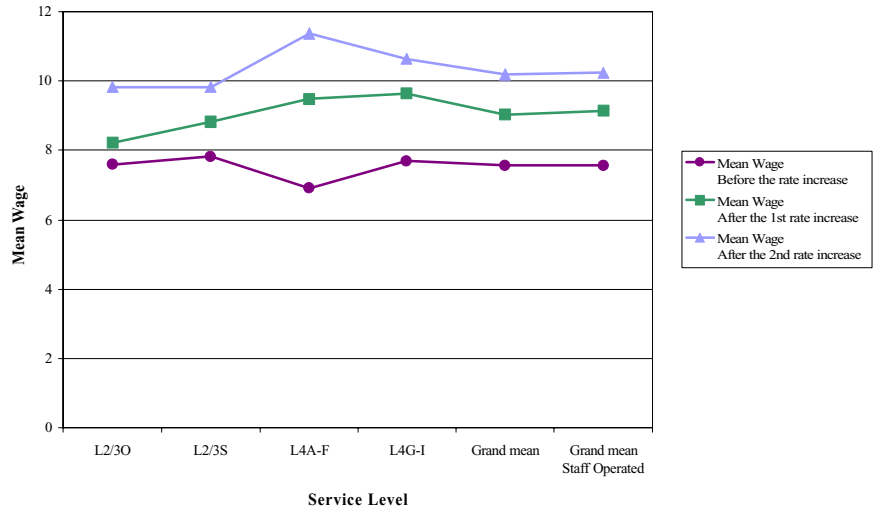


Figure 16. Mean Wage by Service Level Reported by Direct Support Workers, 1998–2000

BONUSES OFFERED TO EMPLOYEES

It seems plausible that owners offer bonuses to employees as a means of supplementing employee wages. On average, it appears that more facilities gave bonuses to their employees after the rate increase. See Figure 17. It is notable that an average of 51% of facilities across all service levels reported giving bonuses to their employees before the first rate increase and 62% of facilities gave bonuses after the rate increases.

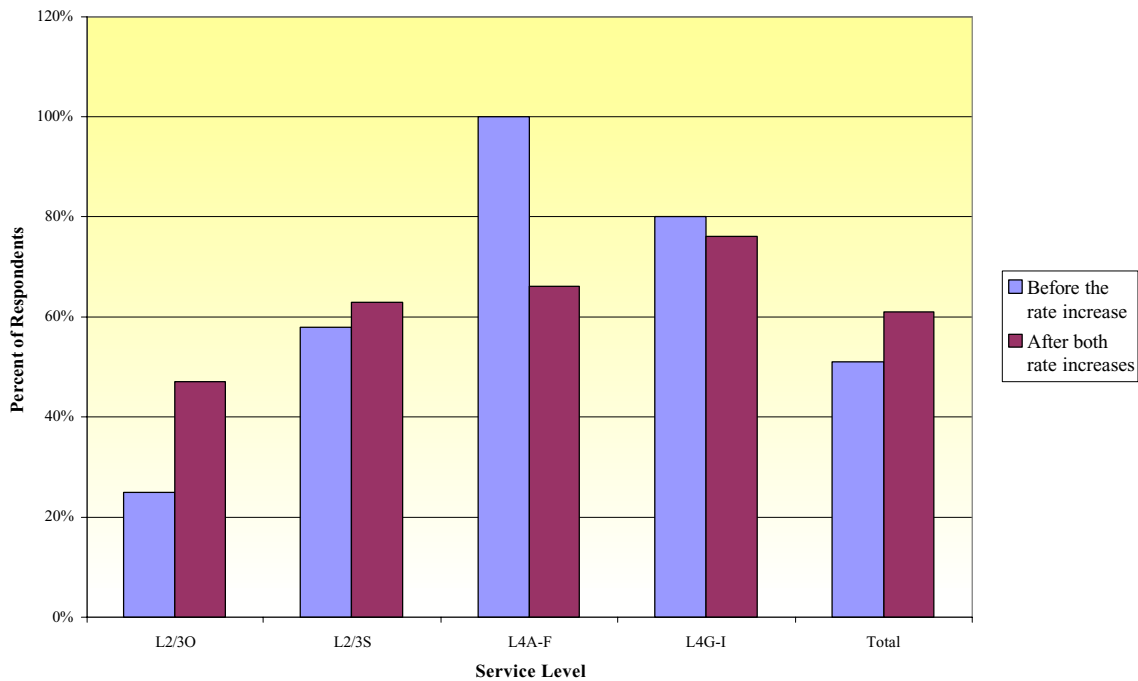


Figure 17. Percent of Owners who Reported Offering Bonuses to Employees, by Service Level Before and After the Rate Increase

Table 13 shows that facilities gave bonuses to both full-time and part-time workers after the rate increases. After the rate increases, an average of 74% of facilities reported giving bonuses to their full-time employees and 67% of facilities gave bonuses to their part-time employees. In addition, it appears that this was a more consistent practice across service levels, with 69-85% of facilities engaging in this practice for full-time employees, and 59-73% of facilities for part-time employees (compared to 25-100% of facilities prior to the rate increase).

Table 13. % of Facilities Providing Bonuses to Employees – Owner Data			
	Before the rate increase	After both rate increases Full Time	After both rate increases Part Time
L2/3O	25%	69%	59%
L2/3S	58%	72%	72%
L4A-F	100%	83%	62%
L4G-I	80%	85%	73%
Total	51%	74%	67%

While bonuses are a method for improving wages for workers, they do not represent a permanent change in salary structure. This practice may reflect the industry’s reluctance to commit to permanent expenditures when they are uncertain of future cuts in their reimbursement, or a tradition within the industry which is difficult to break.

IS THERE CONGRUENCE BETWEEN OWNER AND EMPLOYEE REPORTS OF WAGES?

The wage increases workers reported receiving did not fully match what owners reported about the increases they gave. See Table 14. Several reasons for this discrepancy are possible. First, it should be noted that a large number of the owners interviewed in Year 2 refused to give wage data for their employees; yet their employees may have provided us with this information. At the same time, we may have owner data on employee wages, where employees for that facility could not be contacted or refused to participate. Both of these conditions lead to wage data for owners which do not exactly parallel employee data.

Table 14. Comparison of Wages Reported After Both Rate Increases by Owners and by Employees			
Service Level	Owner Reports (n=117)	Employee Reports (n=204)	Difference
L2/3O	\$10.39 (n=36)	\$9.82 (n=26)	-\$0.57
L2/3S	\$10.46 (n=62)	\$9.82 (n=95)	-\$0.64
L4A-F	\$8.93 (n=30)	\$11.37 (n=22)	\$2.44
L4G-I	\$8.47 (n=23)	\$10.36 (n=56)	\$1.89
Grand Mean Staff Operated	\$9.71	\$10.24	\$0.53

D IFFERENCES IN WAGE DATA BETWEEN OWNER-OPERATED AND STAFF-OPERATED FACILITIES

In Year 1, our analyses of wage data reported by owners suggested a difference in owner-operated and staff-operated facilities. In an effort to confirm this same effect in wages reported after both rate increases, we compared quartile wage data with and without Owner Operators (see Table 15).

As can be seen, wages paid to employees in the lowest two quartiles are relatively comparable across staff operated and owner operated facilities. However, when looking at employees in the 50th percentile and above, staff operated facilities appeared to pay their workers slightly higher wages than owner-operated facilities.

Table 15. Comparison of the Distribution of Hourly Wages by Quartiles After both Rate Increases Owner Operators & Staff Operators Owner Interviews			
Quartile	Mean Wage With Owner Operators (n=138)	Mean Wage Staff Operated Facilities (n=130)	Difference
Minimum	\$5.75	\$5.75	\$0.00
25th %ile	\$7.50	\$7.50	\$0.00
50th %ile	\$8.75	\$9.00	+\$0.25
75th %ile	\$10.25	\$11.13	+\$0.88
Maximum	\$37.20	\$38.75	+\$1.55
Grand Mean	\$9.91	\$11.64	+\$1.73

P ERCEIVED ADEQUACY OF WAGE EARNED

In an effort to determine whether the two rate increases were sufficient, employees were asked in both years, what they felt was fair compensation for the work they do. Table 16 displays responses given by employees after the second rate increase.

Table 16. Employee Recommendations for Minimum Wage for Direct Support Work by Service Level After the Second and Final Rate Increase								
	less than \$7.00	\$7.00- 7.99/hr	\$8.00- 8.99/hr	\$9.00- 9.99/hr	\$10.00- 10.99/hr	\$11.00- 11.99/hr	\$12.00- 14.99/hr	\$15.00/hr plus
L2/3O	2.4%	4.9%	14.6%	9.8%	22.0%	17.1%	12.2%	17.1%
L2/3S	3.9%	6.3%	8.6%	8.6%	30.5%	6.3%	21.9%	14.1%
L4A-F	0.0%	0.0%	21.1%	15.8%	26.3%	13.2%	7.9%	15.8%
L4G-I	1.7%	8.6%	20.7%	12.1%	25.9%	5.2%	12.1%	13.8%
Total	2.6%	5.7%	14.0%	10.6%	27.5%	8.7%	16.2%	14.7%

Approximately 67% of employees reported that the minimum wage for direct support workers should be \$10.00/hr or more. Of these, 31% felt the minimum wage should be \$12/hr or more.

Table 17 illustrates the mean difference between what employees currently report making and the average suggested increase in minimum wage for each service level. As can be seen, employees in level L2/3O reported the largest difference (\$3.79), followed closely by L2/3S (\$3.23). Employees from Level L4A-F indicated the smallest difference between what they currently make and the minimum wage

Table 17. Average Additional Wage Employees Would Like to Make			
	n	Mean	Preferred Wage
L2/3O	25	+\$3.79	\$13.61
L2/3S	76	+\$3.23	\$13.05
L4A-F	23	+\$1.92	\$13.29
L4G-I	37	+\$2.39	\$12.75
Total	165	+\$2.99	\$13.23

they suggested direct support workers should be paid (\$1.92), suggesting that current salaries for these employees may be closer to what employees would like. *It is notable that regardless of service level, the preferred wage for direct support workers averages \$13.23/hr, which is still \$2.99/hr less than the average wage since the rate increases.* Employee preferences for wage appear to be related to the demographic profile of the current direct support worker (i.e., relatively low education and training). It is possible that a more educated and well-trained workforce (as determined by the level and skill needed to assure the safety and quality of life of consumers served) would prefer higher wages.

E. HOW WAS THE RATE INCREASE UTILIZED BETWEEN 1998 – 2000? DIRECT SUPPORT WORKER BENEFITS

One of the intents of the rate increase for facilities mandated under WIC 4681.4 was to encourage facilities to offer benefits to employees as a mechanism to improving working conditions which would, in turn, improve turnover of staff. The results of this study suggest that benefits did increase over the two years of this study.

OWNER REPORTS OF BENEFITS OFFERED

Figure 18 compares owner reports of benefits offered from 1998–2000. Approximately 48% of the owners interviewed in Year 2 reported offering paid sick leave, 58% offered paid holidays, 75% offered paid vacation, and 65% offered health insurance. Overall, there was a 14–33% increase in facilities offering these benefits after the rate increases. See Figure 18. The most frequently offered benefit was paid vacation, followed by bonuses.

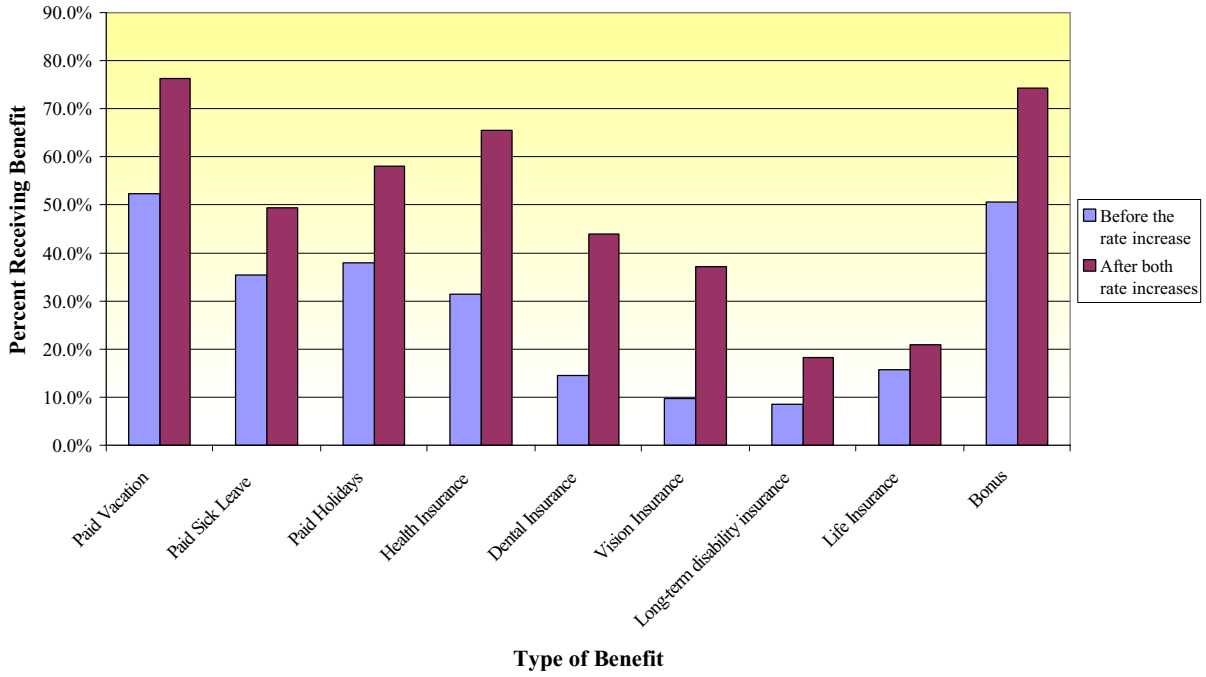


Figure 18. OWNER Reports of Benefits Offered Before and After the Rate Increases

EMPLOYEE REPORTS OF BENEFITS RECEIVED

Figure 19 displays changes in employee reports of benefits received since the implementation of WIC 4681.4.

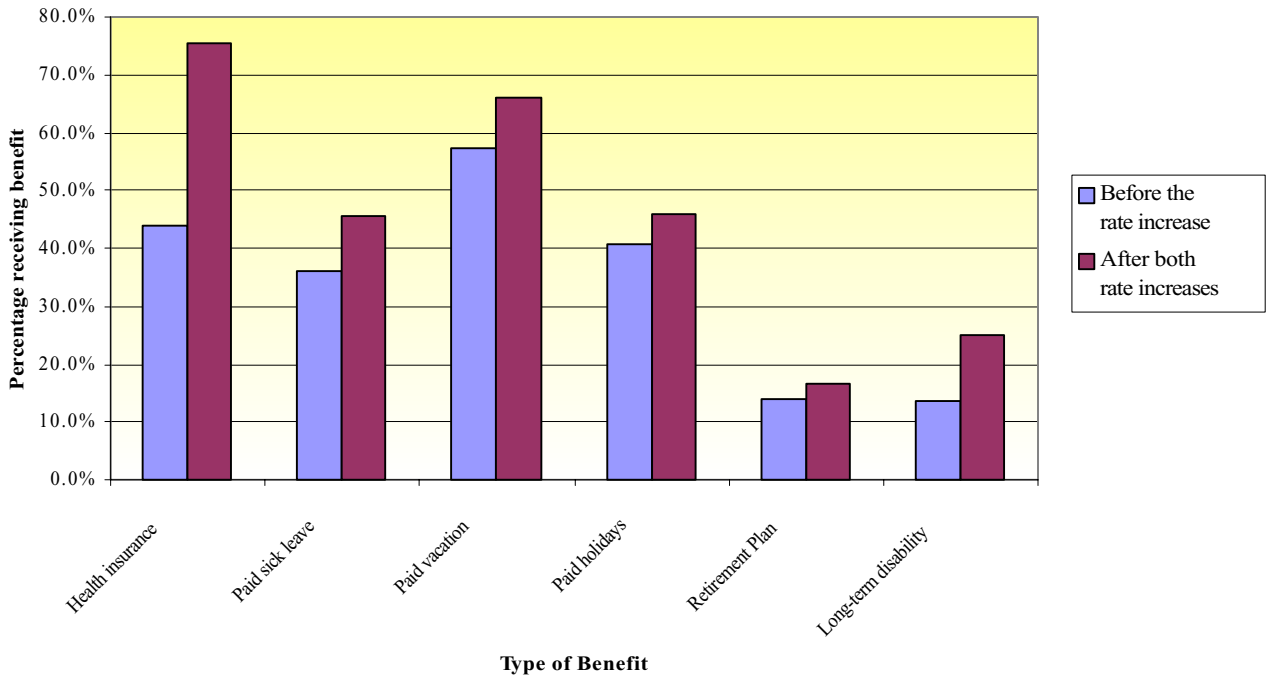


Figure 19. EMPLOYEE Reports of Benefits Received Before and After the Rate Increase

The high frequency of health insurance reported by employees is surprising. It should be noted that many employees did not clearly distinguish between health insurance provided by the facility and that received as a dependent on a family member’s policy. Although these data are not directly comparable to the owner data (because the owner data are facility-based, but the employee data are tied to individuals), the trend showing increases in benefits after the rate increases is consistent across both sources.

EFFECTS OF SERVICE LEVEL ON BENEFITS OFFERED AND RECEIVED

Figure 20 illustrates reported differences in benefits received by employees, based on service level. Contrary to current beliefs, the relative competitive nature of lower level facilities in offering benefits to their employees is notable. Also, the generally strong benefits offered by Level 4 G-I facilities, in particular, is also notable. While the reasons for the disparity in benefits offered across service levels is not known, the disparity across service levels is clear. Underlying causes of this disparity requires further study.

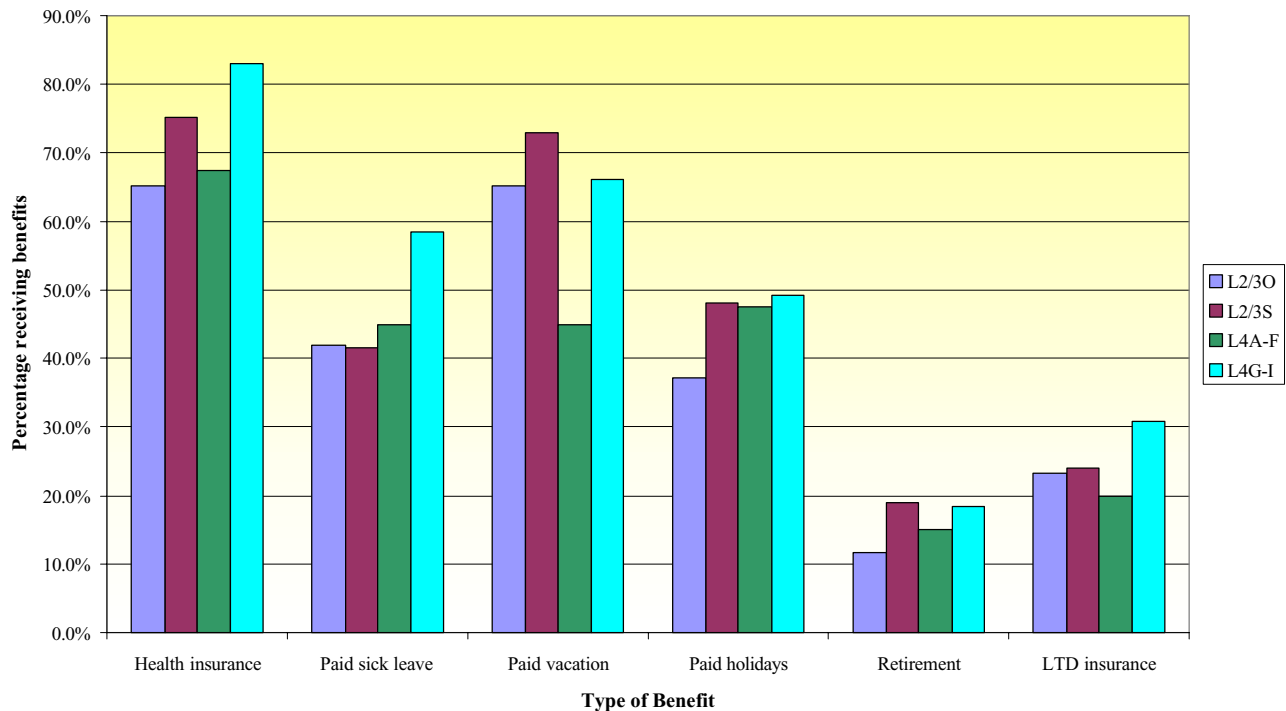


Figure 20. FULL-TIME Employee Reports of Benefits Received by Service Level After Both Rate Increases

F. DID THE TURNOVER RATE FOR DIRECT SUPPORT WORKERS IN CALIFORNIA'S CCFs CHANGE BETWEEN 1998 – 2000?

COMPUTING TURNOVER

The ultimate goal of WIC 4681.4 was to improve staff turnover in community care facilities in California. This study has documented turnover at two specific data points: Prior to the first rate increase (1998) and after the second rate increase (2000). For each period, we estimated the turnover rate using two methods – examining the activity of "leavers" and "stayers."

ANALYZING LEAVERS

Owners were the source for these data. For both years of the study, we asked owners how many staff left their facility during a specific calendar year January 1 – December 31 (1998 and 2000). We divided this number by the total number of full-time and part-time positions reported for that facility for that year (estimated staffing for one month, December, of that calendar year). We then multiplied this fraction by 100 to yield a percentage.

$$\text{Turnover} = \frac{\text{\# of leavers during one calendar year}}{\text{Total \# of Employees}}$$

ANALYZING STAYERS

Employees were the source for these data. For this analysis we examined turnover by determining the average length of tenure of employees at their current facility.

$$\text{Turnover} = \text{Length of Tenure at One Facility}$$

Excluding Owner-Operated Facilities: Because owner operated facilities frequently do not have staff, they tended to report 0% turnover which skewed the overall turnover rate for the sample. Thus, *we computed turnover rate excluding owner operated facilities.*

Eliminating Outliers. Turnover rate for two facilities clearly deviated from those reported by the majority of facilities (350% maximum). These were 850% and 3000% respectively. We eliminated these two facilities from the computation of turnover.

CHANGES IN THE TURNOVER RATE BETWEEN 1998 – 2000: OWNER REPORTS OF LEAVERS

Table 18 displays changes in turnover using owner interviews as the source for the turnover rate before the rate increase. As can be seen, before the first rate increase, the turnover rate (when based on 46 owner interviews) was estimated at 48%. In 2000, the year after both rate increases, turnover (based on 149 owner interviews) was reported at 24%. Using these data, it appears that the overall turnover rate for direct care staff decreased over the two years of the study by approximately 24%.

Table 18. Changes in Direct Support Worker Turnover 1998-2000 – Owner Interviews as Baseline			
Service Level	Turnover Rate Before the First Rate Increase (1998) Owner Interviews (n=46)	Turnover Rate After the Second Rate Increase (2000) Owner Interviews (n=149)	Difference in Turnover after both rate increases
2S	8.9% (n=15)	22.6% (n=41)	+13.7%*
3S	81.6% (n=15)	18.4% (n=46)	- 63.2%*
4A-F	46.1% (n=6)	28.3% (n=32)	- 17.8%*
4G-I	57.5% (n=10)	29.3% (n=30)	- 28.2%*
Total	48.0%	24.2%	- 23.8%*
*p < .05			

Because the sample size for the owner interview sample for Year 1 was exceedingly small, we also compared the change in turnover using data from the statewide mail-in survey. See Table 19. Changes in turnover are notably different when using the larger sample statewide survey data. Using these data, it appears that turnover overall did not improve after the rate increases. Further examination of the effect on turnover by service level suggests that there was a notable decrease for Level 3 staff-operated facilities, but not for other service levels.

Table 19. Changes in Direct Support Worker Turnover 1998-2000 – State Survey Data as Baseline			
Service Level	Turnover Rate Before the 1st Rate Increase – 1998 Statewide Survey Data (n=947)	Turnover Rate After the 2nd Rate Increase – 2000 Owner Interview Data (n=149)	Difference in Turnover after both rate increases
2S	20% (n=342)	22.6% (n=41)	+ 2.6%
3S	26% (n=311)	18.4% (n=46)	- 7.6%*
4A-F	27% (n=114)	28.3% (n=32)	+ 1.3%
4G-I	27% (n=180)	29.3% (n=30)	+ 2.3%
Total	24.4%	24.2%	- .2%
*p < .05			

Figure 21 graphically displays this change. While there are clear limitations to the mail-in survey data when compared to owner interviews, the substantial difference in sample size between the owner interviews and the state survey in Year 1, supports utilizing the mail-in survey data as the more reliable baseline turnover rate.

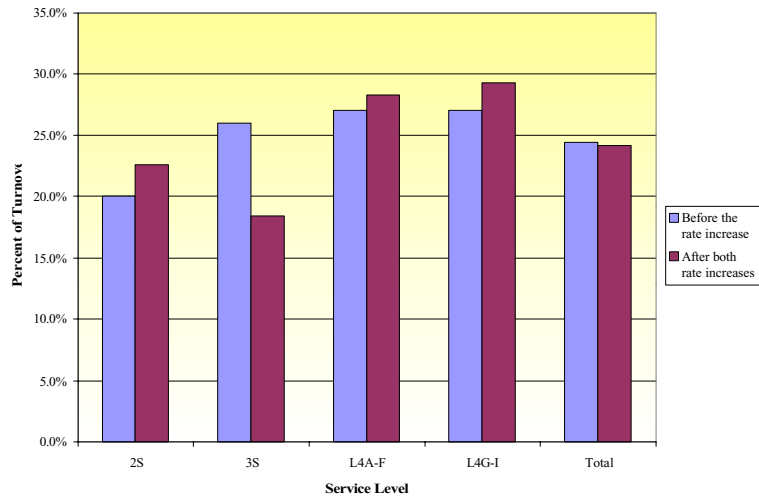


Figure 21. Comparison of Turnover Before and After Both Rate Increases by Service Level State Survey Data as Baseline

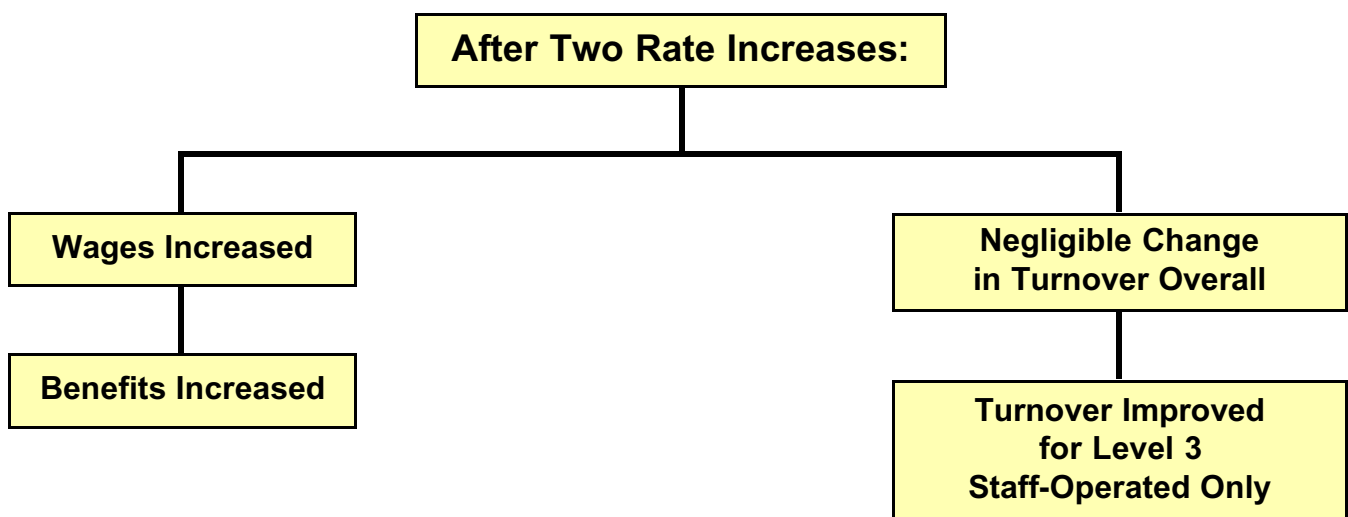
CHANGES IN TURNOVER RATE BETWEEN 1998–2000: DIRECT SUPPORT WORKER TENURE

Across all service levels the employee sample included new workers who had less than two weeks of employment to some with 20-30 years of employment. It should be noted that examining "current tenure" as an index of turnover, is slightly problematic because it does not fully capture the entire length of employment of a single employee. In fact, exact tenure cannot be calculated until an employee leaves. With this caution noted, we found, overall, that the mean length of employment reported by workers, increased after the two rate increases (+.89 years). When examining service levels specifically, we found that employee tenure increased the most in Level 2/3 staff-operated facilities after the two rate increases, and actually decreased in Level 4 A-F facilities. Whether this is due to the rate increase is not fully clear, but, taken with the estimates of turnover which have gone down during this same period, it does appear that the workforce in CCFs is somewhat more stable.

	Before the rate increase	After both rate increases	Difference
L2/3S	4.17	5.72	+1.55
L4A-F	3.62	2.47	-1.15
L4G-I	2.40	2.73	+0.33
Grand Total Staff-Operated	3.49	4.38	+0.89

G. IS THERE A RELATIONSHIP BETWEEN WAGES, BENEFITS, AND TURNOVER?

While there are some limitations to the interpretation of the data, this study has found that direct support worker **wages have increased** since WIC 4681.4 was implemented. In addition, **benefits have also increased**. Both of these outcomes were the intent of this legislation. However, turnover of direct support staff appears to have decreased only negligibly during this period (with the exception of Level 3 staff-operated facilities).



Several explanations for this finding are possible. First, it is possible that the effect of the increases in wages and benefits on turnover will not be fully measurable for another year or two. Second, it is possible that wages and benefits are still below the threshold to impact worker retention. Finally, it is possible that other factors which impact turnover and interact with wages and benefits are mediating the effects of wages and benefits on turnover.

HAS THE INCREASE IN WAGES AND BENEFITS IMPROVED TURNOVER?

Why Regression Analysis?

Correlation/regression analyses explore the predictive relationship of key variables and employee turnover. Three different models of this predictive relationship were tested: a zero-order correlation model, a linear regression model, and a stepwise regression model. Each model makes a different assumption about the complexity of these interrelationships.

The zero-order model is the simplest, testing the correlation of turnover to each of the other variables, describing facility, owners, and employees, one at a time. This model assumes a straightforward simple-world psychological model of a simple and singular relationship of each potential predictor to Turnover. The correlation is a Pearson r , and its statistical predictive power is considered significant if $p < .05$.

The linear regression model is the most complex model. It assumes that all of the potential predictor variables are simultaneously and interactively predicting Turnover. This model results in an equation of the several variables and the pattern they assume in the model as they explain Turnover. In linear regression, each variable has a Regression Weight (the variable's contribution to the equation), and a Beta weight (a standardized version of the regression weight which renders the variables comparable). A significance level of $p < .05$ is statistically significant.

Stepwise regression is a psychological model that falls between the zero-order and linear regression extremes. It builds a regression equation one variable at a time, testing the variable's significance and contribution to the equation at each step. Variance which is shared by more than one variable is systematically removed by the first variable entered (which has the strongest relationship to turnover, and includes the variance it shares with other variables). Consequently, each variable that enters the equation after the first variable is entered, is significant because it has a unique contribution to predicting turnover (something not shared with variables entered before it). In the same way, if a variable's relationship to turnover is due to what it shares with another variable, it will not be significant after the first variable is entered. This contribution is an R-squared ratio that can be read as a variance percentage. Only variables that are significant beyond $.05$ ($p < .05$) are included in the model.

In order to sort out the relative importance of current wages and benefits (after the two rate increases) to turnover rates, we conducted a series of regression analyses to see the relationship between wages, benefits, and other variables in predicting turnover. The first analysis regressed a variety of variables from the owner interview and selected variables from the employee interview onto **Direct Support Worker Turnover** (computed as described in Section E on page 29 – from Owner Interview data). Key to this report was the use of employee reports of wage and benefits for this analysis (rather than owner reports). The second analysis regressed a variety of employee variables onto **Direct Support Worker Tenure** (length of employment at their current facility). The results of each regression analysis is reported below.

TURNOVER AS THE DEPENDENT VARIABLE

We ran four analyses using turnover as the dependent variable. In the first analysis, we entered owner reports of turnover for all of their direct support staff including those with full-time, part-time, and on-call positions. The following independent variables were then loaded: Owner age, gender, education, language, years in CCF business, and number of facilities owned; number of consumers served; number of employees; tax status (for-profit/non-profit); vacant positions; benefits (for full-time and part-time); and facility service level. In addition to the variables noted above from the owner interview, the following employee variables were entered: employee age, education, wages earned, benefits, and bonuses received.

Because there was no way to link individual employee characteristics and wages to the owner data (which is facility based), we entered employee variables in three ways: mean for the facility, the minimum, and the maximum. For example, for employee age, we entered mean age for the facility, youngest employee, oldest employee. Table 21 contains the results of this stepwise regression analysis using turnover as the dependent variable.

Table 21. Predicting Total Turnover (Across all Service Levels) (n=240)					
Stepwise order	Variable	Regression Weight	Regression Weight Significance (p<)	% of Variance in Turnover accounted for	Stepwise significance (p<)
1	Owner's primary language is English	.26	<.002	3.3%	<.005
2	FT Paid Vacation	-.29	<.001	3.0%	<.007
3	FT Paid Holidays	.32	<.0001	5.0%	<.0004
4	PT vision insurance	.40	<.09	2.4%	<.01
5	PT LT Disab. Ins.	-.21	<.299	2.5%	.009
6	Profit/Non-Profit	-.11	<.08	1.7%	.03
7	Owner's Primary Language is not English	.80	<.01	1.4%	.05
8	FT Vision	.14	<.18	1.5%	.04
9	FT LT Disab. Ins.	-.20	<.057	1.8%	.025
Not Significant	Employee Wage	.008	<.63	.0009	NS
Total Variance in Turnover Accounted for by these Variables					42%

As can be seen, the nine variables listed above accounted for 42% of the variance in turnover, which is a remarkable prediction. In interpreting these results, it is important to note that the order of the variables represents the unique contribution each variable makes to predicting turnover, after the variance which is shared by previous variables has been removed. As can be seen, employee wage did not enter as a significant predictor of turnover. The role of benefits, however, did play a significant role in predicting turnover. Moreover, when owner language and profit/non-profit status are considered together, it appears that how the CCF business is operated also had an effect on staff turnover.

When the analysis was run again, removing employee reports of wages, the variable which predicted most of the variance in staff turnover was number of consumers served (16.9%). See Table 22. This was followed by part-time vacancies, two types of benefits (paid vacation for full-time staff and long-term disability insurance for full-time staff), and the number of employees in the facility. Again, forty-two percent (42%) of the variance in staff turnover was accounted for by these five variables, which is highly significant.

Table 22. Predicting Total Turnover (Across all Service Levels) Employee Wages Excluded (n=233)					
Stepwise order	Variable	Regression Weight	Regression Significance (p<)	% of Variance in Turnover accounted for	Stepwise significance (p<)
1	# of consumers	.0255	<.0001	16.9%	<.0001
2	Part-Time vacancies	.336	.001	7.5%	<.0001
3	FT Paid vacation	-.277	.04	2.6%	.0038
4	FT LT Disability Insurance	-.346	.04	1.5%	.03
5	# of employees	-.009	.06	1.2%	.04
Total Variance in Turnover Accounted for by these Variables					42%

In understanding the meaning of this second analysis, it may be that turnover is related to a composite of factors which could be described as “**staff burden.**” That is, the number of consumers in the facility directly relates to the amount of work which must be done. The number of vacancies in staff positions (variable 2) and its converse, the number of employees in the facility (variable 5) increases staff burden. When there are vacancies, there are fewer employees to serve the consumers in the facility. Typically, responsibilities of remaining staff are expanded to make up for missing staff. This was partially confirmed by the seemingly large caseload reported by many employees on page 12. When considered with the other factors, paid vacation may represent a respite for workers who are stressed. The significant contribution of long-term disability insurance may be related to a higher risk for long-term disability within this workforce.

If correct, the above interpretation suggests that working conditions are a major predictor of turnover. Moreover, these working conditions are related, in turn, to the number of vacant positions and the stresses these vacant positions place on workers who remain. In other words, the industry's ongoing difficulties recruiting and retaining qualified workers may, in turn, contribute to more turnover.

Because turnover in on-call staff is included in the second regression analysis, and this type of staff position is not likely to be the backbone of the CCF industry, we then ran two separate analyses for turnover in full-time staff and part-time staff, which we believed to be the more stable of the direct support workforce. See Tables 23 and 24.

Table 23. Predicting Full-Time Turnover (Across all Service Levels) Employee Wages Excluded (n=189)					
Stepwise order	Variable	Regression Weight	Regression Weight Significance (p<)	% of Variance in Turnover accounted for	Stepwise significance (p<)
1	# of consumers	.015	<.0001	13.7%	<.0001
2	Part-Time vacancies	.12	.135	4.7%	.0003
3	FT paid vacation	.237	.03	2.4%	.008
Total Variance in Turnover Accounted for by these Variables					28%

Table 24. Predicting Part-Time Turnover (Across all Service Levels) Employee Wages Excluded (n=146)					
Stepwise order	Variable	Regression Weight	Regression Weight Significance (p<)	% of Variance in Turnover accounted for	Stepwise significance (p<)
1	# of consumers	.09	<.0001	26.7%	<.0001
2	# of facilities	-.35	.002	3.8%	.0005
3	PT vacancies	.65	.02	3.6%	.0005
4	# of employees	.04	.005	3.6%	.0003
5	PT paid holidays	-.62	.19	1.0%	.05
Total Variance in Turnover Accounted for by these Variables					45%

These analyses substantiate the continued importance of # of consumers, # of employees, staff vacancies, and paid vacation in predicting turnover in both full-time and part-time staff. Of interest is the introduction of the variable “number of facilities the owner owns.” The negative regression weight suggests that the more facilities an owner owns, the lower the turnover. Like the first regression analysis which highlighted the characteristics of the business (i.e., profit/nonprofit status of the CCF and owner language) as important, this may suggest that owners with multiple facilities may have more options for relieving staff burden when vacancies occur by moving staff from one facility to another to pick up the slack. It may also suggest that owners with multiple facilities may have a better “business” sense, thereby creating better wage and benefits packages for their employees, and better supervision. All of these decrease staff burden and create incentives for staff retention. Having a better operating business may make working conditions for direct support workers more satisfactory.

EMPLOYEE TENURE AS THE DEPENDENT VARIABLE

Table 25. Predicting Length of Employment (Across all Service Levels) Employee Data (n=283)					
Stepwise order	Variable	Regression Weight	Regression Weight Significance (p<)	% of Variance in Turnover accounted for	Stepwise significance (p<)
1	Employee Age	.16	<.0001	12.1%	<.0001
2	Employee's primary language is Tagalog	-2.56	.13	4.2%	.0002
3	Wage earned	.195	.03	1.4%	.03
4	Employee has some college	-8.39	.46	1.1%	.06
Total Variance in Length of Employment Accounted for by these Variables					21%

Utilizing employee data only, we ran a final analysis regressing employee tenure at the facility onto age, gender, language spoken, marital status, education, benefits, and wage earned. As can be seen in Table 25 above, four variables accounted for twenty-one percent (21%) of the variance in employee tenure at a facility. Employee age is the best employee predictor of staff retention, suggesting that older employees are more likely to stay at the facility. In addition, speaking Tagalog also accounted for a significant portion of the variance in length of employment. This negative regression weight suggests that when employees whose primary language is Tagalog are present, employee tenure is lower. This may reflect the pool of students in college who work in the field while they are going to school (which may include Filipino workers). This is confirmed by the similarly negative relationship found between "employee has some college" and "employee tenure." Together, these suggest that the more education an employee has, the less likely they are to stay.

Within this equation, wage earned does become a significant predictor of staff retention. However, this particular analysis may be more meaningful in 2002-2003 (2 years after the last rate increase), as a fair number of employees interviewed were recent hires (56% of full-time employees, 43% of part-time employees, and 68% of on-call employees).

WHAT FACTORS PREDICT TURNOVER?

Taken as a whole, the above analyses suggest that there may be a number of factors or factor complexes which explain turnover and its counterpart, staff retention. First of all, staff burden is clearly a factor that leads to direct support workers leaving the CCF industry. The difficulties owners have recruiting and retaining workers puts into jeopardy those individuals who want to stay in the field as a career. Second, wage is less important in predicting staff turnover in facilities than paid holidays and vacation. The fact that these benefits are "paid" is a critical factor, suggesting that direct support workers need planned time off which is paid – an important set of benefits which should be available system-wide. Third, the business-wise facilities appear to do a better job of recruiting and retaining facilities. Having more than one facility creates efficiencies and supports which are incentives for retaining direct support workers. Finally, current wages are not a major predictor of turnover.

The fact that wage is not a major predictor of turnover when all of these other factors are entered may be interpreted in several ways. First, the impact of wages may not be fully felt yet, as the turnover which owners reported in this study include those employees who left during the rate increases. A better test of the effect of the wage increases is 2-3 years after the last rate increase – i.e., data should be collected in 2002 and 2003. Second, the wage may still be so marginal that their day-to-day work life may be more important to direct support workers than making more money, which may not be a viable option for most. Third, high wages may never fully offset the comfort level of workers who have responsibility for more consumers than they feel they can safely serve.

V. METHODOLOGICAL ISSUES FOR MONITORING WAGE, BENEFITS, AND TURNOVER IN THE CCF DIRECT SUPPORT WORKFORCE

This work attempted to provide information to the California Department of Developmental Services on the effects of WIC 4681.4 (Rate Increase) on direct support worker wages, benefits, and turnover. In addition to documenting these effects, we also attempted to define methods which might be useful to the Department of Developmental Services for the long-term monitoring of wages, benefits, and turnover of direct support workers in California's 4,451 community care facilities statewide. A number of general observations about the process used in this two-year study follow:

1. Telephone interviews do not necessarily yield reliable and valid information about wages, benefits, and turnover for the following reasons:
 - A. **Owners and Employees Frequently Cannot Remember Specific Information without checking their records:** Many owners and employees do not have accurate recall of detailed information related to wages, benefits, and when employees left their agencies. When encouraged to check their records, most owners refused and wanted to continue with the interview, using their "best guesses." Attempts to call owners back were frequently unsuccessful, yielding an incomplete interview.
 - B. **Limitations of Voluntary Participation and Self-Reports:** Voluntary participation in such a survey leads to biases in data obtained. There may be a tendency for facilities which are doing well to participate in voluntary surveys, and those which are having difficulty to avoid them. Moreover, facilities which are not as comfortable with surveys are less likely to participate. An accurate picture of the system requires a process which does not allow such a biased selection process.
2. The capacity of facilities to utilize the rate increase towards permanent changes in the salary and benefits structure available to direct support workers varies. In general, this study found that smaller facilities passed on the rate increase as intended, but not in the ways intended. There was a tendency by such facilities to give bonuses to workers at the end of the year, which did not permanently alter the salary structure for workers in that facility. Moreover, smaller facilities with few employees could not realistically afford to use the rate increase to purchase benefits such as health insurance. For these facilities, the rate increase will not realistically lead to benefits such as health, dental, vision, life insurance, and retirement packages, without developing methods for small facilities with few employees to access these group packages.
3. Some facilities use creative and extraordinary methods to assure a stable and loyal workforce. The reliance on family members and friends as staff, is an example. Also, providing transportation to employees to take family members to the doctor is an example of informal incentives for workers to stay at a facility. These methods are not reflected in traditional measures of wages and benefits, but clearly are factors in retaining good workers. Hence, they deserve special study.

VI. RECOMMENDATIONS FOR MONITORING WAGE, BENEFITS, AND TURNOVER IN THE CCF DIRECT SUPPORT WORKFORCE

MANDATORY REPORTING OF WAGES, BENEFITS AND TURNOVER BY CCF LICENSEES.

If the Department wants accurate data on wages, benefits, and turnover in their CCF system, a system to make this type of reporting mandatory is needed. A number of states have utilized reporting procedures which may be appropriate for implementation by the state of California. The Office of Developmental Disability Services of the state of Oregon¹ requires all providers of DD 50 services (which includes residential and vocational providers) to report staff wages, benefits, and turnover data on a monthly basis. Facility licensees must pull information from personnel and payroll records for data entry. This reporting procedure is web-based and provides the Oregon Department with accurate data. There are also efficiencies for data processing due to the web-based format utilized.

It should be noted that Oregon has only 130 facilities within their entire state, in contrast to California's 4,451 facilities. However, the overall model utilized has significant advantages that we recommend the Department consider.

Because of the large number of facilities in the state, we recommend that reporting of wages, benefits, and turnover be required for a *sample* of the CCFs in California. This sample should be carefully selected to represent urban/rural diversity and proportionately representative of all service levels. A plan for replacing facilities lost through attrition should be in place. For this sample, we recommend that owners be required to report the following data on a monthly basis:

- vendor code
- service level
- number of staff budgeted
- number of staff that received taxable benefits that month (paid vacation, paid holidays, paid sick leave)
- number of staff that received non-taxable benefits (health insurance, dental insurance, vision insurance, life insurance, etc.)
- number of direct care staff hired during that month
- number of direct care staff who left during that month
- hourly wage paid to each staff member
- number of hours of overtime worked by each staff member

For staff who left during that month, a second report will be filed which reports the following:

- Reason the employee left (i.e., fired, left voluntarily)
- Length of employment
- Wage at last paycheck
- Benefits at last paycheck

¹ Personal Communication. Jack Morgan, Office of Developmental Disability Services, Mental Health and Developmental Disability Services Division, Oregon Department of Human Resources, November 13, 2001.

A software program would then compute an average hourly wage and the cumulative number of hours of overtime worked for all of the employees for each facility, as well as aggregate data on the other variables. The program will work in such a way that if any fields are left blank an error message will appear to alert the owner. This will decrease the likelihood that CCF owners will fail to report valuable information.



ISSUES FOR THE DEPARTMENT TO CONSIDER RELATED TO MANDATORY REPORTING

If the Oregon system is adapted for California's CCF system, a number of administrative issues require consideration:

- A. Computers should be provided to all participating facilities. How will these be paid for? How many should be purchased?
- B. All staff should be thoroughly trained to use the computers and the software programs. How will this training take place and who will be responsible for ongoing training?
- C. There should be a DDS staff person available to provide consultation and technical assistance on (1) how to calculate and collect the above data for data entry and (2) utilizing the software and entering data.
- D. The time it takes to comply with this requirement should be evaluated, and if excessive, a policy might be developed to compensate mandated facilities for this activity.
- E. DDS should consider systematically adding new facilities to the sample every 3 years so that the reporting sample increases over time. Ideally, every facility should be reporting these data. This database will help DDS to forecast planned and unplanned changes in this community living option.

Because of the importance of this recommended system, we suggest strongly that the Department develop this system in collaboration with the provider network.

