Oklahoma Behavioral Healthcare Workforce Study:

Final Statewide Report

June 21, 2011

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Please see page 7 of the report for acknowledgement of the many other contributors to this study.

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EXECUTIVE SUMMARY

The Oklahoma Behavioral Healthcare Workforce Survey and associated studies were conducted by Advocates for Human Potential, Inc. (AHP) through a contract with the Oklahoma Department of Mental Health and Substance Abuse Services (ODMHSAS) to assist with evaluation activities related to Oklahoma's behavioral health transformation initiative. The statewide survey included three components:

- an organizational survey focused on organizational accreditation, benefits and basic information on organizational structure;
- a program manager survey related to program staffing, vacancy, recruitment barriers, causes of staff turnover, program and staff capacity and training needs; and
- a staff survey focused on work experience, job satisfaction, education, training, and demographic characteristics (including status as current or prior consumers or family members of consumers).

The data collection process was structured so that the three components could be linked. Participating organizations were recruited in industry groups, generally according to state agency funding and oversight. While the workforce survey was the largest component of this project and is the primary focus of this report, additional data sources were used. These include: Economic Modeling Systems, Inc. (EMSI) data provided by the Oklahoma Department of Commerce; Oklahoma data drawn from a University of North Carolina (UNC) staffing needs study; and information on historical and anticipated behavioral healthcare-related degree completion rates from the Oklahoma State Regents of Higher Education.

The results of the survey and the analysis of additional data sources were reviewed with stakeholders, including external key informants, informants involved with the project, and a Workforce Study Team convened as an advisory group to the study. Based on these reviews, the following key findings were identified:

- **Inadequate salaries are widespread and are believed to have significant implications for both recruitment and retention.** Over half of all staff members responding to the survey reported earning less than $15.00 per hour, with close to one-fifth earning less than $10.00 per hour. Assuming a 40-hour workweek, staff in this latter pay group only fall above the 2009/2010 poverty line if they have no dependents. Those with one or more dependents are living in poverty, despite being employed full-time in a challenging and critical industry. Not surprisingly, less than half of responding staff indicated that they were satisfied or very satisfied with their pay. Over half of all responding program managers also identified insufficient salary as one of the top barriers to recruiting qualified staff for their programs, and nearly two-thirds identified dissatisfaction with salary as one of the top causes of staff turnover in their programs. Indeed, pay was both the most frequently cited barrier to recruitment and most frequently cited cause of turnover.

- **Staff separation rates are high and relate to the composition of the workforce.** The median annual program separation rate was 25%, meaning that, in roughly half of the

participating programs, there was more than one staff departure within the past year for every four FTEs. Separation rates do not vary randomly, but rather are associated with program staffing patterns. While staff were given six position categories from which to describe their jobs, nearly all chose either *counselor/therapist/social worker* or *aide/tech/other paraprofessional*. On average, counselors made up 50% of program staff, while techs made up 39%. Program managers reported separation rates of 42% and 25% for techs and counselors, respectively. This finding is consistent with the literature indicating that higher staff experience, job level, and pay are associated with lower turnover.

- **There are both current and projected shortages of professional and nonprofessional staff with an insufficient pipeline of new entrants from higher education to meet the shortages.** There is a substantial gap in the need for psychiatrists and other prescribers. We estimate a need for 697 prescribers and only 287 professionals (psychiatrists and advanced practice psychiatric nurses) available to meet the need, a difference of 410. While the unmet needs for other categories of behavioral healthcare providers are not as large proportionately, there are gaps in these position types as well. The rates at which institutions of higher education in Oklahoma are producing new graduates with appropriate training are not sufficient to meet these needs; in addition, the fact that salaries for both professional and nonprofessional positions in Oklahoma are consistently lower than the surrounding states and the nation as a whole is a significant barrier to attracting new individuals into service or training.

- **A substantial proportion of responding staff and program managers self-identify as behavioral healthcare consumers or as family members of consumers**. Both program managers and staff were asked a series of questions about their status as consumers, defined as *someone who is currently or has received mental health, substance abuse, and/or other addictive disorder services*, or as a family member of a consumer. Nearly one-third of respondents identified as family members and over one-fifth identified as adult consumers. Consumer and family member representation was generally higher among program managers than direct care staff, and a greater proportion of respondents identified as adult consumers than as (former) youth consumers. Additionally, among staff and program managers who identified as either consumers or family members, rates of disclosure in the workplace were high. For both statuses, roughly 80% of responding program managers reported disclosing on the job, while roughly 66% of staff reported having disclosed.

- **Staff are relatively well-prepared to offer Cognitive Behavioral Therapy (CBT) and are less prepared to offer other Evidence-Based Practices (EBPs).** Nearly three-quarters of respondents who supervise programs serving adults indicated that new, professional-level hires in their programs were well-prepared to provide CBT. The same percentage of respondents who supervise programs serving children reported that their new, professional-level hires were prepared to offer services using CBT for trauma, while over two-thirds reported that their new, professional-level hires could provide CBT for anxiety and depression. In both child and adult-serving programs, fewer program managers reported staff competence in providing other types of EBPs: For example, just over one-third of program managers supervising adult programs reported staff competence in medication management,

and only a little more than half of those supervising programs for children reported staff competence in interpersonal therapy (IPT).

- **Knowledge of psychiatric medication and its side-effects is the most common unmet training need.** Program managers were asked to identify areas of unmet training need or areas in which their staff needed training and for which training was not readily available. The most frequently cited unmet training need was for knowledge of psychiatric medication and its side-effects, with one-quarter of responding program managers citing this as an unmet need. Nearly as many program managers (23%) indicated that their staff had unmet needs for communication skills training, while the third most frequently cited unmet need (17%) was for training in educating consumers' family members about mental health and substance abuse issues. All other competencies were cited as unmet training needs by fewer than 15% of responding program managers.

- **Staff report high job satisfaction and a positive overall work experience.** Nearly all (95%) staff respondents agreed or strongly agreed with the statement *I like the kind of work that I do* and 84% of staff respondents indicated that they were satisfied or very satisfied with their job overall. Many of the more specific indicators of job satisfaction and work experience were also endorsed by the majority of staff. In particular, over three-quarters of responding staff indicated that their work gives them a feeling of personal accomplishment and that they would recommend their organization as a good place to work. Similarly, over two-thirds of those responding indicated that they were satisfied with their organization, their work schedule, and the location and physical conditions of their workplace. Lower rates of satisfaction were found with pay (described earlier), opportunity for advancement, and workplace stress level. Nearly three-quarters of respondents reported being satisfied with vacation and sick leave, with state employees generally reporting higher satisfaction with benefits than those employed by private organizations. While the generalizability of these findings is limited somewhat by the staff survey response rate and the potential for selection bias (i.e., the possibility that staff who responded were more satisfied with their work), the overwhelmingly positive response to these items is worth noting.

The report concludes with a review of the Workforce Study Team's recommendations for next steps. Throughout these recommendations, the Workforce Study Team identified the need to distinguish between strategies to maintain the behavioral healthcare workforce in its current state, and those to facilitate the development of a workforce that would be fully responsive to the behavioral healthcare needs of Oklahoma's citizens. Regarding compensation, the Team advised that current pay rates are inadequate and suggested preparing a legislative request to bring behavioral health provider pay to the regional average by 2014. The Team also suggested increasing opportunities for advancement within behavioral health organizations to alleviate recruitment and retention problems within the field, as well as providing incentives for students to receive a portion of their clinical training in state-funded service systems. Several training-related recommendations were made to increase the number of prescribers in the state and support the development of basic behavioral healthcare skills among primary medical care providers. Implementing best practices was cited as a way to respond to the study's findings regarding staff paperwork burden as related to job satisfaction and causes of turnover. Specific recommendations regarding best practices included: expanding access to the most up-to-date

information on evidence-based practices; technical assistance for professionals providing mental health services and substance abuse services in state agencies; and limiting the quantity of mandatory paperwork and reporting. Finally, the Team recommended that future planning efforts include creating a Mental Health and Substance Abuse Workforce Advisory Council to help Oklahoma develop models for providing behavioral healthcare services for its citizens in the future and meeting the prospective workforce needs for Oklahoma's future.

ACKNOWLEDGEMENTS

This study would not have been possible without the collaboration of many different individuals and organizations, primarily within Oklahoma. In this page, we wish to acknowledge their important contributions:

Karen Frensley, Director of the Oklahoma Transformation Project, provided valuable guidance and direction, as well as political support, throughout this study.

From the inception of this study to its completion, we have been guided by the Workforce Study Team, a group of dedicated volunteers who designed the goals of the study, reviewed and commented on methods and findings, and contributed recommendations to this report. The Team was chaired by Nola Harrison of St. Anthony Hospital, who worked closely with us to set agendas for each meeting and to keep us all on task, as well as providing information and advice from her own experience. Other members of the group included Carolyn Archer, David Asetoyer, Sara Barry, Contessa Bass, Donna Woods Bauer, Margaret Bradford, Nichole Burland, Renea Butler-King, Dawn Carson, Sidna Chambers, Jack Chapman, Rita Cooksey, Marva Crawford-Williamson, Richard DeSirey, Hugh Doherty, Jim Durbin, Fred Eilrich, Terrie Fritz, Annette Fulton, Jim Giffin, Chuck Gressler, Amber Guerrero, Marvin Hill, Martha Holmes, Jim Igo, Lydia Johnson, Connie Lake, Tracy Leeper, Alesha Lilly, Randy McCrary, Cathy Olberding, Glenda Owen, Rebecca Pruitt, Sandy Pruitt, Jolene Ring, Cheryl St. Clair, Susie Seymour, Bill Slater, Terry Smith, Debbie Spaeth, Jeff Talent, Ross Tripp, Ashland Viscosi, Richard Wansley, and James Wineinger,

We received very generous support from Aldwyn Sappleton of the Oklahoma Department of Commerce and Randy McCrary of the Oklahoma State Regents of Higher Education. They provided key current data, as well as future projections, on the state behavioral health workforce and annual degrees awarded from Oklahoma institutions of higher education respectively.

Two organizations volunteered to participate in a pilot study of the three workforce surveys. We are grateful to Nola Harrison and her colleagues at St. Anthony Hospital and Terry Smith and his colleagues at Sequoyah Enterprises, Inc. for their efforts to pre-test the organizational, program, and staff surveys.

Robert Powitzky of the Department of Corrections and Alesha Lilly of the Department of Health assisted in obtaining individual data from state employees who provide mental health services under the auspices of their agencies.

The directors or commissioners of six Oklahoma state agencies assisted in obtaining the participation of their behavioral healthcare contract providers. The participating directors were: Gene Christian (Office of Juvenile Affairs), Terry Cline (Department of Health), Michael Fogarty (Health Care Authority), Howard Hendrick (Department of Human Services), Justin Jones (Department of

Corrections), and Terri White (Department of Mental Health and Substance Abuse Services). Additionally, in her role as the President of the Oklahoma Psychiatric Hospital Association, Nola Harrison, provided assistance in obtaining the participation of her member organizations.

Our colleagues Alan Ellis, Joseph Morrissey, and Kathleen Thomas of the University of North Carolina provided estimates of staffing shortages in Oklahoma among psychiatrists and other prescribers of psychiatric medications.

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Kevin Huckshorn (formerly the Director of the NASMHPD Technical Assistance Center) and Jean Carpenter-Williams of the University of Oklahoma provided consultation on workforce competencies of the adult and children's mental health workforce, respectively.

Sheryl McLain, formerly the Executive Director of the Oklahoma Health Care Workforce Center, provided guidance on the development of the workforce survey.

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We also thank the many, many individuals working at Oklahoma behavioral healthcare provider organizations who participated in the surveys that provided key data for this report.

None of the persons cited above are responsible for any errors we may have made in this report or earlier reports of this study. We are very appreciative for all of the assistance that we received over the course of this study, and we apologize if we inadvertently excluded the names of additional contributors.

CHAPTER 1: INTRODUCTION

In 2005, Oklahoma was one of seven states (now nine) to receive a five-year Mental Health Transformation State Incentive Grant (TSIG) from the federal Center for Mental Health Services (CMHS). The purpose of this grant was to help transform state mental health systems from "broken and fragmented" systems to systems that deliver excellent mental healthcare with a focus on recovery (President's New Freedom Commission on Mental Health, 2003). A major challenge faced by all states was assuring a stable, competent workforce available to provide needed services.

The Oklahoma Behavioral Healthcare Workforce Survey and associated studies were conducted by Advocates for Human Potential, Inc. (AHP) through a contract with the Oklahoma Department of Mental Health and Substance Abuse Services (ODMHSAS) to assist with evaluation activities related to Oklahoma's behavioral health transformation initiative. The studies were developed and implemented under the guidance of an advisory group, the Workforce Study Team, which was convened through the Governor's Transformation Advisory Board (GTAB) Workforce Committee, as part of the Transformation initiative.

Purpose and Goals

State mental health authorities typically do not have empirical information about the characteristics of their current workforce. In order to fill this information gap, we undertook a number of studies, as well as searched for relevant research, that provided useful information for understanding the difficulties faced by staff providing mental health services in Oklahoma. Taken together, the workforce studies were designed with three broad goals in mind:

1. Respond to interests of GTAB Workforce Committee convened through Oklahoma's behavioral health transformation initiative.
2. Develop behavioral health complement to information gathered through Oklahoma Healthcare Workforce Center and Oklahoma Hospital Association surveys.
3. Provide information that can be used for provider organization and state agency-level planning and advocacy.

The largest of these studies was the Oklahoma Behavioral Healthcare Workforce Survey, a statewide survey that focused on staffing of agencies and programs that provide behavioral healthcare. The survey itself was intended to address six particular goals of the Workforce Study Team and other project stakeholders, including:

1. Estimate rates of recruitment, retention and turnover by position.
2. Determine reasons for leaving, including those related to wages and benefits (*e.g.*, health insurance, schedule/shift, child care).
3. Analyze current representation of adult peers and family members in the workforce.
4. Describe linguistic (and cultural) competency of the workforce.

5. Describe capacity of state workforce to address current needs of clients and employers.
6. Describe current access to behavioral healthcare services in primary care settings and identify (types of) professionals delivering such services.

Methodology

Survey Measures

Where possible, survey items were drawn from established measures. The two primary sources of items and item structure were:

- ***Addiction Technology Transfer Center Workforce Survey***: A staff and director survey instrument was developed for the Northwest Addiction Technology Transfer Center (see Addiction Technology Transfer Center Network, *n.d.*) and subsequently adapted for use in at least six other states. Oklahoma workforce survey items that were drawn from or based on this instrument included those relating to recruitment barriers and causes of turnover, organizational strategies for supporting staff development, and distribution of daily responsibility, as well as a number of basic demographic related items.
- ***Federal Human Capital Survey (FHCS)***: The FHCS is an instrument developed by the U.S. Office of Personnel Management and used to measure employees' job satisfaction and their perceptions of the degree to which their organization exhibits characteristics consistent with those of successful organizations. The instrument was used to survey federal employees in 2004, 2006, and 2008, with over 200,000 responses received in the 2008 use alone (United States Office of Personnel Management, *n.d.*). Oklahoma workforce survey items that were drawn from the FHCS include those related to staff work experience and job satisfaction.

Additional items were developed and selected for the Oklahoma Behavioral Healthcare Workforce Survey with the guidance of the Workforce Study Team and outside consultation when necessary.

Pilot Study

The pilot study involved two organizations: a residential care provider which operates congregate care facilities in locations throughout Oklahoma, and an inpatient care provider which operates a variety of behavioral healthcare programs in the Oklahoma City area. Between the two organizations, a total of 28 distinct programs participated in the pilot. These programs provided an array of services designed to respond to a variety of consumer needs and interests. Programs ranged from long-term residential care to acute detoxification, and served children, youth, adults and older adults, and supported people with needs related to mental health, substance abuse and co-occurring disorders. The pilot study took place in June and July, 2008. In August 2008, the preliminary results of the pilot were reviewed with the Workforce Study Team, as was a report of the survey process, including challenges encountered and suggestions offered by pilot participants. Based on these reports and the discussion with the Workforce Study Team, some redundant items were eliminated, the schedule and scope of organizational recruitment was scaled back, and the recruitment material packet was revised. Data from the pilot were included in the larger data analysis of the Oklahoma Behavioral Healthcare Workforce Study.

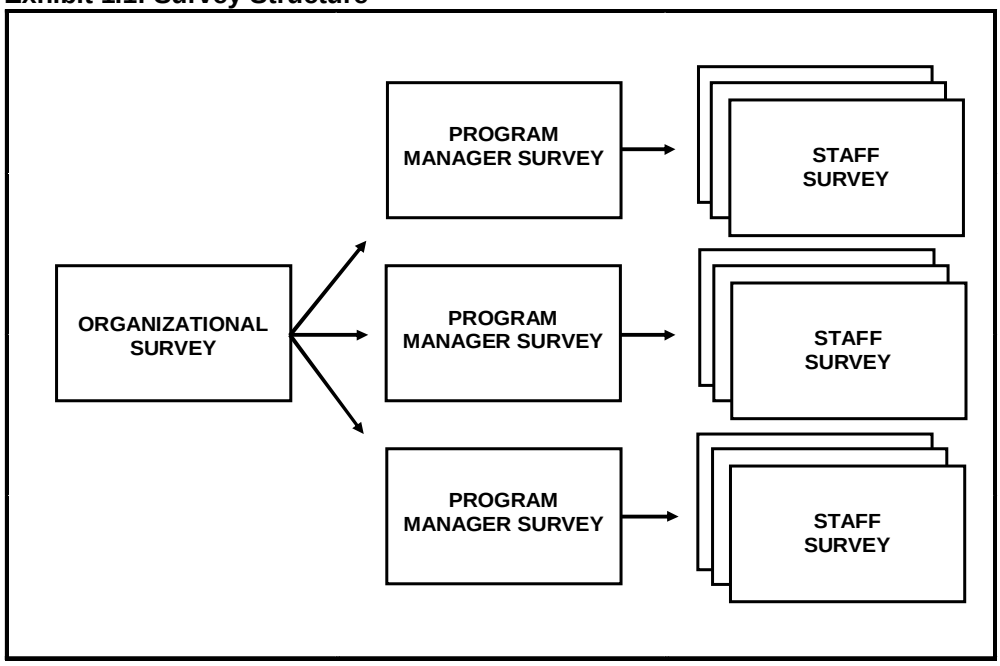
Survey Structure

In order to capture the range of information desired by the Workforce Study Team and other project stakeholders, the survey was designed with three components:

1. An organizational survey focusing primarily on organizational accreditation and benefits as well as basic information on organizational structure. Organizational structure information was used to create organization-specific versions of the program manager and staff surveys described below. The organizational survey component was completed by a single member of each participating organization (typically a human resources administrator in larger organizations, or the director in smaller organizations).
2. A program manager survey containing items related to program staffing, vacancy, recruitment barriers, causes of staff turnover, program and staff capacity and training needs. Within each organization, each program manager with unique supervisory responsibilities for one or more behavioral healthcare programs was invited to complete a program manager survey. Occasionally, organizations would indicate that two or more program managers supervised a single program. In these cases, AHP worked with the organization to develop a survey plan to avoid duplication of program manager responses.
3. A staff survey focusing on staff work experience, job satisfaction, education and training as well as demographic characteristics and status as current or prior consumers or family members of consumers. All direct providers of behavioral healthcare services in participating organizations were invited to complete a staff survey. As described in the recruitment subsection below, however, staff recruitment was highly dependent on program manager assistance.

Data collection and process were structured so that the three components could be linked. Staff responses could be grouped by program and organization, and linked to the appropriate program data (provided via the program manager survey) and organizational data (provided via the organizational survey).

Exhibit 1.1: Survey Structure



Recruitment & Participation

Organizations were recruited in industry groups, generally according to state agency funding and oversight. The following nine industry groups were recruited:

- ***Mental Health***: Organizations providing primarily mental health services and operated under contract with or by ODMHSAS.
- ***Oklahoma Psychiatric Hospital Association (OPHA)***: Psychiatric hospitals or hospitals with psychiatric units within OPHA membership.
- ***Oklahoma Department of Human Services (DHS)***: Organizations providing a range of residential and outpatient services for children, youth and adults with a variety of service needs and operated by or under contract with DHS.
- ***Oklahoma Office of Juvenile Affairs (OJA)***: Organizations operated by or under contract with OJA, providing services to children and youth in a range of settings.
- ***Substance Abuse***: Organizations providing primarily substance abuse services and operated under contract with or by ODMHSAS.
- ***Oklahoma Department of Corrections (DOC)***: Providers employed by DOC and offering mental health services within correctional facilities across Oklahoma (substance abuse services are contracted out and were therefore not included in the survey).
- ***Other Medicaid***: A random sample of organizations that were not included in any of the above groups but that do provide behavioral healthcare services and bill Medicaid.

- ***Federally Qualified Health Centers (FQHC)***: Organizations that provide behavioral healthcare services and have obtained the FQHC designation.
- ***Child Guidance***: Child Guidance clinics operated by the Oklahoma State Department of Health (OSDH).

The number of organizations, program managers, and staff members recruited by industry group are shown in Exhibit 1.2 on the next page.

When considering the implications of the results described in this section, it may be helpful to bear in mind the degree to which the responses we received can be considered representative of the views of Oklahoma behavioral healthcare agencies, program managers, and staff. Exhibit 1.2 indicates that 63% of invited organizations responded, with participation rates by industry group ranging from 41% to 100%. We can be relatively confident that responses from agencies in high participation industry groups are representative of those industry groups, but less confident of the representativeness of responses of agencies in low participation industry groups. Similarly, among participating organizations, average program manager response rates ranged from 67% to 100%, with an overall average of 72%. Among participating programs, staff response rates ranged from 4% to 100%, with an overall average of 26%. Our confidence in program manager and staff response representativeness should also vary by industry group participation rate. Additionally, within industry groups or within the sample as a whole, we can have more confidence in the representativeness of program manager responses than we can in the representativeness of staff responses. Finally, it is important to note that, as the recruitment process was driven by state agency oversight and funding, any First Nations provider organizations that are not funded or credentialed by one or more of the above state agencies were not recruited.

Exhibit 1.2: Participation by Industry Group

Industry Wave	Date Launched	Organizations		Program Managers		Direct Care Staff	
		Number of Responses	Response Rate	Number of Responses	Response Rate	Number of Responses	Response Rate[1]
Mental Health	9/30/08	27	79%	102	67%	443	21%
OK Psychiatric Hospitals Association	11/04/08	12	41%	32	74%	363	26%
OK Department of Human Services	1/14/09	10	83%	20	74%	150	31%
OK Office of Juvenile Affairs	1/14/09	11	79%	12	86%	38	13%
Substance Abuse	5/14/09	38	62%	52	74%	234	36%
Department of Corrections	8/17/09	1[2]	100%	6	100%	40	63%
Other Medicaid Providers	8/19/09	11	48%	9	82%	6	4%
Federally Qualified Health Centers	8/19/09	5	45%	2	67%	14	100%
Child Guidance Clinics	10/26/09	1[2]	100%	8	89%	37	73%
	Total:	**116**	**63%**	**243**	**72%**	**1325**	**26%**

[1] Staff participation rates are based on programs for which total number of staff is known.
[2] The Department of Corrections and Child Guidance Clinics are multiple service sites however due to the nature of the programs they were surveyed as one organization.

At the beginning of the recruitment phase for each industry, enrollment packets were mailed to the organizations that had been identified for recruitment. These packets included a cover letter from the relevant state agency administrator, describing the value of the project and encouraging the organization to participate. Following this cover letter were informational sheets from AHP about the purpose of the survey and the enrollment process.

A single organizational designee completed the organizational survey component online, providing program manager names and email addresses. Organizations that did not initially respond were encouraged to do so via email, telephone, and U.S. mail reminders, which included sample reports that served as an organizational incentive.

Once an organization completed the organizational component of the survey, a unique version of the program manager and staff survey was created to reflect the structure of the organization. Program managers were mailed invitational emails with recruitment letters as attachments to be distributed to staff. Regular reminders were sent to program managers, including counts of staff responses for each program, which were copied to the organizational designee and/or executive director.

A variety of additional measures were employed to encourage participation at each stage of the survey. For most industries, personnel from the relevant Oklahoma state agency made additional follow-up calls. Additionally, AHP staff made in-person visits to key organizations to provide assistance in participating in the survey, or to encourage participation.

Other Data Sources

While the workforce survey is the largest component of this project and is generally the focus of this report, data were drawn from a variety of additional sources:

- ***Economic Modeling Systems Inc (EMSI)***: The Oklahoma Department of Commerce provided average hourly wage rate norms for a range of behavioral healthcare positions at the national, regional and state level.
- ***University of North Carolina (UNC) Staffing Needs Study***: Data were drawn from a UNC study of professional staffing shortages, conducted under contract to the Health Resources and Services Administration (HRSA).
- ***Oklahoma State Regents of Higher Education***: The Regents of Higher Education provided information on the number of behavioral healthcare related degrees awarded by category and by year since 2001, as well as information on the number of degrees anticipated to be granted and anticipated to be needed.

The data derived from these sources complement the data collected from the survey and provide information on subjects that could not be covered by the survey. In doing so, they allow the project to provide a more comprehensive response to the Workforce Study Team's interests and goals.

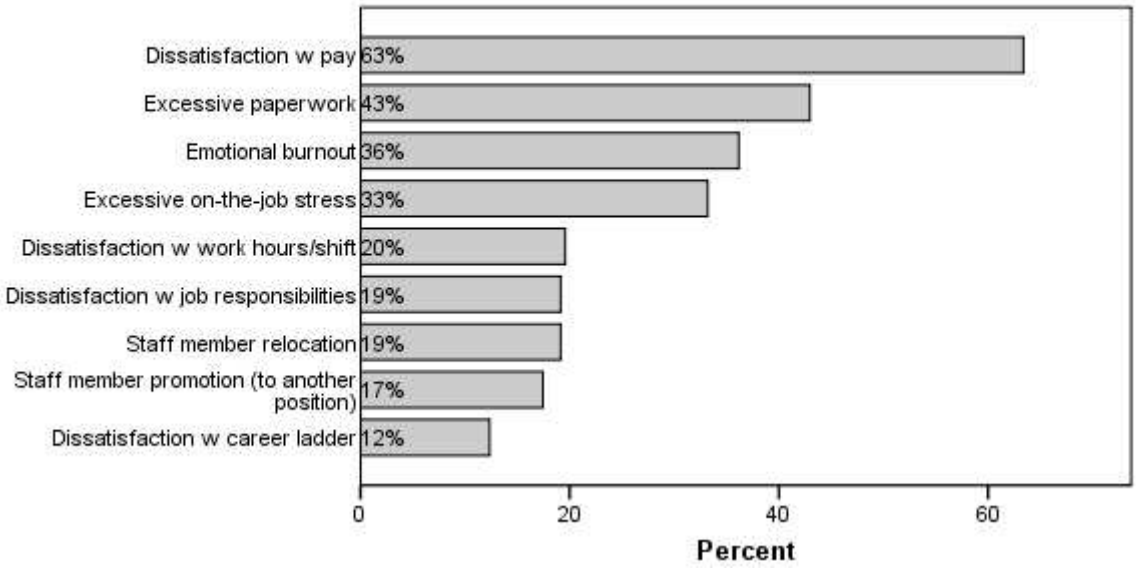
CHAPTER 2: STAFF SEPARATIONS

Staff separation rate (turnover) is a near-universal concern in behavioral healthcare programs. High separation rates increase program costs, reduce return on investment for staff development, and impact quality of care. Anecdotal evidence of the negative impact of turnover on provider-consumer relationships abounds. Given this, it is not surprising that study stakeholders identified staff separation as a principal area for investigation. Information was gathered on staff separations through both the program manager and staff surveys. Program managers were asked to review a list of 18 possible causes of staff turnover and to indicate which of these were most relevant to their program. Managers were also asked to report on the number of separations in their program using the study's six primary position categories. Staff members were asked to report whether they intended to leave their position within the next 12 months. This section describes the responses to these survey items, and the relationships between these items and other program, organizational and staff characteristics.

Program Manager Perceptions of Causes of Turnover

Program managers were asked to identify three causes of staff turnover in their programs. The causes most frequently cited by the responding program managers are shown in Exhibit 2.1.[3] Percentages for this item add up to more than 100, as three causes of turnover were selected for each program. Program managers perceive dissatisfaction with salary/pay as the greatest contributor to staff separations; 63% cited dissatisfaction with pay as a significant cause of turnover in their program. Other factors cited by at least one third of the program managers were excessive paperwork (43%), emotional burnout (36%) and excessive on-the-job stress (33%).

Exhibit 2.1: Program Manager Perceptions of Causes of Turnover across Industries



Data from the program manager surveys.

[3]Causes cited by less than 10% of program managers are not shown in Exhibit 2.1. These causes were: dissatisfaction with workplace location; dissatisfaction with relationship with supervisor; dissatisfaction with on-call responsibilities; difficulties with transportation; difficulties with child care; dissatisfaction with health insurance; dissatisfaction with time off; concern about on-the-job safety; and dissatisfaction with coworkers.

We examined the relationships of the perceived causes of staff turnover to seven key dimensions: industry group (Mental Health, Substance Abuse, Department of Human Services, Office of Juvenile Justice, Oklahoma Psychiatric Hospital Association, Child Guidance, Federally Qualified Health Centers, Other Medicaid and the Department of Corrections)[4], region (northwest, southwest, northeast, southeast, Tulsa metro, Oklahoma City metro), service type (mental health, substance abuse, combined mental health and substance abuse, and services for people with developmental disabilities and mental health or substance abuse needs), program setting (inpatient, criminal justice, residential, or outpatient), service population (children, adults, both), organizational type (state vs. private), and organizational size (small, medium, large). The following causes of turnover were significantly different ($p<.05$) across at least one of the seven dimensions: (1) dissatisfaction with salary/pay (*Salary*), (2) dissatisfaction with career ladder, (3) excessive paperwork (*Paperwork*), (4) dissatisfaction with job responsibilities (*Responsibilities*) and (5) dissatisfaction with shift/work hours (*Hours*).

While none of these causes of turnover varied by region or service type, there was variation across industry group, program setting, service population, organizational size, and organizational operation (state vs. private), also considered a proxy for organizational benefits. Following these findings, logistic regressions were performed to examine the relationship between the dimensions - taken together - and each of the following four causes of turnover: *Salary, Responsibilities, Hours* and *Paperwork*. Industry, service population, organizational type, program setting, and organizational size were included in this testing. Tables summarizing the results of these regressions can be found in Appendix A1. Four additional parsimonious logistic regression models can be found in Appendix A1 as well, for a total of eight regression models. In summary, when controlling for other factors, program manager perceptions of causes of staff turnover suggest that:

1. The role of salary/pay in turnover varies by industry.
2. The role of excessive paperwork and dissatisfaction with job responsibilities in turnover varies by service populations.
3. The role of excessive paperwork in turnover also varies by program settings.

Pay as a Perceived Cause of Turnover

Exhibit 2.2 provides details of the relationships between organizational industry and pay as a perceived cause of turnover.[5] Program managers in OJA organizations were most likely to cite pay as a cause of turnover, while those in OPHA organizations were least likely to do so. Specifically, 90% of program managers from the OJA industry group perceived staff dissatisfaction with salary/pay as one of the top reasons for staff separations while program managers from the OPHA industry group were only half as likely to name dissatisfaction with salary/pay. At least 70% of program managers from the Mental Health and DHS industry groups cited salary/pay as a cause of turnover. This relationship was upheld in the regression analyses as well, with industry being a significant predictor of program manager perceptions of pay as a

[4] Industry group name and abbreviation: Mental Health (MH), Substance Abuse, Department of Human Services (DHS), Office of Juvenile Justice (OJA), Oklahoma Psychiatric Hospital Association (OPHA), Child Guidance, Federally Qualified Health Centers (FQHC), Other Medicaid (MA) and the Department of Corrections (DOC).
[5] Industries with fewer than ten program manager responses were not included in the analysis.

significant cause of turnover. Program setting, organizational size, and organizational[6] operation were not significant in the logistic regression model.

Exhibit 2.2: PM Perceptions of Pay as a Cause of Staff Turnover by Industry

	MH N=102	DHS N=17	OJA N=10	OPHA N=26	SA N=61
Dissatisfaction with salary/pay	76%	71%	90%	42%	53%

Data are significant at the p<.05 level. ♦ Data from the program manager surveys. ♦ FQHC, DOC, Other Medicaid, and Child Guidance industries are not included in the analysis because there were fewer than ten programs in these samples.

Excessive Paperwork as a Perceived Cause of Turnover

Exhibit 2.3 shows the relationship between program manager perception of excessive paperwork as a cause of staff turnover and program setting. Respondents characterized their program setting as one of the following: inpatient (an acute care mental health unit in a hospital, a unit in a substance abuse detoxification facility, or a residential unit within a hospital), outpatient (a unit in a community mental health center, a day program, a psychiatric rehabilitation program or a Program of Assertive Community Treatment/case management program), residential (a group home or a supported housing program), and correctional/criminal justice (a prison or juvenile detention facility). Excessive paperwork was cited as a cause of separations by 60% of program managers from outpatient facilities, 21% of those managing residential programs, 20% of those managing inpatient units, and 10% of those managing programs in criminal justice facilities.

The relationship between program setting and excessive paperwork remained when the effects of other variables were considered. Industry group and excessive paperwork had a strong relationship when that relationship was tested on its own, but it did not remain significant in the regression analysis. Service population (adults, children, or both adults and children) was unrelated to paperwork as a cause of turnover when this relationship was tested alone, but became a significant predictor in the regression analysis (Model 2 of the logistic regressions). Program managers in programs serving children cite excessive paperwork as a cause of turnover more frequently than those serving both children and adults.

Exhibit 2.3: PM Perceptions of Paperwork as a Cause of Staff Turnover by Program Setting

	Inpatient N=30	Outpatient N=119	Residential N=47	Correctional N=10
Excessive paperwork	20%	60%	21%	10%

Data are significant at the p<.05 level. ♦ Data from the program manager surveys.

Dissatisfaction with Job Responsibilities as a Perceived Cause of Turnover

Dissatisfaction with job responsibilities varied by service population (Exhibit 2.4), with program managers supervising programs serving both children and adults being less likely to perceive job

[6] Organizational size – programs are the unit of analysis. Program managers were asked to identify the number of full-time staff working in each program they supervised. The number of full-time staff were aggregated for each organization. An organizational response rate was calculated and the total number of staff in each organization was divided by the organizational response rate and multiplied by 100. This yielded the total number of full-time staff in each organization (i.e., total staff) which was then divided into three groups – small, medium and large organizations – based on the overall distribution of the total staff.

responsibilities as one of the most important causes of staff turnover than were managers supervising programs that serve only adults or only children. While this relationship may not initially seem meaningful, it could be related to the relationship between service population and program setting. Eighty percent of programs serving both children and adults were categorized as outpatient programs. Compared to program managers in inpatient and residential programs, fewer outpatient program managers cited job responsibilities as a significant cause of turnover in their programs. The relationship between job responsibilities and service population is further supported by Model 3 of the logistic regressions (see Appendix A1 - Factors Influencing Program Manager Perceptions of Staff Dissatisfaction with Job Responsibilities as a Cause of Turnover). Organizational size was not significant in the regression model. Although dissatisfaction with job responsibilities varied by industry, program setting, and service population, these were not significant predictors in the full regression model.

Exhibit 2.4: PM Perceptions of Responsibilities as a Cause of Staff Turnover by Service Population

	Children/Adults	Adults Only	Children Only
Dissatisfaction with job responsibilities	4%	21%	25%

Data are significant at the p<.05 level. ♦ Data from the program manager surveys.

Program Manager-Reported Separation Rates

Program managers were asked to report the current number of full time equivalents (FTEs) budgeted for their program and vacant in their program, as well as the number of staff separations that occurred over the previous 12 months in their program. These items were posed in reference to each of six position categories: aides/techs/other paraprofessionals, professionals primarily holding Masters degrees (counselors/therapists/MSW-level social workers), LPNs, psychiatrists and other physicians, doctoral-level psychologists/DSW-level social workers, and RNs[7]. Exhibit 2.5 shows the position-specific and total separation rates statewide, and for each of the six geographic regions[8].

[7] This position category structure was developed based on a review of the state position classification and the U.S. Bureau of Labor Statistics Standard Occupational Code (SOC) system. Appendix A15 shows relevant SOC positions categorized according to this six-position structure.

[8] To calculate the separation rate for a given region, the number of separations was totaled across participating programs, and this sum was divided by the number of FTEs budgeted across programs. It is important to note that organizations may not have included providers that are contracted with, rather than employed, in the counts that follow.

Exhibit 2.5: Cross-industry Program Manager-Reported Separation Rates by Region

Position	NE	NW	OKC	SE	SW	Tulsa	Statewide
Aide/tech	51%	55%	34%	38%	50%	30%	42%
Masters-level professional	28%	26%	26%	27%	8%	27%	25%
LPN	32%	29%	40%	50%	33%	10%	36%
Psychiatrist/ physician	33%	0%	4%	44%	25%	20%	22%
Psychologist	13%	0%	0%	0%	0%	NA	7%
RN	25%	33%	29%	56%	23%	21%	28%
Total	40%	41%	31%	35%	32%	27%	34%

Data from the program manager surveys.

Calculating Program Separation Rate

Percents in the table above were calculated by summing separations and budgeted positions across the region. In the analysis that follows, separations are calculated at the program level. Programs, rather than organizations, were chosen as the unit of analysis due to concerns that program characteristics and local program environment may vary widely within larger organizations - particularly those with programs across a wide geographic range. Program separation rates ranged from 0% to 200%. Separation rates of greater than 100% are possible because positions may turn over more than once within a year. The median separation rate was 25%, meaning that roughly half of the participating programs had a separation rate below 25%, and roughly half had a separation rate above 25%. In other words, at least one out of every four positions turned over in roughly half of the programs surveyed. Appendix A2 gives more information on the distribution of the program separation rates.

The initial analysis of the relationships between separation rates and other program variables was attempted with three approaches to handling separation rates: by breaking participating programs first into two groups of equal size, then into three groups of equal size, and finally into four groups of equal size. The approaches yielded fairly similar results, with those for the two group approach being slightly more favorable than those for the alternatives. This approach involves dividing the group at the median of 25%, a rate which is consistent with a high turnover definition used in a recent, related study (Strolin-Goltzman, 2008).

Relationships between Separation Rates and Other Program Variables

The relationship between separation rate and a number of program characteristics and related variables was examined. Relevant, recent literature was reviewed. The following identifying program characteristics were identified as being potentially related to separation rates:

1. Staff role clarity
2. Staff job satisfaction
3. Staff salary and benefits
4. Staff sense of personal accomplishment
5. Staff age
6. Staff intention to leave
7. Staff job level/experience

8. Staff burnout
9. Lack of alternative job options

The primary source of information for items 1- 6 is the staff survey. Because of concerns about the representativeness of the staff data, these items were not considered feasible for this analysis. Most of these variables are also established predictors of staff intention to leave, and could therefore be employed in the predictive model of intention to leave (itself the strongest predictor of separation rates, Mor Barak et al., 2001).

Staff job level/experience as a program characteristic was measured using the program manager reports of the FTEs budgeted for their programs. As these reports were specific to position type, we were able to create variables reflecting the proportion of each position type within each program's staffing pattern. Masters-level counselors and techs made up by far the largest proportion of program staff. On average, Masters-level counselors made up 50% of the program staff, and techs made up 39%, a significant finding in and of itself. The remaining four position categories ranged from a high of 6% (RNs) to a low of 1% (PhDs). Appendix A3 offers more information about the distribution of each of the six position type proportions.

Staff burnout as a program characteristic was measured by program manager indication that burnout is one of the top three reasons for staff turnover within their program. We also looked for relationships between the other frequently-cited causes of turnover and separation rate.

A proxy for lack of alternative job options was created using the program region code: Programs located in the Tulsa and Oklahoma City metro areas were considered to be located in areas with better alternative job options, while those in the remaining, more rural, regions were coded as being located in areas with fewer job options.

Finally, relationships between separation rate and each of the study dimensions described earlier (industry, region, service type, program setting, population age, state operation, and organizational size) were examined.

Analysis and Results

Analysis to identify relationships between separation rate and each of the variables above on an individual basis was performed. Most of these did not prove to be statistically significant: None of the frequently-cited causes of turnover were associated with program separation rate, nor was the job options proxy. Of the staffing and study dimensions variables, proportion of Masters-level counselors, proportion of techs, industry, and state operation were significantly associated with separation rate, as were two approaches at measuring benefits[9]. Further information about the items and the relationships identified may be found in Appendix A4.

Logistic regression was then performed to test the relationships between separation rate and multiple predictor variables. Looking at the relationship between the two staffing variables (proportion of techs and proportion of Masters-level counselors) it was determined that these variables were too closely related to include in the regression model. Details of the analysis used

[9] Upon closer inspection, the results for the benefits items were difficult to interpret (i.e., suggesting an inconsistent or nonsensical relationship between separation rate and benefits). These items were discarded.

to determine this can be found in Appendix A5. Ultimately, the model included the following program characteristics: proportion of techs, industry[10], and state operation.

Both proportion of techs and state operation remained significant in the regression model. As shown in Exhibit 2.6, on average techs made up 31% of the staff in low separation programs, while they made up nearly half of the staff in high separation programs. This is consistent with the literature indicating that high staff experience, job level, and pay are associated with lower turnover.

Exhibit 2.6: Proportion Techs in Low Separation and High Separation Programs

Staff position type predictors	Mean proportion low separation programs	Mean proportion high separation programs
Proportion Techs	31%	48%

Data from the program manager surveys.

A more detailed look at the relationship between position type and separation is available in Appendix A7.

The distribution for programs in state vs. privately operated organizations is also as anticipated. Half of the programs in private organizations fall into the high turnover group, while less than one-third of the programs in state operated organizations do (Exhibit 2.7). It is believed that this relationship is at least in part a result of the better benefits package offered by state operated organizations.

Exhibit 2.7: Proportion of Programs in High Separation Group by State/Private Operation

Operation *(assigned)*	Private (N=188)	State (N=56)
Proportion in high turnover group	50%	29%

Data from the program manager surveys.

While only a proportion of techs and state operation remained significant in the regression model, Appendix A8 offers details on the remaining variables that were tested.

Staff Intention to Leave

Staff were also asked about their plans to leave their organizations within the next year. Those who reported that they were planning on leaving were asked to indicate whether they planned to retire, find another job within the behavioral healthcare field, find a job outside the field, or pursue some other option. Exhibit 2.8 shows the percentages of program managers and staff reporting each of these plans.

[10] While proportion of techs and state operation remained significant in the regression model, industry became insignificant, suggesting that the relationship between industry and separation rate may have been in part due to a relationship between industry and state operation, or possibly between industry and staffing patterns. A detailed look at the results of this model can be found in Appendix A6.

Exhibit 2.8: Intention to Leave Frequencies

Response (N=1244)	**%**
No, don't intend to leave within a year	80%
Yes, to retire	1%
Yes, to take another job in behavioral health	7%
Yes, to take a job outside behavioral health	4%
Yes, other	7%

Data from the staff surveys.

This variable was recoded into two categories by combining all categories representing any intention to leave (do intend to leave within a year: 19%, and do not intend to leave within a year: 80%) for the analysis that follows.

Relationship between Intention to Leave and Staff and Program Variables

As with separation rates, predictor variables were chosen following a review of the literature. This review supported the use of the following variables:

1. Staff burnout;
2. Work-life fit;
3. Job satisfaction;
4. Empowerment;
5. Workplace incivility;
6. Staff age;
7. Job level/experience;
8. Professional and job commitment; and
9. Income.

Staff burnout was not measured directly by the staff survey. Related items, such as *My workplace is too stressful*, would have appeared to provide reasonable proxies but more closely matched other predictors examined in and not supported by the literature. The same holds true for workplace incivility and empowerment. The survey did not examine work-life fit or professional/job commitment.

The survey's overall job satisfaction item was chosen as an indicator of job satisfaction. The survey's staff age variable was transformed into a continuous variable by recoding age categories into midpoints, except for *over 64* which was recoded as 69.5, the midpoint between 65 and 74. The survey's categorical staff income variable was treated in a similar manner, with the following differences: The lowest category (<$10.00/hr) was recoded as the midpoint between $10.00 and $7.25, the minimum wage in Oklahoma. Position types and education level for respondents who checked the upper category ($50.00/hr or more) were examined, and were surprisingly found to be primarily Masters-level therapists, along with a few physicians. For this reason, we used a rate relatively close to the second-highest category, and significantly below one that might be expected for physicians: $62.50. Staff responses to the item *How many years*

have you been in the field? were used to measure staff experience. Detailed information on the distribution of these variables is offered in Appendix A9.

Gender and ethnicity were tested using the original dichotomous survey items, and race was tested by collapsing five dichotomous survey items into a single variable with up to six categories: American Indian/Alaskan Native alone, Asian alone, Black/African American alone, Native Hawaiian/Pacific Islander alone, White alone, and more than one race. Due to low Ns, the Asian alone and Native Hawaiian/Pacific Islander alone categories were eliminated from the analysis.

In addition to the variables gathered through the staff survey, the relationship of staff intention to leave to key program variables was investigated, including the program manager-cited causes of turnover and the study dimensions described earlier (industry, region, service type, program setting, population age, state operation, and organizational size).

Analysis and Results

As with the analyses described earlier, relationships were examined between intention to leave and each of the variables described above on an individual basis. As with separation rate, there was no relationship between intention to leave and program manager citation of the significant causes of turnover. Of the study dimensions, only service type and region were significantly related to staff intention to leave. Staff position type, gender, ethnicity and race were not significant, but staff age, experience, pay and job satisfaction were significant. Initially, the relationship between consumer or family status and intention to leave was investigated by collapsing eight dichotomous survey items into a single four-category variable: neither, consumer only, family member only, and both consumer and family member. This variable was significantly related to intention to leave. However, the distribution was difficult to interpret.[11] A variety of alternatives were tested, including the eight original survey items.[12] Most of these tests did not yield significant results. However, family status did prove to be significantly related to intention to leave, with a higher proportion of family members than non-family members indicating that they planned to leave within the next year.[13]

[11] Staff who identified as being consumers only seemed much less likely to intend to separate than did staff who identified as either family members or both consumers and family members (full details available in Appendix A10). Given this, it seemed possible that the use of this collapsed variable could be obscuring the meaning of the relationship.

[12] Eight original survey items include: adult mental health consumer, adult substance abuse consumer, former youth mental health consumer, former youth substance abuse consumer, family member of an adult mental health consumer, family member of an adult substance abuse consumer, family member of a youth mental health consumer, family member of a youth substance abuse consumer. Aggregations of these items across two dimensions individually and together (adult/youth and mental health/substance abuse) were also tested.

[13] When family membership was broken down further into mental health and substance abuse, the relationship between being a family member of a mental health consumer and intention to leave was significant, while that between being a family member of a substance abuse consumer and intention to leave was not significant. However, as the latter relationship showed a similar trend (higher intention to leave among family members), the combined mental health and substance abuse variable was retained for further analysis.

Logistic regression was employed to determine whether the relationships noted above remained significant when the effects of all variables were considered.[14] The model tested included region, service type, population age, job satisfaction, pay, age, experience, and family member status. Of these variables, only job satisfaction and age remained significant. The mean satisfaction score for staff not intending to leave was 1.71, with 1 being *very satisfied* and 2 being *satisfied* (Exhibit 2.9). The mean for staff intending to leave was 2.59, closer to 3, or *neither satisfied nor dissatisfied*. Consistent with literature on the topic, staff intending to leave were younger on average than those not intending to leave (39.67 years versus 43.30 years, respectively). Complete details on the results of the regression model are shown in Appendix A12, and additional details on the relationship of job satisfaction and staff age to intention to leave are shown in Appendix A13.

Exhibit 2.9: Satisfaction and Age Among Staff Intending to Stay and Intending to Leave

	Mean for staff staying	Mean for staff leaving
Staff overall job satisfaction (N=1241)	1.71	2.59
Staff age (N=1180)	43.30	39.67

Data from the staff surveys.

While only these two variables remained significant in the regression model, Appendix A14 gives additional information on the other variables tested.

Summary

Information related to separations was gathered through program manager reports of the perceived causes of separation in their programs, program managers' reports of their programs' separation rate over the previous year, and staff reports of their intention to leave their position within the next year. The most frequently cited barrier was dissatisfaction with pay, which was cited by nearly two thirds of program managers. Excessive paperwork, emotional burnout and excessive on-the-job stress were cited by at least one third of program managers. While program and organization characteristics were related to multiple perceived causes of turnover when the relationships were examined individually, generally only one or two characteristics remained significant in each logistic regression model. Organizational industry was a significant predictor of citing dissatisfaction with pay, with OPHA program managers being the least likely to cite pay as a cause of turnover. Population age and program setting were significant predictors of perceiving paperwork to be a cause of turnover, with program managers in programs serving children citing paperwork more frequently than those serving both children and adults, and program managers in outpatient settings citing paperwork more frequently than program managers in other settings. Service population also related to citation of dissatisfaction with job responsibilities, with program managers from programs serving both children and adults being less likely to cite this as a barrier than program managers from programs serving either adults or children.

[14] We began by examining the relationship between staff age, experience, pay, and job satisfaction. While there were some relationships among these variables, none turned out to be strong enough to warrant excluding any of the variables from the regression model. Details of this analysis can be found in Appendix A11.

Program separation rates ranged from 0% to 200%, with roughly half of the participating programs having a separation rate below 25% and roughly half having a separation rate above 25%. This median rate was used to divide programs into two categories: low separation and high separation. These categories were related to multiple program and organizational characteristics when the relationships were examined individually, but only two characteristics remained significant in the logistic regression model. High separation programs proved to be less likely to be state operated, and more likely to have a high proportion of techs on staff. On average, techs made up less than one third of the staff in low separation programs, but nearly one half of the staff in high separation programs. These results are consistent with existing literature regarding the relationship between lower staff experience/job level and higher separation rates.

The vast majority (80%) of staff did not report intending to leave their positions within the 12 month period following the survey. Intention to leave was related to a range of program, organizational and staff characteristics when the relationships were examined individually, but only two remained significant in the logistic regression model. As would be expected, staff intending to leave reported lower satisfaction with their job overall. Staff age was also related to intention to leave, with the mean age for staff intending to leave being about three and a half years younger than that of staff intending to stay. Both of these findings are consistent with the literature on staff intention to leave.

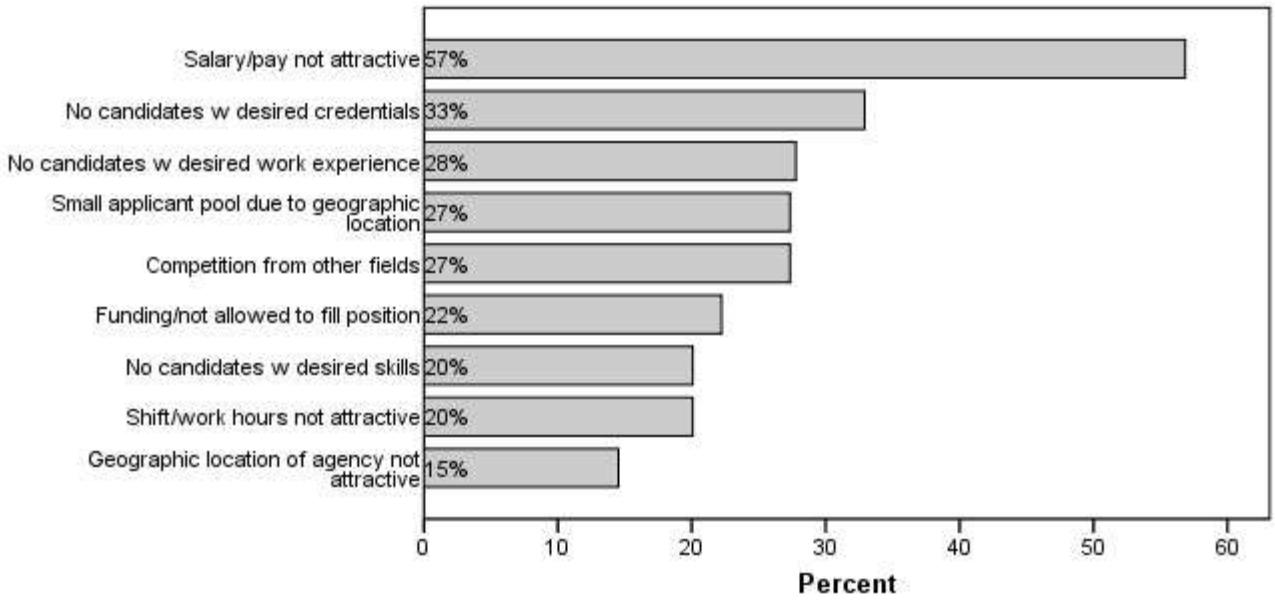
CHAPTER 3: VACANCIES AND STAFF RECRUITMENT BARRIERS

Like staff separations, position vacancies are an area of concern in many behavioral healthcare programs. We collected information on position vacancies on two issues: First, program managers were asked to review a list of 19 possible barriers to staff recruitment, and to indicate which of these were most relevant to their program. Second, program managers were asked to report on the current vacancies in their program, using the six position categories described earlier. This section describes the program managers' responses, and the relationships between these variables and program characteristics.

Program Manager Perceptions of Recruitment Barriers

Program managers were asked to identify the top barriers to filling staff vacancies in their programs. The barriers cited most frequently are shown in Exhibit 3.1.[15] As each program manager was asked to identify three barriers, the percentages for this item add up to more than 100. The most frequently cited barrier was salary/pay, with 57% of program managers identifying this as an obstacle to filling vacancies in their programs. Lack of candidates with desired credentials or work experience, small applicant pool due to geographic location, and competition from other fields were cited as barriers by at least 25% of program managers.

Exhibit 3.1: Program Manager Perceptions of Recruitment Barriers



Data from the program manager survey.

[15] Barriers cited by less than 10% of program managers are not shown in Exhibit 3.1. These barriers are: cumbersome hiring process; career ladder not attractive; childcare not offered; organizational facilities not attractive; organizational reputation; negative stereotypes of service consumers; job responsibilities not attractive; amount of training required; cost of training required; and benefits not attractive.

Recruitment Barriers and Program Variables

The next four tables illustrate how recruitment barriers varied by industry, region, organizational size and type.[16] The following six barriers to recruitment were used in the analysis that follows:

1. Salary/pay not attractive;
2. No candidates with desired credentials;
3. No candidates with desired work experience;
4. Competition from other fields;
5. Problems with funding/not allowed to fill a position; and
6. Shift/work hours not attractive.

Industry and Recruitment Barriers

All six of the perceived barriers varied by industry. Eighty percent of program managers in the OJA industry group identified salary/pay as one of the most critical barriers to filling vacancies, while only 19% of OPHA industry group program managers cited this as a recruitment barrier. No OJA program managers cited difficulty finding candidates with desired credentials, but roughly two fifths of Mental Health and Substance Abuse industry program managers perceive this to be a recruitment barrier in their programs. Competition from other fields also varied by industry. Program managers working in the OJA industry group were more likely to cite this as a barrier to staff recruitment (70%) than program managers from any other industry group. One third of program managers from the Substance Abuse industry group perceived funding or not being allowed to fill a position to be one of the most pertinent causes of vacancies; only 10% to 15% of program managers from other industries cited this as a barrier to recruitment. Not surprisingly, shift/work hours is more frequently perceived as a barrier by program managers in industries with a high proportion of 24-hour programs (OPHA, OJA). Finally, while nearly one third of OJA program managers perceive the hiring process itself to be a barrier, this process was not cited as a barrier by any Substance Abuse industry program managers.

Exhibit 3.2: Program Manager Perceptions of Recruitment Barriers by Industry

Perceived Barrier	MH N=101	DHS N=17	OJA N=10	OPHA N=26	SA N=61
Salary/pay not attractive	74%	59%	80%	19%	49%
No candidates w desired credentials	37%	24%	0%	15%	41%
Competition from other fields	32%	12%	70%	31%	15%
Funding/not allowed to fill position	14%	12%	10%	15%	33%
Shift/work hours not attractive	17%	24%	40%	42%	15%
Cumbersome hiring process	11%	18%	30%	15%	0%

Data from the program manager surveys. ♦ Items cited by fewer than 10% of program managers are not included in the exhibit. ♦ All data are significant at the p<.05 level. ♦ FQHC, DOC, Other Medicaid, and Child Guidance industries are not included in the analysis due to the low number of programs responding to these items.

[16] Barriers to recruitment did not vary by service type; as a result, service type was not included in the analysis.

State Operation and Recruitment Barriers

Organizational operation (state vs. private) was related to three barriers to recruitment. As shown in Exhibit 3.3, nearly three-quarters of program managers from state operated organizations cited salary as a barrier, in comparison to just over half of program managers from privately operated organizations. OPHA organizations may be playing a role in this finding: OPHA program managers were significantly less likely to cite salary as a barrier, and OPHA is the only industry group composed entirely of private organizations. Program managers from state operated organizations were also significantly less likely than those from private organizations to cite lack of candidates with desired work experience as a recruitment barrier. Finally, state operated organizations were more likely than privately operated to cite funding as a fundamental obstacle to staff recruitment.

Exhibit 3.3: Program Manager Perceptions of Recruitment Barriers by Organizational Type

Perceived Barrier	State N=53	Private N=181
Salary/pay not attractive	74%	52%
No candidates with desired experience	6%	34%
Funding/not allowed to fill position	42%	17%

Data from the program manager surveys. ♦ Items cited by fewer than 10% of program managers are not included in the exhibit. ♦ All data are significant at the p<.05 level.

Organizational Size and Recruitment Barriers

Organizational size was associated with program manager perception that salary and lack of staff with desired credentials are recruitment barriers. Program managers affiliated with large organizations (those with an estimated staff size of at least 82 full time employees) cited salary/pay as a reason for staff vacancies more often than those affiliated with small or medium organizations. Further analysis indicated that small organizations (those with an estimated staff size of less than 15 full-time employees) had more professional staff – staff in positions requiring additional education – and were less likely to be inpatient facilities requiring a large number of aides/techs, who typically earn the lowest salary among direct care staff. These differences in staffing patterns may also relate to the finding that program managers in small organizations are the most likely to cite lack of candidates with desired credentials as a barrier to recruitment.

Exhibit 3.4: Program Manager Perceptions of Recruitment Barriers by Organizational Size

Perceived Barrier	Small Orgs N=33	Medium Orgs N=53	Large Orgs N=126
Salary/pay not attractive	42%	45%	67%
No candidates with desired credentials	52%	30%	27%

Data from the program manager and organizational surveys.♦ Items cited by fewer than 10% of program managers are not included in the exhibit. ♦ All data are significant at the p<.05 level.

Region and Recruitment Barriers

Finally, geographic region was significantly related to four of the perceived recruitment barriers: absence of candidates with desired work experience, small applicant pool due to geographic location, competition from other fields, and location of agency not attractive. Not surprisingly,

two of these barriers are explicitly location-based, and a third (lack of candidates with desired work experience) could also be argued to be intrinsically tied to location or area. As shown in Exhibit 3.5, a small pool of applicants is the greatest barrier to filling vacancies in the northeast and southeast quadrants of the state, while about half of the program managers from the northwest indicated that competition from other fields was a problem with respect to vacancies in the behavioral healthcare field.

Exhibit 3.5: Program Manager Perceptions of Recruitment Barriers by Region

Perceived Barrier	NE N=54	NW N=14	OKC N=74	SE N=32	SW N=30	Tulsa N=26	Statewide N=230
No candidates w desired work experience	15%	21%	30%	19%	40%	46%	29%
Small applicant pool due to geographic location	52%	43%	7%	47%	23%	4%	29%
Competition from other fields	19%	50%	34%	28%	7%	42%	30%
Location of agency not attractive	35%	14%	8%	13%	3%	0%	12%

Data from the program manager surveys.♦ Items cited by fewer than 10% of program managers are not included in the exhibit. ♦ All data are significant at the p<.05 level.

Salary as a Perceived Recruitment Barrier

Given that salary was the most frequently cited recruitment barrier as well as the most frequently cited cause of separations, it warranted further exploration. Logistic regression was used to test the three program variables discussed above (industry, state operation, and organization size) as predictors of salary as a barrier to recruitment. While organization size did not remain significant, both industry and state operation were significant: OPHA program managers were significantly less like than Mental Health industry managers to cite salary as a barrier, and program managers in state operated organizations were significantly more likely to cite salary as a barrier than were those in privately operated organizations. As noted earlier, the significant relationship between salary as a perceived barrier and industry may be attributable to the low proportion of OPHA program managers citing salary as a barrier. Further details on the results of this regression model may be found in Appendix B1.

Program Manager-Reported Vacancy Rates

As reported in the section on separations, program managers were asked to report the current number of full time equivalents (FTEs) budgeted for their program and vacant in their program. These items were posed in reference to each of six position categories presented in Exhibit 3.6.

To calculate the vacancy rate for a given region, the number of vacancies was totaled across participating programs, and this sum was divided by the number of FTEs budgeted across programs. Exhibit 3.6 shows the position-specific and total vacancy rates statewide, and for each of the six geographic regions. It is important to note that organizations may not have included staff that they contract with (rather than employ) in the counts that follow.

Exhibit 3.6: Cross-Industry Vacancies by Region

Position	NE	NW	OKC	SE	SW	Tulsa	Statewide
Aide/tech	7%	13%	8%	7%	16%	8%	9%
Masters-level professional	15%	9%	12%	11%	2%	36%	15%
LPN	4%	14%	9%	20%	33%	0%	9%
Psychiatrist/ physician	3%	0%	0%	33%	13%	10%	7%
Psychologist	6%	50%	0%	0%	0%	NA	7%
RN	13%	22%	15%	28%	8%	7%	14%
Total	10%	13%	10%	12%	10%	17%	11%

Data from the program manager surveys.

Calculating Program Vacancy Rate

Percents in the table above were calculated by summing vacancies and budgeted positions across the region. In the analysis that follows, vacancies are calculated at the program level.[17] Program vacancy rates ranged from 0% to 100%. The median vacancy rate was 4%, meaning that roughly half of the participating programs had a vacancy rate below 4%, and roughly half had a vacancy rate above 4%. Appendix B2 gives more information on the distribution of the program vacancy rates.

Relationships between Vacancy Rates and Other Program Variables

We examined the relationship between vacancy rate and a number of program characteristics and related variables. Programs were categorized as either having a low vacancy rate (less than 5%) or high vacancy rate (5% or higher). We began by testing for relationships between vacancy rate and each of the frequently-cited recruitment barriers. Then, as with separation rate, we looked for a relationship between staffing patterns (e.g., proportion Masters-level counselors, proportion techs) and vacancy rate. Finally, we looked for relationships between vacancy rate and each of the study dimensions described earlier.[18]

Analysis and Results

We began by performing analysis to identify relationships between vacancy rate and each of the variables above on an individual basis. Only one of the identified variables proved to be related to vacancy rates:[19] High vacancy programs had a greater proportion of RNs than low vacancy programs. As shown in Exhibit 3.7 the average proportion RNs for low vacancy programs was 4%, while the average for high vacancy programs was 7%. While this difference may appear relatively small, it was statistically significant. This finding may be related to the comparatively high rate of vacancies among RN positions overall. As noted earlier in Exhibit 3.6 the overall vacancy rate for RN positions was comparable to that for Masters-level counselors, which was

[17] As noted in the separation section, programs were chosen as the unit of analysis due to concerns that program characteristics and local program environment may vary widely within larger organizations - particularly those with programs across a wide geographic range.

[18] Industry, region, service type, program setting, population age, state operation, and organizational size.

[19] None of the frequently cited recruitment barriers were associated with program vacancy rate, nor were any of the study dimension variables.

the position type with the highest vacancy rate. Additional information on the (non-significant) findings for the remaining variables may be found in Appendix B3.

Exhibit 3.7: Proportion RNs in Low Vacancy and High Vacancy Programs

Staff position type predictors	Mean proportion low vacancy programs	Mean proportion high vacancy programs
Proportion RNs	4%	7%

Data from the program manager surveys.

Summary

Information related to vacancies was gathered through program managers' reports of the perceived recruitment barriers in their programs, and their reports of their programs' current vacancies. By far the most frequently cited barrier was salary, which was cited by 57% of program managers. Lack of candidates with desired credentials or desired work experience, small applicant pool due to geographic location, and competition from other fields were all cited by more than one quarter of program managers. Program and organization characteristics that were related to multiple perceived barriers included organizational industry, state operation, organizational size, and geographic region. In logistic regression models, salary remained significantly related to industry, with OPHA program managers being less likely to cite salary as a barrier. Likewise, state operation and salary were related, with program managers in state operated organizations more likely to cite salary as a barrier.

Program vacancy rates ranged from 0% to 100%, and the median of 4% was used to divide programs into two categories: low vacancy (less than 4%) and high vacancy (greater than 4%). These categories proved to be unrelated to most of the program and organizational characteristic variables. Staffing patterns offered one exception: The mean proportion of RNs in low vacancy programs was slightly but significantly lower than the mean proportion of RNs in high vacancy programs, which could be in part related to the comparatively high rate of vacancies in RN positions, across programs.

CHAPTER 4: CURRENT AND FUTURE STAFFING NEEDS

The purpose of this chapter is to identify unmet needs for the behavioral healthcare workforce with a focus on type of position. The first section focuses on psychiatrists and other prescribers, primarily advanced practice psychiatric nurses. The second section focuses on other professional and non-professional staff. Each of these sections employs data from different sources so the methods upon which we have relied are described within each section, as well as the implications for higher education. The third section describes one underlying problem, the level of compensation currently available to the Oklahoma workforce.

Need For Psychiatrists and Other Prescribers of Psychiatric Medications

State mental health authorities typically do not have empirical information about the characteristics of their current workforce. In order to fill this information gap, a number of studies were undertaken, as well as searches for relevant data, that would provide useful information for understanding difficulties faced by staff providing mental health services in Oklahoma. Among the studies that we identified was a study of the relative unmet need for professional mental health workers in the State of Washington (Morrissey, et al, 2007a), undertaken as a part of the Mental Health Transformation State Incentive Grant.

Morrissey and his colleagues employed a simple model as the foundation of their work. First, they estimated the number of adults (persons over age 18) who could be classified either as persons with serious mental illness or as persons with other mental health needs. For each of these two types of persons, estimates were developed on the percentages that would access mental health non-inpatient services in one year and the number of units of professional services they would use. Professional services are broken down into those provided by individuals who are licensed to prescribe medications (prescribers) and individuals who are licensed to provide services other than medications (non-prescribers). These estimates then allow new estimates of the numbers of prescribers and non-prescribers needed (in full time equivalents—FTE) to serve a population within a defined geographic area. The estimates of need are then subtracted from the number of licensed professionals available to yield the shortage of professionals. A summary of the model follows:

- Need = People with serious mental illness + people with other mental health needs
- Workforce = Prescribers + Non-prescribers
- Shortage = FTE available – FTE needed

It is important to emphasize that these are *relative* not *absolute* measures of unmet need. This means that they are most useful in comparing the need from one area to another, but do not necessarily provide an estimate of the exact number of additional professional staff needed. Moreover, apparent surpluses produced by these estimates cannot be relied upon.

The study of Washington State was a part of a larger, national study sponsored by the Health Resources Services Administration (HRSA) of the U.S. Department of Health and Human Services. This allowed Morrissey and his colleagues to develop estimates of professional shortages for every county in the U.S. We contacted them and requested estimates for

Oklahoma. The findings, as well as the methods employed to arrive at the estimates, are presented here. This also includes some of the limitations of these findings.

Findings

Most specialty prescribers in Oklahoma are psychiatrists, although there are a handful of advanced practice psychiatric nurses. Other physicians can and do prescribe psychiatric medications, as well. Exhibit 4.1 below presents regional and statewide estimates of counts of prescribers available to provide mental health services in Oklahoma. As previously discussed, the state is divided into six regions, as follows: Central Oklahoma (counties in which Oklahoma City is located) and Tulsa are separately estimated, while.the remaining counties are grouped into four quadrants - northeast, northwest, southeast, and southwest. Counties are grouped because data at an individual county level is often too small to provide reliable estimates. The table shows 278 FTE psychiatrists/prescribers.

Exhibit 4.1: Available FTE Mental Health Specialty Prescribers by Licensure Group and by Oklahoma Regions

Region	Licensure		Smoothed Total Prescribers[20]
	Advanced Practice Psychiatric Nurses (APPN)	Psychiatrists	
OKC	10	133	107
Northeast	2	30	78
Northwest	3	8	9
Southeast	3	13	24
Southwest	1	25	38
Tulsa	6	70	32
Total	23	278	287

For psychiatrists, full time equivalents are greater than the raw count because practice pattern data indicate that psychiatrists average more than 40 hours/week.

Exhibit 4.2 below presents regional and statewide totals of FTE needed and FTE shortages for prescribers. For the prescriber group, the UNC estimates produce a shortage of 410 FTEs.

[20] In the initial analysis, the county is used as the primary geographical unit for shortage estimation. This decision was made primarily due to the lack of accurate small-area data on mental health needs and practice locations, but also because people are likely to travel within larger areas for mental health services. Each county-level need and supply estimate was adjusted using a smoothing method that accounts for travel across county boundaries for mental health services. Within Oklahoma particularly, with its many small counties, ignoring this would lead to overestimates of need. The maximum amount of time that people can be expected to travel for mental health services is about 60 minutes (Fortney, Owen & Clothier, 1999; Fortney, Rost, Zhang et al., 1999). Therefore, for a given index county, the need and supply estimates of counties within a 60-minute radius were weighted and added to the estimates for the index county. The weighted estimates were scaled so that the national need and supply totals for prescribers and non-prescribers were unchanged by the smoothing process. In the final analysis, counties were aggregated by regions within Oklahoma.

Exhibit 4.2: Estimates of Shortages of Specialty Behavioral Health Prescribers by Oklahoma Region

Region	Total FTE Available, Smoothed	FTE Needed, Primary Care Adjusted, Smoothed	Relative Shortage (FTE), Primary Care Adjusted, Smoothed
OKC	107	187	-80
Northeast	78	217	-139
Northwest	9	32	-23
Southeast	24	107	-83
Southwest	38	94	-56
Tulsa	32	61	-29
Total	287	697	-410

Methods

Methods are described in detail in Morrissey *et al* (2007b). Exhibit 4.3 below presents a brief summary of the data sources employed and how the estimates were derived.

Exhibit 4.3: Data Sources Employed To Estimate Behavioral Health Workforce Needs and Available Workforce

Variable Estimated	Source of Data	Oklahoma specific data
Prevalence of Mental Illness (persons-in-need)	National Comorbidity Survey Replication (NCSR); Medical Expenditures Panel Survey (MEPS)	Yes
Estimates of percent of persons-in-need using mental health services annually	MEPS for non-SMI population; Assume 100% for SMI population	No
Estimates of average units of outpatient services used per person annually	NCSR, MEPS	No
Estimates of visit hours per working day for prescribers	Substance Abuse and Mental Health Services Administration (SAMHSA)	No
Estimates of need met by primary care providers	Need estimate reduced by 15 percent in counties without a shortage of primary care providers (no single reference)	Yes
Estimates of supply of mental health professionals	Various sources, generally relevant professional associations	Yes
Adjustments of need in rural counties that are close to larger counties	Various references; assumed maximum travel time would be 60 minutes for mental health services	Yes

As shown above, Morrissey and his colleagues relied upon a number of data sources in order to estimate each of the variables required to determine workforce shortages. These sources are generally recognized as the most reliable sources of information available, although in several cases these may be the only sources available.

Discussion

Prior to the completion of the work by Morrissey and his colleagues, the only available estimates of need for mental health professional services were on the website of the Health Resources and Services Administration. However, there was no explanation of the method employed to develop these estimates or references to underlying research. Thus the work described here represents the first systematic attempt to provide appropriate estimates of workforce needs and shortages. Nonetheless, there are limitations that must be recognized.

Morrissey *et al* (2007b) acknowledge that the populations included do not extend to adults who are homeless or in institutions (*e.g.*, inpatient, corrections) or children and adolescents. They also do not include needs for staffing of substance abuse programs. They indicate that the measure of shortage "is probably most useful when taken as an expression of relative, rather than absolute unmet need."

Finally we reviewed the UNC estimates of available FTE with more recent data from Oklahoma State licensing boards. The UNC estimates are generally close, but underestimate the size of the current, licensed workforce. However, there is no data available on whether individuals who are licensed are actually engaged in clinical practice. We know anecdotally that at least some may be retired or only have a part-time practice or are working in administrative, rather than clinical positions. As we have also pointed out above, other licensed individuals are working in positions that are not counted in the need estimates (e.g., agencies serving children and youth, agencies providing adult or child inpatient care). As a result, we believe that the strategy of simply counting licensed practitioners leads to a systematic overestimate of the available supply of such professionals and, therefore, an underestimate of the shortage of prescribers.

Addressing the Shortage of Prescribers

Oklahoma has three psychiatric residency programs which collectively produce about 13 new psychiatrists per year. Assuming that our estimate of the current need for over 400 prescribers of psychiatric medications is reasonably accurate, it would take over 30 years for these programs to fill the unmet need. This does not account for retirements during this period which will only increase the unmet need. It is unlikely that these residency programs will expand substantially or that psychiatrists will be recruited in significant numbers from elsewhere in the United States because this is a national problem. The numbers of new doctors entering psychiatric residency programs has been falling for over 20 years, and changes that would reverse this trend do not seem likely.

Information about Doctors of Osteopathy (D.O.s) either training to practice psychiatry or trained to do so in Oklahoma suggests that this group also is not likely to expand the numbers of prescribers in the foreseeable future. There are no osteopathic residency training programs in psychiatry in Oklahoma, and only a few D.O.s practice primarily psychiatry in Oklahoma (36) and even fewer are certified to do so (18).

Given that psychiatrists cannot be expected to fill the need for new prescribers, what options exist? At least three possibilities exist:

- Advanced practice psychiatric nurses can be trained to fill this need. At present there are only a handful of persons with this training in Oklahoma, but nursing schools could be encouraged to offer the necessary education.

- With an expansion of integrated primary care and behavioral health care, primary care physicians could become an expanded source of prescribers. Creating incentives to develop integrated care practices, targeting training in integrated care, and promoting continuing education in prescribing psychiatric medications, could contribute to an expansion in the numbers of competent prescribers.
- Licensing Ph.D. psychologists with special additional training to prescribe medications would also expand the numbers of prescribers; two states now allow this.

All three approaches may be necessary to fill the gap, which is quite substantial. If no action is taken to increase the numbers of prescribers, the problem may become worse with the retirements of older psychiatrists, who were trained in an era when psychiatry was a more attractive field. The numbers of retirements may exceed the small numbers of annual replacements.

Conclusions

The UNC data demonstrate an unequivocal need for more prescribing professionals in all areas of the state. The total estimate of need for 410 additional prescribers is probably an underestimate for reasons discussed above. The area of the State with the greatest unmet need is the northeast quadrant, excluding Tulsa which has the smallest, relative unmet need.

Non-Prescribers

Exhibit 4.4 below shows current staffing by position type for the state of Oklahoma and the six regions within the State. Then, exhibit 4.5 below shows population-based rates for behavioral healthcare positions by type in Oklahoma and the surrounding states. Oklahoma and the surrounding states are similar in most categories. The major exception is RNs which are less available in Oklahoma. LPNs and MH/SA Techs are marginally more available. There is considerable variation in the availability of behavioral health care jobs within Oklahoma. The central region (OKC) has among the highest rates of availability for all categories of positions. Tulsa is close and leads in availability of MH/SA Techs. The more rural areas of the state have significantly less availability of professionals, psychologists, MH/SA Counselors, and RNs.

Exhibit 4.4: Current (2008) Numbers of Behavioral Healthcare Positions by Positions Type in Oklahoma

Position	State	ODMHSAS Region Counts					
		Tulsa	OKC	NE	NW	SE	SW
Psychologist	1,339	195	628	236	58	96	126
MH/SA Counselor	6,993	1,100	2,691	1,485	281	785	651
RN	26,157	5,714	10,839	3,560	962	2,766	2,316
LPN	13,463	2,411	4,163	2,062	716	2,100	2,011
MH/SA Tech	38,590	9,124	11,394	6,474	1,833	5,530	4,235

Exhibit 4.5: Current (2008) Rates per 10,000 Population of Behavioral Healthcare Positions by Position Type in Oklahoma and Surrounding States

Position	Okla-homa Rate	Multi-State Regional Rate*	National Rate	ODMHSAS Region Rates					
				Tulsa	OKC	NE	NW	SE	SW
Psychologist	3.9	8.1	9.6	3.5	6.3	3.1	2.9	2.1	2.8
MH/SA Counselor	20.3	27.0	34.4	19.5	27.2	19.2	14.0	16.8	14.2
RN	75.8	87.0	92.7	101.4	109.5	46.1	47.8	59.4	50.6
LPN	39.0	35.0	27.5	42.8	42.1	26.7	35.6	45.1	43.9
MH/SA Tech	111.8	121.3	126.1	162.0	115.1	83.8	91.1	118.7	92.5

Regional rate includes the following states: Arkansas, Colorado, Kansas, Louisiana, Missouri, New Mexico, Oklahoma and Texas.

Exhibit 4.6 below shows the current (as of 2008) numbers of behavioral healthcare staff by position type for Oklahoma and for the United States overall. It also shows the projected needs for staffing as of 2018. Projections are based principally upon projected population changes, and to a lesser degree on additional factors, described in the *Job Growth* section below. The additional positions are necessary to maintain the same rates of services currently provided.

Exhibit 4.6: Oklahoma and National Current (2008) and Projected (2018) Rates of Change for Behavioral Healthcare Staffing Positions

Position	Oklahoma				National
	2008 Jobs	2018 Jobs	Change	% Change	% Change
Psychologist	2,738	3,099	361	13.2%	15.8%
MH/SA Counselors	9,726	11,377	1,651	17.0%	17.8%
RNs	26,552	32,271	5,719	21.5%	22.3%
LPNs	13,936	15,554	1,618	11.6%	12.9%
Aides/Techs	44,546	54,536	9,990	22.4%	23.8%
Total	**97,498**	**116,837**	**19,339**	**19.8%**	**21.3%**

The difficulty is that these estimates include only job growth in predicting the numbers of new persons needed to fill available positions. However, current members of the behavioral healthcare workforce will be leaving their positions, either for retirement or other reasons. This also needs to be accounted for in developing estimates of persons needed to fill positions annually. Next, an approach employing appropriate data to reach this goal is outlined.

Job Growth

The table above from the Department of Commerce shows that in 2018 there will be 361 more jobs for psychologists than there were in 2008. One implication is that it is necessary to train or import 361 new psychologists into the system between 2008 and 2018.

The source of these estimates is data from Economic Modeling Systems, Inc (EMSI). EMSI uses several different databases to come up with their estimates, including population projections from the Census Bureau. However, that is not the only factor, current employment trends and participation rates from the Bureau of Labor Statistics (BLS) go into the projections. Also included are Internal Revenue Services income and migration data that shed more light on the single employers or those that do not pay into Unemployment Insurance. The simple explanation is that it uses current employment trends by industry and certain population trends. Industry trends, legislation, and several other factors are also used to decipher which industries will be growing. Population is a key component but labor participation, county wages, migration patterns and trading patterns are also factors that influence the model. EMSI breaks down these trends to the county level, which can then be aggregated to the state level. The next table shows the rate of growth for ten years, which translates into an annual growth rate between one and two percent, depending upon the position type.

Exhibit 4.7: Ten Year Growth by Position Category

Position Category	State		
	2008 Jobs	2018 Jobs	% Change
Psychologist	2,738	3,099	13.2%
Mental Health or Substance Abuse Counselors	9,726	11,377	17.0%
Registered Nurses	26,552	32,271	21.5%
Licensed Practical Nurses	13,936	15,554	11.6%
Mental Health or Substance Abuse Aides/Assistants/ Technicians	44,546	54,536	22.4%
Overall Total	**97,498**	**116,837**	**19.8%**

This assumes that the persons occupying these positions in 2008 continue to be available to fill positions in 2018. However, this is not the case. Some people who occupy positions in 2008 will retire or leave the field for other reasons over the next ten years. For example, it will be necessary to train or import more than 361 new psychologists into the system for these reasons. The problem is to estimate how many more psychologists will be needed to fill available positions.

Accounting For Persons Leaving the Field

Let us assume that from 2008 to 2009 the growth rate for psychologists is two percent. Then the change in jobs would be an increase of 55, meaning that there would be a need for a minimum of 55 new psychologists to fill those jobs. In addition, let us assume that there is a 20 percent separation rate among psychologists during 2008 or 550 persons and further that ten percent of those separated actually leave the field. That would mean an additional 55 new psychologist would be needed to fill those vacated jobs, giving a total of 110 psychologists needed to fill the new jobs and the jobs vacated by those leaving he field. If this reasoning is correct, then modeling the number of new persons needed to fill psychology jobs requires an annual estimate of the percent of persons leaving the field.

As a part of our survey work, we collected information from 1,349 individual staff who are currently in behavioral healthcare positions. We asked each of those individuals to indicate whether they planned to stay in their position during the next year. Twenty one percent of staff and six percent of program managers indicated that they plan to leave their positions. The percentages of persons indicating that they planned to retire or indicating that they planned to leave behavioral healthcare are shown in the following table.

Exhibit 4.8: Staff Planned Separation Rates and Program Manager Estimated Separation Rates

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Position Type	**Persons answering survey**	**Percent planning on separating within the next year**	**Percent planning to retire**	**Percent planning to leave the field**	**Sum of columns (4) and (5)**	**Estimated separation rates from program manager surveys**
Aide/tech	343	21%	0%	6%	6%	42%
Masters-level professional	317	19%	1%	3%	4%	26%
LPN	37	24%	3%	8%	11%	35%
Psychiatrist/ physician[21]	-	-	-	-	-	23%
Psychologist	28	21%	4%	0%	4%	11%
RN	149	19%	1%	5%	6%	26%
Total	874	20%[22]	1%	4%	5%	35%

Note that, with the exception of psychologists, program manager-reported, actual separation rates exceed staff self-reported plans to separate by a wide margin. However, these data can be considered together to estimate a range of possible industry departure rates. At the conservative end of the range is the staff self-report: An overall rate of 5%, with position-type specific rates ranging from 4% to 11% is probably a conservative estimate of rates of person who separate leaving the field. Alternatively, the proportion of planned industry departures can be applied to the program manager-reported separation rates for a less conservative estimate. These range from a low of 11% for psychologists to a high of 42% for the aide/tech positions. These rates are higher than the annual growth rates projected by EMSI. This means that the growth in estimates of persons needed to fill positions year by year will be influenced to a much greater degree by estimates of staff turnover, representing the need to replace existing members of the workforce.

There is one additional consideration in estimating the numbers of new persons needed to fill positions. The "jobs" in the EMSI estimates are only filled jobs; they do not include unfilled jobs. Thus, there is a need to take into account vacancy rates for the appropriate position type. The estimates of vacancy rates for Oklahoma for each position type are shown in Table 4.9.

[21] There is insufficient data for psychiatrists to provide these estimates.

[22] Note that this is very slightly lower than the rate cited in the text above (21%). The information in this table is based only on responses that could be linked to a position type (N=877), while the overall number cited in the text is based on all the responses to this item that were received (N=965).

Exhibit 4.9: Vacancy Rate by Position Category

Position Type	Percent Vacant
Aide/tech	9%
Masters-level professional	17%
LPN	10%
Psychiatrist/ physician	10%
Psychologist	6%
RN	14%
Total	12%

With this term included, for each position type the number of new persons needed to fill existing vacancies, positions vacated by persons leaving the field and by growth (from EMSI) would be given by the following equation:

[new persons needed in year i+1] = [number of jobs in year i] x [growth rate + percent leaving field] x [1-vacancy rate]

Findings

Findings are presented for three position types: psychologists, mental health and/or substance abuse counselors, and mental health and/or substance abuse aides/techs. The latter are direct care positions that do not necessarily require professional degrees or licensure. We have not included registered nurses and licensed practical nurses because only a relatively small proportion of these positions are in behavioral healthcare and separate estimates of need have been developed by the Oklahoma Healthcare Workforce Center. The need for psychiatrists and other prescribers is discussed earlier in this section. The "net growth" figures in the column to the right show the numbers of additional persons who must either be trained or imported over a ten year period to be sure that the estimated behavioral healthcare positions for 2018 and in the intervening years will be filled. This is 1,808 psychologists, 7,045 mental health and substance abuse counselors, and 51,625 aides or techs.

Exhibit 4.10: Net Growth by Position Category

Position Category	State			
	2008 Jobs	2018 Jobs	2018 Persons Needed	Net Growth
Psychologists	2,738	3,099	4,546	1,808
Mental Health or Substance Abuse Counselors	9,726	11,377	16,771	7,045
Mental Health or Substance Abuse Aides/Assistants/ Technicians	44,546	54,536	96,171	51,625

Estimates shown in the table above are conservative for the following reasons:

- Separation rates are estimated from individual reports of intentions to leave their present positions, rather than the separation rates estimated from program manager reports of persons leaving their positions. The latter are two to four times higher than the former.
- The number of positions only includes those who are considered "state covered." If all positions including persons in individual or small group private practices are included the numbers would also be higher. This is particularly true for psychologists who are much more present outside the public sector than inside.

Exhibit 4.11 below shows the numbers of degrees awarded each year over a six year period beginning in 2001-02 and ending in 2006-07. (A detailed breakdown of degrees awarded in specific fields within each of these larger categories is provided in Appendix A15.) With the exception of psychologists, there has been an increase in each category over this time period. The two columns at the right of the table show the number of degrees expected to be awarded cumulatively from 2007-08 through 2017-18 and the need for new degree recipients to meet the demand for new staff positions. The projections of degrees awarded are based upon a simple linear trend model employing the six years of recent data available on degrees awarded. The model may be underestimating the number of psychology degrees to be awarded, in particular.

Exhibit 4.11: Degrees Awarded By Public Higher Education Institutions 2001-02 to 2006-07 and Projected to 2017-18 Compared to Projected Need

Position Category	2001-02 Degrees	2002-03 Degrees	2003-04 Degrees	2004-05 Degrees	2005-06 Degrees	2006-07 Degrees	Cumulative Degrees Projected through 2017-18	Cumulative Projected New Need by 2018[23]
Psychologist	50	64	51	41	44	44	204	1,808
Mental Health or Substance Abuse Counselors	374	375	391	409	360	421	4,478	7,045
Mental Health or Substance Abuse Aides/Assistants/ Technicians[24]	1,122	1,090	1,129	1,203	1,208	1,262	14,913	51,625

The number of new cumulative degrees projected by 2017-18 consistently falls short of the cumulative projected new need of persons by 2018, as calculated in Table 4.10. This is further exacerbated by the fact that Higher Education data demonstrates that five years after graduating from Oklahoma with a behavioral health degree only 49% are employed in Oklahoma within a behavioral health care field, although the number of persons qualified in these fields that enter into Oklahoma in a given year is unknown.

[23] This estimate does not include individuals needed to replace persons in existing positions who retire or leave the behavioral healthcare system.
[24] For these positions, we counted individuals with bachelor's degrees in social science fields.

Conclusions

The difficulties experienced by program managers of behavioral healthcare services in recruiting staff to fill vacancies are expected to become more complicated in the coming years. For both professional and non-professional staff the numbers of new persons being trained to account for both persons leaving existing positions and the limited expansion anticipated are not keeping pace with the need, even based on conservative estimates.

Compensation

Earlier in this report, survey data were presented on the reasons why programs have high staff turnover rates and difficulties recruiting new staff. Across all position types and across almost all industry groups the single leading explanation is low salaries. Further survey data were presented from individual staff on their salaries. A second source of data was utilized on staff salaries by position type, as well as national comparisons, comparisons to surrounding states, and comparisons within areas of Oklahoma. The source of these data is EMSI.

Findings

Findings are presented for five position types, psychologists, mental health and/or substance abuse counselors, registered nurses, licensed practical nurses, and mental health and/or substance abuse techs. The latter are direct care positions that do not require professional degrees or licensure. Data for psychiatrists is not separately available in the EMSI data set. Data are further presented for the state of Oklahoma overall and for six regions within the state.

Exhibits 4.12 and 4.13 below present comparisons of wages. For all positions wage rates for Oklahoma are consistently below both national and regional averages. However, the disparity between Oklahoma and national wage rates is larger than the disparity with regional wage rates. Within Oklahoma, there is also variation among the six regions. In general, wages are among the highest in the Tulsa area for all position types except psychologists. The Central (Oklahoma City) region also tends to have higher rates than the other regions. Among the four regions with rural counties, there is no region that is consistently among the highest or the lowest. For two position types there is considerable regional variation. Psychologists range from a high of $31.72 per hour in the Southeast region to a low of $23.66 in Tulsa, a difference of 25%. MH/SA Counselors range from a high of $19.28 per hour in Tulsa to a low of $13.61 in the northwest, a difference of 33%. All other variations are less than 15%.

Exhibit 4.12: Comparison of Average Hourly Wage: National, Regional and Oklahoma Norms for Behavioral Healthcare Positions by Type

Position	State Rate	National Rate	Multi-State Regional Rate*
Psychologists	$25.74	$30.27	$26.76
MH/SA Counselors	$15.12	$18.63	$16.43
RNs	$24.52	$30.06	$26.98
LPNs	$15.55	$19.51	$17.53
MH/SA Techs	$12.35	$14.02	$12.94

**Regional rate includes the following states: Arkansas, Colorado, Kansas, Louisiana, Missouri, New Mexico, Oklahoma and Texas.*

Exhibit 4.13: Comparison of Average Hourly Wage: Oklahoma Norms for Behavioral Healthcare Positions by Type

Position	State Rate	ODMHSAS Region Rates					
		Tulsa	OKC	NE	NW	SE	SW
Psychologists	$25.74	$23.66*	$29.03	$30.47	$25.23*	$31.72	$24.56*
MH/SA Counselors	$15.12	$19.28	$18.36	$15.67	$13.61*	$15.57*	$16.10*
RNs	$24.52	$25.25	$24.96	$22.39	$23.63	$21.34	$24.45
LPNs	$15.55	$16.48	$16.06	$14.09	$14.73	$13.70	$14.58
MH/SA Techs	$12.35	$12.74*	$13.01	$11.37	$11.87*	$11.64	$11.97

**Rates may vary due to missing values.*

Summary

It is clear that salary rates for all positions are lower in Oklahoma than in the nation and further that Oklahomans filling these positions providing behavioral healthcare are paid less than individuals in all of the surrounding states. There is also some variation within the State. For the two position types that have the largest numbers of persons providing behavioral healthcare, MH/SA Counselors and MH/SA Techs, salaries are higher in the Oklahoma City and Tulsa areas than they are in the more rural northeast, northwest, southeast, and southwest quadrants of the state.

Overview of Current and Future Needs for Behavioral Healthcare Workforce

As indicated elsewhere in this report, behavioral healthcare programs have difficulty retaining and recruiting staff. There is a very large gap in the need for psychiatrists and other prescribers. Currently, it is estimated that there is a need for 697 prescribers and only 287 professionals available to meet the need, a difference of 410. While the unmet needs for other professionals and non-professionals are not as large proportionately, there are gaps in these position types as well. Additionally, the rates at which institutions of higher education in Oklahoma are producing new graduates with appropriate training are not sufficient to meet these needs, particularly with projected future growth of these positions. Furthermore, attracting new individuals into service

or training is significantly handicapped by the fact that salaries for both professional and nonprofessional positions in Oklahoma are consistently lower than the surrounding states and the nation, as a whole.

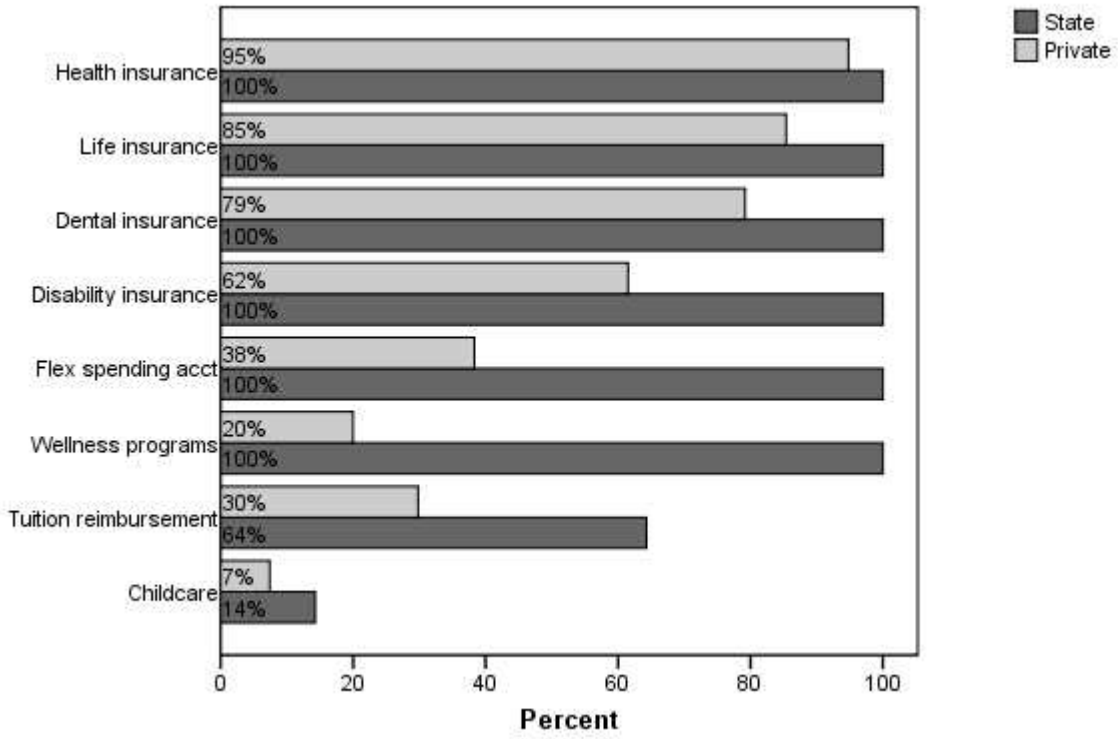
CHAPTER 5: BENEFITS & COMPENSATION

Information on benefits and eligibility practices was collected via the organizational survey. Organizations were categorized as either state operated or private. Given the commonly-held perception that the state benefit package is preferable to benefit packages for employees of private organizations, it is useful to compare benefit packages offered by these two types of organizations.

Benefits Provided

Organizations provided information on the types of benefits they offer employees, and on the specifics of their healthcare coverage. Exhibit 5.1 shows the percentages of state operated and private organizations offering each type of benefits. Seventeen state operated and 97 private organizations responded to these items.

Exhibit 5.1: Proportion of Organizations Providing Benefits*

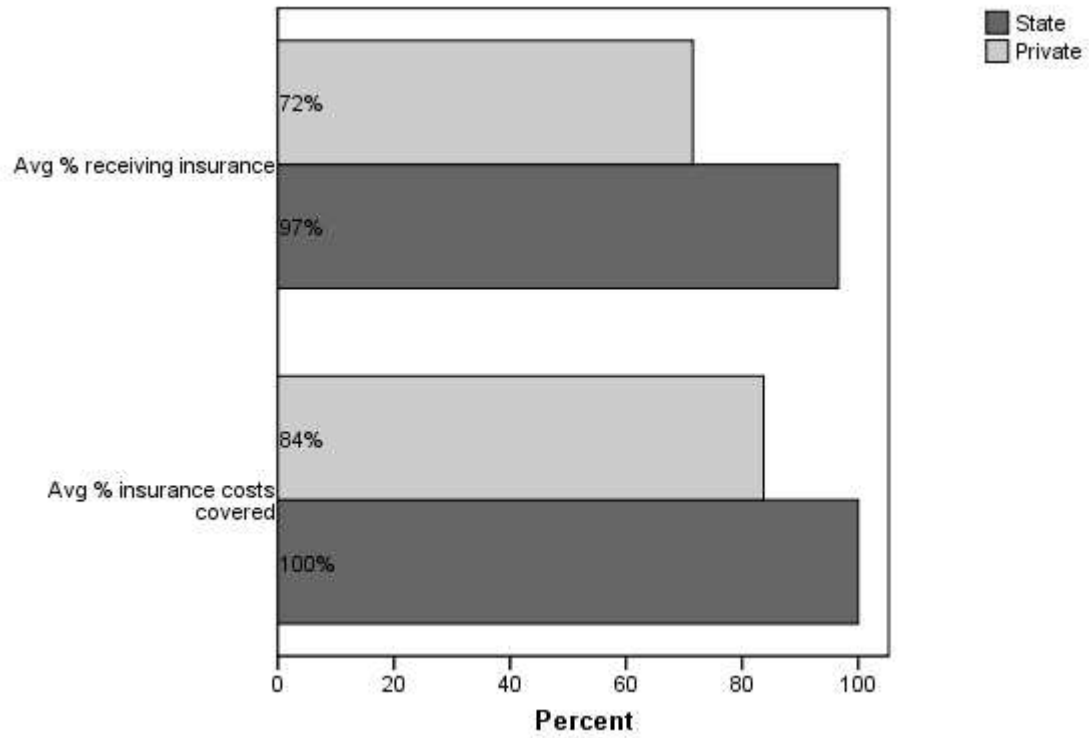


Data from the organizational surveys.

The commonly held belief that state employers offer more comprehensive benefits packages than private employers is supported by the data. All state operated organizations offer full-time employees health, life, dental and disability insurance, a flexible spending account and a wellness program. Health insurance is offered by almost as many privately operated organizations (95%) as state operated, but coverage decreases with each benefit thereafter (life insurance provided by 85%; dental insurance provided by 75%, and disability insurance provided by 62%).

On the organizational survey, a representative from each organization was asked to provide the percentage of their employees covered by insurance, as well as the percentage of full time employees' insurance costs covered by the organization. Exhibit 5.2 shows the average of the 17 state operated and 87 private organizations' responses to these items. Nearly all state workers were reported to be insured, while just under three quarters of staff working for privately operated organizations had insurance. State operated organizations reported covering all insurance costs for their employees, while privately operated organizations covered an average of 84% of the cost of their employees' insurance.

Exhibit 5.2: Proportion of Staff Receiving Health Insurance and Proportion Costs Covered



Data from the organizational surveys.

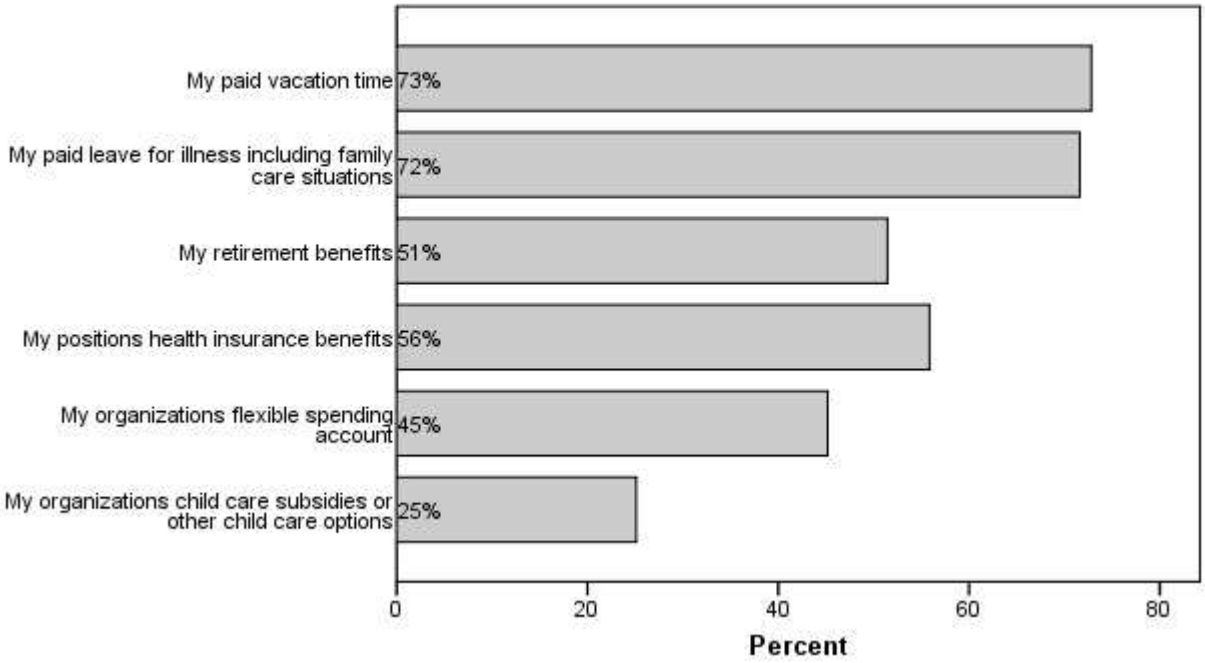
Staff Satisfaction with Benefits

Staff were asked to respond to a series of questions about their satisfaction with the benefits their organization offered. For each item, staff were asked to choose one of six responses: *very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, very dissatisfied*, or *no basis to judge*. Exhibit 5.3 displays staff responses to questions regarding different benefit types; 1,178 staff responded to at least one of these items. For the purposes of analysis, staff responding that they were either *very satisfied* or *satisfied* with a particular benefit were considered to be satisfied.

Overall, nearly three quarters of staff surveyed reported being satisfied with the paid leave and paid vacation time they receive. There is less satisfaction with retirement benefits (51%) and health insurance (56%), and the least satisfaction is associated with options for Flexible

Spending Accounts (FSAs; 45%) and child care subsidies/other child care options (25%). As noted earlier in this section, both state and privately operated organizations are very unlikely to offer staff child care options. This could ultimately take a toll on the work-family life of employees and impact their overall job satisfaction.

Exhibit 5.3: Staff Satisfaction with Benefits



Data from the staff surveys.

Industry Group and Satisfaction with Benefits

Staff satisfaction with benefits varied by industry group and organization type (state operated vs. privately operated). The Child Guidance and DOC industry groups were composed entirely of state operated organizations that typically offer better benefits packages compared to private organizations. Therefore, it is not surprising that staff from these two industries were more likely to be satisfied with the FSAs, health insurance, paid leave for illness/family care, and paid vacation time offered at their organizations. Satisfaction with child care benefits did not vary significantly by industry group, and therefore does not appear in Exhibit 5.4.

Exhibit 5.4: Staff Satisfaction with Benefits by Industry

Satisfaction with…	MH	OPHA	OJA	DOC	SA	ChildG
Health insurance (N=1024)	61%	53%	69%	81%	63%	76%
Flexible Spending Account (N=838)	51%	42%	44%	61%	38%	79%
Retirement benefits (N=1026)	61%	55%	63%	57%	43%	78%
Paid vacation time (N=1035)	75%	69%	86%	95%	80%	95%
Paid leave (N=1023)	74%	66%	89%	91%	79%	95%

Data are significant at the p<.05 level.

Health Insurance Coverage and Satisfaction with Benefits

For the purposes of examining the relationship between health insurance coverage and staff satisfaction with benefits, organizations were grouped according to the proportion of health insurance costs covered. As shown in Exhibit 5.5, staff employed by organizations in the high coverage (100% of health insurance costs covered) were more satisfied with their benefits than staff employed by organizations in either of the other two groups. One exception to this finding was satisfaction with child care options, which was similar among staff from the high coverage and medium coverage (80-90% of costs covered) groups.

Exhibit 5.5: Percentage of Health Insurance Covered by Staff Satisfaction with Benefits

Satisfaction with…	Employer Covers <78% N=115	Employer Covers 80-90% N=102	Employer Covers 100% N=228
Child care options	11%	27%	25%
Flexible Spending Account (FSA)	34%	46%	53%
Health insurance	36%	68%	73%
Retirement benefits	30%	62%	65%
Paid leave for illness & family care	66%	77%	87%
Paid vacation Time	71%	78%	85%

Data from the staff and organizational surveys. ♦ Data are significant at the p<.05 level. ♦ Staff is the unit of analysis.

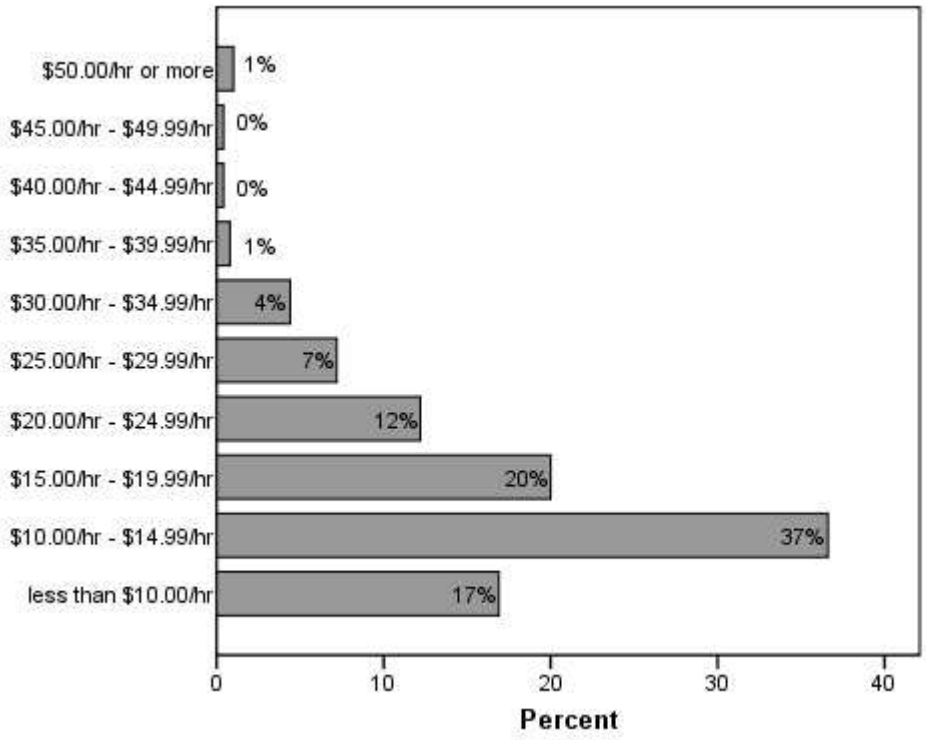
Staff Pay

As discussed in the separations section, staff were asked to indicate their hourly wage range using a multiple choice question with $5.00 per hour increment pay ranges beginning at less than $10.00 per hour and ending at $50.00 or more per hour. For the purposes of analysis, the responses to these items were transformed into scale data using the midpoints of the pay increments. Details on the overall distribution of this variable are shown in Appendix A9. Exhibit 5.6 shows the distribution of the original pay categories.

As might be anticipated, the responses were heavily clustered in the more modest pay categories. Over half of responding staff earned less than $15.00 per hour, with close to one-fifth making less than $10.00 per hour. Oklahoma uses the federal minimum wage, which increased from

$6.55 to $7.25 per hour during the data collection period for this study. Given that ninety-two percent of staff reporting wages of less than $10.00 per hour also reported being employed full-time, the minimum wage rate and upper limit of this wage category can be used to create an estimated gross annual income range of $14,500.00 to $20,000.00 for the majority of staff in this category (those employed full-time). Staff earning towards the upper end of the range are at 185% of the 2009/2010 poverty guidelines if they have no dependents, but are under the poverty line if they have more than two dependents. Staff earning towards the lower end of the range are at roughly 133% of the 2009/2010 poverty guidelines if they have no dependents, but are under the poverty line if they have any dependents (Office of the Assistant Secretary for Planning and Evaluation, 2010).

Exhibit 5.6 Staff Pay Distribution



Staff pay varied by position type, as expected. Exhibit 5.7 shows the mean hourly wage as well as the lowest pay range and highest pay range selected for staff in five position categories. Physicians are not included in this table due to the small number of physicians responding to the staff survey. Psychologists reported the highest hourly wages, but those reported by Registered Nurses were fairly similar. Licensed Practical Nurses had a mean hourly rate relatively close to that of counselors, most of whom had Masters of Social Work or other Masters degrees. Techs reported the lowest wages, with an average of $11.23 per hour.

Exhibit 5.7: Wage by Position Type

	Mean Hourly Wage	Lowest Wage Reported	Highest Wage Reported
Aide/tech (N=385)	$11.23	Less than $10.00	$20.00 - $24.99
Masters-level professional (N=469)	$18.64	Less than $10.00	$50.00 or more
LPN (N=40)	$16.38	$10.00 - $14.99	$20.00 - $24.99
Psychologist (N=12)	$28.33	$15.00 - $19.99	$35.00 - $39.99
RN (N=124)	$26.71	Less than $10.00	$40.00 - $44.99
Overall (N=1003)	$17.03	Less than $10.00	$50.00 or more

Mean wages based on midpoint of pay range selected ♦ Data from the staff survey.

Relationship between Pay and Program and Staff Variables

The relationship between staff pay and a variety of program characteristics and staff variables was examined. First, it was determined whether there were relationships between staff pay and the study dimensions variables described in earlier sections.[25] Then relevant staff variables were considered: staff member race (*American Indian/Alaskan Native, Asian, Black, Native Hawaiian/Pacific Islander, White* and *more than one race*), ethnicity (*Hispanic/Non-Hispanic*), gender, age, current position tenure, organizational tenure, years in behavioral healthcare field, highest degree achieved (*high school/GED, Associates/two-year degree, Bachelors/four-year degree, Masters degree, doctoral degree*, and *medical degree*) and current position title (reported using the study's six position-type scheme, described earlier). Tenure items were reported in years.[26]

Analysis and Results

The relationships between staff pay and each of the variables above were tested in a linear regression model.[27] Of the program variables, service type, consumer population age, and organizational size remained significant in the regression; staff position was the only staff

[25] Study dimensions variables - industry group, geographic region, program service type, service setting, age range of consumer population, state operated status, and organizational size.

[26] As noted in the separations section, age was reported using age range categories, but for the purposes of analysis, the midpoint of these ranges was used. Given the very small number of physicians responding to the survey, this position type category was eliminated from the analysis.

[27] A number of variables were excluded due to concerns about correlation with other predictors. These included industry group, years in position, years in field, and education. As both members of correlated variable pairs were generally strongly associated with pay, the exclusion decisions were based on the perceived utility of the variables. Additionally, two variables were excluded because their association with pay, while significant, was unexpected and difficult to interpret as anything other than the result of a relationship with another predictor variable. First, while the Oklahoma City metro area's position as the region with the highest mean hourly wage ($19.08) was not surprising, the Tulsa metro area's mean wage was unexpectedly much lower ($16.86) and was also much lower than that for the southeast quadrant ($18.57). We believe this is at least partially a result of the relationship between region and industry. Additionally, the southeast quadrant's unexpectedly high average wage may be related to the small but still disproportionately high number of doctoral-level clinicians reporting from this region, as well as the slightly high proportion of counselors/Masters-level professionals. Second, the average hourly wage for women was over two dollars higher than that for men ($17.50 versus $15.46). We attribute this to the relationship between gender and position type. While men made up roughly one quarter of the staff responding to the survey overall, nearly two-fifths of the staff in the lowest-paid position category (aids/techs) were male, and only 15% of the staff in the highest-paid of the well-populated position categories (RNs) were male.

variable that did so. The mean hourly wage and lowest and highest wage ranges for staff in each of the four service type categories are shown in Exhibit 5.8. Mental health staff had the highest mean hourly wage at $17.41 per hour, over six dollars per hour higher than the staff in the lowest-paid service type, developmental disabilities and mental health or substance abuse care. In the regression the significance of service type resulted from the difference between mental health staff (the reference category) and staff in programs serving people with co-occurring developmental disabilities and behavioral health needs as well as the difference between mental health staff and substance abuse staff. The pay difference between mental health staff and staff in programs providing both mental health and substance abuse services was not significant.

Exhibit 5.8: Pay by Program Service Type

	Mean Hourly Wage	Lowest Wage Reported	Highest Wage Reported
Mental Health (N=372)	$17.41	Less than $10.00	$50.00 or more
Substance Abuse (N=70)	$15.10	Less than $10.00	$25.00 - $29.99
Co-occurring Mental Health & Substance Abuse (N=303)	$16.96	Less than $10.00	$50.00 or more
Co-occurring Developmental Disabilities & Mental Health or Substance Abuse (N=57)	$11.23	Less than $10.00	$25.00 - $29.99
Overall (N=802)	$16.60	Less than $10.00	$50.00 or more

Mean wages based on midpoint of pay range selected ♦ Data from the staff and program manager surveys.

Mean hourly wages and pay ranges for staff in each of the three consumer population age categories are shown in Exhibit 5.9. While the average hourly wages for staff in programs serving only children and only adults were relatively similar, the wages for staff in programs serving both children and adults were roughly $3.00 more per hour. This difference remained significant in the regression model; the difference between wages in programs serving only children and programs serving both populations was not significant in the regression model. Other variables that predict staff pay may play a role in this. For example, nearly all co-occurring developmental disabilities and mental health or substance abuse programs either served children or adults (but not both), and pay rates were lower in this service type than in any other.

Exhibit 5.9: Pay by Consumer Population Age

	Mean Hourly Wage	Lowest Wage Reported	Highest Wage Reported
Adults Only (N=365)	$16.08	Less than $10.00	$50.00 or more
Children/Youth Only (N=267)	$16.28	Less than $10.00	$35.00 - $39.99
Both Adults and Children (N=198)	$19.01	Less than $10.00	$50.00 or more
Overall (N=830)	$16.84	Less than $10.00	$50.00 or more

Mean wages based on midpoint of pay range selected ♦ Data from the staff and program manager surveys.

As shown in Exhibit 5.10, staff in medium-sized organizations reported wages averaging roughly $2.00 per hour higher than those in large organizations, and more than $3.00 per hour higher than those in small organizations. The difference between large organizations' and medium

organizations' pay rates remained significant in the regression, but there was not a significant difference between large organizations' and small organizations' pay rates. As with consumer population age above, staffing patterns may play a role in this relationship. Less than 20% of the staff in medium-sized organizations were techs, while techs constituted 25% and 42% of the staff in small and large organizations, respectively.

Exhibit 5.10: Pay by Organization Size

	Mean Hourly Wage	Lowest Wage Reported	Highest Wage Reported
Small Organizations (N=86)	$15.06	Less than $10.00	$50.00 or more
Medium Organizations (N=227)	$18.41	Less than $10.00	$50.00 or more
Large Organizations (N=690)	$16.46	Less than $10.00	$50.00 or more
Overall (N=1003)	$16.78	Less than $10.00	$50.00 or more

Mean wages based on midpoint of pay range selected ♦ Data from the staff and program manager surveys.

The distribution of mean hourly wages and wage ranges across staff position types was shown at the beginning of this section. Consistent with those figures, the difference between wages reported by counselors (primarily Masters-level professionals) and wages reported by techs, psychologists and Registered Nurses remained significant in the regression model. Psychologists' and Registered Nurses' wages were significantly higher than counselors, while techs' wages were significantly lower than counselors. There was no significant difference between wages reported by LPNs and those reported by counselors/Masters-level professionals. Further details on the full, final regression model are shown in Appendix C1.

As position type was the only significant staff-level predictor of pay rate, we considered the possibility that the other staff-level variables that had been related to pay in bivariate analysis in fact predict position type. We constructed a logistic regression model testing the remaining staff variables as predictors of tech position status. While ethnicity and years in the organization were not significant in this model, the remaining variables were. Staff race was significant, and this relationship can be attributed to the greater proportion of Black staff members in the tech position category, compared to White staff members. As suggested earlier, there was a significant relationship between tech position category and staff gender, with male staff more likely to report being techs. Education was also significant, with staff with Associates degrees, Bachelors degrees, and Masters degrees or higher[28] all significantly less likely to be techs than were staff with high school diplomas or GEDs. Finally, higher staff age was associated with a slight but significant decrease in the likelihood of being a tech. Further details on the full regression are provided in Appendix C2. Exhibits 5.11 – 5.13 show the results of the bivariate analysis between each variable and the tech position category.

[28] Graduate degrees were collapsed into one category for this analysis.

Exhibit 5.11: Staff Race by Position Type

	AI/AN N=99	Black N=109	White N=803	≥2 races N=69	Overall N=1080
Proportion techs	41%	63%	28%	39%	34%

Data from the staff surveys.

Exhibit 5.12: Staff Gender by Position Type

	Male N=301	Female N=819	Overall N=1120
Proportion techs	49%	29%	34%

Data from the staff surveys.

Exhibit 5.13: Highest Degree Obtained by Position Type

	HS/GED N=222	2 Year N=180	4 Year N=312	Grad N=411	Overall N=1125
Proportion techs	85%	38%	35%	4%	34%

Data from the staff surveys.

Summary

Information on benefits and compensation was collected through the organizational survey and the staff survey. Nearly all privately operated organizations reported providing health insurance, but provision rate for other benefits deviated from the benefit packages provided by state operated organizations. Staff reported high rates of satisfaction with paid leave, but more moderate rates of satisfaction with other benefits. Staff satisfaction with benefits varied by proportion of health insurance covered and by industry group, with industry groups composed primarily or exclusively of state operated organizations showing higher rates of staff satisfaction with benefits.

Staff reported a wide range of pay rates, but over half the responses were clustered in the lower two pay categories (less than $10.00 per hour and $10.00 - $14.99 per hour). These responses suggest that a significant majority of staff are not earning enough to afford standard housing in the region, assuming a 40 hour work week. Position type was strongly tied to pay rate, with techs earning an average of $11.23, less than half the average hourly wage of psychologists ($28.33) and Registered Nurses ($26.71). While staff pay was related to a number of program and staff variables when these relationships are examined individually, only four remained significant in the regression analysis: position type, program service type, consumer population age, and organization size. The relationship of these last three variables to pay is suspected to be caused in part by other variables, including position type. Given the key role that position type plays in staff pay rates, the remaining staff variables were tested as predictors of position type. Staff race, gender, age and highest degree obtained all predicted position type, which in turn predicts staff pay. These findings reinforce the larger finding that widespread inadequate salaries have significant implications on staff recruitment and retention in Oklahoma's behavioral healthcare workforce.

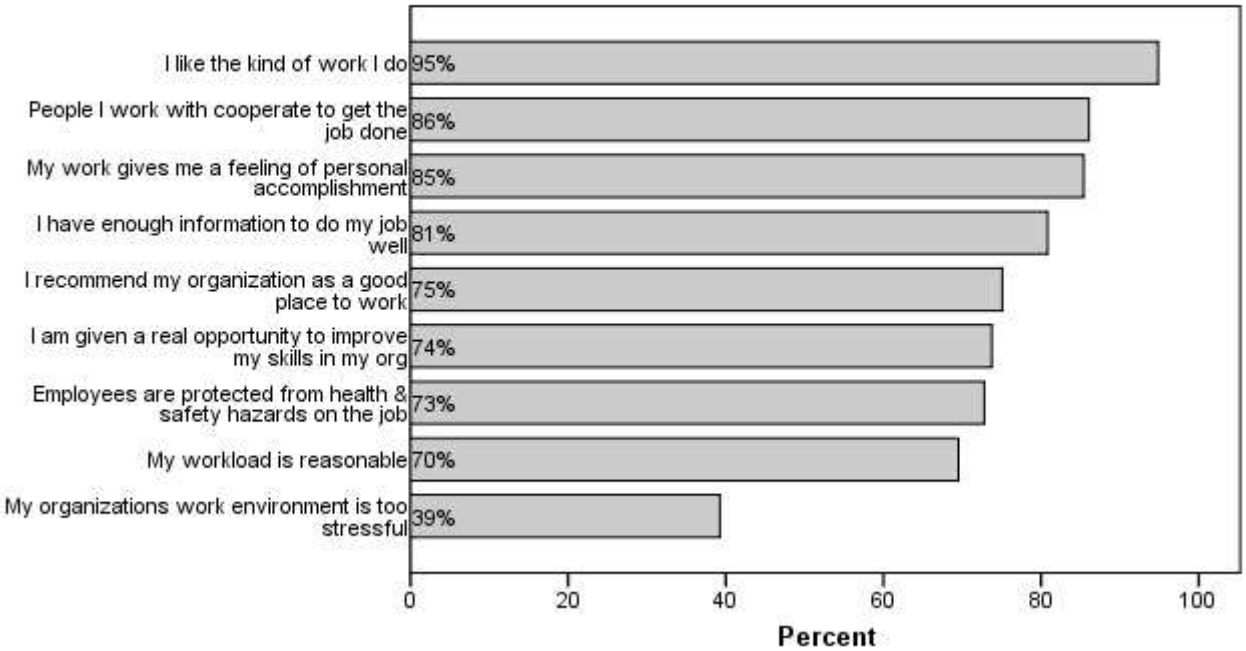
CHAPTER 6: STAFF WORK EXPERIENCE AND JOB SATISFACTION

Researchers have found that workplace empowerment, the opportunity for advancement, burnout, satisfaction with supervisors and coworkers, and pay and benefits impact both job satisfaction and intention to leave (Laschinger et al. 2009). Additionally, in their research on turnover in the child welfare industry, Cahalane and Sites (2008) note that workers perceiving a positive organizational climate are more likely to report higher job satisfaction and greater commitment to their organization. The issue that characterizes those who leave their jobs is a "profound sense of job dissatisfaction" (pg. 105); these staff perceive little opportunity to make use of their skills, little freedom to use their own judgment and little recognition for doing a good job. Staff work experience and job satisfaction are therefore important considerations for an industry faced with high turnover.

Staff Work Experience

In keeping with the literature, staff were asked to respond to a series of items related to their work experience by choosing one of five responses: *strongly agree*, *agree*, *neither agree nor disagree*, *disagree* or *strongly disagree*. Exhibit 6.1 presents staff response patterns for these items. In general, these responses were very positive: Ninety-five percent of staff surveyed *agreed* or *strongly agreed* that they like the kind of work they do, and 85% reported their work gives them a feeling of personal accomplishment. Approximately 75% felt that they are given a real opportunity to improve their skills and would recommend their organization as a good place to work.

Exhibit 6.1: Staff Work Experience



Data from the staff survey.

Work Experience and Staff and Program Variables

Responses to the item *I recommend my organization as a good place to work* were examined in relation to other staff variables, as well as by program and organization variables.[29] The program variables tested were those described earlier as the primary study dimensions: industry, region, service type, program setting, service population, organizational operation and size. Staff variables tested were staff position type and level of education. All of these variables were significant in bivariate analysis, and were then tested in a full logistic regression model to determine if, when controlling for other variables, they remain significant. A final model was then run using only industry and service population; the two variables that had remained significant in the first model. Further details on the final model are available in Appendix D1.

Although a large proportion of staff from all industries report a positive work experience, staff from the Child Guidance and Substance Abuse industries are more likely to report a positive work experience compared with staff from the other industry groups. Over 85% of staff in both industries agreed with the statement *I recommend my organization as a good place to work*. Staff in the FQHC industry group were least likely to recommend their organization as a good place to work.[30] Only 39% agreed with the statement, a considerably lower proportion of staff than that for the industry group with the next lowest agreement rate, DOC (55%). Slightly less than three quarters of the staff in the remaining industry groups agreed with the statement.

Exhibit 6.2: Staff Work Experience by Industry

	ChildG N=37	MH N=442	DOC N=38	FQHC N=14	OJA N=37	OPHA N=353	SA N=234
I recommend my organization as a good place to work	89%	74%	55%	39%	70%	74%	86%

Data from the staff survey. ♦ Data are significant at the p<.05 level. ♦ Other Medicaid and DHS industries are not included because there were too few cases.

Exhibit 6.3 shows how the staff responses to the item *I recommend my organization as a good place to work* vary across service populations. Direct care staff from programs serving adults are significantly less likely to recommend their organization compared with staff working in programs serving both adults and children.[31]

Exhibit 6.3: Staff Work Experience by Service Population

	Children Only N=315	Adults Only N=417	Children/Adults N=229
I recommend my organization as a good place to work	78%	70%	80%

Data from the staff and program manager surveys. ♦ Data are significant at the p<.05 level.

[29] Initially, a scale of the nine work experience items was composed to use as the dependent variable in the regressions. However, testing suggested that the items did not represent a unified construct (Cronbach's Alpha was less than 0.75). Therefore, in lieu of a scale, the item *I recommend my organization as a good place to work* was used as a proxy for the staff work experience overall. Of the nine items, this one was chosen for its wide applicability to direct care staff in the behavioral healthcare workforce regardless of industry or region.

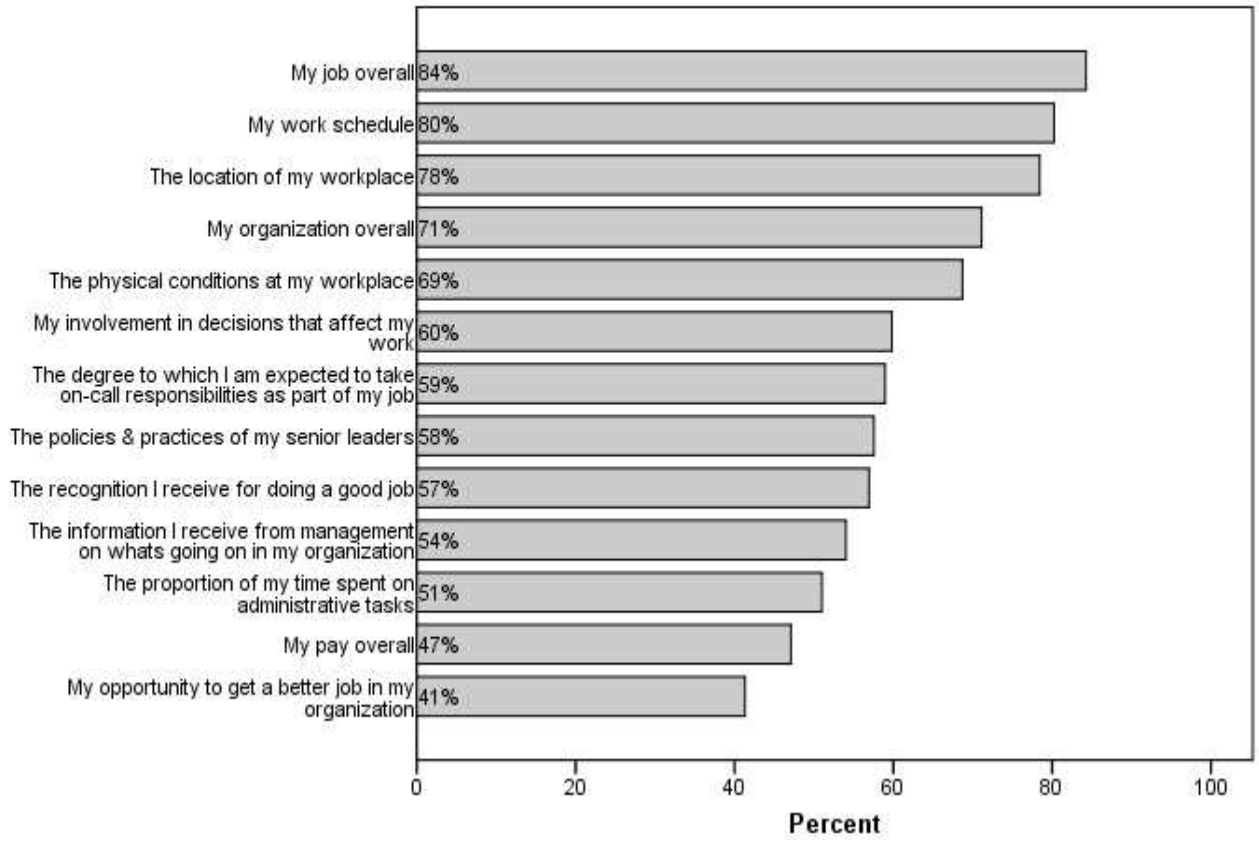
[30] Results for the FQHC industry group should be interpreted with caution. Although the industry group had a very good staff response rate, the organizations recruited to participate in the study may not be representative of the industry.

[31] While staff in programs serving children only also agreed with the statement at a higher rate than those from programs serving adults only, this difference was not significant in the final regression model.

Staff Job Satisfaction

Staff were also asked to indicate the degree to which they were satisfied with certain aspects of their job.[32] Exhibit 6.4 provides an overall picture of job satisfaction among staff surveyed. Direct care staff expressed the highest rates of satisfaction with their job overall (84%) and their work schedule (80%). This is interesting considering the earlier finding that 20% of program managers perceived dissatisfaction with work hours/shift an important cause of staff separations. The data also indicate that only 47% of staff are satisfied with their salary/pay and even fewer are satisfied with their opportunity for advancement within their organization (41%), itself typically associated with job satisfaction and organizational commitment (Cahalane and Sites, 2008). This complements the earlier finding regarding program manager perceptions of staff separations: Nearly two thirds of program managers perceived dissatisfaction with salary/pay as the most critical cause of staff turnover. Only 51% of staff surveyed are satisfied with the proportion of time they spend on administrative tasks. This is not surprising considering approximately 43% of program managers perceive excessive paperwork as an important predictor of staff separations. Overall, a number of the causes of staff turnover cited by program managers are related to items that staff did not rate very high on the satisfaction scale.

Exhibit 6.4: Staff Job Satisfaction



Data from the staff survey.

[32] For each item, staff were asked to choose one of six responses: *very satisfied*, *satisfied*, *neither satisfied nor dissatisfied*, *dissatisfied*, *very dissatisfied*, or *no basis to judge*. Percentages represent the proportion of staff indicating they are *satisfied* or *very satisfied* with the given aspect of their job; 1,264 staff responded to at least one of these items. Those items cited by fewer than 10% of staff are not included in the exhibits.

Staff Satisfaction with Pay across Staff and Program Variables

Several bivariate analyses were run on staff satisfaction with pay[33] to determine if it varied by program and individual level characteristics. Results show that staff satisfaction with pay varied across 12 different dimensions (i.e., industry, staff tenure in the field, staff tenure in the organization, region, service type, program setting, service population, staff position, adult consumer status, white, age, and highest degree attained). When all of the aforementioned variables are included in the regression model only industry, service type, service population, and staff tenure (in the field) remained significant. We ran a final regression model containing only those variables that were significant in the bivariate analyses and the full regression model. A table detailing the results of the satisfaction with pay regression are available in Appendix D2.

Analysis and Results

Exhibits 6.5, 6.6, and 6.7 show staff satisfaction with pay across industries, service population and service type. Staff in the Child Guidance and DOC industry groups reported the highest satisfaction with their salary/pay (78 and 75%, respectively). Notably, staff in the Mental Health industry were approximately 40% less likely to report satisfaction with their overall pay compared with staff in Child Guidance and DOC. Both of the latter industry groups were composed of state operated organizations and typically required professionally trained staff at the MSW-level or higher.

Exhibit 6.5: Staff Satisfaction with Salary/Pay by Industry*

	ChildG N=37	MH N=419	DOC N=37	FQHC N=14	OJA N=37	OPHA N=338	SA N=226
Satisfied with pay	78%	35%	76%	71%	57%	53%	55%

Data from the staff survey. ♦ Data are significant at the p<.05 level. ♦ Other Medicaid and DHS industries are not included because there were too few cases.

Staff working in programs that serve both children and adults had the highest rate of satisfaction with pay (54%), followed by those working in programs serving only children (47%). This could be related to the distribution of position types across these three categories: Techs (the lowest-paid position type) made up only one quarter of the staff in programs serving both children and adults, compared to 31% of the programs serving adults only, and 45% of the programs serving children only.

Exhibit 6.6: Staff Satisfaction with Salary/Pay by Service Population

	Children Only N=304	Adults Only N=410	Children/Adults N=222
Satisfied with pay	47%	42%	54%

Data from the staff survey. ♦ Data are significant at the p<.05 level.

Considering responses by service type, satisfaction with pay ranged from a low of 25% among staff working in programs serving people with co-occurring developmental disabilities and behavioral healthcare needs to a high of 67% among staff working at programs serving people with substance abuse needs only. As with service population above, this relationship may be in

[33] *I am satisfied with my pay overall* was chosen as the dependent variable for this analysis based on program manager and staff concerns with pay as a cause of staff turnover and job dissatisfaction.

part a function of the distribution of position types across service types. Techs made up three-quarters of the reporting workforce in programs serving people with co-occurring developmental disabilities and behavioral health issues, as opposed to 22% of the substance abuse service workforce, 27% of the co-occurring mental health/substance abuse workforce, and 39% of the mental health workforce.

Exhibit 6.7: Staff Satisfaction with Salary/Pay by Service Type

	MH	SA	Co-occ MH & SA	Co-occ DD & MH/SA
Satisfied with pay	41%	67%	50%	25%

Data from the staff survey. ♦ All data are significant at the p<.05 level.

Exhibit 6.8 represents the relationship between staff tenure in the behavioral healthcare field and satisfaction with pay. The mean tenure in the field for staff who reported satisfaction with their pay was nearly three years longer than the tenure for staff who were not satisfied with their pay. Staff reporting that were not satisfied with their pay had been in the field an average of almost nine years; this could be due to a lack of viable employment alternatives.

Exhibit 6.8: Staff Satisfaction with Salary/Pay by Years Working in the Field

	Staff who are not satisfied with pay	Staff who are satisfied with pay
Mean tenure in the field	8.78 years	11.59 years

Data from the staff survey. ♦ Data are significant at the p<.05 level.

Creating a Job Satisfaction Scale

The relationship between job satisfaction and other staff and program variables was then tested in a second regression analysis, utilizing a job satisfaction scale as the dependent variable.[34] For each participant who answered at least seven of the items, the proportion of items that received either a *satisfied* or *very satisfied* was calculated, resulting in an indicator between 0% (no items received responses of *satisfied/very satisfied*) and 100% (all items received responses of *satisfied/very satisfied*). Prior to the regression analyses, we ran bivariate analyses to determine if staff job satisfaction overall (scale) varied by organizational, program and individual level factors. Variables that were significant in the bivariate analyses were included in the regression model to determine if they remained significant when controlling for other factors. Results indicated that the model employed only explained about 7% of the variation in staff responses to the job satisfaction scale items. In other words, most of the variation in staff responses can be attributed to factors not included in this model. Additional details of the bivariate and regression analysis for staff job satisfaction are available in Appendix D3.

Summary

Information on staff satisfaction and work experience was collected through two separate sets of questions in the staff survey. Most of the staff work experience items elicited positive responses

[34] Cronbach's Alpha was used to determine the reliability of the job satisfaction scale. The test results indicate the 13 items are strongly correlated (0.87), suggesting that the items are measuring a single construct and therefore could be treated as a scale.

from the majority of participants, with nearly all staff agreeing with the statement *I like the kind of work I do*. A singe item - *I recommend my organization as a good place to work* - was used as an indicator of overall work experience for analysis with other variables. Work experience was related to industry group, with the highest proportions of staff agreeing with the indicator item being those employed in the Child Guidance and Substance Abuse industries.

Staff satisfaction was measured through a separate set of items. Many of these items also received largely positive responses, with over four fifths of staff indicating that they were satisfied with their jobs overall, and more than 70% expressing satisfaction with their work schedules, the location of their workplaces, and their organizations overall. The lowest rates of satisfaction were related to the opportunity for advancement and pay. Responses to these and other items suggest that program manager perceptions of the causes of turnover may be well founded, to the degree that staff satisfaction relates to turnover.

Given the importance of pay in both staff satisfaction and program manager perceptions of turnover and recruitment barriers, we examined the relationship of this item to a range of program and staff variables. Industry, service population, service type and years working in the field predicted satisfaction with pay. Staff in industries with a high proportion of state operated organizations and with a high proportion of Masters-level staff (Child Guidance and DOC) expressed greater satisfaction with their pay, as did staff in programs serving both adults and children (as opposed to just adults, or just children), staff in programs providing substance abuse services only, and staff who reported greater tenure in the behavioral healthcare field.

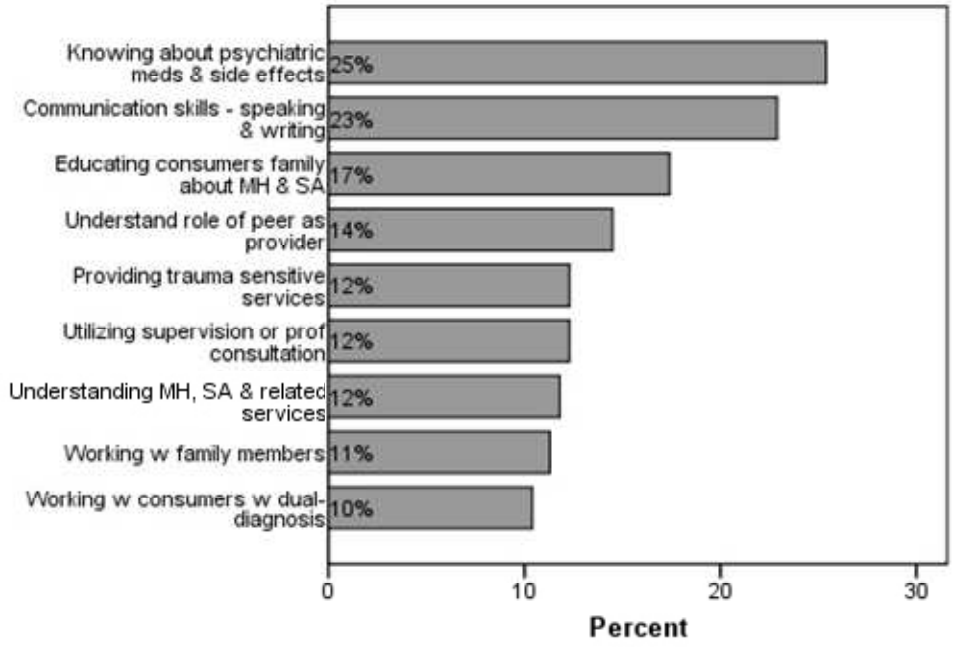
CHAPTER 7: WORKFORCE CAPACITY

The availability of quality behavioral healthcare services hinges on the recruitment, retention and training of those providing direct care. This section provides an overview of the training needs, capacity to provide Evidence Based Practices (EBPs), cultural competence and linguistic capacity of Oklahoma's behavioral healthcare workforce. Program managers provided information on staff training needs and capacity to provide EBPs, while information on programs' cultural competence and linguistic capacity was collected from both program managers and staff.

Training Needs

Program managers were asked to review a list of types of training. They were then asked to indicate whether each type of training was needed and *not* available to their staff, needed and available, or not needed at all. The types of training most frequently cited as needed and *not* available are shown in Exhibit 7.1.[35] This exhibit reflects responses relating to over 225 programs.

Exhibit 7.1: Training Needs – Needed & Not Available



Data from the program manager survey. ♦ Items cited by fewer than 10% of program managers are not included in the exhibit.

[35] Types of training not cited by program managers as needed and not available include: screening and assessment; setting service goals that are driven by the consumer and reflect consumer choice; planning services around consumers' strengths and needs; coordinating the different services a consumer gets; educating consumers about subjects related to mental health or substance use; building relationships with consumers; setting and using professional boundaries; protecting consumer confidentiality; using professional and ethical guidelines; protecting consumers' rights; providing services that focus on consumer recovery and self-management; providing services that are sensitive to racial and cultural differences; and reducing and eliminating the use of seclusion and restraint.

Most often cited as needed and not available by program managers was training on understanding psychiatric medications and their side effects (25%). Nearly as many program managers (23%) believed staff needed training in basic communication skills (speaking and writing). It is unclear, however, whether these program managers are more likely to supervise non-professional staff. Educating consumers' family members about mental health and substance abuse was cited as an unmet training need by 17% of program managers, all other competencies were cited as unmet training needs by fewer than 15% of responding program managers.

Responses to the nine training items listed in Exhibit 7.1 were examined in relation to industry, region and program service type. Although there was no regional variation among responses to any of the nine items, responses to several items varied by industry and by program service type. As shown in Exhibit 7.2, program managers from the Substance Abuse industry were most likely to report needing training on medication management, while those working in OJA and OPHA organizations were most likely to report unmet need for training in understanding the roles of peers as providers.

Exhibit 7.2: Training Needs by Industry (Needed and Not Available)

	MH N=99	DHS N=17	OJA N=10	OPHA N=25	SA N=59
Knowing about medications & their side effects	13%	29%	20%	12%	44%
Understanding the role of peer as provider	13%	6%	30%	36%	7%

Data from the program manager survey. ♦ All data are significant at the p<.05 level. ♦
FQHC, DOC, Child Guidance and Other Medicaid are not included in the analysis because there were too few cases.

There was slight (but statistically significant) variation across service type in reported need for training in working with dually diagnosed consumers, and in providing trauma sensitive services. Greater variation was noted in the need for training in understanding mental health, substance abuse, and related services, with the greatest need reported by managers from programs providing services for people dually diagnosed with developmental disabilities and behavioral health needs. The variation in need for training regarding medications and their side effects was greater still, with program managers in substance abuse programs reporting the greatest need.

Exhibit 7.3: Training Needs by Program Service Type (Needed and Not Available)

	MH N=70	SA N=34	Co-occ MH & SA N=84	Co-occ DD & MH/SA N=14
Working with consumers with dual-diagnoses	11%	9%	6%	7%
Understanding mental health & substance abuse	10%	9%	6%	21%
Knowing about medications & their side effects	23%	41%	18%	7%
Providing trauma sensitive services	11%	12%	10%	7%

Data from the program manager survey. ♦ All data are significant at the p<.05 level.

Evidence-Based Practices

The managers of selected programs[36] were asked to consider their new, professional-level hires (those with at least one year of advance education/training) and to describe these hires' capacity to deliver certain evidence-based practices (EBPs). Exhibits 7.5 and 7.6 reflect program manager perceptions of staff capacity to provide EBPs for adults and children, respectively. Nearly three quarters of the respondents supervising programs that serve adults indicated that their new, professional-level hires were well prepared to provide Cognitive Behavioral Therapy (CBT). The same percentage of respondents supervising programs that serve children reported that their new, professional-level hires were prepared to offer services using CBT for Trauma, while over two-thirds reported that their new, professional-level hires could provide CBT for Anxiety and Depression. Fewer program managers reported staff competence in providing other EBPs. For example, just over one third of program managers supervising adult programs reported staff competence in medication management, while a little more than half of those supervising programs for children reported staff competence in interpersonal therapy (IPT). It should be noted that some of these EBPs are more specific to certain service settings (e.g., Supported Employment).

Exhibit 7.5: Staff Capacity to Provide Evidence-Based Practices for Adults

Evidence-Based Practice	% Reporting that New Professional Hires Can Provide Service
Cognitive Behavioral Therapy (CBT)	73%
Family Psychoeducation	59%
Integrated Dual Diagnosis Treatment (IDDT)	45%
Illness Management & Recovery (IMR)	41%
Medication Management	37%
Consumer–run services	35%
Supportive Housing	34%
Supported Employment	30%
Assertive Community Treatment (ACT/PACT)	22%

Data from the program manager survey.

[36] Program managers were asked to indicate if at least half of the positions in their program required a minimum of one year of advanced education/training and, if so, whether the program served adults and/or children/youth under the age of 18. One-hundred and eighty-three programs require at least one year of advanced education/training. Of those 183 programs, 84% (154 programs) serve adults and 54% (101 programs) serve children/youth under the age of 18.

Exhibit 7.6: Staff Capacity to Provide Evidence-Based Practices for Children

Evidence-Based Practice	% Reporting that New Professional Hires Can Provide Service
Cognitive-Behavioral Therapy (CBT) for Trauma	73%
CBT for Depression	67%
CBT for Anxiety	67%
Interpersonal Therapy (IPT)	55%
Functional Family Therapy (FFT)	43%
Multisystemic Therapy (MST)	35%
Therapeutic Foster Care	20%

Data from the program manager survey.

Capacity to provide EBPs for both adults and children can be improved by expanding access to the most up-to-date information on "best practice" models and evidence-based strategies in mental health services to those professionals who are providing the direct services in Oklahoma's publically funded mental health system. Likewise, arranging for technical assistance to these professionals who wish to implement such strategies is critical.

Evidence Based Practice Capacity across Program Variables

Capacity to provide EBPs was examined in relation to program variables. Capacity to provide three EBPs for adults varied by industry (Exhibit 7.7): Illness Management and Recovery (IMR), Supported Employment, and Medication Management. Part of this variation is attributable to the types of services typically offered in some of the industries. For instance, only 22% of new professional hires from the OPHA industry are prepared to offer Supported Employment services; this is not surprising considering the OPHA industry is composed of psychiatric hospitals. The relative lack of reported capacity to provide medication management in Substance Abuse programs is also not surprising, as this service would be more widely required in Mental Health and OPHA programs. What is more difficult to interpret, however, is the finding that the Substance Abuse industry had the greatest proportion of program managers reporting staff capacity to provide Supported Employment, as many Supported Employment programs are based in community mental health centers.

Exhibit 7.7: Evidence Based Practice Capacity by Industry[37]

% reporting high capacity	MH N=66 (A)	OPHA N=9 (A)	SA N=52 (A)
Illness Management & Recovery (IMR) (adult)	55%	25%	28%
Supported Employment (adult)	21%	22%	44%
Medication Management (adult)	46%	67%	21%

Data from the program manager survey. ♦ All data are significant at the p<.05 level. ♦ (A) indicates programs serving adults. ♦ Child Guidance, FQHC, MA, DHS, DOC and OJA are not in the analysis; N<10.

The regional variation in EBP competency is also somewhat difficult to interpret. It is possible that our data from the southeast, southwest, and Tulsa metro areas are not completely representative of the capacity to provide adult EBPs due to the small sample of program managers from those regions. That being said, program managers in the southeast and southwest quadrants reported the highest capacity to provide IMR and those in Tulsa reported the highest capacity to provide ACT/PACT, while program managers in the Oklahoma City metro region reported the lowest capacity to provide both of these EBPs. Tulsa area-based program managers also reported the highest capacity to provide Family Psychoeducation and Supportive Housing, and those from the southeast quadrant also reported high capacity to provide consumer-run services. Among children's EBPs, only IPT capacity varied by region, with program managers in Oklahoma City and the southwest quadrant reporting the highest capacity, and those in Tulsa reporting the lowest capacity.

Exhibit 7.8: Evidence Based Practice Capacity by Region[38]

% reporting high capacity	NE N=30 (A) N=23 (C)	OKC N=49 (A) N=32 (C)	SE N=19 (A) N=12 (C)	SW N=18 (A) N=6 (C)	Tulsa N=13 (A) N=9 (C)	Statewide[39] N=138 (A) N=89 (C)
Illness Management & Recovery (IMR) (adult)	40%	25%	63%	67%	46%	41%
Assertive Community Treatment (ACT) (adult)	21%	15%	30%	22%	54%	22%
Family Psychoeducation (adult)	43%	59%	79%	50%	92%	59%
Supportive Housing (adult)	24%	33%	50%	11%	69%	34%
Consumer–run services (adult)	28%	40%	60%	11%	31%	35%
Interpersonal Therapy (IPT) (child)	52%	69%	50%	67%	11%	55%

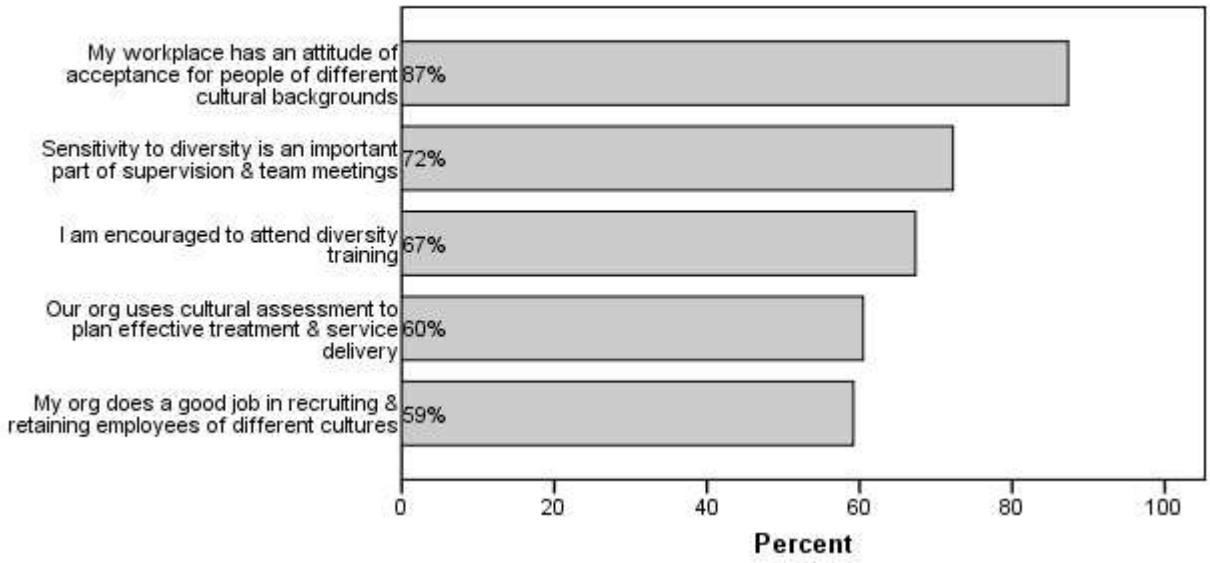
Data from the program manager survey. ♦ All data are significant at the p<.05 level. ♦ (A) indicates programs serving adults. (C) indicates program serving children. ♦ NW not included in analysis; N<10.

[37] ACT/PACT, CBT, Family Psychoeducation, IDDT, Consumer–run services, Supported Housing, CBT for Depression, CBT for Anxiety, CBT for Trauma, IPT, FFT, MST, and Therapeutic Foster Care were not significant.
[38] CBT, IDDT, CBT for Depression, CBT for Anxiety, CBT for Trauma, FFT, MST, Therapeutic Foster Care, Medication Management, Supported Employment were not significant.
[39] Statewide total is greater than sum of regional totals because some programs could not be assigned to a region and because the northwest region is not shown due to a low N.

Staff Cultural Competence

This section provides an overview of staff cultural and linguistic capacity as well as program cultural competency. Staff were asked to respond to a series of five items regarding program/organizational cultural competence or formal and informal workplace policies related to cultural sensitivity. Exhibit 7.9 shows the results of these items; 1,288 staff responded to at least one of these items.[40]

Exhibit 7.9: Staff Cultural Competency Items



Data from the staff survey.

The most widespread support was observed for the statement *my workplace has an attitude of acceptance for people of different cultural backgrounds*, while the statement *my organization does a good job recruiting and retaining employees of different cultures* was the least-frequently endorsed. Survey respondents were not provided with a definition of the terms culture and cultural and likely interpreted them based on their context within each statement.

Staff Perception of Cultural Competence Across Staff and Program Variables

We selected *my organization does a good job recruiting and retaining employees of different cultures* as an indicator of cultural competence because of the saliency of recruitment and retention to the behavioral healthcare workforce and the item's applicability regardless of industry or region. We ran bivariate analyses to determine if perceptions of recruiting and retaining employees of different cultures varies by staff, program and organizational characteristics. The staff-level variables tested were gender, age, race/ethnicity, consumer status, highest degree attained and staff position title. Program- and industry-level variables included

[40] Staff were asked to indicate one of five responses: *strongly agree*, *agree*, *neither agree nor disagree*, *disagree* or *strongly disagree*. Exhibit 7.9 shows the percentages of staff that either *strongly agreed* or *agreed* with each statement.

industry, region, service type, program setting, service population, organizational operation and size.

Analysis and Results

Results indicated that staff perception of recruiting and retaining employees of different cultures varies by the following: industry, ethnicity, family of youth consumer, highest degree attained, organizational operation, program setting, service type, and region. A final regression model was run using industry, ethnicity, family of youth consumer, highest degree attained, and region because these items remained significant in the full regression model and were not correlated based on other tests.[41] Further detail on the final model is available in Appendix E1.

Industry, region, highest degree attained and staff ethnicity remained significant predictors of staff sense of organizational cultural competence in the regression analyses. Exhibit 7.10 illustrates the industry group-based variation in staff agreement with that their organization is successful in recruiting and retaining a diverse workforce. Staff from the Substance Abuse industry group consistently described their organization as culturally competent were most likely to agree that their organization meets this criterion of cultural competency, with roughly 60% of the staff from the OPHA and OJA industries also agreeing that their organization is successful in this area.

Exhibit 7.10: Staff Perceptions of Cultural Competency by Industry

	ChildG N=37	MH N=438	DOC N=38	FQHC N=13	OJA N=37	OPHA N=349	SA N=227
My organization does a good job recruiting/retaining employees of different cultures	51%	54%	40%	39%	60%	61%	71%

Data from the staff survey.♦ All data are significant at the p<.05 level. ♦ Other Medicaid and DHS industries are not included in the analysis because there were too few cases.

Regionally, staff working in the Oklahoma City metro area are most likely to report their organization does a good job recruiting and retaining employees of different cultures (68%, Exhibit 7.11). This is not surprising considering it is a metropolitan area and it had the most survey respondents. At least 60% of staff working in the northwest and southeast thought their organizations were culturally competent with respect to recruitment and retention. The relationship between race and region indicates the southeast has the highest proportion of American Indians and the northwest has one of the highest proportions of staff identifying as Black/African American.

Exhibit 7.11: Staff Perceptions of Cultural Competency by Region

	NE N=327	NW N=58	OKC N=477	SE N=150	SW N=90	Tulsa N=92	Statewide N=1246[42]
My organization does a good job recruiting/retaining employees of different cultures	49%	62%	68%	60%	54%	53%	59%

Data from the staff survey. ♦ All data are significant at the p<.05 level.

[41] All significant items from the bivariate analyses were included in an initial logistic regression model. Service type, service setting, and organizational operation were not included in the final model because they were highly correlated. Additionally, variables that were not significant predictors in the initial model were dropped from the final model.

[42] Statewide N is greater than sum of regional Ns because some programs could not be assigned a region.

The relationship between staff perceptions of cultural competence and staff ethnicity, although statistically significant, was not in the hypothesized direction. Staff identifying as Hispanic/Latino (81%) were far more likely to report that their organization recruits and retains a culturally diverse staff, compared with non-Hispanic/Latino staff (58%). Statewide Hispanics/Latinos represent approximately 7.6 % of the population, but only 4% of staff surveyed identified with this ethnic group. Fifteen percent of staff identify as American Indian and 12% as Black/African American (both of which are higher than the groups' representation in the state overall; approximately 8% of the population for both). Additional calculations reveal that Black/African American and Hispanic/Latino staff are more likely to live in the Oklahoma City metro area than any other region of the state. It could be that the majority of Hispanic/Latino staff work in regions of the state where there is more racial/ethnic diversity.

Exhibit 7.12: Staff Perceptions of Cultural Competency by Ethnicity

	Non-Hispanic N=983	Hispanic/Latino N=37
My organization does a good job recruiting/retaining employees of different cultures	58%	81%

Data from the staff survey. ♦ All data are significant at the p<.05 level.

Finally, perceptions of cultural competency vary by educational attainment. With the exception of individuals possessing an Associates degree, more highly educated individuals are less likely to agree that their organization is effective in its recruitment and retention of a culturally diverse staff.

Exhibit 7.13: Staff Perceptions of Cultural Competency by Highest Degree

	High School N=244	Associates N=191	Bachelors N=332	Masters N=377	Ph.D. N=44
My organization does a good job recruiting/retaining employees of different cultures	66%	52%	61%	58%	36%

Data from the staff survey. ♦ All data are significant at the p<.05 level. ♦ MD/DO is not included in the analysis because there were too few cases.

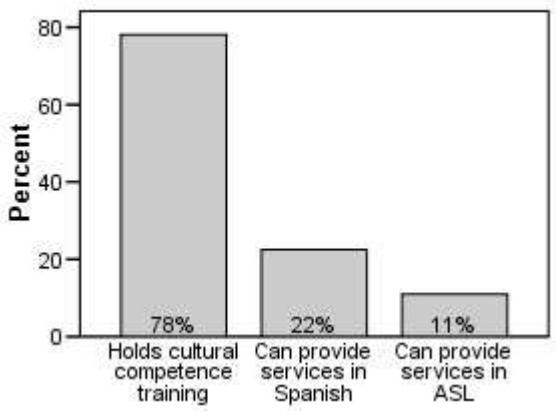
Cultural and Linguistic Capacity

The next section discusses the prevalence of cultural competency training in behavioral healthcare programs, the linguistic capacity of individual staff/managers, and programs' ability to provide services in Spanish and American Sign Language. Program managers were asked whether their organization offers cultural competency training and whether their program had capacity to provide services in Spanish and American Sign Language (ASL). The responses to these items are shown in Exhibit 7.14. Two-hundred and nineteen program managers responded to the item regarding organizational cultural competency training; the language items reflect the capacity of 250 programs.

A significant number, almost 80%, of programs provide some type of cultural competency training. Some programs require the training, while others do not. The frequency of training varies as well. Twenty-two percent of program managers reported that their program can provide

services in Spanish and half as many (11%) are prepared to provide services in American Sign Language. However, the question regarding linguistic capacity (*Which of the following languages is this program currently prepared to provide services in?*) was posed in such a way that program managers had liberty to interpret what was meant by the phrase "…prepared to provide services in…" As a result, the question may have been interpreted consistently across respondents. For example, some program managers may have indicated that they are prepared to offer services in Spanish because they have program-related materials in both English and Spanish, while others may have been reporting more significant capacity.

Exhibit 7.14: Program Cultural and Linguistic Capacity



Data from the program manager survey.

Looking at program manager and staff reported fluency (Exhibit 7.15), about 3% of program managers and 3% of staff report being fluent in Spanish; even fewer report fluency in ASL, 2% of both groups (Exhibit 7.15). Interestingly, staff fluency in ASL and Spanish did not vary by region. These results, however, should be interpreted with care as the staff survey response rate was low; data describing staff cultural and linguistic capacity may not be representative of the larger behavioral healthcare workforce in Oklahoma.

Exhibit 7.15: Program Manager and Staff Reported Fluency Compared to Census Language Use

	% Program Managers	% Staff	% State of Oklahoma^
Fluent in language other than English	7%	7%	8%
Fluent in Spanish	3%	3%	5%
Fluent in ASL	2%	2%	*not available*

Data from the program manager and staff surveys. ♦ ^Selected Social Characteristics in the United States: 2006-2008. Data Set: 2006-2008 American Community Survey 3-Year Estimates. Survey: American Community Survey

Summary

Based on program manager reports, the three types of training most needed by staff are: (1) knowing about consumers' psychiatric medications and their side effects, (2) communication skills and (3) educating consumers' family members about subjects related to mental health or substance abuse. Bivariate analyses demonstrate that program managers from the Substance

Abuse and DHS industry groups are most likely to report staff needing training related to consumers' psychiatric medications, while 30% and 36% of staff from the OJA and OPHA industries require additional training on the role of peers as service providers.

In addition to basic training it is important that new professional staff have the capacity to provide evidence-based practices for adults and children. Over 65% of new professional hires are prepared to provide Cognitive Behavioral Therapy (CBT) for adults and CBT for depression, anxiety, and trauma for children. Since education about psychiatric medications was identified as one of the types of training most needed for direct care staff, it is not surprising that only 37% of new professional hires can provide the Medication Management.

Staff were asked to respond to a series of five items regarding program/organizational cultural competence. Endorsement rates for these items ranged from a high of 87% to a low of 59%. Bivariate analyses explored the relationship between one of these items – *my organization does a good job recruiting and retaining employees of different cultures* – and several program, organization, and staff variables. Staff perceptions of how successful their organization is in recruiting and retaining a diverse workforce varied by industry, region, and staff ethnicity and highest degree earned. Interestingly, staff identifying as Hispanic/Latino were more likely to report their organization recruits and retains employees of diverse cultures than were staff who did not identify as Hispanic/Latino. This finding may be related to another finding: staff working in the Oklahoma City metro area are most likely to agree with the aforementioned cultural competency item. This region of the state had the highest response rate and the greatest racial/ethnic diversity among staff working there.

Program managers were asked to report the cultural and linguistic capacity of their programs. Comparisons were made between program manager reports of program linguistic capacity and the self-reported fluency of staff and program managers. The vast majority of programs (78%) hold some type of cultural competency training for staff. However, although 22% of program managers report that their program can provide services in Spanish, only about 3% of staff and managers reported that they are fluent in Spanish, which is less than 5%, the state average. Different interpretations of what it means to "provide services" in Spanish may account for some of the discrepancy in self-reported (staff and program managers) and program linguistic capacity.

CHAPTER 8: REPRESENTATION OF CONSUMERS AND THEIR FAMILY MEMBERS IN THE WORKFORCE

In the interest of investigating the representation and visibility of consumers and family members in the behavioral healthcare workforce, staff and program managers were asked to respond to a series of items about their status as consumers or family members. Those who identified as staff and/or family members were asked a series of items about their disclosure of this status in their workplace. Survey respondents were provided with the following definition of *consumer: "Someone who is currently or has received mental health, substance abuse and/or other addictive disorder services.*" Additionally, respondents were reminded that they could skip any question they were not comfortable answering.

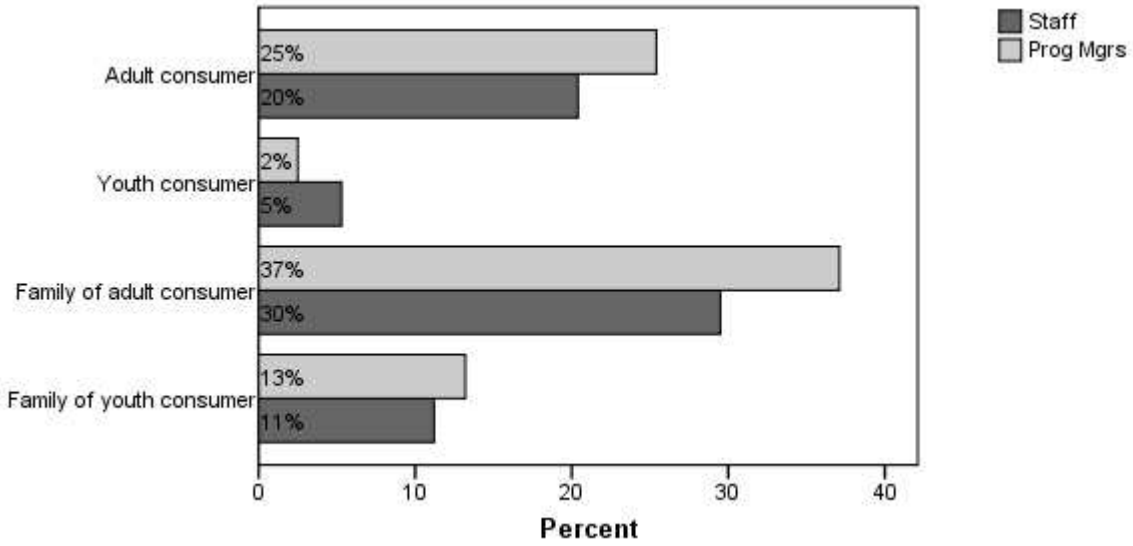
Respondents Identifying as Consumers or Family Members of Consumers

Exhibit 8.1 shows the responses to the items related to self-identification as a consumer or family member of a consumer. One-hundred and ninety-seven (80%) program managers and 1,188 (90%) staff responded to the consumer or family member items. Fifty-two program managers and 295 staff responded to the consumer status disclosure items, and 88 program managers and 420 staff responded to the family member status disclosure items. Adult consumers and family of adult consumers are well represented in the Oklahoma behavioral healthcare workforce. This is not unexpected considering the fields focus on recovery and increased consumer involvement in behavioral health policy and service delivery. Thirty-seven percent of program managers and 30% of staff identify as a family member of an adult consumer. Twenty-five percent of program managers and 20% of staff are themselves adult consumers.[43] Youth consumers and family of youth consumers are not represented as well, with only 2% of program managers and 5% of staff identifying as such.[44]

[43] Additional data analyses show that 152 staff members identify as both adult consumers (i.e., mental health or substance abuse) and family members of a consumer (i.e., adult mental health, adult substance abuse, youth mental health or youth substance abuse). In addition, 33 program managers identify as both adult consumers (i.e., mental health or substance abuse) and family members of a consumer (i.e., adult mental health, adult substance abuse, youth mental health or youth substance abuse).

[44] These individuals are identifying as past (not current) youth consumers as only one individual surveyed is under 18 years old.

Exhibit 8.1: Staff and Program Manager Consumer Representation



Data from the staff and program manager surveys.

Consumer and family representation among staff members varies across industries groups for three of the four consumer groups: adult consumer, family members of an adult consumer, and family members of a youth consumer. DOC has the highest adult consumer (42%) and family of an adult consumer (39%) representation of any industry, followed closely by the Substance Abuse industry group with 32 and 38% respectively. Given the strong tradition of self-help and mutual aid within the Substance Abuse service system, it is not surprising that this industry group's consumer representation is among the highest of the industries surveyed. Industry groups with insufficient responses are not shown in this exhibit.

Exhibit 8.2: Staff Consumer Representation by Industry

	MH N=400	OPHA N=311	OJA N=35	DOC N=33	SA N=219	ChildG N=34
Adult consumer	23%	14%	9%	42%	32%	18%
Family member of adult consumer	34%	25%	18%	39%	38%	21%
Family member of youth consumer	15%	10%	0%	15%	10%	18%

Data from the staff survey.

Predicting Consumer Representation

The analysis looked for relationships between consumer representation among staff members and variables falling into two categories: study dimension variables (industry group, geographic region, type of service provided by program, program setting, age group of population served by program, state versus private operation status, organizations size, and position types), and staff characteristics (race, ethnicity, gender, age, and education). Of the study dimensions, only position type proved to be unrelated to consumer status. Of the staff characteristics, only race and gender proved to be unrelated to consumer status.

Logistic regression was used to test the remaining relationships.[45] Only service type and program setting remained significant in the logistic regression model. Staff working in programs serving people dually diagnosed with developmental disabilities and behavioral health needs were significantly less likely to identify as consumers than were staff in programs serving people with substance abuse or substance abuse and mental health needs. As shown in Exhibit 8.4, staff working in residential settings and inpatient settings were significantly less likely to identify as consumers than were staff working in outpatient settings.

Exhibit 8.3: Consumer Representation Among Staff by Service Type

	MH N= 395	Co-occ MH & SA N= 326	SA N=70	Co-occ DD & MH/SA N=70
% of staff identifying as consumers	21%	26%	41%	9%

Data from the staff and program manager surveys.

Exhibit 8.4: Consumer Representation Among Staff by Program Setting

	Inpatient N= 252	Outpatient N= 343	Residential N=208	Correctional N=49
% of staff identifying as consumers	18%	31%	17%	25%

Data from the staff and program manager surveys.

Predicting Representation of Consumers' Family Members

A similar analysis was conducted to determine the predictors of staff self-identification as a family member of a consumer. The variables initially considered included the study dimension variables and staff characteristics. [46] Of the study dimension variables, everything except for service type was initially shown to be related to family member status. Of the staff characteristic variables, everything except for ethnicity proved to be significantly associated with family member status.

The remainder of the variables were entered into a logistic regression model.[47] Out of the relationships tested, only respondent education remained significant. As shown in Exhibit 8.5,

[45] Our intention was to then test these predictive relationships via a logistic regression model, but several of the variables needed to be dropped due to concerns about overlap with other predictor variables. The variables dropped were industry group, age group of population served, and organization size. While relationships among most of the predictor variables were noted, each of these variables overlapped with the service type variable in ways that seemed particularly strongly related to the distribution of consumer representation. Given the concerns about the small number of staff reporting Hispanic ethnicity, this variable was also dropped from further analysis. Additionally, geographic region was not included in the regression model as there were concerns about difficulty interpreting the relationship identified by the initial testing. As noted elsewhere, the six geographic regions may not break cleanly along the dimension of urban vs. rural, limiting our ability to test for differences between urban and rural respondents, and challenging the interpretation of relationships between study variables and geographic region.

[46] Study dimension variables include: industry group, geographic region, type of service provided by program, program setting, age group of population served by program, state versus private operation status, organizations size, and position types. Staff characteristics include: race, ethnicity, gender, age, and education.

[47] Several variables were excluded from this analysis. It was difficult to interpret the patterns observed for both organization size and age group of population served, so these variables were dropped due to concerns about spurious findings. Respondent age range was also dropped from further analysis due to a low response rate to one age category.

staff members with Masters' degrees or higher were more likely to identify as family members of consumers than were staff members with high school diplomas or GEDs.

Exhibit 8.5: Family Member Representation Among Staff by Education Level

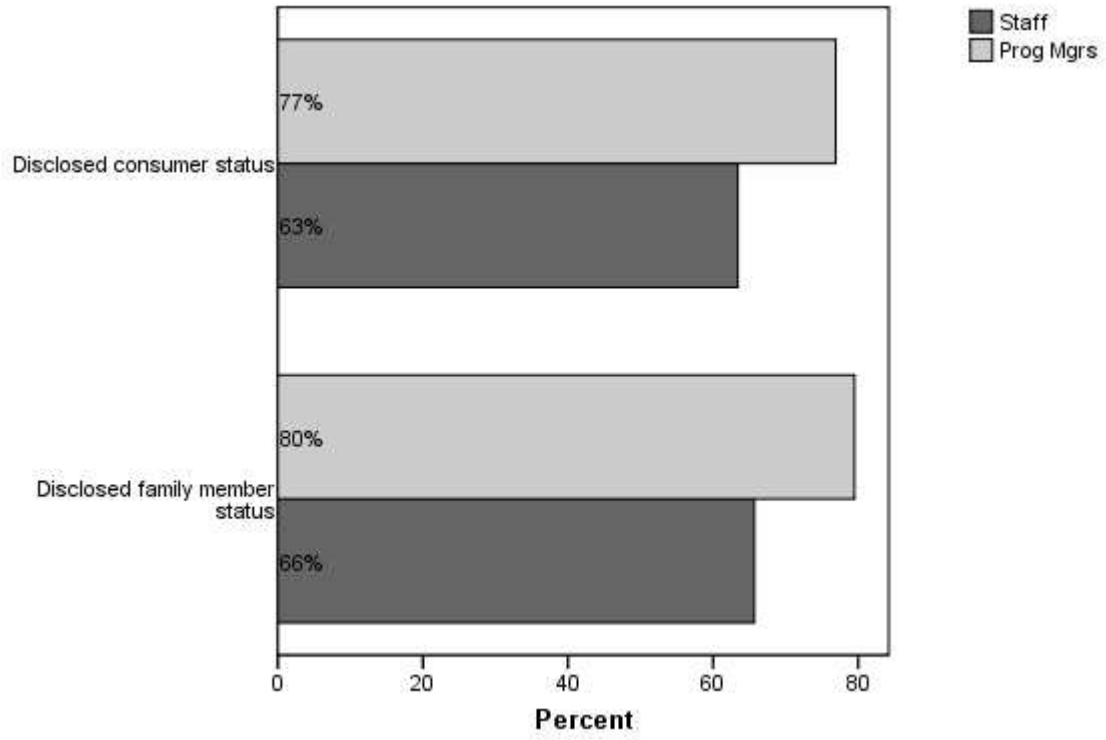
	Masters + N= 415	Bachelors N= 323	Associates N=176	HS/GED N=239
% of staff identifying as family members	44%	35%	32%	23%

Data from the staff surveys.

Disclosure of Consumer and Family Member Status

Exhibit 8.6 provides an overview of staff and program manager consumer disclosure. Those who identified as consumers or family members of consumers were asked if they had disclosed this information to anyone at work. Responses to –*Yes, I've told my supervisor; Yes, I've told my coworkers; Yes, I've told consumers that I serve; and Yes, I've told someone else at work* – were aggregated and presented in Exhibit 8.6. Program managers are more likely to disclose their consumer status than staff. Seventy-seven percent of program managers who responded to this item disclosed to someone at work that they are or were a former consumer compared with 63% of staff; 80% disclosed that they are a family member of a consumer compared to 66% of staff.

Exhibit 8.6: Program Manager and Staff Consumer Disclosure



Data from the staff and program manager surveys.

Predicting Disclosure of Consumer Status

The analysis looked for relationships between disclosure among staff who identified as consumers and three categories of variables: consumer status variables (identifying as an adult consumer or a former youth consumer, and identifying as a consumer of mental health, substance abuse, or both types of services), study dimension variables and staff characteristics.[48] Of these variables, the following proved to be related to disclosure of consumer status when the relationships were tested individually: type of services received by respondent, program industry group, geographic region, service setting, age of population served by program, respondent race and respondent gender.

While industry group was not included in the subsequent analysis due to concerns about overlap between Substance Abuse industry group membership and respondent status as a consumer of both mental health and substance abuse services, it is worthwhile to note the pattern of disclosure across industries. These are shown in Exhibit 8.7, with industries with insufficient numbers of responses excluded from the table. Of those remaining, the highest rates of disclosure were found in Substance Abuse industry programs, closely followed by the Mental Health industry programs.

Exhibit 8.7: Staff Member Disclosure of Consumer Status by Industry Group

	MH N= 106	OPHA N= 63	DOC N=15	SA N=78
% of self-identified consumers disclosing	70%	54%	53%	76%

Data from the staff and program manager surveys.

Then logistic regression was used to test the remaining relationships.[49] While gender did not remain significantly related to disclosure in the model, both respondent race and type of services consumed were related to disclosure. As shown in Exhibit 8.8, White respondents were significantly more likely than Black or American Indian/Alaska Native respondents to report having disclosed their status as consumers in the workplace, however, there are no racial differences in staff member consumer status among those who identify as consumers and family members. It is difficult to ascertain the extent to which racial differences in disclosure are due to cultural norms and/or past experiences with discrimination (on a personal or structural level).

Finally, respondents who identified as *both* mental health and substance abuse service consumers were more likely to have disclosed than were those who received *either* mental health or substance abuse services (Exhibit 8.9).

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[48] Study dimension variables include: industry group, geographic region, type of service provided by program, program setting, age group of population served by program, state versus private operation status, organizations size, and position types. Staff characteristics include: race, ethnicity, gender, age, and education.

[49] As with the investigation of predictors of consumer representation among staff, our intention was to then test these relationships via a logistic regression model, but several of the variables needed to be dropped from this analysis. First, as was found in investigating consumer representation across geographic regions, the relationship between disclosure and region found was difficult to interpret and seemed likely to be an artifact of the partial relationship between this variable and urban vs. rural regional character. Additionally, there was a relatively low number of respondents from one region. Second, age of population served and program setting were both eliminated from further testing as they both had a higher proportion of missing data, and their inclusion in the model dropped the already low N considerably.

Exhibit 8.8: Staff Member Disclosure of Consumer Status by Race

	AI/AN N=20	Black N=22	White N=220	≥2 races N=18
% of self-identified consumers disclosing	45%	32%	69%	56%

Data from the staff surveys.

Exhibit 8.9: Staff Member Disclosure of Consumer Status by Type of Service Consumed

	MH only N=174	SA only N=45	MH & SA N=47
% of self-identified consumers disclosing	64%	69%	83%

Data from the staff surveys.

Predicting Disclosure of Family Member Status

The analysis looked for relationships between disclosure among staff who identified as consumers and the study dimension variables and staff characteristic variables.[50] Consumer status variables were not tested because of the difficulty of interpreting responses indicating that one's family member(s) fell into both category options.[51] Of the tested variables, the following proved to be related to disclosure of family member status when the relationships were tested individually: program industry group, service setting, respondent position type, respondent race and respondent gender.

These relationships were using a logistic regression model. Respondent race and program industry group remained significantly associated with disclosure of family status. As shown in Exhibit 8.10, White respondents were more likely than Black respondents to report having disclosed their status. Respondents working in OPHA industry programs were significantly less likely to have disclosed their family status than were respondents working in Mental Health or Substance Abuse industry programs, as shown in Exhibit 8.11.

Exhibit 8.10: Staff Member Disclosure of Family Status by Race

	AI/AN N=34	Black N=30	White N=313	≥2 races N=27
% family members disclosing	59%	37%	72%	56%

Data from the staff surveys.

Exhibit 8.11: Staff Member Disclosure of Family Status by Industry Group

	MH N= 159	OPHA N= 107	DOC N=14	SA N=88
% family members disclosing	74%	51%	71%	73%

Data from the staff and program manager surveys.

[50] Study dimension variables include: industry group, geographic region, type of service provided by program, program setting, age group of population served by program, state versus private operation status, organizations size, and position types. Staff characteristics include: race, ethnicity, gender, age, and education.

[51] Options being both mental health and substance abuse (for type of service used by family member), or both adult and youth consumer; when these items reference family members rather than the respondent, these dual responses could refer either to a single family member or to multiple family members

Summary

Information on consumer and family member representation and disclosure was obtained through the staff and program manager surveys. The most important finding is that a significant proportion of the behavioral healthcare workforce identifies themselves as adult consumers (21%) and an even larger proportion that identify themselves as family members of consumers (32%). Consumer and family member representation was generally higher among program managers than staff, and was higher for adult consumer and family member of adult consumer categories than for former youth consumer and family of youth consumer categories.

Both representation and disclosure varied significantly by industry group. Adult consumer and family member representation was highest in the Substance Abuse and DOC industry groups, and lower in the OPHA, OJA, and Child Guidance industry groups, although Child Guidance had the greatest proportion of staff who identified as family members of youth consumers. Over three-quarters of Substance Abuse staff who identified as consumers reported having disclosed this status in the workplace, compared to just over half of OPHA and DOC staff members who identified as consumers. Among staff who identified as family members, nearly three-quarters disclosed this status, while just over half of OPHA staff disclosed.

The analysis considered a wide range of possible predictors of both consumer status and family member status among responding staff. While many of these were initially found to be significantly related to one or both outcome variables, few remained significant in the logistic regression models. Staff working in programs serving people with substance abuse needs or substance abuse and mental health needs were significantly more likely to identify as consumers than were staff working in programs serving people dually diagnosed with developmental disabilities and behavioral health needs. Also, those working in outpatient programs were significantly more likely to identify as consumers than were those working in inpatient programs. Respondent education level was the only variable remaining significant in the family member representation model, with staff who reported having a Masters degree or higher being significantly more likely to identify as family members than were staff with high school diplomas or GEDs.

Among staff and program managers who identify as either consumers or family members, rates of disclosure in the workplace are high. A higher proportion of program managers reported disclosing their status. For both consumer and family member status, roughly four-fifths of responding program managers report disclosing on the job, while roughly two-thirds of staff report having disclosed.

The analysis also considered multiple potential predictors of staff disclosure of consumer or family member status. As with the previous analysis, many of these were related to consumer or family status in initial analysis, but did not remain related in the subsequent logistic regression models. Respondent race and type of service used proved to be significantly related to disclosure of consumer status, with White staff more likely to have disclosed than Black staff, and with staff who reported receiving both mental health and substance abuse services more likely to disclose than staff receiving either mental health or substance abuse services. It is interesting to note that while there is no significant relationship between staff member consumer status and race, among those who do identify as consumers and family members, White staff members are

more likely to disclose this status in the workplace than are Black staff members. A similar pattern was noted for disclosure of family member status. Program industry group was also found to be a significant predictor of disclosure of family member status, with respondents working in the Mental Health and Substance Abuse programs significantly more likely to have disclosed their status on the job than were respondents from the OPHA programs.

CHAPTER 9: DISCUSSION AND RECOMMENDATIONS

The results described in the previous sections were initially distributed to the Workforce Study Team in the form of a preliminary report in July, 2010 and were presented and discussed with the group at a meeting held later that month. At the conclusion of that meeting, Workforce Study Team members were asked to develop recommendations related to topic areas drawn from the report. These recommendations were submitted to ODMHSAS prior to a September, 2010 Workforce Study Team meeting at which the recommendations were reviewed and discussed, along with a revised version of the draft report. Workforce Study Team members were asked to make recommendations in reference to five topic areas: compensation, recruitment and retention, training, best practices, and future planning efforts.

Compensation

The Workforce Study Team recommended the prioritization of overall funding for behavioral healthcare services, pointing to the clear need for better compensation. The Team advised that current pay rates are inadequate, and that it will be important for the public to be more aware of this inadequacy. The problem is reflected in the study findings that over half of the direct care respondents made less than $15.00 an hour, and that program managers cite pay as a primary reason for turnover and a primary barrier to filling vacancies. Workforce Study Team members made the following recommendations relating to compensation:

- Raise the pay level for professionals and tech staff who are newly entering into the publicly funded (state employees and state contracted agencies) behavioral healthcare system; develop a mechanism to raise the pay level over time for those professionals and direct care staff who are currently employed in the publicly funded system could potentially decrease turnover and vacancy rates.

- Prepare a legislative request or propose a state question to bring behavioral health provider pay to the regional average by 2014, as was attempted with education during the 2010 elections. Develop cost estimates based on the number of FTEs required to fill the unmet need through 2014.

- The above recommendations regarding salary/pay should be implemented based on the findings of this report, insofar as staff satisfaction with salary/pay differs significantly by industry group, region, service type, etc. Adjustments should also be based on multistate regional averages for salary to maintain a positive competitive environment. As shown in Exhibit 4.12, this adjustment alone would raise pay for the most common behavioral healthcare position categories by 5% to 13%.

Recruitment & Retention

The Workforce Study Team found that the report provided evidence that there is dissatisfaction with opportunities for advancement within the behavioral healthcare workforce, with only 41% of staff reporting satisfaction with their opportunity to advance within their organization. The Team advised that this suggests a need for more available positions for advancement, and a need

to eliminate the barriers that currently make advancement difficult. Additionally, given existing reimbursement strategies, the Team noted a number of challenges in supporting staff working on achieving licensure. Specifically, the Workforce Study Team made the following recommendations related to recruitment and retention:

- Incentivize work while people are interning, working on reaching licensure status and are not in a reimbursable category; take up the issue of reimbursement for trainee staff with the state insurance commission and the legislature; reimburse trainees at 140% of the Medicaid rate to cover the cost of training and supervision.

- Provide incentives for students enrolled in the applied behavioral sciences at Oklahoma colleges and universities to receive a portion of their clinical training in state funded service systems; focus particularly on soliciting students who will serve in those professional and tech staff positions where there appears to the greatest needs. Such incentives might be stipends, expense reimbursements, scholarships, etc.

- Establish a loan repayment program for graduating professionals who agree to practice within the state's mental health system, and in rural settings; identify and facilitate utilization of any existing such opportunities.

- Collaborate with the Oklahoma State Regents for Higher Education to develop a "career ladder" system for mental health professionals and tech staff; pursue similar arrangements for tech staff in high schools and vocational/technical schools.

Training

The Workforce Study Team's concerns about training included the insufficient number of prescribers in the state; the need to support the development of basic behavioral healthcare screening, assessment, treatment, and referral skills among primary medical care providers; and the insufficient "real world" training opportunities for some professions, particularly psychologists who may be trained in settings vastly different from the public behavioral healthcare system. Related to these concerns, the Team made the following recommendations:

- Provide incentives to encourage faculty members in the applied behavioral sciences programs at Oklahoma colleges and universities to practice within the state's behavioral healthcare service system, provide clinical supervision of their students in those settings, and adjust their curricula to better prepare students for their own practice in this environment.

- Ensure that Oklahoma's medical schools, primary care medical residency programs, physician assistant programs, and advanced practice nursing programs train students in the evidence-based skills necessary to recognize mental health needs, perform diagnosis, and successfully treat and/or refer patients for appropriate services.

- Provide funding to expand the number of medical residents training in the field of psychiatry in Oklahoma, and encourage the affiliation of the residency programs with the state's behavioral healthcare system, including not only clinical training experiences but also the direct delivery of services.

- Encourage academic programs in the applied behavioral sciences to train students who are located in geographically remote areas in Oklahoma through use of telecommunications and Internet-based technology, thus addressing both regional variations in EBP-related training needs and overall workforce capacity.

- Revise the scope of practice for licensed advanced practice nurses, physician assistants, and doctoral level psychologists to permit them to prescribe psychiatric medications and require any necessary training either through continuing professional education or in the student degree programs that ensure that these disciplines are competent to prescribe and treat patients with such medications. Create incentives for primary care providers to develop integrated care practices by targeting training in integrated care and promoting continuing education in prescribing psychiatric medications.

- In advocacy efforts, emphasize that resources for supporting implementation of EBPs, training funds, and funding for consultation to assure model fidelity should provide cost savings because people are being treated with practices that work.

Best Practices

The Workforce Study Team identified the implementation of best practices as one way to respond to the study findings related to staff paperwork burden and its relation to job satisfaction and to program manager perceptions of causes of turnover, and pointed to the difficulty in reducing documentation burden given high levels of vacancy and turnover. Additionally, the Team raised telehealth as an important best practice for implementation in Oklahoma. Workforce Study Team members recommended the following actions in relation to best practices:

- Expand access to the most up-to-date information on best practice models and evidence-based strategies in mental health services for those professionals providing direct services in Oklahoma's publicly funded behavioral healthcare service system; arrange for technical assistance to those professionals who wish to implement such strategies.

- Limit the quantity of mandatory paperwork and reporting required by the state's behavioral healthcare agencies to only that which is absolutely necessary. Provide training to professionals on the means by which such reporting may be accomplished in the most efficient, least time-consuming manner; establish an ongoing means to remove unnecessary paperwork by soliciting feedback from those required to complete the paperwork. Investigate opportunities for shifting paperwork burden away from clinical staff, using physical healthcare staff roles and responsibilities as a model.

- Expand the use of telehealth as a means to extend behavioral healthcare services to those who are in need of such services but are geographically remote from providers; remove any regulatory and reimbursement barriers to the evidence-based use of telehealth services; study the impact of using telehealth on workforce projections.

- Encourage the practice of Integrated Behavioral Therapy in primary medical care setting through reimbursement incentives paid under OHCA Medicaid guidelines.

Future Planning Efforts

Finally, Workforce Study Team members were asked to make recommendations regarding the next steps for advancing the work of the Team and the findings of the study. Team members identified a need to retain the involvement and commitment of well-positioned personnel in key state agencies and within the private sector, and pointed to the importance of focusing continued work on a vision for the future of behavioral healthcare in the state. Specifically, the Workforce Study Team recommended the following activities as next steps:

- Create a Mental Health Workforce Advisory Council that is charged with further in-depth analysis of the state's workforce, to help Oklahoma develop a model for its future in providing behavioral health services for its citizens, and define a plan or model for meeting the prospective workforce needs for Oklahoma's future. Consider creating this Council as an extension of an established board, such as the Mental Health Planning Council or the Partnership for Children's Behavioral Health. Consider housing this initiative under the general healthcare umbrella, and developing it in association with healthcare reform activities.

- Continue the investigation of both key issues identified in the existing workforce study report and those not covered in the report, including the relationship between staffing patterns, compensation, and barriers to recruitment, as well as patterns of licensed clinicians moving into private practice.

- Coordinate current and future recommendations with those developed by other groups invested in workforce issues. Along these same lines, a prioritization process would support progress on this initiative, by allowing stakeholders to target resources to the tasks that are most feasible and are anticipated to have high payoff for the workforce.

Throughout these and the previous recommendations, the Workforce Study Team implicitly identified the need to distinguish between the workforce as it exists and the workforce required to be fully responsive to the behavioral healthcare needs of Oklahoma citizens. Regardless of which recommendations are carried forward, this distinction may provide direction to the Team and subsequent Advisory Council, as suggested by one Workforce Study Team member's statement:

> *... it is imperative to stress the necessity of being proactive with respect to continuous workforce planning and evaluation. Therefore, it is required that there be a model of what the future workforce should look like and not base assumptions of simply maintaining status quo. If we believe that what we are doing now is the right model and sufficient to meet needs, then we should focus on a "replacement strategy." If, on the other hand, we feel that meeting Oklahoma's behavioral health needs require a change in our system of care or if we believe that national healthcare reform has and will continue to change our system, then we need to imagine what that change looks like and plan accordingly.*

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APPENDIX A: STAFF SEPARATIONS

APPENDIX A1: Logistic Regression Models for Perceived Causes of Separations

Factors Influencing Program Manager Perceptions of Staff Dissatisfaction with Salary/Pay as a Cause of Turnover

Model 1	Wald Statistic	Metric Coefficient	Standard Error	Odds Ratio
Industry[52]				
Industry Group	*13.450**			
Substance Abuse		-1.153*q	0.382	0.316
DHS		-0.585	0.723	0.557
OJA		1.969	1.443	7.162
OPHA		-0.851	0.667	0.427
Program Setting[53]	*3.664*			
Inpatient		-0.441	0.534	0.643
Criminal Justice		-1.770	1.177	0.170
Residential		0.238	0.488	1.269
N	175			

*p≤ .05

Factors Influencing Program Manager Perceptions of Staff Dissatisfaction with Paperwork as a Cause of Turnover

Model 2	Wald Statistic	Metric Coefficient	Standard Error	Odds Ratio
Industry[54]	*2.409*			
Substance Abuse		0.274	0.392	1.315
DHS		-1.169	1.028	0.311
OJA		-20.764	12196.115	0.000
OPHA		0.063	0.907	1.065
Service Population[55]	*6.741**			
Children Only		1.429*	0.603	4.175
Adults Only		0.068	0.410	1.070
Program Setting[56]	*13.019***			
Inpatient		-2.037*	0.705	0.130
Criminal Justice		-1.589	1.201	0.204
Residential		-1.309*	0.550	0.270
N	182			

*p≤ .05

[52] Mental Health industry is the reference category.
[53] Outpatient programs are the reference category.
[54] Mental Health industry is the reference category.
[55] Serves both children and adults is the reference category.
[56] Outpatient programs are the reference category.

Factors Influencing Program Manager Perceptions of Staff Dissatisfaction with Job Responsibilities as a Cause of Turnover

Model 3	Wald Statistic	Metric Coefficient	Standard Error	Odds Ratio
Service Population[57]	*9.201***			
Children Only		2.494**	0.822	12.108
Adults Only		1.963**	0.766	7.119
Organizational Size[58]	*5.217*			
Small Organizations		-0.340	0.687	0.712
Medium Organizations		0.866*	0.433	2.377
N	188			

*p≤ .05

Factors Influencing Program Manager Perceptions of Staff Dissatisfaction with Shift/Work Hours as a Cause of Turnover

Model 4	Wald Statistic	Metric Coefficient	Standard Error	Odds Ratio
Industry[59]	*3.244*			
Substance Abuse		-0.246	0.514	0.782
DHS		-0.219	0.784	0.803
OJA		0.363	0.876	1.437
OPHA		0.988	0.689	2.686
Program Setting[60]	*5.628*			
Inpatient		1.040	0.595	2.831
Criminal Justice		1.365	0.931	3.917
Residential		1.099*	0.565	3.002
N	195			

*p≤ .05

[57] Serving both children and adults is the reference category.
[58] Large organizations are the reference category.
[59] Mental health industry is the reference category.
[60] Outpatient programs are the reference category.

Factors Influencing Program Manager Perceptions of Staff Dissatisfaction with Salary/Pay as a Cause of Turnover

Model 5	Wald Statistic	Metric Coefficient	Standard Error	Odds Ratio
Industry[61]				
Industry Group	7.085			
Substance Abuse		-0.454	0.620	0.635
DHS		1.439	1.158	4.217
OJA		2.526	1.499	12.509
OPHA		-0.197	0.924	0.821
Service Population[62]	3.172			
Children Only		-0.757	0.564	0.469
Adults Only		0.180	0.458	1.197
Organizational Type[63]	2.714			
State Operated		0.953	0.578	2.593
Program Setting[64]	5.108			
Inpatient		-0.758	0.707	0.469
Criminal Justice		-2.826*	1.333	0.059
Residential		-0.360	0.593	0.698
Organizational Size[65]	2.696			
Small Organizations		-0.271	0.708	0.762
Medium Organizations		-0.854	0.584	0.426
N	175			

*p≤ .05

[61] Mental Health industry is the reference category.
[62] Serves both children and adults is the reference category.
[63] Privately operated organizations are the reference category.
[64] Outpatient programs are the reference category.
[65] Large organizations are the reference category.

Factors Influencing Program Manager Perceptions of Staff Dissatisfaction with Paperwork as a Cause of Turnover

Model 6	Wald Statistic	Metric Coefficient	Standard Error	Odds Ratio
Industry[66]	1.741			
Substance Abuse		0.373	0.611	1.452
DHS		-0.802	1.117	0.448
OJA		-20.356	13850.448	0.000
OPHA		-0.173	1.004	0.841
Service Population[67]	5.013			
Children Only		1.266*	0.618	3.548
Adults Only		0.050	0.412	1.051
Organizational Type[68]	0.170			
State Operated		-0.192	0.466	0.825
Program Setting[69]	11.103*			
Inpatient		-1.944*	0.743	0.143
Criminal Justice		-1.500	1.206	0.223
Residential		-1.389*	0.585	0.249
Organizational Size[70]	0.650			
Small Organizations		-0.115	0.684	0.891
Medium Organizations		-0.409	0.563	0.665
N	175			

*p≤ .05

[66] Mental health industry is the reference category.
[67] Serves both children and adults is the reference category.
[68] Privately operated organizations are the reference category.
[69] Outpatient programs are the reference category.
[70] Large organizations are the reference category.

Factors Influencing Program Manager Perceptions of Staff Dissatisfaction with Job Responsibilities as a Cause of Turnover

Model 7	Wald Statistic	Metric Coefficient	Standard Error	Odds Ratio
Industry[71]	2.407			
Substance Abuse		-0.813	0.752	0.444
DHS		-0.533	1.088	0.587
OJA		-19.701	12009.979	0.000
OPHA		0.713	1.062	2.040
Service Population[72]	5.040			
Children Only		1.871*	0.883	6.496
Adults Only		1.718*	0.810	5.575
Organizational Type[73]	0.455			
State Operated		-0.433	0.642	0.649
Program Setting[74]	1.749			
Inpatient		0.144	0.829	1.155
Criminal Justice		-18.658	13143.367	0.000
Residential		0.862	0.657	2.368
Organizational Size[75]	3.606			
Small Organizations		-0.184	0.946	0.832
Medium Organizations		1.000	0.633	2.717
N	175			

*p≤ .05

[71] Mental health industry is the reference category.
[72] Serving both children and adults is the reference category.
[73] Privately operated organizations are the reference category.
[74] Outpatient programs are the reference category.
[75] Large organizations are the reference category.

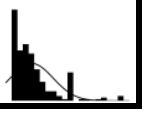
Factors Influencing Program Manager Perceptions of Staff Dissatisfaction with Shift/Work Hours as a Cause of Turnover

Model 8	Wald Statistic	Metric Coefficient	Standard Error	Odds Ratio
Industry[76]	3.023			
Substance Abuse		-0.613	0.762	0.542
DHS		-1.180	1.144	0.307
OJA		0.244	1.198	1.276
OPHA		0.523	0.948	1.687
Service Population[77]	0.585			
Children Only		-0.130	0.639	0.878
Adults Only		-0.422	0.574	0.656
Organizational Type[78]	1.329			
State Operated		-0.715	0.620	0.489
Program Setting[79]	6.744			
Inpatient		1.310	0.758	3.707
Criminal Justice		2.079*	1.050	7.996
Residential		1.551*	0.703	4.718
Organizational Size[80]	0.816			
Small Organizations		-0.467	0.868	0.627
Medium Organizations		0.199	0.626	1.221
N	175			

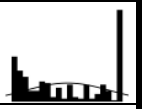
*p≤ .05

[76] Mental health industry is the reference category.
[77] Serving both children and adults is the reference category.
[78] Privately operated organizations are the reference category.
[79] Outpatient programs are the reference category.
[80] Large organizations are the reference category.

APPENDIX A2: Distribution of Separation Rates

Cross-industry Program Level Percent Separated	Mean	Median	Range	Distribution
Separations, all positions (N programs=230)	36%	25%	0%-200%	

APPENDIX A3: Distribution of Position Type Proportions

Staff Position Predictors	Mean	Median	Range	Dist
Proportion MDs (N=224) *(PM)*	3%	0%	0%-50%	
Proportion PhDs (N=225) *(PM)*	1%	0%	0%-71%	
Proportion MSWs (N=230) *(PM)*	50%	44%	0%-100%	
Proportion RNs (N=225) *(PM)*	6%	0%	0%-56%	
Proportion LPNs (N=223) *(PM)*	2%	0%	0%-50%	
Proportion Techs (N=227) *(PM)*	39%	40%	0%-100%	

APPENDIX A4: Variables Discarded from Separation Rate Analysis

State/private Health Insurance	Private Low (N=46)	Private Med (N=31)	Private High (N=55)	State (N=56)	Total (N=188)
Proportion in low turnover group	50%	65%	47%	71%	58%

The above variable was created by dividing private organizations into three groups according to the proportion of health insurance costs covered for employees, and considering state operated organizations as a fourth group. If state and private high are combined, the proportion in the low turnover group is nearly equal to that for all programs combined, again leaving a distribution that's difficult to interpret.

Similar problems were encountered with combined benefits, a variable representing the number of the following benefits offered: health, dental, life, and disability. This X^2 was significant, but the distribution isn't logical:

Combined Benefits	0 benefits (N=4)	1 benefit (N=14)	2 benefits (N=11)	3 benefits (N=49)	4 benefits (N=164)	Total (N=242)
Proportion in low turnover group	100%	57%	64%	31%	61%	55%

As an alternative, the distribution for state v. privately operated programs (without considering percentage of health insurance paid) does look as we'd expect. The private program Ns are higher here because of the high number of programs missing proportion of health insurance paid. This variable was retained in the analysis.

State Operated/Privately Operated	Private (N=188)	State (N=56)	Total (N=244)
Proportion in low turnover group	51%	71%	55%

APPENDIX A5: Correlation Between Proportion Counselors and Proportion Techs

Predictor correlation was examined using both the Pearson coefficient and Spearman's rho. The two approaches yielded similar results.

	Proportion of professionally trained staff	Proportion of professionally trained staff
Proportion Masters-level counselors		ρ=-0.88*
Proportion Techs	r=-0.88*	

* p≤.05

APPENDIX A6: Logistic Regression Model for Separation Rate

	Wald Statistic	Metric Coefficient	Standard Error	Odds Ratio
Industry[81] 1	4.26			
ChildG		.-.44	.87	.64
SA		-.28	.36	.75
OJA		-.01	.73	.99
DHS		.33	.60	1.38
OPHA		-.94	.54	.39
Proportion Techs		1.05*	.47	2.86
State operated		-.93*	.39	.40
N	217			

*p≤ .05

APPENDIX A7: Staff Position Type Breakdown in Low and High Separation Programs

Staff position type predictors	Mean prop low sep programs	Mean prop high sep programs	*t*	Mann-Whitney U	Wilcoxon W	Z
Proportion MDs *(PM)*	3%	2%	.43	6167.00	11945.00	-.108
Proportion PhDs *(PM)*	2%	0%	2.27*,[82]	5999.00	11777.00	-1.17
Proportion Master's level *(PM)*	57%	44%	2.65*	5752.50	11158.50	-2.54*
Proportion RNs *(PM)*	6%	5%	.73	6171.00	11949.00	-.22
Proportion LPNs *(PM)*	2%	2%	-.43	6101.50	11879.50	-.34
Proportion Techs *(PM)*	31%	48%	-3.74*	4730.50	11990.50	-3.48*

*p≤ .05

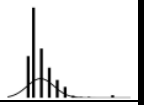
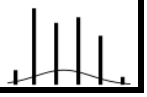
[81] Mental health industry is reference group
[82] Equal variances not assumed due to significant Levene's test statistic

APPENDIX A8: Additional Variables Investigated as Predictors of Separation Rate

	X^2
Industry	10.95*
Region	8.09
Service Type	3.07
Program Setting	2.25
Population Age	4.56
Benefits: State/private health insurance proportion paid	8.49*
Alt: State v. private	7.62*
Benefits: Health, dental, disability and life combined	17.79*
Alt: Disability only	5.75*
Organization size	1.14

* p≤.05

APPENDIX A9: Distribution of Intention to Leave Predictors

Predictor	Mean	Median	Range	Dist
Staff overall job satisfaction (1: very satisfied - 5: very dissatisfied) (N=1264)	1.89	--	--	
Staff pay (N=1065)	$17.01	$12.50	--	
Staff experience (years in field) (N=1171)	10.13	8.00	1.00 - 43.00	
Staff age (N=1200)	42.59	39.50	--	

APPENDIX A10: Intention to Leave and Composite Consumer Identity Variable (rejected)

Consumer/family Status	Neither (N=685)	Consumer (N=98)	Family (N=226)	Both (N=172)	Total (N=1181)
Proportion intending to leave	19%	13%	20%	27%	20%

APPENDIX A11: Intention to Leave Predictor Correlation

Predictor correlation was examined using both the Pearson coefficient and Spearman's rho. The two approaches yielded similar results.

	Staff overall job satisfaction	Staff pay	Staff experience	Staff age
Staff overall job satisfaction		ρ=-0.02	ρ=-0.01	ρ=-0.02
Staff pay	r=-0.05		ρ=0.49*	ρ=0.35*
Staff experience	r=-0.03	r=0.37*		ρ=0.58*
Staff age	r=-0.01	r=0.29*	r=0.58*	

*p≤ .05

APPENDIX A12: Logistic Regression Model for Staff Intention to Leave

	Wald Statistic	Metric Coefficient	Standard Error	Odds Ratio
Job satisfaction		1.04*	.12	2.82
Pay		.003	.01	1.00
Years in field		.00	.02	1.00
Service type[83]	3.85			
Co-occur Dev & MH/SA		-.15	.46	.86
SA		-1.02	.56	.36
Co-occur MH/SA		-.07	.24	1.07
Region[84]	10.43			
NW		.01	.46	1.00
SW		-.17	.43	.84
SE		-.08	.37	.92
NE		-.31	.30	.74
Tulsa		.83	.36	2.30
Age		-.03*	.01	.97
Family member		-.15	.12	.86
N	217			

*p≤ .05

[83] Mental health industry is reference group
[84] OKC region is reference group

APPENDIX A13: Job and Staff Predictors for Staff Intending to Leave and Intending to Stay

	Mean for staff staying	Mean for staff leaving	*t*	Mann-Whitney U	Wilcoxon W	Z
Staff overall job satisfaction (N=1241) *(staff)*	1.71	2.59	-11.57*,[85]	67861.00	563371.00	-11.85*
Staff pay (N=1047) *(staff)*	$17.29	$16.08	1.83	78270.50	99798.50	-2.30*
Staff experience (N=1151) *(staff)*	10.49	8.77	2.75*,[51]	94121.50	119999.50	-2.40*
Staff age (N=1180) *(staff)*	43.30	39.67	3.95*,[51]	89428.50	114628.50	-3.95*

*p≤ .05

While all of the above were significant in bivariate analysis, only job satisfaction and staff age remained significant in the regression model.

APPENDIX A14: Additional Variables Investigated as Predictors of Intention to Leave

Region *(assigned)*	OKC (N=456)	Tulsa (N=90)	NE (N=326)	SE (N=147)	SW (N=88)	NW (N=55)	Total (N=1162)
Proportion intending to leave *(staff)*	19%	31%	15%	23%	23%	74%	20%

Service Type *(PM)*	MH (N=411)	SA (N=74)	Co-occur MH/SA (N=330)	Co-occur Dev Dis & MH/ SA (N=75)	Total (N=890)
Proportion intending to leave (staff)	23%	5%	20%	15%	20%

Consumer Age *(PM)*	Adult & Child (N=223)	Adult Only (N=401)	Child Only (N=173)	Total (N=797)
Proportion intending to leave *(staff)*	20%	21%	10%	18%

Family Status *(staff)*	Family Members (N=398)	Non-Family Members (N=769)	Total (N=1167)
Proportion intending to leave *(staff)*	23%	18%	20%

The above were significantly related to intention to leave in bivariate analysis but not in the regression model.

[85] *Equal variances not assumed due to significant Levene's test statistic*

APPENDIX A15: U.S. Bureau of Labor Statistics Standard Occupational Classification System Positions Categorized According to Six-Position Structure

Aides/Techs
Psychiatric technicians
Psychiatric aides
Social and human service assistants
Home health aides
Nursing aides, orderlies and attendants
Occupational therapist assistants
Occupational therapist aides
Medical assistants
Dietetic technicians

Masters-Level Professionals
Substance abuse counselors
Behavioral disorder counselors
Marriage and family therapists
Mental health counselors
All other counselors
Child, family and school social workers
Mental health and substance abuse social workers
All other social workers
All other community and social service specialists

LPNs
Licensed practical and licensed vocational nurses

Psychologists
Clinical, counseling and school psychologists
All other psychologists

Psychiatrists/Other Physicians
Psychiatrists
Family and General Practitioners
General Internists
General Pediatricians
All other physicians and surgeons

RNs
Registered nurses

APPENDIX B: VACANCIES AND RECRUITMENT BARRIERS

APPENDIX B1: Logistic Regression Model for Salary as a Perceived Recruitment Barrier

	Wald Statistic	Metric Coefficient	Standard Error	Odds Ratio
Industry[86]	16.43*			
DHS		.23	.59	1.53
OJA		-1.90	1.20	.15
OPHA		2.07*	.58	7.88
SA		.04	.54	1.04
Organization size[87]	5.45			
Small		1.31	.60	3.71
Medium		.98	.50	2.65
State operated		-1.12*	.54	.33
N	198			

*p≤ .05

APPENDIX B2: Distribution of Vacancy Rates

Cross-industry Percent Vacant	Mean	Median	Range	Distribution
Vacancies, all positions (N programs=215)	12%	4%	0%-100%	

APPENDIX B3: Bivariate Relationships Between Vacancy Rate and Program Variables

Study Dimensions	X^2
Industry	8.57
Region	3.18
Service Type	1.48
Program Setting	.834
Population Age	2.64
Benefits: State/private health insurance proportion paid	.43
Alt: State v. private	.27
Benefits: Health, dental, disability and life combined	6.00
Organization size	.45

[86] Mental health industry is reference group
[87] Large organization size is reference group

APPENDIX B3 continued

Perceived causes of turnover (N=218)	X^2
Salary not attractive	1.39
No candidates with desired credentials	.06
No candidates with desired work experience	.05
Small applicant pool due to geographic location	2.33
Competition from other fields	.31
Funding/not allowed to fill position	.62
No candidates with desired skills	1.73
Shift/work hours not attractive	.01
Geographic location of agency not attractive	.28

Staff position type predictors	**Mean prop low vac programs**	**Mean prop high vac programs**	***t***	**Mann-Whitney U**	**Wilcoxon W**	**Z**
Proportion MDs	2%	2%	-.12	5188.50	11183.50	-1.73
Proportion PhDs	2%	1%	.98	5676.00	11347.00	-0.49
Proportion MSWs	55%	46%	1.71	5050.00	10721.00	-1.61
Proportion RNs	4%	7%	-2.14*[,88]	4865.00	10860.00	-2.47*
Proportion LPNs	2%	3%	-1.25[54]	5257.50	11252.50	-1.77
Proportion Techs	36%	41%	-1.62[54]	5124.00	11119.00	-1.46

*p≤ .05

[88] Equal variances not assumed due to significant Levene's test statistic

APPENDIX C: BENEFITS AND COMPENSATION

APPENDIX C1: Linear Regression Model for Staff Pay

Most of the predictor variables in the model were categorical variables with more than two categories. Each of these was recalculated as a group of dummy variables with one category selected as a reference group. Each group of dummy variables was entered as a block. The initial model tested included service type, service setting, population age, organizational size, staff race, staff ethnicity, staff age, organizational tenure and position type. The change statistics for each block in this full model were examined; the variables' *t* statistics and significance were also reviewed to confirm that they were consistent with the change statistics. The first block with an insignificant change statistic was removed and the model was rerun. The new change statistics were examined, and the same procedure was employed until the model contained four blocks, all with significant changes statistics, and all containing at least one significant dummy variable.

	Block	*Unstandardized Coefficients*		
	F Change	*B*	*SE*	*t*
Constant		19.93	.68	
Position Type[89]	*94.80**			
PhD		14.66	3.00	4.89*
RN		8.38	.83	10.02*
LPN		-1.40	1.33	-1.05
Tech		-6.17	.58	-10.69*
Service Type[90]	*4.28**			
Dev Dis & MH/SA		-2.78	1.04	-2.67*
SA		-2.29	.98	-2.34*
MH & SA		-.87	.57	-1.53
Population Age[91]	*12.93**			
Adults		-3.03	.62	-4.90*
Children		-2.08	.83	-2.86*
Organization Size[92]	*5.47**			
Small		.79	.97	.82
Medium		2.04	.62	3.31*
Adjusted R Square	.37			

*p≤ .05

[89] Masters-level professional is reference group
[90] Mental health service is reference group
[91] Adults & children is reference group
[92] Large organization size is reference group

APPENDIX C2: Logistic Regression Model for Tech Position Category

	Wald Statistic	Metric Coefficient	Standard Error	Odds Ratio
Race[93]	*7.84**			
AI/AN		-.07	.33	.93
Black		.96*	.35	2.61
Two or more races		.04	.39	1.04
Gender female		-.80*	.22	.45
Ethnicity Hispanic		-.56	.65	.57
Highest Degree [94]	*167.48**			
Graduate		-4.65*	.36	.01
4 year		-2.42*	.28	.09
2 year		-2.14*	.31	.12
Organizational tenure		-.03	.02	.972
Staff age		-.04*	.009	.96
N = 872				

* p<.05

[93] White/Caucasian is reference group
[94] HS/GED is reference group

APPENDIX D: WORK EXPERIENCE AND JOB SATISFACTION

APPENDIX D1: Final Logistic Regression Model for Work Experience

Model 1	Wald Statistic	Metric Coefficient	Standard Error	Odds Ratio
Population[95]	*20.95**			
Children Only		0.36	0.35	2.11
Adults Only		-0.71*	0.23	0.49
Industry[96]	*52.75**			
OPHA		-0.39*	0.25	0.68
OJA		-0.51	0.40	0.60
DOC		-1.41*	0.47	0.24
SA	1.51*	0.28	4.55	
FQHC		-0.80	0.69	0.45
ChildG		0.47	0.59	1.60
N	822			

p≤ .05

[95] Adults & children is reference group
[96] Mental health industry is reference group

APPENDIX D2: Logistic Regression Model for Staff Satisfaction with Salary/Pay

Model 1	Wald Statistic	Metric Coefficient	Standard Error	Odds Ratio
Industry[97]	*25.098**			
SA		0.676*	0.241	1.965
DOC		2.664*	0.838	14.357
FQHC		2.859*	1.087	17.447
OJA		-0.056	0.560	0.945
OPHA		-0.038	0.356	0.962
Service Type[98]	*14.691**			
Mental Health		0.094	0.556	1.099
Substance Abuse		1.328*	0.614	3.774
Co-occur MH/SA		0.591	0.557	1.806
Service Setting[99]	*6.361*			
Inpatient		0.519	0.292	1.680
Criminal Justice		0.116	0.506	1.123
Residential		0.673*	0.324	1.960
Population[100]	*13.289**			
Children Only		-0.083	0.312	0.920
Adults Only		-0.831*	0.244	0.436
Years in the Field		0.032*	0.010	1.032
N	693			

*p≤ .05

[97] Mental health industry is reference group; Child Guidance not included due to challenges associated with sorting programs by service type.
[98] Co-occurring mental health or substance abuse and developmental disability is reference group
[99] Outpatient is reference group
[100] Adults & children is reference group

APPENDIX D3: Linear Regression Model for Job Satisfaction (Scale)

Significant variables from the bivariate and regression analyses include: service type, service population, organizational size, race and education. However, it is important to note that the model only explained about 7% of the variation in staff responses to the job satisfaction scale items. In other words, most of the variation in staff responses should be attributed to factors not included in this model.

Analysis and Results

The job satisfaction scale score was tested in bivariate analysis with both program/organization variables and staff variables. As with related analyses described earlier, program and organizational variables tested included industry group, region, service type, program setting, consumer population age, state operated status and organization size. All of these variables were related to the job satisfaction scale score in bivariate analysis, and were retained for the initial regression analysis. Staff variable examined included staff member race, ethnicity, gender, highest degree obtained, age, years in position, years in organization, years in behavioral healthcare field, position category, and consumer status.

Program service type remained a significant predictor of job satisfaction in both bivariate and regression analyses. Staff in mental health programs reported satisfaction with significantly fewer aspects of their jobs (58%) than those in substance abuse programs (74%). The difference between mental health job satisfaction rates and satisfaction rates of staff in co-occurring mental health and substance abuse programs (63%) also remained significant in the regression models, but the difference between mental health and co-occurring developmental disability and mental health or substance abuse service programs was not significant. Staff in programs that were difficult to categorize according to this program typology are not included in Exhibit D1 (i.e., Child Guidance programs).

Exhibit D1: Job Satisfaction (Scale) by Program Service Type

	MH	SA	Co-occur MH/SA	Co-occur Dev Dis & MH/SA	Overall
Mean job satisfaction (N=908)	58%	74%	63%	62%	62%

Data from the program manager and staff surveys.

Staff in programs serving both children and adults reported satisfaction with more aspects of their jobs (66%) than did staff in programs serving only adults or only children (61% and 60%, respectively). While the difference between satisfaction in adult/child and adult-only programs remained significant in the regression model, the difference between satisfaction in adult/child and child-only programs did not. This finding is consistent with the pattern of responses observed for work experience and satisfaction with pay (described earlier in this section).

Exhibit D2: Job Satisfaction (Scale) by Service Population

	Children Only N=311	Adults Only N=411	Children & Adults N=223	Overall N=945
Mean job satisfaction	61%	60%	66%	62%

Data from the program manager and staff surveys.

Staff from both small (77%) and medium-sized (64%) organizations reported satisfaction with more aspects of their jobs than did staff from large organizations (60%). These relationships remained significant in the regression model. We believe this may be at least in part a result of other relationships that did not remain significant in the regression model. In particular, while industry group was not a significant predictor in the regression model, staff from the Substance Abuse industry reported the satisfaction with the highest proportion of aspects of their jobs, and the Substance Abuse organizations fall primarily into the small and medium size categories.

Exhibit D3: Job Satisfaction (Scale) by Organization Size

	Small Org N=95	Med Org N=244	Large Org N=859	Overall N=1198
Mean job satisfaction	77%	64%	60%	62%

Data from the organizational and staff surveys.

Years in position was significant in a preliminary regression model, but it explained very little variation in scale responses and was not included in the final regression model. Two staff demographic characteristics remained significant throughout analysis, and neither had precedent in the earlier analysis of work experience. While the mean job satisfaction for staff from most racial categories is just over 60%, staff who identify as Black/African American (and no other race) report satisfaction with a greater proportion of aspects of their jobs (71%). Highest degree obtained also remained significant in the regression model, and this can be attributed to the difference between the mean job satisfaction of staff with high school diplomas (67%) and that of staff with two-year degrees (58%). We were unable to identify other variables (e.g., industry or service type) that might be contributing to these findings. We looked more closely at the patterns of responses for individual job satisfaction items, and noted that, when compared to staff of all other races, while Black/African American staff did report a significantly higher rate of satisfaction with their job overall, they did not report higher satisfaction with their organization overall, or with their pay. When compared with all other staff, those whose highest degrees were high school diplomas or GEDs did not report higher rates of satisfaction with their jobs or organizations overall, and actually reported significantly lower rates of satisfaction with their pay. Given these patterns of responses on the scale's key items, the results shown below should be interpreted with caution.

Exhibit D4: Job Satisfaction (Scale) by Race

	AI/AN N=109	Black N=134	White N=850	≥2 races N=74	Overall N=1167
Mean job satisfaction	63%	71%	62%	63%	63%

Data from the staff surveys.

Exhibit D5: Job Satisfaction (Scale) by Education

	HS/GED N=256	2 YR N=192	4 YR N=334	Masters N=382	PhD/MD N=47	Overall N=1211
Mean job satisfaction	67%	58%	62%	63%	58%	63%

Data from the staff surveys.

Linear Regression Model for Job Satisfaction (Scale)

	Block F Change	*Unstandardized Coefficients B*	*SE*	*t*
Constant		0.634	0.033	
Service Type[101]	*6.305**			
Co-occur Dev Dis & MH/SA		0.028	0.039	0.722
Substance Abuse		0.088	0.040	2.178*
Co-occur MH & SA		0.046	0.023	1.988*
Service Population[102]	*5.978**			
Adults Only		-0.076	0.025	-3.105*
Children Only		-0.024	0.029	-0.822
Organization Size[103]	*11.505**			
Small		0.173	0.038	4.545*
Medium		0.077	0.025	3.095*
Race[104]	*3.137**			
American Indian		0.015	0.034	0.432
Black		0.085	0.032	2.655*
Biracial		-0.034	0.042	-0.817
Education[105]	*3.238**			
Associates Degree		-0.114	0.034	-3.390*
Bachelors Degree		-0.032	0.030	-1.061
Masters Degree		-0.043	0.030	-1.445
Doctorate		-0.099	0.061	-1.632
Adjusted R Square	0.074			

*p≤ .05

[101] Mental health service is reference group
[102] Adults & children is reference group
[103] Large organization size is reference group
[104] White is reference group
[105] HS/GED is reference group

APPENDIX E: WORKFORCE CAPACITY

APPENDIX E1: Logistic Regression Model for Staff Agreement with Recruit Diversity

Model 1	Wald Statistic	Metric Coefficient	Standard Error	Odds Ratio
Industry[106]	*13.21**			
SA		0.62*	0.23	1.86
ChildG		0.14	0.39	1.15
DOC		-1.05	0.66	0.35
FQHC		-0.80	0.81	0.45
OJA		-0.01	0.47	0.99
OPHA		0.10	0.20	1.11
Region[107]	*26.58**			
NE		-0.16	0.30	0.85
NW		0.34	0.45	1.40
OKC		0.81*	0.29	2.25
SE		0.54	0.34	1.71
SW		0.41	0.45	1.50
Family of youth consumer		-0.40	0.23	0.67
Hispanic		1.19*	0.54	3.29
Degree[108]	*12.09**			
Associates		-0.88*	0.29	0.41
BA		-0.34	0.26	0.71
MA		-0.58*	0.26	0.56
Ph.D/MD		-1.07*	0.52	0.34
N 791				

*p≤.05

[106] Mental health industry is reference group
[107] Tulsa metro area is reference group
[108] HS/GED is reference group