Developing the Welfare-to-Work Participation and
Employability Appraisal Screening:
A Retrospective Study

A Report for Riverside County's
Department of Public Social Services

January 2010

Kristen Johnson
Shannon Flasch
Kathy Park
Dennis Wagner, Ph.D.

TABLE OF CONTENTS

APPENDICES

ACKNOWLEDGMENTS

This study was a joint effort involving Riverside County's Department of Mental Health, the Department of Public Social Services, and the Children's Research Center. Thank you to agency line staff and administrators for their thoughtful collaboration in developing, field-testing, and implementing a case management system based on valid and reliable assessments.

CalWORKs recipients, unless exempt, are required to participate in welfare-to-work (WTW) program activities as a condition of receiving cash aid.[1] A number of clients, however, may have issues that impede successful engagement in WTW program activities, such as substance abuse, mental health concerns, or domestic violence issues. More than half of Temporary Assistance for Needy Families (TANF) clients have multiple barriers to employment, and the likelihood of employment decreases as the number of barriers increases (Danziger et al., 2002). Evidence suggests that TANF agencies' use of standardized assessments and case management services, including structured needs assessments and individualized service plans with frequent client contacts, is likely to result in improved services to clients (Johnson & Meckstroth, 1998).

In Riverside County, California, the county's Department of Mental Health (RCDMH) works collaboratively with the Department of Public Social Services (DPSS) to identify and provide services to CalWORKs recipients to address mental health and substance-abuse-related barriers to work participation and self-sufficiency. The goal of their joint approach was to better assist CalWORKs recipients in obtaining, retaining, and advancing in employment so that they can achieve independence from CalWORKs assistance. RCDMH staff are co-located with employment services counselors (ESCs) and provide direct services to customers onsite at DPSS facilities. These two agencies sought to develop a structured case management system to help ensure early identification of WTW customers with barriers to employment and, if necessary, quicker engagement in services to address those barriers and move customers into successful employment.

RCDMH and DPSS staff took a prevention-oriented, evidence-based approach when designing the case management system. The goal of this approach was to increase the number of customers who participate in work activities and to improve their progress toward self-sufficiency. RCDMH and DPSS hope that an evidence-based, structured case management system will help workers quickly and accurately identify client needs and provide the necessary supports to meet those needs, as well as improving the consistency of how counselors make these important decisions.

A key component of the structured case management system is an actuarial appraisal screening to help identify those customers most in need of support to make a successful transition to self-sufficiency. RCDMH, in partnership with DPSS, contracted with Children's Research Center (CRC) to develop an appraisal screening to determine which WTW customers will benefit from additional support in order to meet program goals. Program success has two components: a customer must 1) find sustainable employment and 2) participate in work-related activities for a minimum of 32–35 hours per week. The goal of the research described in this report was to develop an actuarial appraisal screening that classifies customers by the likelihood of subsequent WTW program participation and employment and that can be completed by ESCs soon after WTW assignment. Such classification will assist ESCs in identifying which customers are in greatest need of additional support and engagement to increase the likelihood of successful program participation. ESCs may also more quickly identify those customers who could benefit from mental health, substance use, or domestic violence services.

---

[1] http://www.dss.cahwnet.gov/CDSSWEB/PG141.htm.

This retrospective validation study used actuarial risk assessment methodology, which involved analysis of individual characteristics as they related to defined outcomes. Outcomes observed were the likelihood of program compliance and employment during a standardized 12-month follow-up period from WTW assignment. The research showed that it is possible to construct an actuarial appraisal screening that classifies customers by the likelihood of subsequent WTW program participation and employment. The agency support level assigned to a customer indicates the recommended level of agency support needed to facilitate successful program participation.

The appraisal screening developed to accomplish this task is composed of two indices. The first, an 11-item participation index, classifies customers by their likelihood of program compliance. For example, 10.2% of low support customers were sanctioned during the standardized 12-month follow-up period. In comparison, customers classified as moderate support had a sanction rate of 16.1%, while those classified as high support had a sanction rate of 24.9%.

Next, the 9-item employability index classifies customers by their likelihood of subsequent employment. Among customers classified as low support by the employability index, 55.2% were employed one year later. In comparison, 36.8% of moderate support customers and 21.3% of high support customers were employed one year later.

The combined indices provide useful information about a customer's likelihood of successful program participation. Adopting the proposed appraisal screening should improve workers' estimates of a customer's likelihood of program success, which would permit the agency to more effectively target service interventions to individuals classified as needing higher support. Risk assessment is only useful, however, if it informs decision making. Actuarial risk assessment used to target limited resources will only happen if workers have the necessary assessment and engagement skills, and if the use of appraisal screening findings to inform decision making is integrated into agency practice (Shlonsky & Wagner, 2005).

Developing the appraisal screening is the first step in a more comprehensive research effort. The case management system designed by Riverside County DPSS and RCDMH workgroup members includes a family strengths and needs assessment to help ESCs develop actions plans and determine activity assignments for customers. Once the various components of the new case management system are implemented, DPSS and RCDMH plan on conducting a process evaluation to determine how use of the appraisal screening and other changes in assessment practices affect how workers manage their cases. Finally, a prospective validation of the appraisal screening will be completed at a later date based on information gathered by ESCs under field conditions.

iii

I.   INTRODUCTION

California CalWORKs recipients, unless exempt, are required to participate in welfare-to-work (WTW) program activities as a condition of receiving cash aid.[2] A number of clients, however, may have issues that impede successful engagement in WTW program activities, such as substance abuse, mental health concerns, or domestic violence (Danziger et al., 2002). More than half of Temporary Assistance for Needy Families (TANF) clients have multiple barriers to employment, and the likelihood of employment decreases as the number of barriers increases (Danziger et al., 2002). Evidence suggests that TANF agencies' use of standardized assessments and case management services, including structured needs assessments and individualized service plans with frequent client contacts, is likely to result in improved services to clients (Johnson & Meckstroth, 1998).

In Riverside County, California, the county's Department of Mental Health (RCDMH) works collaboratively with the Department of Public Social Services (DPSS) to identify and provide services to CalWORKs recipients to address mental health and substance-abuse–related barriers to work participation and self-sufficiency.   RCDMH staff are co-located with employment services counselors (ESCs) and provide direct services to customers onsite at DPSS facilities. These two agencies sought to develop a structured case management system to help ensure early identification of WTW customers with barriers to employment and, if necessary, quicker engagement in services to address those barriers and move customers into successful employment.

RCDMH and DPSS staff took a prevention-oriented, evidence-based approach when designing the case management system. The goal of this approach was to increase the number of customers who participate in work activities and to improve their progress toward self-sufficiency. RCDMH and DPSS hope that an evidence-based, structured case management

---

[2] http://www.dss.cahwnet.gov/CDSSWEB/PG141.htm.

1

system will help workers quickly and accurately identify client needs and provide the necessary supports to meet those needs, as well as improving the consistency of how counselors make these important decisions.

A key component of the structured case management system is an actuarial appraisal screening to help identify those customers most at risk of employment and program participation problems. RCDMH, in partnership with DPSS, contracted with Children's Research Center (CRC) to develop an appraisal screening to determine which WTW customers will benefit from additional support in order to meet program goals. Program success has two components: a customer must 1) find sustainable employment and 2) participate in work-related activities for a minimum of 32–35 hours per week. The goal of this project is to develop an actuarial appraisal screening that can be completed by ESCs soon after WTW assignment to identify those customers at greatest risk of failing to complete the program. Studies in other human service domains show that targeting high risk individuals with more intensive services and additional caseworker contact had a positive effect on outcomes (Lowenkamp, Latessa, & Holsinger, 2006; Wagner & Bell, 1998; Wagner, Hull, & Luttrell, 1995; Eisenberg & Markley, 1987; Baird, Heinz, & Bemus, 1981). Actuarial assessment may serve a similar objective for ESCs by enhancing their ability to correctly identify customers who are likely to have difficulties meeting participation requirements or finding employment. Once individuals most likely to experience problems with program participation are identified, ESCs can provide additional support and manage those cases more intensively to increase the likelihood of program success. ESCs may also more quickly identify those customers who could benefit from mental health, substance use, or domestic violence services.

II. BACKGROUND

A. The Utility of Actuarial Assessment in Welfare-to-Work Programs

The accurate identification of WTW customers most likely to experience problems with program participation (i.e., those at high risk of program non-compliance) increases in importance as federal participation requirements tighten. States must engage 50% of all cases and 90% of two-parent families in work activities (U.S. Department of Health and Human Services, 2006). According to U.S. Department of Health and Human Services records for 2007,[3] the most recent year for which data are available, California was one of 15 states that did not meet the overall participation rate and is therefore in danger of losing federal funding. Increasing caseloads are adding to these pressures. TANF caseloads in California increased 6.3% between 2007 and 2008 (DeParle, 2009), and between 2008 and 2009, Riverside County's TANF caseload increased by 21.7%. Structuring decisions by using an actuarial assessment to identify customers most likely to benefit from intensive services can help effectively target limited resources to those most in need of them. Developing and implementing an actuarial appraisal screening may help RCDMH and DPSS improve ESC assessment and engagement practices. It is possible that through accurate customer assessment and identification of service needs, Riverside County may also improve its work participation rate. Improving the assessment of customer needs is not a guarantee that the work participation rate will increase, however, because it is only one of many factors influencing work participation rates.

This approach requires that workers be able to accurately identify customers most at risk of failing to participate in the WTW program or failing to find employment. Counselors' evaluation of risk will likely improve if informed by an actuarial assessment that estimates the likelihood of a customer's participation based on a set of observable characteristics. For example, if an ESC could accurately assess the likelihood that a customer would fail to appear

---

[3] http://www.acf.hhs.gov/programs/ofa/particip/2007/tab1a.htm#1.

for Job Club, the counselor could call the customer in the days or week prior to Job Club to make sure that the customer is aware of the meeting and has child care and transportation in place. Research in other human services fields shows that clinical estimations of risk made by qualified workers and field experts are often unreliable and are not related to outcomes (Andrews, Bonta, & Wormith, 2006; Hendryx & Rohland, 1997; Rossi, Schuerman, & Budde, 1996). The implication of unreliable and/or inaccurate case assessments is that customers may receive very different follow-up recommendations based on the counselor assigned to their case.

ESCs have well-documented post-hoc procedures to guide case actions when a customer fails to meet program requirements. Ideally, counselors could complete an actuarial appraisal screening to identify, engage, and retain customers who are most likely to drop out of the program so that they can make extra efforts *before* non-participation becomes an issue. Completing an actuarial appraisal early in the life of a case may also help ESCs identify mental health or substance use concerns and engage high risk customers sooner in supportive services. ESCs have to make judgments about the likelihood of program participation and employment under difficult conditions (Swets, Dawes, & Monahan, 2000), and are unlikely to have all available evidence. They would benefit from completing a research-based appraisal to help focus their estimation of risk on those factors with a demonstrated relationship to non-compliance with work or participation requirements.

This approach to case management—accurately identifying risk and focusing preventive efforts on those at greatest risk—has been successful in a number of other human services fields. For example, child protective services (CPS) agencies have developed validated actuarial risk assessments that can accurately identify families who have very high and very low probabilities of future maltreatment at the close of a field investigation. A quasi-experimental study conducted in Michigan showed that completing an actuarial assessment and prescribing differential contact standards based on risk significantly reduced subsequent maltreatment rates

4

(Wagner et al., 1995). A study of four Wisconsin counties showed similar findings (Wagner & Bell, 1998). This approach has also been successful in corrections. Studies of correctional programs demonstrated that identifying high risk individuals with an actuarial assessment and varying services by risk level were effective at reducing overall rates of recidivism, and that greater adherence to risk-based programming was positively related to reductions in recidivism (Lowenkamp et al., 2006).

Similarly, ESCs may benefit from completing a validated risk assessment that identifies customers most likely to have difficulty meeting program work and participation requirements. Counselors may also more quickly identify significant barriers to employment such as mental health issues, domestic violence issues, or substance use concerns, and engage customers with these barriers in mental health services. Allocating resources based on risk can also ensure that customers do not receive more service interventions than they actually need. One review of WTW practice suggested that TANF agencies' use of standardized assessments and case management services, including structured needs assessment and individualized services plans with frequent client contacts, was crucial in helping clients find and maintain employment (Johnson & Meckstroth, 1998).

Prior longitudinal studies of WTW customers indicate that constructing a risk assessment like the proposed appraisal screening to estimate the likelihood of employment is very feasible. Common risk factors for problems obtaining employment include customer characteristics such as parenting an infant or young child; physical, mental health, or substance use problems; inadequate social support, child care, or transportation; and domestic violence victimization. Historical factors, such as prior arrest history, past welfare recipiency, and inadequate work experience, also increase the risk of employment problems. A number of these risk factors are already observed by ESCs as part of current WTW assessment practice (see Appendix E for more details).

Risk assessment prospects are also supported by research demonstrating that the number of barriers a customer faces has a strong statistical relationship to the likelihood of subsequent employment. For example, Danziger et al. (2000) found that one year after TANF recipients were asked to identify barriers to employment, 82% of those recipients with no barriers were working at least 20 hours per week (see Figure 1). In comparison, only 5% of the recipients with seven or more barriers were working one year later. A second study by Kirby, Fraker, Pavetti, and Kovak (2003) found that four months after reporting barriers to employment, 58% of aid recipients with no barriers were working 30 or more hours per week, but only 7% of those reporting seven or more barriers were working. In both studies, the likelihood of employment decreased as the number of barriers increased (Figure 1).

Figure 1

**Likelihood of Employment for TANF Recipients
With Multiple Barriers to Employment**

	Danziger et al., 2000	Kirby et al., 2003
0 Barriers	82.1%	57.8%
1 Barrier	71.5%	35.0%
2–3 Barriers	62.4%	32.8%
4–6 Barriers	40.0%	23.4%
7+ Barriers	5.3%	7.1%

Danziger et al., 2000
Defines employment as
20+ hours per week,
measured 1 year after baseline

Kirby et al., 2003
Defines employment as
30+ hours per week,
measured 4 months after baseline

■ 0 Barriers ■ 1 Barrier □ 2–3 Barriers ■ 4–6 Barriers ■ 7+ Barriers

This research strongly suggests that it is possible to construct an actuarial assessment to estimate the likelihood of WTW program success. It also suggests that implementing an actuarial assessment such as the appraisal screening can help target limited resources to those individuals most likely to benefit from additional help. The next section of this report describes how Riverside County and CRC developed an appraisal screening to classify customers by the likelihood of WTW program success. The following section describes the resulting appraisal screening and reviews classification findings for a large sample of WTW customers.

III.   RESEARCH METHODOLOGY

The purpose of this research was to develop an appraisal screening to classify WTW customers by the likelihood of program success. Program success was measured in two ways:

1.   Participation in required activities without a finding of non-compliance or sanctioning during a standardized one-year follow-up period; and

2.   Employment obtained during the same standardized one-year follow-up period.

The appraisal screening was developed by conducting separate analyses for each outcome. A participation index was developed by observing characteristics of customers at the time of WTW assignment and observing which of these characteristics was associated with an increased likelihood of program non-participation. A second index was developed to classify clients by their likelihood of employability. The same sample was used to develop both indices.

A.   Description of the Sample

This research was conducted by sampling individuals assigned to participate in WTW at the time of CalWORKs approval during 2007. Individuals eligible for sampling had at least 30 days without CalWORKs activity prior to the start of data collection (this includes individuals initially exempt from WTW who entered WTW post-exemption). The available population of 14,773 individuals required to participate in WTW in 2007 was divided randomly into two groups: a construction sample of 9,798 individuals and a validation sample of 4,975 individuals.[4] The first group was used to construct a preliminary appraisal screening and the second was used for validation purposes. The use of construction and validation samples allows an appraisal screening to be developed on one population and tested on another. Validating the appraisal screening on a separate population better indicates how a screening instrument will perform when actually implemented. The amount of predictive power lost from construction to validation sample is termed "shrinkage"; some shrinkage is normal and expected (see Appendix B for more details).

---

[4] Individuals pregnant at the time of or within 30 days of CalWORKs approval were excluded because a number of outcome rates were significantly lower than those of other customers. Customers with a newborn are exempt from WTW participation for six months to one year, which may have affected their participation and employment rates.

9

B.   Description of the Construction Sample

The following tables describe the construction sample of 9,798 individuals assigned to WTW in 2007. The majority (78.1%) were female, single (59.2%), and between 20 and 39 years of age (see Table 1). Nearly one fifth (17.4%) were working at the time of WTW assignment.

<table>
<tr><td colspan="4">Table 1</td></tr>
<tr><td colspan="4">Characteristics of Sampled Individuals at Time of First 2007 Assignment</td></tr>
<tr><td colspan="2" rowspan="2">Total Construction Sample</td><td>N</td><td>%</td></tr>
<tr><td>9,798</td><td>100.0%</td></tr>
<tr><td rowspan="2">Gender</td><td>Female</td><td>7,651</td><td>78.1%</td></tr>
<tr><td>Male</td><td>2,147</td><td>21.9%</td></tr>
<tr><td rowspan="7">Age at Time of Approval</td><td>16–17</td><td>258</td><td>2.6%</td></tr>
<tr><td>18–19</td><td>772</td><td>7.9%</td></tr>
<tr><td>20–29</td><td>4,388</td><td>44.8%</td></tr>
<tr><td>30–39</td><td>2,527</td><td>25.8%</td></tr>
<tr><td>40–49</td><td>1,370</td><td>14.0%</td></tr>
<tr><td>50 +</td><td>342</td><td>3.5%</td></tr>
<tr><td>Missing/unable to determine</td><td>141</td><td>1.4%</td></tr>
<tr><td rowspan="5">Race/Ethnicity</td><td>White non-Hispanic</td><td>2,633</td><td>26.9%</td></tr>
<tr><td>Hispanic/Latino</td><td>4,331</td><td>44.2%</td></tr>
<tr><td>Black/African American</td><td>1,545</td><td>15.8%</td></tr>
<tr><td>Other</td><td>238</td><td>2.4%</td></tr>
<tr><td>Missing/unable to determine</td><td>1,051</td><td>10.7%</td></tr>
<tr><td rowspan="4">Marital Status</td><td>Married/common law</td><td>2,095</td><td>21.4%</td></tr>
<tr><td>Not married/divorced/widowed</td><td>5,803</td><td>59.2%</td></tr>
<tr><td>Separated</td><td>1,039</td><td>10.6%</td></tr>
<tr><td>Missing</td><td>861</td><td>8.8%</td></tr>
<tr><td rowspan="2">Employed at Time of WTW Assignment</td><td>No</td><td>8,098</td><td>82.6%</td></tr>
<tr><td>Yes</td><td>1,700</td><td>17.4%</td></tr>
</table>

Table 2 shows that 33.8% of the sampled individuals were the only adult in their household. One third (31.4%) of the individuals had one child, 28.6% had two children, and 38.7% had three or more children in the household. In 42.3% of the sampled families, the

youngest child was 1 year old or younger, and in 28.8%, the youngest child was between 2 and 5 years of age.

Table 2			
Characteristics of the Sampled Individuals' Households			
Total Construction Sample		**N**	**%**
		9,798	**100.0%**
Number of Household Members	One	64	0.7%
	Two	957	9.8%
	Three	1,994	20.4%
	Four	2,061	21.0%
	Five or more	4,722	48.2%
Number of WTW Customers on CalWORKs Case Number	One	7,291	74.4%
	Two	2,418	24.7%
	Three	80	0.8%
	Four	9	0.1%
Number of Adults	One	3,312	33.8%
	Two	3,557	36.3%
	Three or more	2,792	28.5%
	Missing	137	1.4%
Number of Children	One	3,074	31.4%
	Two	2,798	28.6%
	Three	1,906	19.5%
	Four or more	1,880	19.2%
	Missing	140	1.4%
Age of Youngest Child	1 or less	4,143	42.3%
	2–5	2,820	28.8%
	6–10	1,467	15.0%
	11–15	939	9.6%
	16–18	289	2.9%
	Missing	140	1.4%
Age of Oldest Child	1 or less	1,468	15.0%
	2–5	2,081	21.2%
	6–10	2,060	21.0%
	11–15	2,321	23.7%
	16–18	1,728	17.6%
	Missing	140	1.4%

11

Table 3 reviews the prior history of sampled individuals, based on data available from C-IV and other administrative databases provided by the agency.[5] Just over one third (43.2%) of the sampled individuals had a prior CalWORKs case, 23.9% had a previous non-compliance finding, and 11.1% were sanctioned at some point in the past.

Just over one third (37.1%) of sampled individuals had an employment record during the year prior to the sampled approval for CalWORKs, and 19.1% reported full-time employment at some time during the prior year. Additional prior history data are limited to information reported and/or recorded in available databases. For example, 2.5% of the sample received mental health services at some time in the past, and 11.7% had a past period of homelessness indicated. The actual rate of prior mental health services and homelessness may be greater than what was reported in available data.

Table 3			
Characteristics of the Sampled Individuals' Prior History			
Total Construction Sample		N	%
		9,798	100.0%
Prior Active CalWORKs Case Since 2005	No	5,567	56.8%
	Yes	4,231	43.2%
Prior WTW Non-compliance Since 2005	No	7,457	76.1%
	Yes	2,341	23.9%
Prior WTW Sanctions Since 2005	No	8,710	88.9%
	Yes	1,088	11.1%
Record of Employment in Prior Year	No	6,167	62.9%
	Yes	3,631	37.1%
Record of Full-time Employment in Prior Year	No	7,923	80.9%
	Yes	1,875	19.1%
Prior Mental Health Services Through CalWORKs	No	9,553	97.5%
	Yes	245	2.5%
Prior Homeless Record in CalWORKs	No	8,649	88.3%
	Yes	1,149	11.7%

---

[5] Administrative data about CalWORKs and WTW experience were available from 2005 forward.

C. WTW Participation and Employment Outcomes One Year After WTW Assignment

Table 4 reviews preliminary participation and employment outcomes for the construction sample. Among the 9,798 sampled individuals, 42.6% were found to be non-compliant and 16.2% were sanctioned during the standardized one-year follow-up period (also see Figure 2). More than half (57.5%) of sampled customers were employed and 29.5% were employed full-time at some point during the one-year follow-up period (see Figure 3). One year after the date of WTW assignment, 39.0% were employed 20 or more hours per week, and 14.2% were employed full-time.

<table>
<tr><td colspan="4">Table 4

Characteristics of the Sampled Individuals' CalWORKs and Employment Status
During a Standardized One-year Follow-up Period</td></tr>
<tr><td rowspan="2">Total Construction Sample</td><td></td><td>N</td><td>%</td></tr>
<tr><td></td><td>9,798</td><td>100.0%</td></tr>
<tr><td colspan="4">WTW Participation Outcomes</td></tr>
<tr><td rowspan="2">Subsequent CalWORKs Non-compliance</td><td>No</td><td>5,620</td><td>57.4%</td></tr>
<tr><td>Yes</td><td>4,178</td><td>42.6%</td></tr>
<tr><td rowspan="2">Subsequent CalWORKs Sanctions</td><td>No</td><td>8,208</td><td>83.8%</td></tr>
<tr><td>Yes</td><td>1,590</td><td>16.2%</td></tr>
<tr><td colspan="4">Employment Outcomes</td></tr>
<tr><td rowspan="2">Subsequent Employment at Any Point</td><td>No</td><td>4,160</td><td>42.5%</td></tr>
<tr><td>Yes</td><td>5,638</td><td>57.5%</td></tr>
<tr><td rowspan="2">Subsequent Full-time Employment at Any Point</td><td>No</td><td>6,908</td><td>70.5%</td></tr>
<tr><td>Yes</td><td>2,890</td><td>29.5%</td></tr>
<tr><td rowspan="2">Subsequent Employment (20+ hours) at One Year</td><td>No</td><td>5,977</td><td>61.0%</td></tr>
<tr><td>Yes</td><td>3,821</td><td>39.0%</td></tr>
<tr><td rowspan="2">Subsequent Full-time Employment (40+ hours) at One Year</td><td>No</td><td>8,411</td><td>85.8%</td></tr>
<tr><td>Yes</td><td>1,387</td><td>14.2%</td></tr>
</table>

Figure 2

**WTW Participation Outcomes
During the 12-month Follow-up Period**

N = 9,798

Figure 3

**WTW Employment Outcomes
During the 12-month Follow-up Period**

N = 9,798
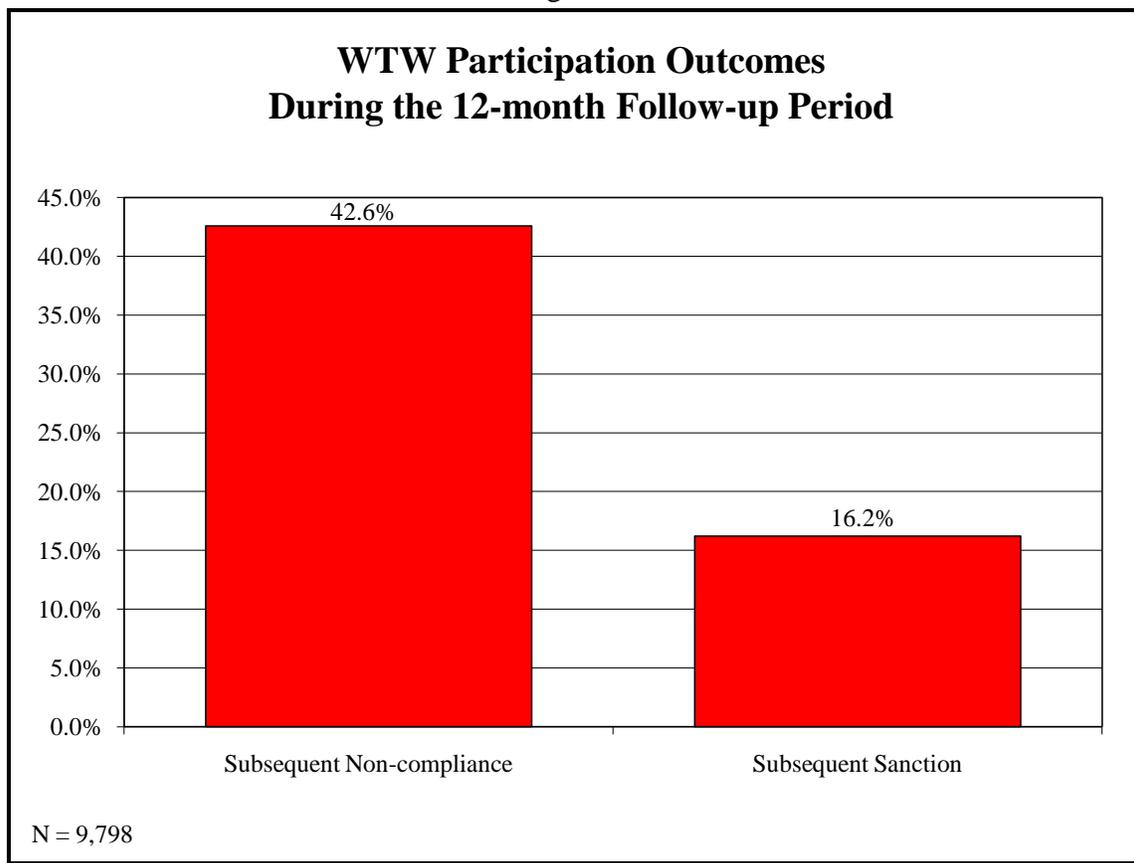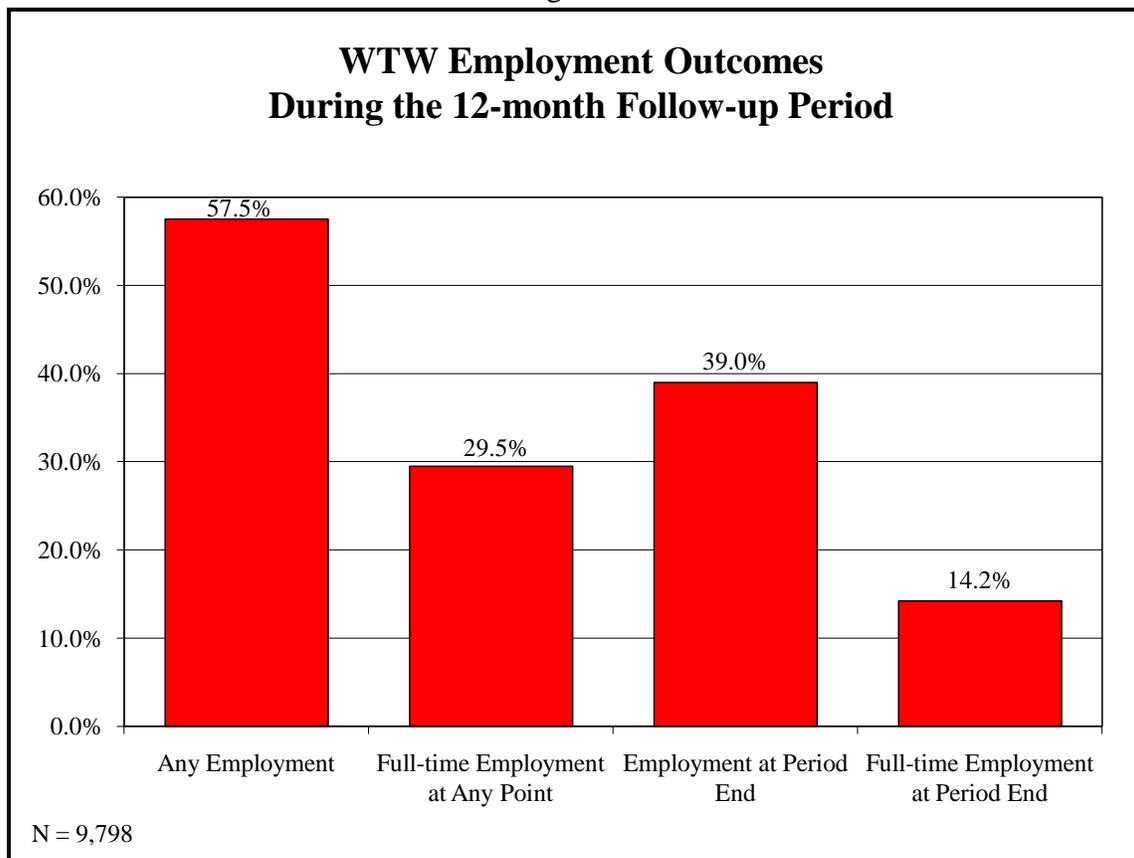
D.   Development of the Actuarial Appraisal Screening

The purpose of an actuarial appraisal screening is to classify individuals by the likelihood of a specific outcome based on observed group characteristics. A variety of statistical methods could be applied, but less precise methods of statistical evaluation (including bivariate analyses followed by least squares regression) consistently produce the best classification results (Gottfredson & Gottfredson, 1980; Simon, 1971; Wainer, 1976; Dawes, 1979). For example, the method used by Gottfredson and Gottfredson (1980) selects risk factors based on their significance in regression models of outcomes. Multiple regression is referenced for a continuous outcome like number of sanctions, and logistic regression is used for dichotomous outcomes like any sanction received (yes or no). These simpler methods for constructing a risk assessment consistently produce the best classification results, even when validated on a different sample (Benda, 1987; Silver, Smith, & Banks, 2000; Wilbanks, 1985).

The bivariate and multivariate statistical techniques employed to develop the appraisal screening are summarized below (Wagner, 1992).

1. Simple correlations were computed between each potential risk item and outcome measures. Items with significant correlations (<.10 level) with any of the outcome measures were selected for further analysis.

2. Cross-tabulations (with a number of associated statistics) were completed to further examine relationships between outcomes and potential risk assessment items. These analyses helped to determine how item values can best be combined or recoded to maximize the relationship with the various outcome measures.[6]

3. Regression analyses were conducted using multiple outcomes to help identify the best combination of predictive items for inclusion in the appraisal screening. A generous level of significance ($p < .15$) will be used when testing covariates for inclusion, based on the recommendations of Bendel and Afifi (1977) and Hosmer and Lemeshow (1989). This will ensure that variables significantly related to or confounding with outcomes will be evaluated as potential factors.

---

[6] Most assessment items weigh one point, consistent with development of other actuarial instruments (see Burgess, 1928). The only exception is CalWORKs/WTW prior history information. CalWORKs/WTW prior history items weigh more because data were more complete, have a stronger relationship to outcomes, and thus merit a disproportionate weight in the scale.

15

4.	A preliminary instrument is developed and cross-tabulated with outcome measures to determine overall predictive capabilities and optimal cut-off points for classification categories. Items may be added and deleted from the assessment during these tests. The best combination of items and item weights is selected for the instrument.

5.	Findings for major population subgroups defined by ethnicity and other key characteristics are then examined to determine if the instrument estimates outcomes for these groups.

6.	The appraisal screening is then applied to the validation sample to examine classification findings with a different sample.

CRC staff reviewed preliminary appraisal screening findings with the Riverside County assessment workgroup, composed of agency program managers, field staff, and mental RCDMH supervisors to ensure that the items used in the appraisal screening could be easily observed and reliably scored by ESCs in the field given the information available to them. Analyses resulted in an appraisal screening with two indices. The first index classifies WTW customers based on the likelihood of program participation, with failure to participate indicated by findings of non-compliance and/or sanctions. The second index classifies participants by likelihood of subsequent employment, part-time or full-time.

The next section of the report reviews findings for the participation index, followed by findings for the employability index. The last section of the report describes how the appraisal screening will be implemented in the field and outlines policy issues to be considered.

IV. FINDINGS

As mentioned previously, the goal of the appraisal screening is to classify WTW customers by their likelihood of program success. ESCs would complete the appraisal screening soon after WTW assignment (for example, during a customer's first appointment with an ESC after being assigned to WTW) to help inform the decision about how to support the individual. This allows ESCs and the agency to target resources based on customers' likelihood of program success.

Program success has two components. The first is program participation. Customers must participate in designated activities for a sum of 32–35 hours per week. The first index of the appraisal screening, the participation index, classifies customers into one of three groups that correspond to the likelihood of failing to participate (low, moderate, and high). The outcome of failure to participate is indicated by findings of non-compliance and/or sanctioning during a standardized 12-month follow-up period.

The second component of program success is the ability to find and keep employment. Consequently, the employability index of the appraisal screening classifies customers by their likelihood of employment. Employment measures included any employment during the standardized 12-month follow-up period, full-time employment during the follow-up period, and whether a customer was still employed (for any hours and full-time) at the end of the follow-up period. Multiple employment measures were referenced to ensure that the observed relationship between a given risk factor and the outcomes was not spurious.

A valid risk assessment should identify customers with progressively higher rates of participation and employment failure as the risk classification increases from low to moderate and to high. Ideally, the rates between consecutive risk levels maximize the separation between the high and low risk groups, as well as between consecutive risk groups. In other words, each

17

increase in risk level should correspond to a significant increase in outcomes. Both appraisal screening indices achieved this level of discrimination. Section A reviews the performance of the participation index, while Section B reviews findings for the employability index.

A. Findings for the Participation Index

Analyses of administrative data resulted in a participation index composed of 11 factors. The participation index will inform the ESC's decision about how best to support a customer. An ESC scores each item to the best of his or her knowledge in a web-based data collection system (DCS). The DCS will sum the item scores and translate the sum into a low, moderate, or high agency support classification based on the support level matrix (see lower left corner of next page). The low, moderate, and high classifications estimate the likelihood of failing to participate (i.e., subsequent finding of non-compliance or a sanction), based on people with similar characteristics. If the appraisal screening is accurately classifying individuals, those classified as high support should have a higher-than-average rate of program failure; those classified as moderate, an average rate of program failure; and low support customers, a lower-than-average rate of non-compliance.

The next page reviews the items that compose the participation index, item weights, and how the classifications are derived from the total score. The next section reviews the classification findings by the outcomes observed, subsequent non-compliance, and sanction.

18

WTW PARTICIPATION SCREENING INDEX

Score

P1. Prior CalWORKs/WTW experience *(use highest score that applies)*
    a. None..0
    b. Received CalWORKs benefits in the past 1
    c. Any WTW non-compliance period in the past 2
    d. One sanction in the past..3
    e. Two or more sanctions in the past ....4 _____

P2. Termination of employment during the last year
    a. No..0
    b. Yes..1 _____

P3. Has high school diploma or GED
    a. No..1
    b. Yes..0 _____

P4. Certificate and/or degree from post-secondary education program
    a. No..0
    b. Yes..-1 _____

P5. Number of adults in the home participating in WTW
    a. One 0
    b. Two or more ....-1 _____

P6. Employed at time of approval
    a. No..0
    b. Yes..-1 _____

P7. Age of youngest child on the case
    a. 6 or older 0
    b. 5 or younger ....1 _____

P8. Customer has/had a mental health need
    a. No..0
    b. Yes..1 _____

P9. Customer needs (or has already been approved for) dependent care aid
    a. No..0
    b. Yes..1 _____
        ☐ Child
        ☐ Other household member

P10. Customer needs (or has already been approved for) transportation assistance
    a. No..0
    b. Yes..1 _____

P11. Family is homeless/needs housing assistance, either currently or in the past
    a. No 0
    b. Yes ....1 _____

                        TOTAL SCORE _____

Recommended Support Level

Low	-3 to -1	_____
Moderate	0 to 3	_____
High	4+	_____

19

B. The Participation Index's Classification Abilities

Table 5 shows the preliminary distribution by resulting support level. The participation index classified 20% of clients at low, approximately 65% at moderate, and 15.2% at high risk of program non-compliance. Out of the 9,798 customers sampled, 42.6% of clients were found to be non-compliant within 12 months of WTW assignment, and 16.2% received sanctions for non-participation.

The participation index effectively classified sampled customers by their risk of non-participation. During the standardized 12-month follow-up period, 34.7% of low support customers were found non-compliant. In comparison, customers classified as moderate had a non-compliance rate of 41.8%, and those classified as high had a rate of 56.6%.

When the outcome was subsequent sanctions for non-participation, results were similar. The sanction rate observed during the follow-up period increased by more than 50% with each increase in the support level (also see Figure 4).

Table 5				
Screening Classification by Participation				
Recommended Support Level	Sample Distribution		Participation Outcomes During a Standardized 12-month Follow-up Period	
	N	%	Subsequent Non-compliance	Subsequent Sanction
Low	1,958	20.0%	34.7%	10.2%
Moderate	6,355	64.9%	41.8%	16.1%
High	1,485	15.2%	56.6%	24.9%
Total Sample	**9,798**	**100.0%**	**42.6%**	**16.2%**

Figure 4

WTW Participation Outcomes by Screening Classification During the 12-month Follow-up Period
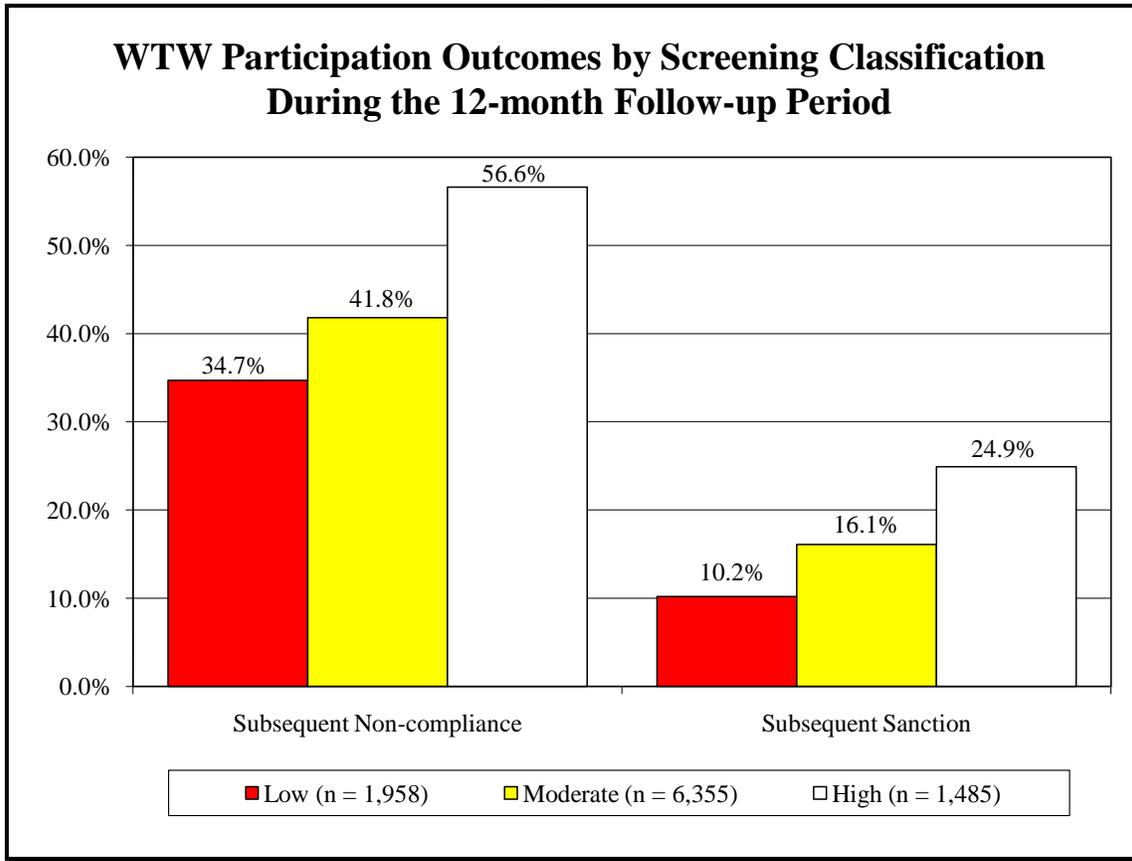
Table 6 shows classification findings by customer race and/or ethnicity. In the total sample, 65% of customers were classified as moderate and 15% as high. Distributions were similar within each ethnic group. The proportion in the high classification varied across ethnic groups by only 3%.

The table also shows that the participation index effectively classifies customers by the likelihood of non-compliance within each ethnic group (also see Figure 5). For example, White/Caucasian customers classified as low had a sanction rate of 11.1%, compared to 14.6% of moderate and 21.3% of White/Caucasian customers classified as high support. Results were similar among Latino/Hispanic and Black/African American customers, in that an increase in support level corresponded to a significant increase in rates for non-compliance outcomes.

Participation outcome rates were also similar within a given classification across racial/ethnic groups. For example, high support White/Caucasian customers had a sanction rate of 21.3%, compared to 26.3% for high support Latino/Hispanic customers and 28.9% for high support Black/African American customers. Black/African American customers had slightly higher rates within the moderate and high classifications than did Latino/Hispanic and White/Caucasian customers, but also had higher base non-compliance and sanction rates. Within and across groups, an increase in the participation index support level corresponded to an increase in non-compliance and sanction rates.

Table 6				
Classification Findings by Client Ethnicity				
Overall Support Level	**Sample Distribution**		**Participation Outcomes During a Standardized 12-month Follow-up Period**	
	N	**%**	**Subsequent Non-compliance**	**Subsequent Sanction**
Total Sample	**9,798**	**100.0%**	**42.6%**	**16.2%**
White/Caucasian				
Low	523	19.9%	33.8%	11.1%
Moderate	1,688	64.1%	39.6%	14.6%
High	422	16.0%	52.8%	21.3%
Subtotal	2,633	100.0%	40.6%	15.0%
Latino/Hispanic				
Low	723	16.7%	33.2%	10.5%
Moderate	2,870	66.3%	42.6%	15.8%
High	738	17.0%	56.8%	26.3%
Subtotal	4,331	100.0%	43.4%	16.7%
Black/African American				
Low	317	20.5%	39.7%	9.1%
Moderate	941	60.9%	46.1%	20.0%
High	287	18.6%	63.4%	28.9%
Subtotal	1,545	100.0%	48.0%	19.4%

Note: The total sample consisted of 9,798 customers. Only racial/ethnic groups of significant size are included in Table 6.

Figure 5

WTW Sanctions During the 12-month Follow-up Period for Racial/Ethnic Groups by Screening Classification

	White/Caucasian	Latino/Hispanic	Black/African American
Low	11.1%	10.5%	9.1%
Moderate	14.6%	15.8%	20.0%
High	21.3%	26.3%	28.9%
	(n = 523) (n = 1,688) (n = 422)	(n = 723) (n = 2,870) (n = 738)	(n = 317) (n = 941) (n = 287)

Legend: ■ Low ■ Moderate □ High
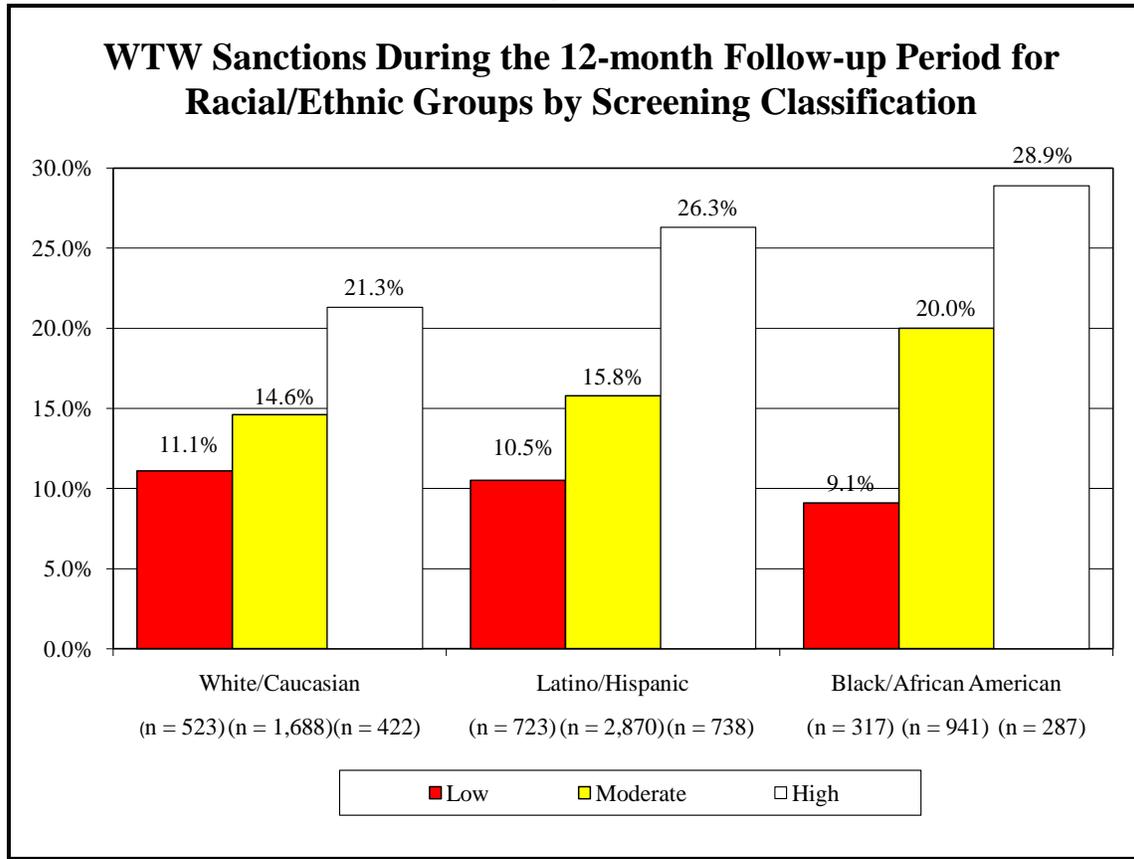
C.   Findings for the Employability Index

The employability index was constructed in the same manner as the participation index was, with one important exception. The employability index estimates subsequent employment, a positive outcome, whereas the participation index estimates a negative outcome (non-participation). As with the participation index, an ESC would score each of the nine items (see below) on the employability index based on observation and interviews with a customer and complete the index in the DCS. The DCS will determine the employability classification level based on the sum of item scores. The low, moderate, and high classifications correspond to the likelihood of subsequent employment. Customers classified as highly employable on the index had higher-than-average rates of employment during the one-year follow-up period, and customers with a low classification had lower-than-average rates of subsequent employment.

23

The next section reviews the classification findings by the employment outcomes observed. The outcomes represent customer employment observed during the 12-month follow-up period (any employment and full-time employment), as well as employment status 12 months after WTW assignment (any and full-time employment).

WTW EMPLOYABILITY SCREENING INDEX

Score

E1. Employed during the last year
    a. No...0
    b. Yes ....2 _____

E2. Employed full-time during the last year
    a. No...0
    b. Yes ....1 _____

E3. Worked at least 6 of the last 12 months
    a. No...0
    b. Yes ....1 _____

E4. Certificate and/or degree from post-secondary education program
    a. No 0
    b. Yes ....1 _____

E5. Age 21 to 35 years
    a. No...0
    b. Yes ....1 _____

E6. Number of adults living in the home participating in WTW
    a. One or none 0
    b. Two or more ....1 _____

E7. Age of youngest child on the case
    a. 6 or older...0
    b. 5 or younger ....1 _____

E8. Customer has/had a mental health need
    a. No...0
    b. Yes ....-1 _____

E9. Family is homeless/needs housing assistance, either currently or in the past
    a. No 0
    b. Yes ....-1 _____

TOTAL SCORE _____

Employability Classification Level
Low   -2 to 1   _____
Moderate 2 to 4   _____
High   5+   _____

D.   The Employability Index's Classification Abilities

Table 7 shows that the employability index classified 20.2% of clients as low, 50.8% as moderate, and 29.0% as having a high likelihood of subsequent employment. Of the 9,798 customers sampled, 57.5% had some type of employment during the 12-month follow-up period, and 29.5% had full-time work at some point during the year.

Table 7 also shows that the employability index accurately classified customers by the likelihood of subsequent employment. Among customers classified as having a low likelihood of employment, 32.0% were employed during the follow-up period. Among those classified as moderate, 54.5% were subsequently employed, compared to 80.6% of customers classified as high.

Findings were similar when the outcome was full-time employment at any point during the follow-up period. Of customers classified as low, 15.3% were employed full-time. In comparison, 26.8% of customers classified as moderate and 44.1% of customers classified as high were employed full-time during the 12-month follow-up period (also see Figure 6).

Table 7				
Employability Classification by Outcomes				
Employability Classification	**Sample Distribution**		**Employment Outcomes During a Standardized 12-month Follow-up Period**	
	N	**%**	**Employed at Any Point**	**Employed Full-time at Any Point**
Low	1,977	20.2%	32.0%	15.3%
Moderate	4,977	50.8%	54.5%	26.8%
High	2,844	29.0%	80.6%	44.1%
Total Sample	**9,798**	**100.0%**	**57.5%**	**29.5%**

Table 8 reviews employability classification findings for employment status at the end of the one-year follow-up period. As expected, employment rates one year from WTW assignment were lower for the overall sample than were rates of employment at any time during the year.

While nearly 60% of sampled customers were employed at some time during the follow-up period, 39.0% were employed at the end of the one-year period, and 14.2% were employed full-time.

Among customers assigned to the low employability classification, 21.3% were employed at the year's end, compared to 36.8% of those classified as moderate and 55.2% of the customers classified as highly employable. Findings were similar when the outcome was full-time employment at the year's end. Only 7.6% of low customers were employed full-time one year out, compared to 12.6% of moderate customers and 21.4% of high customers (also see Figure 6).

	Table 8			
	Employability Classification by Outcomes			
Employability Classification	**Sample Distribution**		**Employment Outcomes During a Standardized 12-month Follow-up Period**	
	N	**%**	**Employed 20+ Hours at Year End**	**Employed Full-time at Year End**
Low	1,977	20.2%	21.3%	7.6%
Moderate	4,977	50.8%	36.8%	12.6%
High	2,844	29.0%	55.2%	21.4%
Total Sample	**9,798**	**100.0%**	**39.0%**	**14.2%**

Figure 6

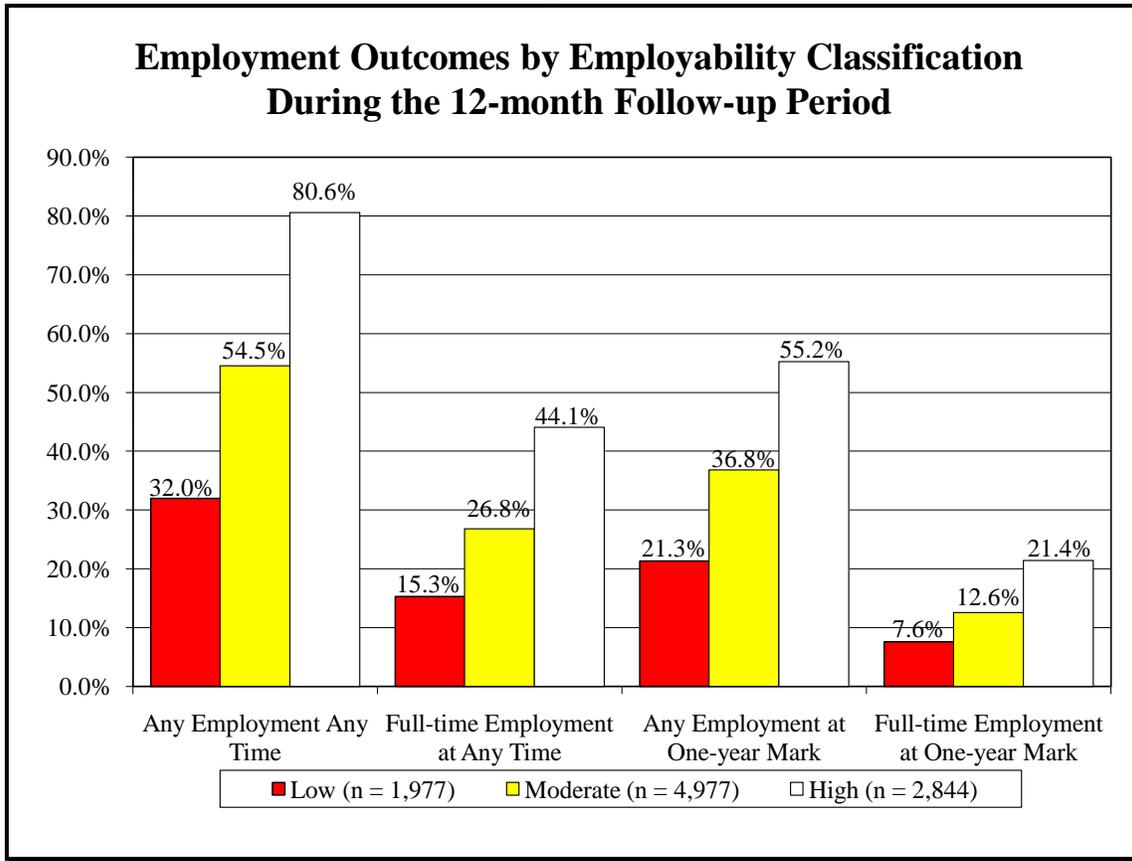**Employment Outcomes by Employability Classification During the 12-month Follow-up Period**

Table 9 reviews employability classification findings by customer race or ethnicity. As was true for the participation index, distributions by employability level were similar across racial/ethnic groups. Between 48.7% and 51.0% of customers in each ethnic group were classified as moderate, while 14–15% were classified as having a high likelihood of employment.
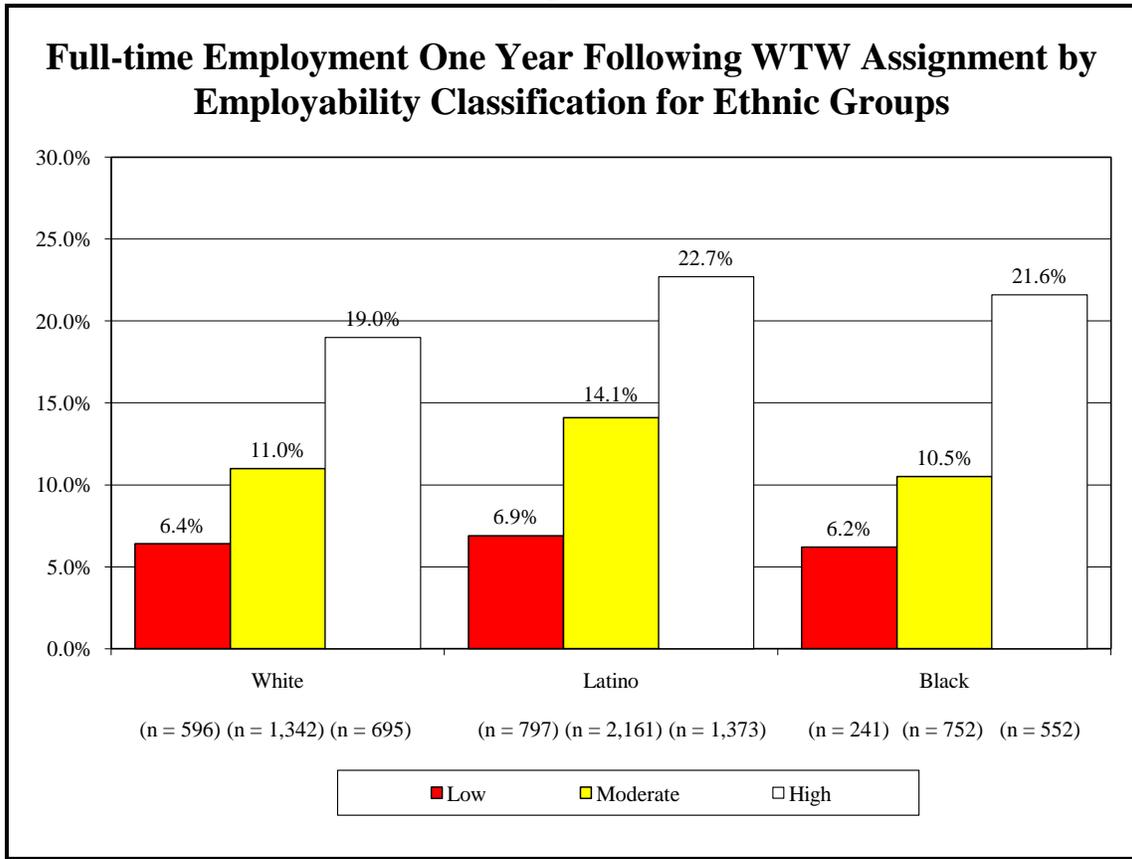
The table also shows that within each ethnic group, the employability index effectively classified customers by their likelihood of subsequent employment (also see Figure 7). For example, 20.6% of White/Caucasian customers classified as low were employed 20 or more hours at the end of the one-year period, compared to 36.2% of moderates and 54.1% of those classified as high. Results were similar among Latino/Hispanic and Black/African American

customers, in that an increase in the employability classification corresponded with a significant increase in the rate of each employment outcome.

Employment rates were also similar within a given classification across racial/ethnic groups. Among customers classified as high, full-time employment rates were 19.0% for White/Caucasian customers, 22.7% for Latino/Hispanic, and 21.6% for Black/African American customers. These findings indicate that the employability index classifies customers similarly regardless of ethnicity.

Table 9				
Employability Classification Findings by Client Ethnicity				
Employability Classification	Sample Distribution		Employment Outcomes During a Standardized 12-month Follow-up Period	
	N	%	Employed 20+ Hours at Year End	Employed Full-time at Year End
Total Sample	9,798	100.0%	39.0%	14.2%
White/Caucasian				
Low	596	22.6%	20.6%	6.4%
Moderate	1,342	51.0%	36.2%	11.0%
High	695	26.4%	54.1%	19.0%
Subtotal	2,633	100.0%	37.4%	12.0%
Latino/Hispanic				
Low	797	18.4%	20.8%	6.9%
Moderate	2,161	49.9%	39.4%	14.1%
High	1,373	31.7%	57.4%	22.7%
Subtotal	4,331	100.0%	41.7%	15.5%
Black/African American				
Low	241	15.6%	18.7%	6.2%
Moderate	752	48.7%	32.3%	10.5%
High	552	35.7%	52.0%	21.6%
Subtotal	1,545	100.0%	37.2%	13.8%

Figure 7

Full-time Employment One Year Following WTW Assignment by Employability Classification for Ethnic Groups

E. Implementing the WTW Appraisal Screening

Findings from previously described preliminary analyses demonstrated that it is possible to accurately classify WTW customers by the likelihood of program success, as measured by program participation and employment outcomes. The participation index estimates the likelihood of program non-compliance, while the employability index estimates the likelihood of subsequent employment. Riverside County workgroup members observed that it would be easier to translate classification findings into changes in case management practice if the resulting classification levels of both indices resulted in the same types of case action. Consequently, the employability index was re-scored as follows: low indicates low likelihood of employment problems, and high indicates a high likelihood of employment problems. The next page reviews

30

the revised appraisal screening. After this transformation, the classification levels of both indices correspond to the customer's need for agency support, with a low classification indicating a low agency support level, and a high classification indicating a high level of agency support.

Case Name: _(last)_ _____ _(first)_ _____　　**Case Number:** _____

CalWORKs Application Date: ___/___/___　　**CalWORKs Approval Date:** ___/___/___　　**Evaluation Date:** ___/___/___

Office: _____　　**ESC#:** _____

Person Being Assessed: _(last)_ _____ _(first)_ _____　　**Person ID:** _____

Likelihood of Participation	**Score**		**Likelihood of Employment**	**Score**

P1.　Prior CalWORKs/WTW experience *(use highest score that applies)*
   a.　None 0
   b.　Received CalWORKs benefits in the past....... 1
   c.　Any WTW non-compliance period in the past 2
   d.　One sanction in the past 3
   e.　Two or more sanctions in the past .... 4 _____

P2.　Termination of employment during the last year
   a.　No 0
   b.　Yes...................................... 1 _____

P3.　Has high school diploma or GED
   a.　No 1
   b.　Yes...................................... 0 _____

P4.　Certificate and/or degree from post-secondary education program
   a.　No 0
   b.　Yes...................................... -1 _____

P5.　Number of adults in the home participating in WTW
   a.　One 0
   b.　Two or more (# of adults: _____) .... -1 _____

P6.　Currently employed
   a.　No 0
   b.　Yes...................................... -1 _____

P7.　Age of youngest child on the case
   a.　6 or older.............................. 0
   b.　5 or younger............................ 1 _____

P8.　Has/had a mental health issue and/or history of mental health treatment
   a.　No 0
   b.　Yes...................................... 1 _____

P9.　Needs, or has already been approved for, dependent care aid
   a.　No 0
   b.　Yes *(mark all that apply)* .... 1 _____
      ☐ Child
      ☐ Other household member

P10.　Has reliable/consistent transportation
   a.　No 0
   b.　Yes...................................... 1 _____

P11.　Homeless/needs housing assistance, either currently or in the past
   a.　No 0
   b.　Yes...................................... 1 _____

E1.　Employed during the last year
   a.　No 0
   b.　Yes...................................... -2 _____

E2.　Employed full-time during the last year
   a.　No 0
   b.　Yes...................................... -1 _____

E3.　Worked at least 6 of the last 12 months
   a.　No 0
   b.　Yes...................................... -1 _____

E4.　Certificate and/or degree from post-secondary education program
   a.　No 0
   b.　Yes...................................... -1 _____

E5.　Customer is age 21 to 35 years
   a.　No 0
   b.　Yes...................................... -1 _____

E6.　Number of adults in the home participating in WTW
   a.　One 0
   b.　Two or more .... -1 _____

E7.　Age of youngest child on the case
   a.　6 or older.............................. 0
   b.　5 or younger............................ -1 _____

E8.　Customer has/had a mental health issue and/or history of mental health treatment
   a.　No 0
   b.　Yes *(mark all that apply)* .... 1 _____
      ☐ Within the last six months
      ☐ Prior to the last six months

E9.　Homeless/needs housing assistance, either currently or in the past
   a.　No 0
   b.　Yes *(mark all that apply)* .... 1 _____
      ☐ Homelessness
         ☐ Homeless during the last six months
         ☐ Homeless prior to the last six months
      ☐ Housing assistance
         ☐ Received assistance during the last six months
         ☐ Received assistance prior to the last six months

TOTAL SCORE: _____　　　　　　　　　　　**TOTAL SCORE:** _____

Recommended Agency Support Level. Assign the agency support level based on the highest score on either index, using the following chart:

Participation	Employment	Support Level
☐ -3 to -1	☐ -8 to -5	Low
☐ 0 to 3	☐ -4 to -2	Moderate
☐ 4+	☐ -1+	High

32

Figure 8 shows the proportion of customers classified as low, moderate, or high support based on the two components of the appraisal screening. Only 15.2% of customers were classified as needing high support based on the participation index. One fifth (20.2%) were classified as needing high support based on the employability index.

Figure 8

Client Distribution
by Preliminary Appraisal Screening Findings

Likelihood of Sanction/Non-compliance   **Likelihood of Employment**

Low
1,958
(20.0%)

Moderate
6,355
(64.9%)

High
1,485
(15.2%)

Low
2,844
(29.0%)

Moderate
4,977
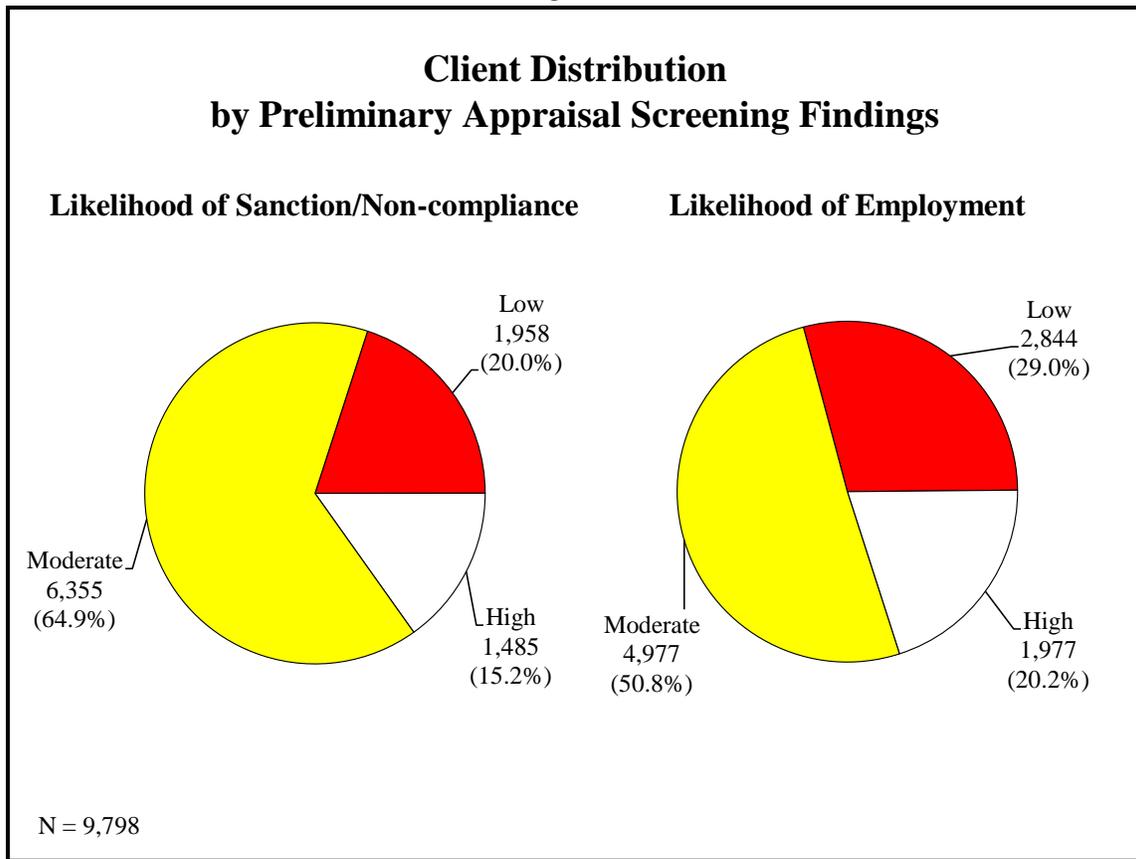(50.8%)

High
1,977
(20.2%)

N = 9,798

33

Table 10 shows classification findings by both indices. Only 188 (1.9%) customers were classified as high support by both the participation and employability indices. Most customers classified as high support by the employability index were classified as moderate by the participation index (and vice versa). This indicates that different case actions may be required to increase the likelihood of program participation than those required to increase the likelihood of employment.

Table 10			
Distribution of Participation Support Classification by Employability Support Classification			
Employability Support Classification	Participation Support Classification		
	Low	Moderate	High
Low	864 (8.8%)	1,414 (14.4%)	566 (5.8%)
Moderate	761 (7.8%)	3,485 (35.6%)	731 (7.5%)
High	333 (3.4%)	1,456 (14.9%)	188 (1.9%)

Informal feedback from the field indicates that face validity for this appraisal screening is high. Preliminary inter-rater reliability testing indicates that the appraisal screening can also be completed reliably by ESCs. The Riverside County workgroup and CRC staff created definitions for each item on the appraisal screening to help guide workers toward consistent completion.

Both indices of the appraisal screening also demonstrated predictive validity. Findings show that the employability index achieved more distinction between outcome rates for the low and high support group than was achieved using the participation index. In other words, the employability index achieved more dispersion, or spread, around base outcome rates than did the participation index (see Appendix B for more information). Outcomes of interest for the participation index, subsequent non-compliance and sanctioning, are determined by an ESC, and may therefore be less reliable than employment outcomes. It may also be that crucial risk factors

for program non-participation, such as substance use problems, were not available for analysis. Although the employment index achieved more differences between the low and high support groups than did the participation index, both indices classified customers into three groups with distinct outcome rates.

Customers classified as high support displayed high rates of mental health, substance abuse, and housing problems, and are more likely to have dependent care needs (see Appendix C). Completing the appraisal screening soon after WTW assignment may help ESCs more quickly identify barriers to sustained employment (such as mental health or substance use problems) and more quickly engage customers with these barriers in supportive services such as counseling. The support classifications can also be used to target limited resources to individuals classified as high support. For example, DPSS could establish guidelines for customer contact frequency that provide high support customers with more frequent visits and/or calls, and possibly home visits.

The next step for the assessment workgroup is to determine how the appraisal screening findings can best inform case management practice. The participation screening classification will most likely drive recommended monthly ESC contacts with customers, so that customers classified as most likely to be non-compliant (those classified as needing high agency support) will receive the most phone and in-person contact with their counselor. The employability screening classification will most likely help determine which activities a customer is assigned to while receiving aid.

Riverside County may wish to consider implementing differential contact standards that correspond to the likelihood of program non-compliance or employment. Research indicates that actuarial risk–based contact standards are effective in reducing the overall likelihood of a critical event. For example, a quasi-experimental study conducted in Michigan evaluated the

35

effectiveness of a structured decision making case management approach in CPS (Wagner et al., 1995). Workers in pilot counties completed a validated actuarial risk assessment at the end of an investigation that informed the decision whether or not to open a case, but more importantly, prescribed monthly contact standards that increased as the risk level increased. Outcomes showed a significant reduction in the overall maltreatment rates for pilot counties compared to comparison counties. A study of four Wisconsin counties showed similar findings (Wagner & Bell, 1998).

Once it is implemented, Riverside County ESCs will complete the appraisal screening through a web-based data collection system. This will improve the accuracy of appraisal screening findings and resulting case actions by preventing common math and logic errors made when completing an appraisal screening on paper. It will also provide agency administrators with valuable information about program implementation and their customer base. Monitoring appraisal screening findings over time can help evaluate whether program improvement efforts are successful.

Riverside County administrators may wish to consider allowing workers to apply a discretionary override to the scored classifications after each appraisal screening is completed. Agencies that allow overrides require that workers score each assessment before allowing them to alter the final support evaluation based on their clinical observations (Swets et al., 2000). If the reason for an override is well documented and relates to factors not already accounted for in the actuarial estimate, workers in some agencies are permitted to override the classification level up or down.

Not all risk factors identified in the review of relevant literature could be estimated using administrative data. Items that could not be examined in the current analyses will be collected as supplemental items post-implementation. These include the following:

- Customer has a physical health problem that interferes with ability to participate in one or more activities of daily living;

- Customer has limited intellectual functioning;

- Customer has/had a substance abuse problem;

- There have been two or more incidents of domestic violence in the home in the last year;

- Customer has a criminal arrest history; and

- Score(s) on standardized skills/proficiency tests.

For more details, see Appendix E.

After completing the appraisal screening, ESCs will answer supplemental items based on observations and interviews with the customer. A future validation study will explore whether these items should be added to the WTW appraisal screening.

V. SUMMARY

This retrospective validation study showed that it is possible to assess customers, sum selected risk factors, and then classify customers by the likelihood of subsequent WTW program participation and employment. The appraisal screening developed to accomplish this task is composed of two indices. The first, an 11-item participation index, classifies customers by their likelihood of program non-compliance. The second, an 9-item employability index, classifies customers by their likelihood of subsequent employment. The combined indices provide useful information about a customer's likelihood of program success or failure. Agencies can use this information to target resources in the hopes of improving the likelihood of program success.

Adopting the proposed appraisal screening should improve workers' estimates of a customer's likelihood of program success versus failure. This, in turn, would permit the agency to increase the likelihood of program success by more effectively targeting service interventions to individuals at high risk of program failure. Risk assessment is only useful, however, if it informs decision making. Actuarial risk assessment used to target limited resources will only happen if workers have the necessary assessment and engagement skills, and if the use of appraisal screening findings to inform decision making is integrated into agency practice (Shlonsky & Wagner, 2005). Developing the appraisal screening is the first step in a more comprehensive research effort. The case management system designed by Riverside County DPSS and RCDMH workgroup members includes a family strengths and needs assessment to help ESCs develop action plans and determine activity assignments for customers. Once the various components of the new case management system are implemented, DPSS and RCDMH plan on conducting a process evaluation to determine how use of the appraisal screening and other changes in assessment practices affect how workers manage their cases. Finally, a

38

prospective validation of the appraisal screening will be completed at a later date based on information gathered by ESCs under field conditions.

This research effort and ongoing project to evaluate implementation and prospectively validate the appraisal screening represents a unique and innovative approach to addressing WTW program participation through improved assessment practices. Riverside County DPSS, in partnership with RCDMH, is the first TANF agency in the nation to explore how actuarial methods can enhance case management services and improve outcomes for their customers. Their hope is that having ESCs complete a appraisal screening and strengthening related assessment practices will result in early identification of barriers to employment and consistent referrals to mental health and substance abuse services for customers in need of them. The findings of this research can be used by other agencies to more effectively target supportive services and case management resources to customers most at risk of program failure. This research agenda also serves as an example of how research can inform and help improve practice.

VI. REFERENCES

Administration for Children and Families. (2007). *Temporary Assistance for Needy Families TANF work participation rates fiscal year 2006*. Washington, D.C.: U.S. Department of Health and Human Services. Retrieved on April 1, 2009, from http://www.acf.hhs.gov/programs/ofa/particip/2006/tab1a.htm

Altman, D., & Royston, P. (2000). What do we mean by validating a prognostic model? *Statistics in Medicine*, *19,* 453–473.

Andrews, D. A., Bonta, J., & Wormith, J. S. (2006). The recent past and near future of risk and/or need assessment. *Crime & Delinquency*, *52*(1), 7–27.

Baird, C., Heinz, R., & Bemus, B. (1981). Wisconsin case classification/staff deployment project: A two-year follow-up of the Wisconsin case classification project. *American Correctional Association Monograph*.

Benda, B. (1987). Predicting juvenile recidivism: New method, old problems. *Adolescence, 22*(87), 691–704.

Bendel, R. B., & Afifi, A. A. (1977). Comparison of stopping rules in forward stepwise regression. *Journal of the American Statistical Association, 72*, 46–53.

Burgess, E. W. (1928). Factors determining success or failure on parole. In A. A. Bruce, E. W. Burgess, J. Landesco, & A. J. Harno (Eds.), *The workings of the indeterminate sentence law and the parole system in Illinois* (pp. 221–234). Springfield, IL: Illinois State Board of Parole.

Danziger, S., Corcoran, M., Danziger, S., Heflin, C., Kalil, A., Levine, J., et al. (2000). *Barriers to the employment of welfare recipients*. Ann Arbor, MI: University of Michigan Poverty Research and Training Center.

Dawes, R. M. (1979). The robust beauty of improper linear models in decision making. *American Psychologist, 34*, 571–582.

DeParle, J. (2009, February 1). Welfare aid isn't growing as economy drops off. *The New York Times*. Retrieved April 6, 2009, from http://www.nytimes.com/2009/02/02/us/02welfare.html?ref=us

Eisenberg, M., & Markley, G. (1987). Something works in community supervision. *Federal Probation*, *51*(4), 28–32.

Gottfredson, S., & Gottfredson, D. (1980). Screening for risk: A comparison of methods. *Criminal Justice and Behavior*, *7*, 315–330.

Hauan, S., & Douglas, S. (2004). *Potential employment liabilities among TANF recipients: A synthesis of data from six state TANF caseload studies.* Washington, D.C.: U.S. Department of Health and Human Services.

Hendryx, M., & Rohland, B. (1997). Psychiatric hospitalization decision making by CMHC staff. *Community Mental Health Journal, 33,* 63–73.

Hosmer, D. W., & Lemeshow, S. (1989). *Applied logistic regression.* New York: Wiley.

Johnson & Meckstroth. (1998). *Ancillary services to support Welfare-to-Work.* Princeton, NJ: Mathematica Policy Research.

Kirby, G., Fraker, T., Pavetti, L., & Kovac, M. (2003). *Families on TANF in Illinois: Employment assets and liabilities.* Princeton, NJ: Mathematica Policy Research.

Loprest, P., & Zedlewski, S. (2002). Making TANF work for the hard to serve. *Assessing the New Federalism: Short takes on welfare policy (2).* Washington, D.C.: The Urban Institute.

Lowenkamp, C. T., Latessa, E. J., & Holsinger, A. M. (2006). The risk principle in action: What have we learned from 13,676 offenders and 97 correctional programs? *Crime & Delinquency*, *52*(1), 77–93.

Meckstroth, A., Derr, M., Ponza, M., Jethwani, V., & Faerber, J. (2002). *Preparing Nebraska's welfare clients for work and addressing their obstacles.* Princeton, NJ: Mathematica Policy Research.

Michalopoulos, C., & Schwartz, C. (2000). *What works best for whom.* Washington, D.C.: U.S. Department of Health and Human Services, U.S. Department of Education.

Moffit, R., Cherlin, A., Burton, L., King, M., & Roff, J. (2002). *The characteristics of families remaining on welfare.* Policy Brief 02-2. Baltimore, MD: The Johns Hopkins University.

Olson, K. K., & Pavetti, L. (1996). *Personal and family challenges to the successful transition from welfare to work.* Washington, D.C.: The Urban Institute.

Pavetti, L. A., & Kauff, J. (2006, March). When five years is not enough. *Lessons from the field.* Princeton, NJ: Mathematica Policy Research.

Ponza, M., Meckstroth, A., Faerber, J., Bloomenthal, A., Ghosh, B., & Kalb, L. (2002). *Employment experiences and challenges among urban and rural welfare clients in Nebraska.* Princeton, NJ: Mathematica Policy Research.

Rossi, P., Schuerman, J., & Budde, S. (1996). *Understanding child maltreatment decisions and those who make them.* Chicago: Chapin Hall Center for Children.

Shlonsky, A. & Wagner, D. (2005). The next step: Integrating actuarial risk assessment and clinical judgment into an evidence-based practice framework in CPS case management. *Children and Youth Services Review*, *27*, 409–427.

41

Silver, E., & Banks, S. (1998). *Calibrating the potency of violence risk classification models: The dispersion index for risk (DIFR)*. Washington, D.C.: American Society of Criminology.

Silver, E., Smith, W.R., & Banks, S.. (2000). Constructing actuarial devices for predicting recidivism. *Criminal Justice and Behavior*, *27*(6), 733–764.

Swets, J. A., Dawes, R. M., & Monahan, J. (2000). Psychological science can improve diagnostic decisions. *Psychological Sciences in the Public Interest (a supplement to Psychological Science), 1*(1).

U.S. Department of Health and Human Services. (2006). *Temporary Assistance for Needy Families program (TANF) seventh annual report to Congress*. Washington, D.C.: U.S. Department of Health and Human Services.

Wagner, D. (1992). Actuarial and clinical decision making in parole: Should we use our heads, the formula, or both? Unpublished doctoral dissertation, University of Wisconsin, Madison.

Wagner, D., & Bell, P. (1998). The use of risk assessment to evaluation the impact of intensive protective service intervention in a practice setting. *Twelfth National Roundtable on Child Protective Services Risk Assessment—Summary of Proceedings*. San Francisco, CA: American Public Welfare Association/American Humane Association, pp. 3–9.

Wagner, D., Hull, S., & Luttrell, J. (1995). *The Michigan Department of Social Service risk based Structured Decision Making® System: An evaluation of its impact on child protective service cases*. Paper presented at the Ninth National Round Table on CPS Risk Assessment.

Wainer, H. (1976). Estimating coefficients in linear models: It don't make no nevermind. *Psychological Bulletin, 83*, 312–317.

Wilbanks, W. (1985). Predicting failure on parole. In Farrington and Tarling (Eds.), *Prediction in criminology* (pp. 78–95). Albany, NY: State University of New York Press.

Zedlewski, S. R. (1999, July). Work-related activities and limitations of current welfare recipients. *Assessing the New Federalism: Discussion paper*. Washington, D.C.: The Urban Institute.

Zedlewski, S. R. (2003). Work and barriers to work among welfare recipients in 2002. *Snapshots of America's families (3).* Washington, D.C.: The Urban Institute.

Appendix A

Item Analyses

The purpose of an item analysis is to describe the bivariate relationship between individual risk factors scored on the appraisal screening and the outcomes observed during the standardized 12-month follow-up period. Table A1 reviews the participation risk factors and their relationship to subsequent program non-compliance and sanctions. The two columns under "Sample Distribution" show the prevalence of each factor among the sample. The two columns under "Subsequent Non-compliance" show, for each of the risk characteristics, the proportion of customers with a subsequent charge of non-compliance. The "Corr." column reports Pearson's correlation for each factor and subsequent non-compliance outcomes, while the "P Value" column illustrates the significance of that correlation. The expectation is that each factor will have a significant relationship with the observed outcomes in the expected direction. For example, 56.8% of customers eligible for WTW did not receive public assistance in the two previous years. Among customers who were not aided in the two previous years, 39.0% were subsequently non-compliant with program requirements. Of customers who received aid in the two previous years, between 40.2% and 62.4% were subsequently non-compliant. The correlation between history of receiving aid and subsequent WTW non-compliance (.118) is significant. Finally, the four columns under "Subsequent Sanction" show the rate and correlation for each factor with subsequent sanctions.

The participation index includes one item for which a correlation with outcomes was not significant. This item, "certificate or degree from post-secondary education program," resulted in a better overall distribution by risk score relative to outcomes, and thus was retained in the index despite the lack of significance. The need for this item can be re-examined during the prospective validation study.

Table A2 reviews the same information for the employability index. Outcomes observed were any employment at the end of a one-year period, and full-time employment at one year.

A1

	Sample Distribution		Subsequent Non-compliance				Subsequent Sanction			

Table A1

Item Analyses for Participation Screening Index

Item	Sample Distribution		Subsequent Non-compliance				Subsequent Sanction			
	N	%	N	%	Corr.	P Value	N	%	Corr.	P Value
Total Sample	**9,798**	**100.0%**	**4,178**	**42.6%**			**1,590**	**16.2%**		
P1. Prior CalWORKs experience (take highest score)					0.118	0.001			0.124	0.001
None	5,567	56.8%	2,171	39.0%			764	13.7%		
Received CalWORKs benefits in past	1,890	19.3%	760	40.2%			272	14.4%		
Any non-compliance in past	1,253	12.8%	649	51.8%			244	19.5%		
One sanction in past	817	8.3%	429	52.5%			213	26.1%		
Two or more sanctions in past	271	2.8%	169	62.4%			97	35.8%		
P2. Termination of employment within last year					0.021	0.018			0.010	0.171
No	8,994	91.8%	3,807	42.3%			1,450	16.1%		
Yes	804	8.2%	371	46.1%			140	17.4%		
P3. Has GED/high school diploma					0.071	0.001			0.057	0.001
No	2,543	26.0%	1,236	48.6%			503	19.8%		
Yes	7,255	74.0%	2,942	40.6%			1,087	15.0%		
P4. Certificate and/or degree from post-secondary education program					0.005	0.316			0.008	0.228
No	7,733	78.9%	3,307	42.8%			1,266	16.4%		
Yes	2,065	21.1%	871	42.2%			324	15.7%		
P5. Number of adults on CalWORKs case number					-0.056	0.001			-0.039	0.001
Two or more	2,507	25.6%	951	37.9%			345	13.8%		
One or none	7,291	74.4%	3,227	44.3%			1,245	17.1%		
P6. Employed at time of approval					0.069	0.001			0.060	0.001
No	8,098	82.6%	3,579	44.2%			1,396	17.2%		
Yes	1,700	17.4%	599	35.2%			194	11.4%		
P7. Age of youngest child in the home					0.055	0.001			0.037	0.001
6 or older	2,835	28.9%	1,088	38.4%			400	14.1%		
5 or younger	6,963	71.1%	3,090	44.4%			1,190	17.1%		
P8. Customer has/had mental health need					0.021	0.020			0.014	0.085
No	9,397	95.9%	3,987	42.4%			1,515	16.1%		
Yes	401	4.1%	191	47.6%			75	18.7%		
P9. Customer needs (or has already been approved for) dependent care aid					0.079	0.001			0.043	0.001
No	7,391	75.4%	2,986	40.4%			1,133	15.3%		
Yes	2,407	24.6%	1,192	49.5%			457	19.0%		
P10. Customer needs (or has already been approved for) transportation assistance					0.068	0.001			0.039	0.001
No	7,291	74.4%	2,965	40.7%			1,121	15.4%		
Yes	2,507	25.6%	1,213	48.4%			469	18.7%		
P11. Customer needs housing assistance					0.054	0.001			0.039	0.001
No	8,599	87.8%	3,581	41.6%			1,349	15.7%		
Yes	1,199	12.2%	597	49.8%			241	20.1%		

A2

	Table A2									

Item Analyses for Employment Screening Index

Item	Sample Distribution		Employment 20+ Hours at 12 Months				Employment Full-time at 12 Months			
	N	%	N	%	Corr.	P Value	N	%	Corr.	P Value
Total Sample	**9,798**	**100.0%**	**3,821**	**39.0%**			**1,387**	**14.2%**		
E1. Employed during prior year					0.230	.001			0.119	.001
No	6,167	62.9%	1,874	30.4%			676	11.0%		
Yes	3,631	37.1%	1,947	53.6%			711	19.6%		
E2. Employed full-time during prior year					0.167	.001			0.149	.001
No	7,923	80.9%	2,776	35.0%			921	11.6%		
Yes	1,875	19.1%	1,045	55.7%			466	24.9%		
E3. Worked at least 6 of the last 12 months					0.123	.001			0.048	.001
No	8,932	91.2%	3,316	37.1%			1,218	13.6%		
Yes	866	8.8%	505	58.3%			169	19.5%		
E4. Certificate and/or degree from post-secondary education program					0.093	.001			0.072	.001
Two or more	7,733	78.9%	2,835	36.7%			995	12.9%		
One or none	2,065	21.1%	986	47.7%			392	19.0%		
E5. Customer age between 21 and 35					0.109	.001			0.072	.001
No	4,426	45.2%	1,467	33.1%			505	11.4%		
Yes, 21–35	5,372	54.8%	2,354	43.8%			882	16.4%		
E6. Number of Adults on CalWORKs case number					0.048	.001			-0.007	0.251
One	7,291	74.4%	2,943	40.4%			1,022	14.0%		
Two or more	2,507	25.6%	878	35.0%			365	14.6%		
E7. Age of youngest child in the home					0.083	.001			0.045	.001
6 or older	2,835	28.9%	926	32.7%			332	11.7%		
5 or younger	6,963	71.1%	2,895	41.6%			1,055	15.2%		
E8. Customer has/had mental health need					0.014	0.081			0.007	0.243
No	9,397	95.9%	3,678	39.1%			1,335	14.2%		
Yes	401	4.1%	143	35.7%			52	13.0%		
E9. Customer needs housing assistance					0.027	0.004			0.029	0.002
No	8,599	87.8%	3,396	39.5%			1,250	14.5%		
Yes	1,199	12.2%	425	35.4%			137	11.4%		

A3

Appendix B

Findings for the Validation Sample

The preliminary appraisal screening's performance was also examined for the validation sample. Classification results will be the most robust for the sample from which the assessment was constructed. The classification abilities of a risk assessment will therefore decrease when the risk assessment is applied to a sample other than the one with which the tool was constructed, which is referred to in the literature as *shrinkage* (Altman & Royston, 2000; Silver et al., 2000). Shrinkage is normal; therefore, validating a risk assessment on a separate population provides a better approximation of how a risk assessment will perform when actually implemented, and is the preferred approach when comparing actuarial methods. Testing an assessment's performance with a validation sample theoretically estimates how robust a risk assessment is, that is, how a risk assessment will perform when applied to the true population. The estimate's accuracy depends on the degree to which the validation sample reflects the population.

<table>
<tr><td colspan="5" align="center">Table B1

Screening Classification by Participation</td></tr>
<tr><td rowspan="2">Recommended Support Level</td><td colspan="2" align="center">Sample Distribution</td><td colspan="2" align="center">Participation Outcomes During a Standardized 12-month Follow-up Period</td></tr>
<tr><td align="center">N</td><td align="center">%</td><td align="center">Subsequent Non-compliance</td><td align="center">Subsequent Sanction</td></tr>
<tr><td>Low</td><td align="center">967</td><td align="center">19.4%</td><td align="center">38.1%</td><td align="center">11.4%</td></tr>
<tr><td>Moderate</td><td align="center">3,268</td><td align="center">65.7%</td><td align="center">40.7%</td><td align="center">15.4%</td></tr>
<tr><td>High</td><td align="center">740</td><td align="center">14.9%</td><td align="center">55.8%</td><td align="center">25.9%</td></tr>
<tr><td>Total Sample</td><td align="center">4,975</td><td align="center">100.0%</td><td align="center">42.4%</td><td align="center">16.2%</td></tr>
</table>

Table B2				
Employability Classification by Outcomes				
Employability Classification	**Sample Distribution**		**Employment Outcomes During a Standardized 12-month Follow-up Period**	
	N	**%**	**Employed at Any Point**	**Employed Full-time at Any Point**
Low	1,045	21.0%	32.0%	16.3%
Moderate	2,507	50.4%	56.3%	26.7%
High	1,423	28.6%	80.7%	42.2%
Total Sample	**4,975**	**100.0%**	**58.2%**	**28.9%**

Table B3				
Employability Classification by Outcomes				
Employability Classification	**Sample Distribution**		**Employment Outcomes During a Standardized 12-month Follow-up Period**	
	N	**%**	**Employed 20+ Hours at Year End**	**Employed Full-time at Year End**
Low	1,045	21.0%	22.8%	7.2%
Moderate	2,507	50.4%	38.9%	13.0%
High	1,423	28.6%	56.6%	20.2%
Total Sample	**4,975**	**100.0%**	**40.6%**	**13.8%**

One way to assess the degree of shrinkage is to look at changes in scores for the dispersion index for risk (DIFR). The DIFR was introduced in 1998 by Silver and Banks as an alternative method for assessing the classification abilities of a risk assessment (Silver & Banks, 1998). Traditional measures of predictive accuracy, such as sensitivity and specificity, are based on the assumption of a dichotomous decision, and therefore have limited usefulness for measures with more than two classification categories.

The DIFR measures the potency of a risk assessment by assessing how an entire cohort is partitioned into different groups, and the extent to which group outcomes vary from the base rate for the entire cohort. In essence, it weights the distance between a subgroup's outcome rate from the cohort's base rate by the subgroup size to estimate the "potency" of a classification system.

Because this measure considers proportionality and differences in outcome rates among several subgroups, it is a measure of the efficacy of classification systems.

The DIFR formula is:

$$DIFR = \sqrt{\sum_{i=1}^{k}\left(\ln\left(\frac{P}{1-P}\right)-\ln\left(\frac{p_i}{1-p_i}\right)\right)^2 * \frac{n_i}{N}}$$

where k is the number of subgroups in the risk classification model, P is the total sample base rate of the outcome, N is the total sample size, p_i represents the base rate of each of the k subgroups, and n_i is the size of each k subgroup. In sum, the DIFR considers the degree to which outcomes of each subgroup (classification level) differ from the mean for the study sample and adjusts for the size of the group classified to each level.[7]

Table B4 compares the DIFR scores for the construction and validation samples by each outcome observed for the participation index. Table B5 reports the DIFR scores for the employability index. For both indices, changes in the DIFR scores were minimal, indicating that the amount of shrinkage is minimal.

---

[7] The limitations of the DIFR are as follows.

1. It measures distance from the mean without considering whether it is in the expected or logical direction. Therefore, when outcome rates do not conform to the basic expectations (i.e., that failure rates will increase as risk levels increase), the test is inappropriate.

2. It measures overall dispersion from the base rate and does not assess the degree of separation between any two risk categories. In a similar fashion, the DIFR cannot help assess whether a risk classification model is classifying two subgroups similarly, but rather assesses the dispersion within a subgroup (given that group's base rate).

B3

Table B4
Dispersion Index for Risk by Subsequent Participation Outcomes **for the Construction and Validation Samples**

Sample Group	Sample Size	Case Outcome Rates During the 12-Month Follow-Up Period	
		Subsequent Non-compliance	**Subsequent Sanction**
Construction	9,798	0.27	0.26
Validation	4,975	0.23	0.29
Change in DIFR Score		0.04	-0.03

Table B5
Dispersion Index for Risk by Subsequent Employment Outcomes **for the Construction and Validation Samples**

Sample Group	Sample Size	Employed at Any Point	Employed Full-time at Any Point	Employed 20+ Hours at Year End	Employed Full-time at Year End
Construction	9,798	0.77	0.52	0.53	0.42
Validation	4,975	0.77	0.47	0.52	0.42
Change in DIFR Score		0.0	0.05	0.01	0.0

It should be noted that validating by splitting the sample may underestimate shrinkage (see Silver & Banks, 1998). The construction and validation samples originate from the same initial sample, and are therefore subject to the same type of measurement bias. In addition, implementation of the appraisal screening under field conditions may impact its classification abilities. The best approach for determining shrinkage is to monitor use of the appraisal screening with regular data reporting and case reviews, and examine its classification abilities in the future.

Appendix C

Descriptions of Appraisal Screening Classifications by Risk Factor

Screening Item	N	Low	Moderate	High
Table C1				
Item Prevalence by Participation Screening Index Classification				
Prior CalWORKs/WTW experience				
None	5,935	93.3%	62.9%	7.6%
Received CalWORKs benefits	1,522	5.6%	20.8%	6.1%
Any non-compliance in past	1,253	0.9%	11.1%	35.8%
One sanction	817	0.2%	4.7%	34.5%
Multiple sanctions	271	0.0%	0.5%	16.0%
Termination of employment during prior year				
No	8,994	96.6%	93.5%	78.0%
Yes	804	3.4%	6.5%	22.0%
Has GED/high school diploma				
No	2,543	5.4%	27.6%	45.9%
Yes	7,255	94.6%	72.4%	54.1%
Certificate/degree from post-secondary program				
No	7,733	54.6%	84.7%	86.1%
Yes	2,065	45.4%	15.3%	13.9%
Number of adults assigned to CalWORKs case number				
One	7,291	89.1%	69.4%	76.5%
Two or more	2,507	10.9%	30.6%	23.5%
Employed at time of approval				
No	8,098	59.2%	88.3%	89.5%
Yes	1,700	40.8%	11.7%	10.5%
Age of youngest child in home				
6 or older	2,835	56.3%	24.1%	13.5%
5 or younger	6,963	43.7%	75.9%	86.5%
Customer has mental health need				
No	9,397	99.7%	98.1%	81.3%
Yes	401	0.3%	1.9%	18.7%
Customer identified dependent care need				
No	7,391	95.4%	81.9%	21.5%
Yes	2,407	4.6%	18.1%	78.5%
Customer needs transportation assistance				
No	7,291	96.6%	80.4%	19.5%
Yes	2,507	3.4%	19.6%	80.5%
Family needs housing assistance				
No	8,599	97.7%	89.4%	67.5%
Yes	1,199	2.3%	10.6%	32.5%

Table C2				
Item Prevalence by Employability Screening Index Classification				
Screening Item	**N**	**Low**	**Moderate**	**High**
Employed during the last year				
No	6,167	99.8%	77.0%	12.7%
Yes	3,631	0.2%	23.0%	87.3%
Employed full-time during the last year				
No	7,923	100.0%	93.8%	45.0%
Yes	1,875	0.0%	6.2%	55.0%
Worked at least 6 of the last 12 months				
No	8,932	100.0%	96.9%	74.9%
Yes	866	0.0%	3.1%	25.1%
Certificate/degree from post-secondary program				
No	7,733	99.5%	84.6%	54.7%
Yes	2,065	0.5%	15.4%	45.3%
Age 21 to 35 years				
No	4,426	89.5%	42.2%	19.5%
Yes, 21 to 35	5,372	10.5%	57.8%	80.5%
Number of adults assigned to CalWORKs case number				
One	7,291	51.7%	76.4%	86.7%
Two or more	2,507	48.3%	23.6%	13.3%
Age of youngest child in home				
6 or older	2,835	67.2%	22.7%	13.3%
5 or younger	6,963	32.8%	77.3%	86.7%
Customer has mental health need				
No	9,397	94.9%	96.4%	95.8%
Yes	401	5.1%	3.6%	4.2%
Family needs housing assistance				
No	8,599	80.3%	88.6%	91.5%
Yes	1,199	19.7%	11.4%	8.5%

C2

Appendix D

The Reassessment:

Assessing Progress Toward WTW Participation and Employability

During the 90 days following appraisal screening, workers will complete the family strengths and needs assessment for all customers who have not obtained full-time employment. Workers complete this assessment to examine in greater depth whether a customer has strengths that can be incorporated into WTW activity planning, and needs that should be addressed to help facilitate steady employment.

ESCs will also complete a periodic reassessment to measure change in individuals' risk of non-participation or employment problems based on response to services or changes in their circumstances. In other human services fields, a reassessment is typically completed at least every time a service plan is updated (usually every three months and at least every six months) and each time a significant change occurs in someone's circumstances.

The proposed reassessment was constructed using a subset of the validation sample. Of the 9,798 customers assigned to WTW, 58.5% were still active in the program 90 days later. Reassessment construction was limited to these cases in order to approximate a sample of customers whom workers would actually be assessing. The 41.5% of customers who became inactive within 90 days of assignment were excluded from remaining analyses.[8]

In order to assess the likelihood of outcomes during the next six months, the reassessment was constructed as though workers were completing it six months after appraisal screening. Employment status changed somewhat from time of assignment to the proposed reassessment time six months later. Table D1 indicates that at the time of WTW assignment, 20.4% of customers were employed at some level. Six months later, 56.7% of customers were employed. Having employment at assignment increased the likelihood of employment six months later; 71.0% of customers employed at assignment also had employment six months later, compared to only 53.1% of customers who were unemployed at assignment.

---

[8] Customers were identified as active based on data describing WTW status, and as being off aid based on data describing activity participation.

D1

Table D1						
Employability Classification Findings by Client Ethnicity						
Employability Classification	Not Employed at Reassessment		Employed at Time of Reassessment		Total	
	N	%	N	%	N	%
Total Sample	**2,426**	**42.4%**	**3,247**	**56.7%**	**5,723**	**100.0%**
Not Employed at WTW Assignment	2,138	46.9%	2,419	53.1%	4,557	**100.0%**
Employed at WTW Assignment	338	29.0%	828	71.0%	1,166	**100.0%**

Among sampled customers with an active case six months later, those employed at assignment were more likely to have employment six months later than customers who were unemployed at appraisal screening. This suggests that assessing and defining appropriate weights for past employment history may improve workers' estimation of future risk at multiple points during the case process.

The methods used to construct the reassessment were the same methods referenced to construct the initial appraisal screening (see page 14). Reassessment outcomes were observed for a standardized six-month follow-up period (i.e., Months 6 through 12) and included participation and employment measures. The outcome of failure to participate is estimated by findings of non-compliance and/or sanctioning during a standardized six-month follow-up period. Employment outcome measures included any employment during the standardized six-month follow-up period, full-time employment during the follow-up period, and whether a customer was still employed (for at least 20 hours or full-time) at the end of the follow-up period. Separate indices were developed for program participation versus employment.

Findings for the Participation Reassessment Index

The proposed participation reassessment index is shown on page D3. Among the 5,723 sampled individuals, 20.8% were found to be non-compliant and 6.6% were sanctioned during the standardized six-month follow-up period (see Table D2). Among individuals classified as low support, 7.9% had a subsequent finding of non-compliance, while 23.9% of moderate support customers and 59.3% of high support customers were found to be non-compliant during the standardized six-month follow-up period.

Classification findings were similar when the outcome was a sanction during the standardized six-month period. Of those individuals classified as low support on the participation reassessment index, 1.2% were sanctioned. In comparison, 7.6% of moderate support customers and 24.6% of high support customers were sanctioned.

PROPOSED WTW PARTICIPATION REASSESSMENT INDEX

RP1. Prior CalWORKs/WTW experience
  a. None...0
  b. Received CalWORKs benefits in the past 1   _____

RP2. Has high school diploma or GED
  a. No...1
  b. Yes..0   _____

RP3. Non-compliant in last six months
  a. No...0
  b. Yes..1   _____

RP4. Sanctioned in last six months
  a. No...0
  b. Yes..1   _____

RP5. Failed to attend activity during last six months
  a. No...0
  b. Yes..1   _____

RP6. Unsatisfactory activity performance during last six months
  a. No...0
  b. Yes..2   _____

RP7. Employed for at least three of the last six months
  a. No...0
  b. Yes...-1   _____

RP8. Employed full-time for at least three of the last six months
  a. No...0
  b. Yes...-1   _____

RP9. Receiving mental health counseling
  a. No...0
  b. Yes...-1   _____

TOTAL SCORE: _____

Recommended Support Level:
Low   -3 to 0   _____
Moderate   1 to 3   _____
High   4+   _____

D4

Table D2				
Screening Classification by Participation Index				
Recommended Support Level	**Sample Distribution**		**Participation Outcomes During a Standardized Six-month Follow-up Period**	
	N	**%**	**Subsequent Non-compliance**	**Subsequent Sanction**
Low	2,220	38.8%	7.9%	1.2%
Moderate	3,011	52.6%	23.9%	7.6%
High	492	8.6%	59.3%	24.6%
Total Sample	**5,723**	**100.0%**	**20.8%**	**6.6%**

Findings for the Employability Reassessment Index

During the six-month period following reassessment, 31.2% of sampled customers were employed at least once, and 14.8% were employed full-time at some point during the six-month follow-up period (see Table D3). At six months, 31.8% were employed 20 or more hours per week, and 11.8% were employed full-time (Table D4).

The proposed employability reassessment index classified sampled individuals such that an increase in the employability level corresponded to an increase in every employment outcome. The employability index appears on page D5.

PROPOSED WTW EMPLOYABILITY REASSESSMENT INDEX

Score

RE1. Employed during the last year
    a. No...0
    b. Yes..2 _____

RE2. Employed full-time for at least three of the last six months
    a. No...0
    b. Yes..2 _____

RE3. Employed currently
    a. No...0
    b. Yes..4 _____

RE4. Certificate and/or degree from post-secondary education program
    a. No 0
    b. Yes..1 _____

RE5. Attending activities
    a. No...0
    b. Yes..1 _____

RE6. Sanctioned in last six months
    a. No...0
    b. Yes...-1 _____

RE7. Receiving mental health counseling
    a. No...0
    b. Yes..1 _____

TOTAL SCORE: _____

Employability Classification:
Low   -1 to 1   _____
Moderate 2 to 4   _____
High   5+   _____

D6

http://sharepoint/nccd/Projects/California/583RiversideWTW/Reports/WTW_Appraisal_Screening_Study_2010.docx   © 2010 by NCCD, All Rights Reserved

Table D3				
Employability Classification by Outcomes				
Employability Classification	**Sample Distribution**		**Employment Outcomes During a Standardized Six-month Follow-up Period**	
	N	**%**	**Employed at Any Point**	**Employed Full-time at Any Point**
Low	1,515	26.5%	13.7%	5.1%
Moderate	3,465	60.5%	36.8%	15.9%
High	743	13.0%	40.9%	29.6%
Total Sample	**5,723**	**100.0%**	**31.2%**	**14.8%**

Table D4				
Employability Classification by Outcomes				
Employability Classification	**Sample Distribution**		**Employment Outcomes During a Standardized Six-month Follow-up Period**	
	N	**%**	**Employed 20+ Hours at Six Months**	**Employed Full-time at Six Months**
Low	1,515	26.5%	12.7%	4.6%
Moderate	3,465	60.5%	37.5%	12.5%
High	743	13.0%	44.0%	23.3%
Total Sample	**5,723**	**100.0%**	**31.8%**	**11.8%**

Case Name: (last) _____ (first) _____ **Case Number:** _____

CalWORKs Application Date: ___/___/___ **CalWORKs Approval Date:** ___/___/___ **Evaluation Date:** ___/___/___

Office: _____ **ESC#:** _____

Person Being Assessed: (last) _____ (first) _____ **Person ID:** _____

Likelihood of Participation	**Score**	**Likelihood of Employment**	**Score**
RP1. Prior CalWORKs/WTW experience a. None ....0 b. Yes 1	____	RE1. Employed during the last year a. No ....0 b. Yes ....-2	____
RP2. Has high school diploma or GED a. No ....1 b. Yes 0	____	RE2. Employed at least three of the last six months a. No ....0 b. Yes ....-2	____
RP3. Non-compliant in last six months a. No ....0 b. Yes 1	____	RE3. Employed currently a. No ....0 b. Yes ....-1	____
RP4. Sanctioned in last six months a. No ....0 b. Yes 1	____	RE4. Certificate and/or degree from post-secondary education program a. No ....0 b. Yes ....-1	____
RP5. Failed to attend an activity in last six months a. No ....0 b. Yes 1	____	RE5. Attending activities a. No ....0 b. Yes ....-1	____
RP6. Unsatisfactory performance in last six months a. No ....0 b. Yes 1	____	RE6. Sanctioned in the last six months a. No ....0 b. Yes 1	____
RP7. Employed at least three of the last six months a. No ....0 b. Yes ....-1	____	RE7. Receiving mental health counseling a. No ....0 b. Yes ....-1	____
RP8. Employed full-time at least three of the last six months a. No ....0 b. Yes ....-1	____		
RP9. Receiving mental health counseling a. No ....0 b. Yes ....-1	____		

TOTAL SCORE: ____   **TOTAL SCORE:** ____

Recommended Agency Support Level. Assign the agency support level based on the highest score on either index, using the following chart:

Participation	Employment	Support Level
☐ -3 to 0	☐ -8 to -5	Low
☐ 1 to 3	☐ -4 to -2	Moderate
☐ 4 to 6	☐ -1 to 1	High

Note: Scores defining employment support level differ from those on page D5 because item scores changed.

D7

Appendix E

Prior Studies of WTW Customers and Supplemental Data Collection Items

The first step in the appraisal screening development process was to review existing research on the topic to identify potential risk factors for program non-participation and subsequent employment. Table E1 summarizes each of the studies reviewed. These studies identified 21 risk factors that could, as individual factors or as a combination item of multiple barriers, be analyzed in development of an actuarial assessment to estimate the likelihood of failure to complete WTW. Table E2 reviews the risk factors identified in studies reviewed with a statistically significant relationship to length of time in a WTW program or obtaining paid employment. Risk factors with a significant bivariate relationship to outcomes consist of three types: personal and family-related factors; human capital factors; and logistical factors, such as availability of child care and/or transportation. Some of these barriers remained significant when multivariate analyses were conducted. An important finding regarding WTW populations and their barriers to employment is that, independent of the type of barriers, an individual's number of barriers to employment is significantly related to employment stability (Danziger et al., 2000; Kirby et al., 2003).

Table E1

Studies That Identified Risk Factors for WTW Employment Outcomes

Description	Findings	Citation
Population: National Longitudinal Survey of Youth (NLSY: nationally representative sample of 12,686 people who were 14–22 years old in 1979; only those who had ever received welfare were included in the analysis; 1,228 women) **Follow-up Period:** None **Synopsis:** This study summarizes existing research on barriers to employment and analyzes NLSY data to determine how barriers differentiate among long-, short-, and intermediate-term welfare recipients. **Participation Outcomes Included:** Time on aid, paid employment	Long-term recipients were more likely than short- or intermediate-term recipients to have low job skills, medical problems, or depression. Long-term recipients were also more likely than intermediate-term recipients to show signs of substance abuse. Long- and intermediate-term recipients were more likely to have a special needs child. In spite of such barriers, many recipients did work. Among the barriers, a low Armed Forces Qualifying Test score (a proxy for job skills) appeared most strongly related to unemployment.	Olson and Pavetti (1996)
Population: 1997 National Survey of America's Families (non-institutionalized civilian population of persons under 65 in 13 states; analysis sample is households receiving TANF at the time of the survey; 1,564 persons) **Follow-up Period:** None **Synopsis:** This descriptive study sought to determine the extent to which TANF recipients were already engaged in work activities shortly after TANF implementation, the extent to which recipients reported personal or family barriers to work activities, and whether barriers and activities varied across states. **Participation Outcomes Included:** Employment, education, job search	Low education, no recent work experience, caring for a child under the age of 1, caring for a special needs child, limited English skills, and physical and mental health problems were identified as barriers experienced by TANF recipients. The study also notes that while most recipients with obstacles did work, only 25% having three or more obstacles engaged in work activities.	Zedlewski (1999)
Population: 1999 National Survey of America's Families **Follow-up Period:** None **Synopsis:** This study tried to understand the barriers experienced by TANF recipients facing time limits and non-working TANF leavers. **Participation Outcomes Included:** Paid employment	Barriers to employment experienced by recipients on aid for two years or more include poor health, lack of recent work experience, not finishing high school, caregiving responsibilities, language barriers, and domestic violence.	Loprest and Zedlewski (2002)
Population: 1999 and 2002 National Surveys of America's Families **Follow-up Period:** None **Synopsis:** This study compared welfare entrants (first entry being less than two years prior to survey), cyclers (who had been on welfare intermittently over two years), and stayers (who had been on welfare for	The incidence of barriers among TANF recipients did not change significantly between 1999 and 2002, with the exception of an increase in recipients requiring an interview in Spanish. The incidence of multiple barriers similarly remained steady over time. However, the author also found that long-term stayers and cyclers had more barriers than new	Zedlewski (2003)

E2

<table>
<tr><td colspan="3" align="center">**Table E1**

Studies That Identified Risk Factors for WTW Employment Outcomes</td></tr>
<tr><td align="center">**Description**</td><td align="center">**Findings**</td><td align="center">**Citation**</td></tr>
<tr>
<td>two years or more continuously).

Participation Outcomes Included: Paid employment</td>
<td>entrants. Long-term stayers had a high incidence of having an infant or lacking English skills.</td>
<td></td>
</tr>
<tr>
<td>**Population:** Random sample of single-parent TANF recipients in a single month in the summer of 2002 in five states and Washington, D.C. Each sample ranged from 500–1,400 individuals.

Follow-up Period: None

Synopsis: This study pooled survey data (collected with a common instrument) from six sites to analyze the relationship between liabilities and working at the time the survey was conducted.

Participation Outcomes Included: Paid employment</td>
<td>In bivariate analyses, statistically significant factors related to not working included lack of a high school diploma or GED, lack of work experience, lack of job skills, physical health problems, mental health problems, pregnancy, transportation problems, child care problems, unstable housing, and perceived neighborhood problems. In multivariate analyses, only lack of a high school diploma or GED, lack of work experience, physical health problems, pregnancy, and child care problems remained related to not working.</td>
<td>Hauan and Douglas (2004)</td>
</tr>
<tr>
<td>**Population:** 3,800 families involved in the Ramsey County, Minnesota Intensive Integrated Intervention in 2003

Follow-up Period: None

Synopsis: This study summarizes lessons learned in the Intensive Integrated Intervention project, which sought to target additional case management and services to Ramsey County recipients who were approaching the 60-month limit on benefits. This project involved the identification of barriers to employment and intensive services to remove those barriers.

Participation Outcomes Included: Paid employment</td>
<td>Characteristics of recipients approaching the time limit included low cognitive function, limited education, limited English proficiency, physical health problems, untreated mental health problems, unsafe neighborhoods, difficulty with daily activities, and limited social networks.</td>
<td>Pavetti and Kauff (2006)</td>
</tr>
<tr><td colspan="3" align="center">**Bivariate Longitudinal Studies**</td></tr>
<tr>
<td>**Population:** 771,00 welfare recipients randomly assigned to control or experimental conditions in WTW programs implemented prior to TANF passage

Follow-up Period: Three years

Synopsis: This study combines the results of 20 WTW program evaluations to determine which approaches to welfare reform are most effective for different groups of aid recipients. Each of the program evaluations used an experimental design.

Participation Outcomes Included: Annual earnings</td>
<td>The study found no relationship between depression, mastery, parental concerns, health or emotional problems, child care problems, or transportation problems and earnings. They did identify a "most disadvantaged" group who had the lowest earnings overall. This group did not have a high school diploma and had not worked in the year prior to random assignment.</td>
<td>Michalopoulos and Schwartz (2000)</td>
</tr>
<tr>
<td>**Population:** The Three-city Study (2,400 low-income families with children in low-/moderate-income neighborhoods in Boston, Chicago, and San</td>
<td>Stayers were more likely to lack education, have a child under the age of 3, have a functional disability, have</td>
<td>Moffitt et al. (2002)</td>
</tr>
</table>

E3

Table E1
Studies That Identified Risk Factors for WTW Employment Outcomes

Description	Findings	Citation
Antonio) **Follow-up Period:** Two years **Synopsis:** This study sought to identify the social, economic, and demographic characteristics of recipients who stay on welfare, compared to those who leave and to low-income women who never received aid. **Participation Outcomes Included:** Paid employment, time on aid	depression, or experience domestic violence. Those who remained on aid but also gained employment had more education, were younger, had fewer disabilities, lower incidence of depression, had greater social support, and were less likely to experience domestic violence. Those who had received aid had more in common with each other (whether they remained on aid or left successfully) than with women who had never received assistance.	
Population: Sample of Nebraska welfare clients receiving assistance in January 2000; 412 clients (half rural, half urban); single mothers aged 18–54 with at least one child under 18 **Follow-up Period:** One year **Synopsis:** These two studies shared a dataset to examine the barriers Nebraskan TANF clients faced when seeking employment (Ponza) and the efficacy of Nebraska's attempts to engage and assist them (Meckstroth). The studies detail the incidence of barriers in the TANF population and compare employed and non-employed recipients. **Participation Outcomes Included:** Paid employment	Risk factors for not working included lack of education, lack of work experience, and history of welfare receipt as an adult. Engagement in WTW activities may, however, have a protective effect. The number of obstacles, including low skills, learning disabilities, mental or physical health problems, dependent care, transit problems, and low self-efficacy, were also found to be risk factors for not working.	Meckstroth et al. (2002) Ponza et al. (2002)
Multivariate Longitudinal Studies		
Population: Women's Employment Study (random sample of 753 single mothers on TANF in an urban Michigan county in February 1997) **Follow-up Period:** Data collection at 7–10 months, 18 months, and 3 years **Synopsis:** The purpose of this study was to examine barriers to employment to understand their prevalence, the prevalence of multiple barriers, and what impact both individual and multiple barriers had on employability. The study sought to identify a predictive relationship between barriers and subsequent employment. **Participation Outcomes Included:** Paid employment	In bivariate analyses, 14 barriers were considered. The researchers compared women in the sample working more than 20 hours per week to those not working at least 20 hours per week. Barriers that differentiated workers from non-workers included lack of education, lack of work experience, lack of job skills, perceived discrimination, transportation problems, major depressive disorder, health problems, or having a child with a health problem. They additionally found that multiple barriers were common and that the likelihood of employment decreased as the number of barriers increased. In multivariate analyses, the following risk factors remained significant predictors of employment: lack of education, lack of work experience, limited job skills, perceived discrimination, transportation problems, major depressive disorders, drug dependence, and physical health problems.	Danziger et al. (2000)

Table E1		
Studies That Identified Risk Factors for WTW Employment Outcomes		
Description	**Findings**	**Citation**
Population: A stratified random sample of 552 cases drawn from 33,495 single-parent cases in Illinois authorized to receive a grant in November 2001 **Follow-up Period:** One year **Synopsis:** This study sought to understand the welfare and employment experiences of Illinois TANF recipients, the prevalence of barriers to employment in this population, and the impact of these barriers on employment. **Participation Outcomes Included:** Paid employment	In bivariate analyses, recent work experience, physical and mental health problems, multiple arrests, pregnancy, having a child under age 1, a child care problem, a transportation problem, or unstable housing were found to differentiate between recipients who worked 30 or more hours per week one year after baseline from those who did not. Having multiple barriers similarly separated workers from non-workers in bivariate analyses. In multivariate analyses, multiple barriers remained statistically significant, as did limited work experience, physical health problems, multiple arrests, and child care problems.	Kirby et al. (2003)

Table E2 **Risk Factors for Employment Outcomes Identified in Prior Studies**		
Potential Risk Factor	**Significant in Bivariate Analysis**	**Significant in Multivariate Analysis**
Personal and Family-related Factors		
Having an infant (under 1) or very young child (under 3)	X	X
Pregnancy		X
Special needs caregiving responsibilities	X	
Physical health problem	X	X
Trouble with daily activities	X	
Mental health problem	X	X
Limited cognitive function	X	
Low self-efficacy or self-control	X	
Substance or alcohol abuse	X	X
Current domestic violence	X	
Lack of social support	X	
Having multiple recent arrests		X
History of welfare receipt	X	
History of sanctions	X	
Human Capital Factors		
Lack of work experience	X	X
Limited education	X	X
Low level of job skills	X	X
Logistical Factors		
Child care problem	X	X
Living in an unsafe neighborhood	X	
Transportation problem	X	X
Perceived workplace discrimination		X
Number of barriers to employment	X	X

Note: Barriers to employment that are significant in longitudinal, multivariate studies are shown in italics.

Characteristics with a significant relationship to employment outcomes that were not available in administrative data (e.g., limited cognitive/intellectual functioning, arrest history, domestic violence, etc.) will be collected by ESCs at the time the appraisal screening is completed. This will enable future validation studies to examine whether these items should be added to the appraisal screening.

Two additional questions were added that relate to a customer's activity assignment. The questions are whether a customer has marketable job skills and/or a stable work history, and whether the customer has literacy or communication problems. Collecting this information will enable future analyses, as well as inform the ESC's decision about activity assignment. The supplemental data items that will be collected by ESCs at the time of appraisal screening completion are shown on the following page.

WTW APPRAISAL SCREENING
SUPPLEMENTAL ITEMS

S1. Customer has a physical health problem that interferes with ability to participate in one or more activities of daily living
- ☐ No
- ☐ Yes

S2. Customer has limited intellectual functioning
- ☐ No
- ☐ Yes

S3. Customer has/had a substance abuse problem
- ☐ No
- ☐ Yes (mark all that apply)
  - ☐ Alcohol
  - ☐ Drugs
  - ☐ Within the last six months
  - ☐ Prior to the last six months

S4. Two or more incidents of domestic violence in the home in the last year
- ☐ No
- ☐ Yes (mark all that apply)
  - ☐ As a victim
  - ☐ As an abuser

S5. Customer has a criminal arrest history
- ☐ No
- ☐ Yes

S6. Score(s) on standardized skills/proficiency tests
- ☐ Not applicable—customer did not participate in testing
- ☐ Customer participated in testing:

Name of Test	Test Component	Score

S7. Customer has marketable skills and/or stable work history
- ☐ No
- ☐ Yes

S8. Customer has literacy issues, lacks basic English skills, or has other problems with functional communication
- ☐ No
- ☐ Yes