



*Photo courtesy of Hakan Axelsson, DSHS Research and Data Analysis Division*

## **TANF Redesign in Washington State**

### ***Using Administrative Data from Multiple Systems to Improve Case Management***

**CREATING STABLE FUTURES FOR VULNERABLE FAMILIES CONFERENCE:**

**Building on Practice Wisdom and Evidence-Based Practices**

**January 12, 2012**

**Melissa Ford Shah, MPP**



# Roadmap

## 1. Overview of DSHS/RDA and the Integrated Client Database (ICDB)

- About DSHS and RDA
- What's in the ICDB?

## 2. TANF Redesign in Washington State

- TANF redesign: moving towards individualized case management
- Predicting “employability”: role of risk and protective factors
- Development of a web-based predictive modeling tool to support TANF case management



# DSHS, RDA, and the DSHS Integrated Client Database

## 1. About DSHS and RDA

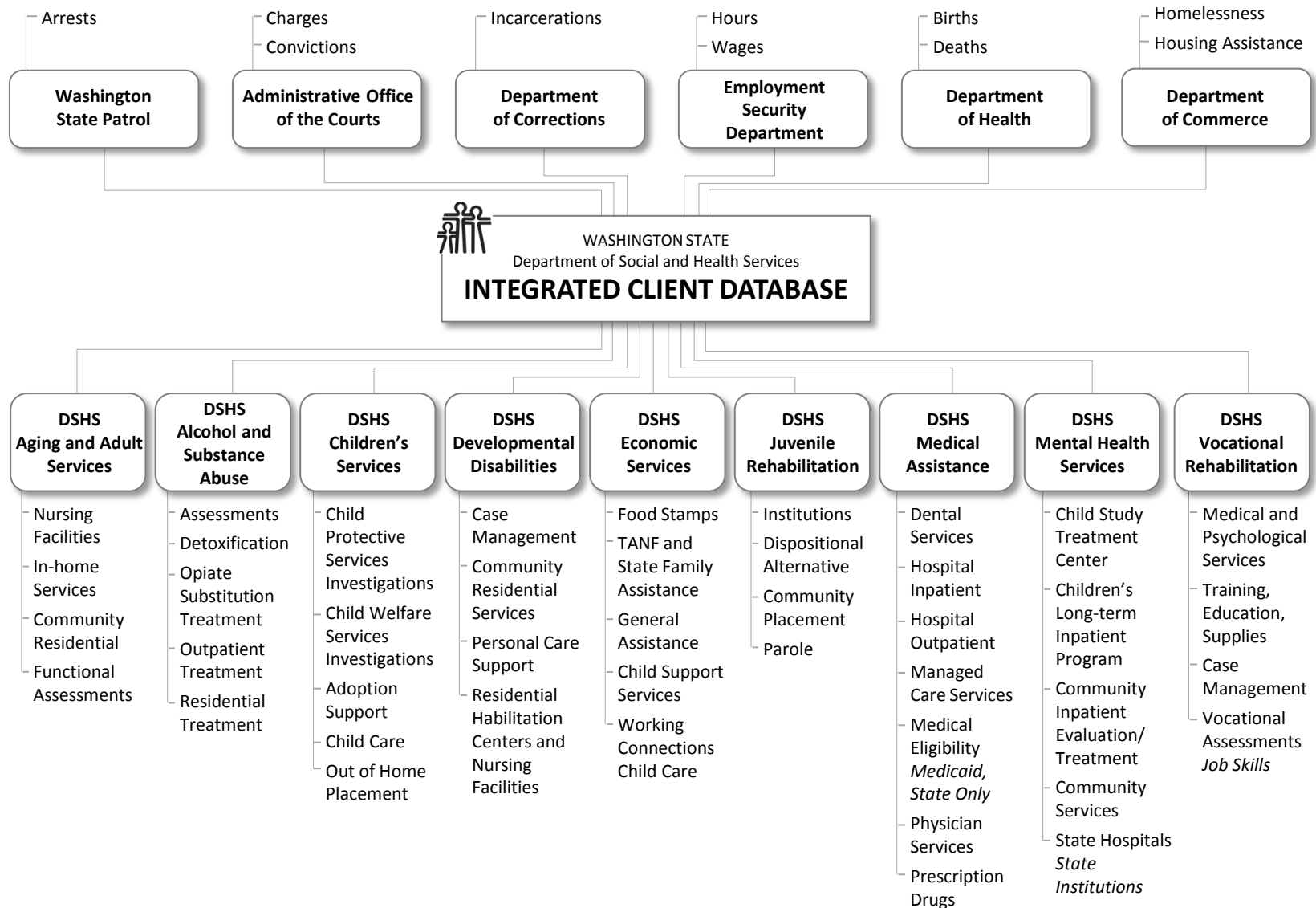
- DSHS serves over 2.1 million clients in Washington State each year, or roughly 1/3 of the state's population
- RDA is the central research division within DSHS and all research and evaluation projects align with agency priorities and objectives

## 2. What's in the DSHS Integrated Client Database (ICDB)?

- Information from over 30 data systems within and outside of DSHS
- Made up of two parts:
  - **Client Services Database (CSDB)**: service and cost data for DSHS programs (e.g., TANF, food stamps, child support, medical assistance, chemical dependency and mental health treatment, vocational rehabilitation, developmental disability, juvenile rehabilitation, child welfare)
  - **Client Outcomes Database (CODB)**: service and outcome data from external agencies (e.g., arrest, conviction, employment, birth, death, and housing assistance records)



# DSHS Integrated Client Database



# TANF Redesign: Moving towards tailored case management

## WorkFirst Sub-cabinet's Re-examination of Washington's TANF Program

- In 2010, Governor Gregoire asked her WorkFirst sub-cabinet—made up of six state agency directors—to redesign the TANF program
- RDA and the ICDB played an important role in providing analyses that informed redesign, especially around improving case management

## TANF case management *BEFORE* redesign

- Washington State had a comprehensive assessment tool for TANF/WorkFirst case management to identify potential barriers to work
- *However*, there was still a “one size fits all” approach to case management

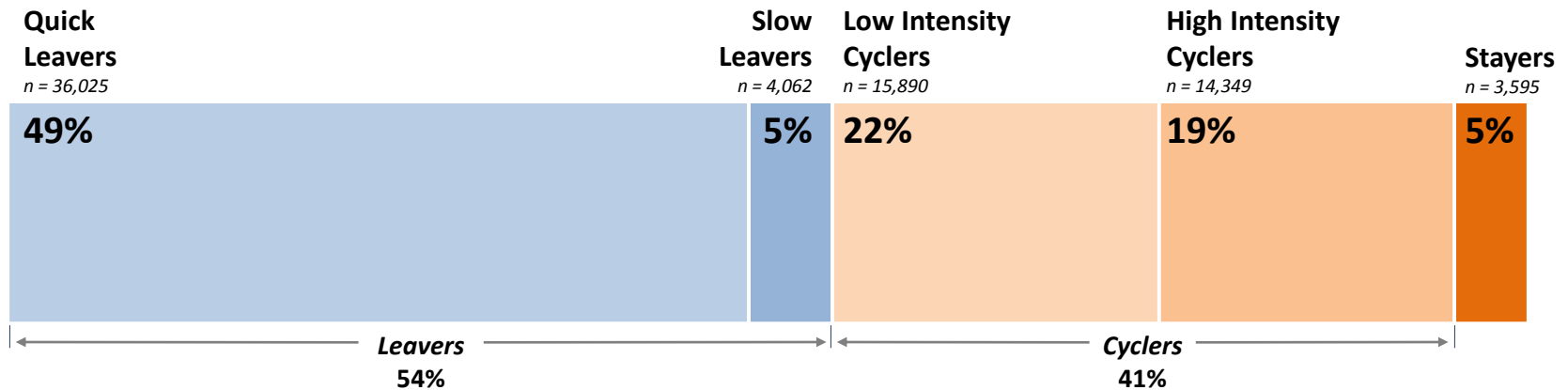
## TANF case management *AFTER* redesign

- Program is now shifting to *individualized case management* with four new engagement tracks: light touch engagement, supported engagement, intensive services, and exempt/deferral
- RDA is developing a web-based predictive modeling tool—PRISM for TANF (P4T)—that will leverage data from the ICDB to predict client’s “employability” and flag potential barriers to work



# TANF leavers, cyclers, and stayers

SFY 2007 • TOTAL POPULATION = 73,921

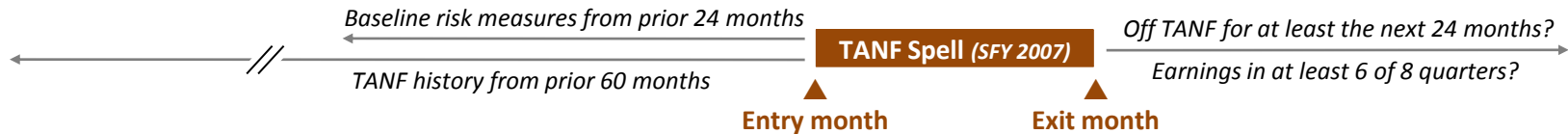


## Highlights from RDA's Analysis of TANF Leavers, Cyclers, and Stayers:

- ❶ Quick Leavers represent half of the population of SFY 2007 adult TANF recipients, even though the follow-up period includes the most severe economic downturn since the Great Depression
- ❷ Only 5 percent of SFY 2007 adult TANF recipients stayed persistently on TANF through SFY 2010
- ❸ More than half of cyclers were in the low-intensity group that spent no more than 12 months on TANF in the 36 month follow-up period

# Predicting who is likely to exit TANF quickly to stable employment

## Study period:



## Defining “employability” (quick exit from TANF with persistent employment)

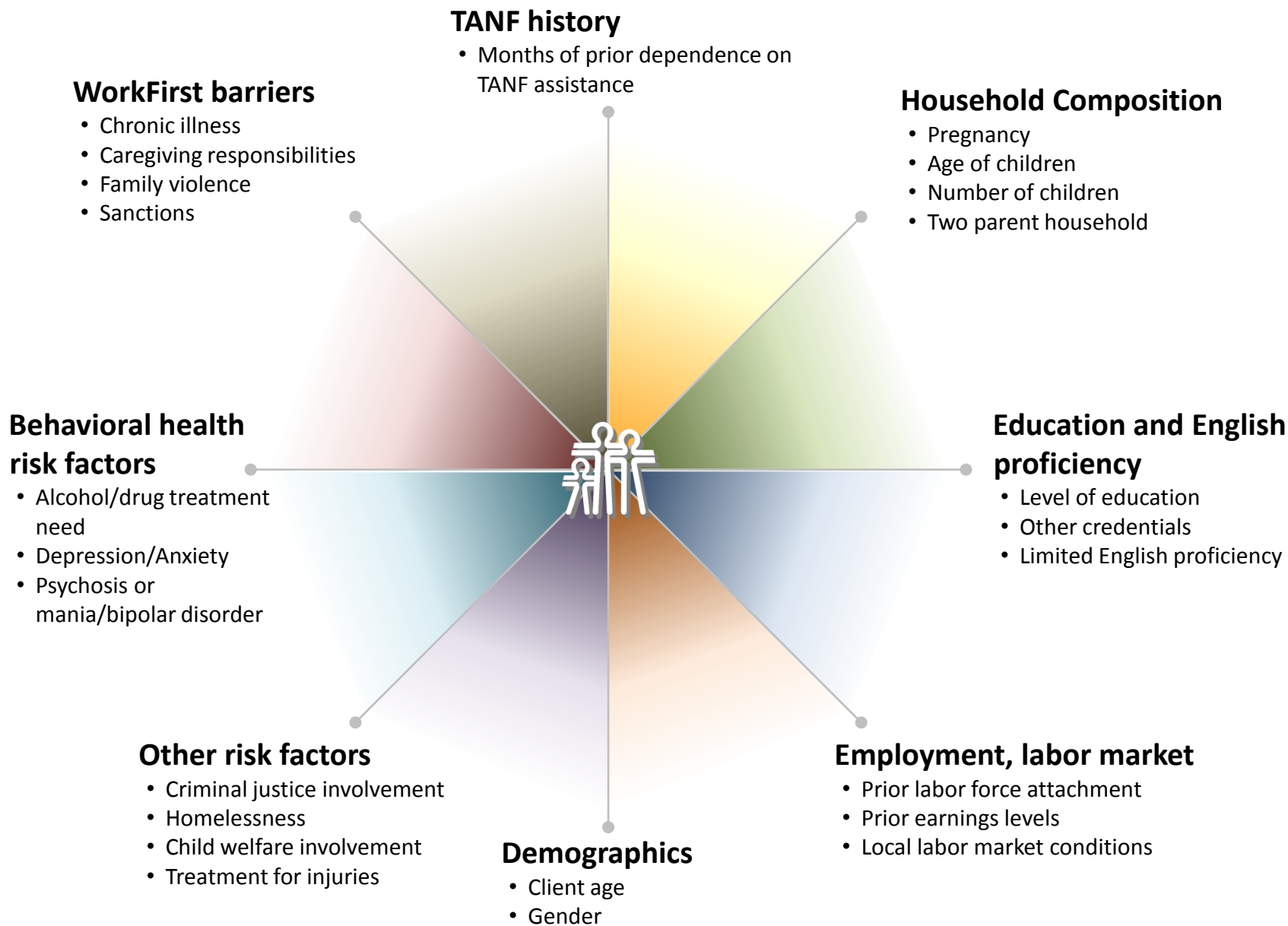
### *The client . . . .*

- Left TANF within 12 months of SFY 2007 entry
- Remained off TANF for at least 24 months after exit
- Was employed for at least 6 quarters in the 8 quarters beginning with the last quarter on TANF in the reference TANF spell

## Building a statistical model predicting “employability” (quick exit with persistent employment)

- Started with population of clients entering TANF in SFY 2007 (n=45,863)
- Leveraged data from the ICDB and TANF caseworker assessments

# Measurement dimensions for predicting “employability”





# Hypothetical case: Low employability score

## *Good candidate for intensive case management*

EMPLOYABILITY  
SCALE



**Sarina is 35 years old** with two children and lives in Tacoma. Her youngest child is three. Sarina was employed for just three of the eight quarters prior to her enrollment. On average, she earned \$400 per quarter over the two years prior to enrolling in TANF in March 2007. She received TANF cash assistance for a total of 12 months over the past five years.

Sarina was homeless without housing for 6 months in the two years prior to her current TANF entry. Administrative records indicate CPS involvement and her intake assessment reveals a history of domestic violence.

She was treated for injuries in 2006 and has been diagnosed with bipolar disorder. Her caseworker is referring her to a drug treatment program. She never finished high school.

**Sarina's employability score is very low: based on her attributes and experiences, her chance of exiting TANF quickly with persistent employment is just 5%.** She may benefit from an intensive case management approach that addresses her barriers and support needs before sending her off to look for a job.

### Calculating Sarina's Employability Score

Predictive Factors	The Tally
Starting score (same for all clients)	20.1%
35-44 years-old	3.7%
Female	0.0%
Youngest child is 3 years-old	- 4.0%
2 children	2.2%
Less than a high school diploma	0.0%
On TANF 12 months in prior 5 years	- 2.7%
Employed in 3 of prior 8 quarters	5.4%
Average earnings of \$400 in prior 8 quarters	0.9%
County unemployment rate	- 3.7%
Needed alcohol/drug treatment	- 1.4%
Diagnosed with psychotic or mania/bipolar disorder	- 2.2%
Treatment for injury	- 2.8%
CPS involvement	- 2.5%
6 months of homelessness without housing	- 1.5%
Family violence issue	- 2.3%
Referred for alcohol/drug treatment	- 3.9%
<b>EMPLOYABILITY SCORE</b>	<b>5.3%</b>

◀ LOW



# Hypothetical case: Medium employability score

***Good candidate for supported engagement like education, training, or work experience***

EMPLOYABILITY  
SCALE



**Becky is 45 years old** with two children and lives in Kennewick. Her youngest child is seven. Although the unemployment rate in Benton County was 5 percent in 2007, Becky was employed for just three of the eight quarters prior to her enrollment in January 2007. On average, she earned \$650 per quarter (or about \$217 per month) over the two years prior to enrollment. She is a high school graduate.

Becky's caseworker quickly discovers she is struggling with a family violence problem, but she has no history of alcohol/drug problems, serious mental illness, criminal involvement, or major medical problems. Becky received TANF cash assistance for a total of 12 months over the past 5 years.

**Becky has an employability score of 21 percent, placing her somewhere in the middle.** Obtaining a credential or Bachelor's degree would likely increase her chances of success, as would more employment experience. She might benefit from a supported engagement approach in which she receives education, training, or work experience.

◀ MEDIUM

## Calculating Becky's Employability Score

Predictive Factors	The Tally
Starting score (same for all clients)	20.1%
45 years old	0.0%
Female	0.0%
Youngest child is 7 years-old	- 2.9%
2 children	2.2%
High school graduate	2.5%
On TANF 7 months in prior 5 years	- 1.6%
Employed in 3 of prior 8 quarters	5.4%
Average earnings of \$650 in prior 8 quarters	1.4%
County unemployment rate of 5%	- 3.7%
Family violence issue	- 2.3%
<b>EMPLOYABILITY SCORE</b>	<b>21.2%</b>



# Hypothetical case: High employability score

## *Good candidate for a “light touch” approach like job search*

EMPLOYABILITY  
SCALE

◀ HIGH



**Karen is 35 years old** with two children, and lives in Spokane Valley. Her youngest child is ten. In March 2007, the company she worked for went out of business and for the first time, she found herself without a job. In June 2007, she enrolled in TANF for the first time.

The unemployment rate in Spokane County was 5 percent in 2007. On average, Karen earned \$4,000 per quarter over the two years prior to her enrollment in TANF. She has a Bachelor's degree, a steady recent employment history, and children who are now school-aged.

**Karen's employability score is 49 percent.** She is ten times more likely than her peer with a low employability score, Sarina, to leave TANF quickly with persistent employment. Karen is likely to be a good candidate for a “light touch” WorkFirst activity, such as job search.

### Calculating Karen's Employability Score

Predictive factors	The Tally
Starting score (same for all clients)	20.1%
35 years old	3.7%
Female	0.0%
Youngest child is 10 years-old	- 2.9%
2 children	2.2%
Bachelor's degree	6.7%
Never on TANF in prior 5 years	0.0%
Employed in 8 of prior 8 quarters	14.5%
Average earnings of \$4,000 in prior 8 quarters	8.8%
County unemployment rate of 5%	- 3.7%
<b>EMPLOYABILITY SCORE</b>	<b>49.4%</b>



# Household composition

## *Age of Youngest Child, Number of Children, and Number of Parents in Household*

	Value	Significance
<b>Age of youngest child</b>		
Infant, less than 1 year old	-6.0%	***
1 to 3 years	-4.0%	***
4 to 5 years	-3.9%	***
6 to 12 years	-2.9%	***
13 or over (reference category)	0.0%	
<b>Number of children</b>		
0	-6.0%	***
1	1.3%	*
2	2.2%	***
3	2.3%	***
4 or more (reference category)	0.0%	
<b>Number of parents</b>		
Two parent flag	0.6%	

### Family matters:

- Adults with an infant are 6% less likely to exit quickly with persistent employment, relative to clients whose youngest child is 13 years-old or older.
- Adults who are pregnant (zero children) are 6% less likely to exit quickly with persistent employment, compared to adults with 4 or more children.
- Adults in two-parent households are slightly more likely to exit quickly with persistent employment, but this is not a statistically significant predictor after controlling for gender.

SIGNIFICANCE  
LEVELS

\* =  $p \leq .10$   
 \*\* =  $p \leq .05$   
 \*\*\* =  $p \leq .01$



# Education and English proficiency

	Value	Significance
<b>Education</b>		
Less than high school (reference group)	0.0%	***
High school or equivalent	2.5%	***
Associate, bachelor's or graduate degree	6.7%	***
Other credentials	4.4%	

	Value	Significance
<b>English speaking</b>		
Limited English proficiency	-0.1%	

## Education matters:

- Having a high school diploma increases the likelihood of a quick exit with persistent employment by 2.5% relative to having less than a high school education.
- Adults with an Associate, bachelor's or graduate degree are 6.7% more likely to exit quickly with persistent employment compared to adults with less than a high school diploma.
- Limited English proficiency is not correlated with the likelihood of a quick exit with persistent employment, after controlling for other factors.

SIGNIFICANCE  
LEVELS

\* =  $p \leq .10$   
 \*\* =  $p \leq .05$   
 \*\*\* =  $p \leq .01$



# TANF history, work history, labor market conditions

	Value	Significance
<b>TANF cash grant assistance</b>		
Impact of each additional month on TANF, past 5 years	-0.2%	***

	Value	Significance
<b>Work history</b>		
Impact of each additional quarter of employment in 8 quarters prior to entry	1.8%	***
Impact of each additional \$1,000 in average quarterly earnings in 8 quarters prior to entry	2.2%	***
<b>Local labor market conditions</b>		
County unemployment rate, SFY 2007	-0.7%	***

## TANF history and work experience matters:

- Each additional month of TANF receipt in the prior five years decreases the likelihood of a quick exit with persistent employment by 0.2%.
  - *A year of prior TANF receipt decreases the chance of success by 2.4%.*
- Each additional quarter of employment in the prior 24 months increases the likelihood of a quick exit with persistent employment by 1.8%.
  - *A year of employment in the prior two year period improves the chance of success by 7.2%*
- Each additional \$1,000 earned in the prior 24 month period translates to a 2.2% increased likelihood of a quick exit with persistent employment.
- Each percentage point increase in the unemployment rate in the client's county of residence decreases the likelihood of a quick exit to persistent employment by almost 0.7%.

### SIGNIFICANCE LEVELS

\* =  $p \leq .10$   
 \*\* =  $p \leq .05$   
 \*\*\* =  $p \leq .01$



# Behavioral health risk factors

## *Substance abuse and mental illness*

	Value	Significance
<b>Alcohol/drug</b>		
WorkFirst data: Substance abuse treatment referral in SFY 2007	-3.9%	***
ICDB data: Alcohol/drug treatment need, past 24 months	-1.4%	**
ICDB data: Alcohol/drug treatment received, past 24 months	1.6%	*
<b>Mental health</b>		
WorkFirst data: Mental health treatment referral in SFY 2007	-4.2%	***
ICDB data: Any mental health services, prior 24 months	0.1%	
ICDB data: Diagnosis of psychosis or mania/bipolar disorder, prior 24 months	-2.2%	**
ICDB data: Diagnosis of depression or anxiety	0.2%	

- Having an observed need for alcohol/drug treatment in the ICDB in the prior 24 months decreases the likelihood of a quick exit with persistent employment by 1.4%.
  - *However, receipt of alcohol/drug treatment in the prior two years offsets this by increasing the likelihood of a quick exit with persistent employment by 1.6%.*
- Being referred to alcohol/drug treatment by a caseworker in the year of TANF entry may indicate a more severe alcohol/drug problem. A referral through the WorkFirst system decreased the likelihood of a quick exit with persistent employment by almost 4%.
- Being referred to mental health services by a caseworker also decreases the likelihood of a quick exit with persistent employment by about 4%, whereas prior receipt of these services (as observed in ICDB data) does not have a strong impact.
  - *That said, having had a prior diagnosis of psychotic or mania/bipolar disorder observed in admin data decreases the likelihood of a quick exit with persistent employment by 2.2%.*

### SIGNIFICANCE LEVELS

- \* =  $p \leq .10$
- \*\* =  $p \leq .05$
- \*\*\* =  $p \leq .01$



# Other risk factors identified through the ICDB

## *Injuries, arrests, child protective service involvement, and homelessness*

	Value	Significance
<b>Medical</b>		
Treatment for injuries, past 24 months	-2.8%	***
<b>Criminal</b>		
Arrested, past 24 months	-4.3%	***
<b>Child abuse/neglect investigation</b>		
Child Protective Services investigation, past 24 months	-2.5%	***
<b>Homelessness</b>		
Impact of each additional month "homeless without housing", past 24 months	-0.2%	***
Impact of each additional month "homeless with housing", past 24 months	-0.1%	

### Risk factors matter:

- Some factors known to be associated with behavioral health problems also appear to decrease the likelihood of a quick exit with persistent employment.
- Being treated for an injury or being part of a child protective services investigation both decrease the likelihood of a quick exit with persistent employment by about 2.5%.
- Having been arrested in the prior two years decreases the likelihood of a quick exit with persistent employment by over 4%.
- Each month a person is homeless without housing decreases the likelihood of a quick exit with persistent employment by 0.2% such that a year spent in this status decreases one's chances by 2.4%.

#### SIGNIFICANCE LEVELS

\* =  $p \leq .10$   
 \*\* =  $p \leq .05$   
 \*\*\* =  $p \leq .01$





# Barriers identified by caseworkers

	Value	Significance
<b>Barriers to employment, SFY 2007</b>		
Pursuing SSI/VA or other	-6.6%	***
Caring for child with or without special needs or incapacitated adult	-3.3%	***
Family violence intervention	-2.3%	***
Resolution of homelessness	-3.7%	***
Learning disability services or severe/chronic condition	-8.5%	***
Temporary physical incapacity, medical treatment	-7.9%	***
Parenting skills, nutrition classes, and family planning for pregnant clients	-2.0%	**
Sanctions	-6.8%	***
Exempt-caring for special needs child	-8.3%	***

## Barriers-to-work matter:

- Key barriers to work may be identified through intake assessments and follow-up appointments with caseworkers.
- Including these barriers in this model helps demonstrate the extent to which they can stand in the way of a quick exit with persistent employment.
- Each of the WorkFirst barriers included has a negative and statistically significant impact on the likelihood of a quick exit with persistent employment.
  - *Chronic health problems and disabilities of either parent or child appear to be among the greatest barriers to experiencing a quick exit with persistent employment.*

### SIGNIFICANCE LEVELS

\* =  $p \leq .10$   
 \*\* =  $p \leq .05$   
 \*\*\* =  $p \leq .01$



# PRISM for TANF (P4T) Project Summary

- **What is PRISM for TANF (P4T)?**

- A web-based predictive modeling tool that will leverage data from multiple sources to predict WorkFirst client's "employability" and flag potential barriers to work
- P4T will give caseworkers a powerful tool to obtain supplemental information needed to provide tailored case management and to engage TANF clients in the right activities at the right time

- **SFY 2012 Activities**

- Establish necessary data sharing agreements to use data for operational rather than research purposes
- Design and build hardware and software architecture to support secure web application
- Make prototype application available for pilot testing by June 30<sup>th</sup>, 2012

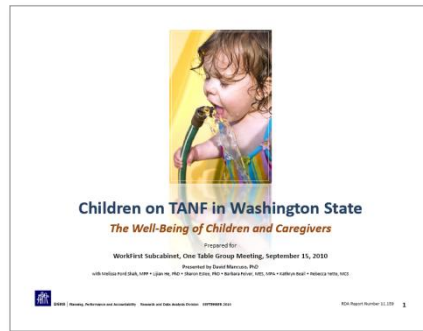
- **SFY 2013 and beyond**

- Identify funding for SFY 2013-15
- Train WorkFirst staff in pilot welfare offices to use the P4T application
- Maintain and refine application with feedback from staff
- If piloting is successful, implement state rollout to all local welfare offices in SFY 2014 and 2015



# Related RDA Publications

## Analyses to support Washington State's TANF Redesign



### Children on TANF in Washington State: The Well-Being of Children and Caregivers

SEPTEMBER 2010 • Mancuso, Ford Shah, He, Estee, Felver, Beall, Yette

As part of the 2010 re-examination of the state's Temporary Assistance for Needy Families (TANF) program, the Research and Data Analysis Division analyzed risks and outcomes over a five-year period for children on TANF in state fiscal year 2007, as well as for their birth parents and other caregivers. We explored patterns of medical and behavioral health risk, social service utilization, employment and earnings, incarcerations, homelessness, and Child Protective Services (CPS) involvement. Children tended to experience higher rates of mental illness and substance abuse if they had been part of a CPS investigation, had a parent or caregiver with a behavioral health problem, or had a parent or caregiver who had been incarcerated.

<http://publications.rda.dshs.wa.gov/1436/>



### Adults on TANF in Washington State: Risks and Outcomes for Leavers, Cyclers and Stayers

AUGUST 2010 • Mancuso, Ford Shah, He, Estee, Felver, Beall, Yette, Fiedler, Sandberg

As part of the 2010 re-examination of the state's Temporary Assistance for Needy Families (TANF) program, the Research and Data Analysis Division analyzed risks and outcomes over a five-year period for adults on TANF in state fiscal year 2007. Stayers, slow leavers, and high intensity cyclers were more likely to have chronic illness, substance abuse, and mental illness. They were also more likely to be caring for family members with special health care needs and to experience homelessness and family violence. Behavioral health problems—especially substance abuse—were found to be key drivers of homelessness, child welfare involvement, and arrests.

<http://publications.rda.dshs.wa.gov/1435/>

## Behavioral Health Risk among TANF Parents: Links to Homelessness, Child Abuse and Arrests

DECEMBER 2010 • Ford Shah, Mancuso, He, Estee, Felver, Beall, Fiedler

This report examines behavioral health risk factors and adverse outcomes for adults receiving Temporary Assistance for Needy Families (TANF). Behavioral health problems—especially substance abuse—were found to be key drivers of homelessness, child abuse, and arrests. Yet the chemical dependency treatment penetration rate for TANF adults declined in recent years. This report suggests that expanding behavioral health treatment to TANF adults has the potential to reduce adverse outcomes, prevent behavioral health problems among children, and achieve cost savings through both the avoidance of adverse outcomes and the prevention of disability.

<http://publications.rda.dshs.wa.gov/1429/>



# Related RDA Publications

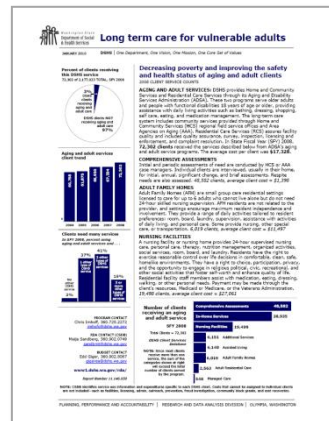
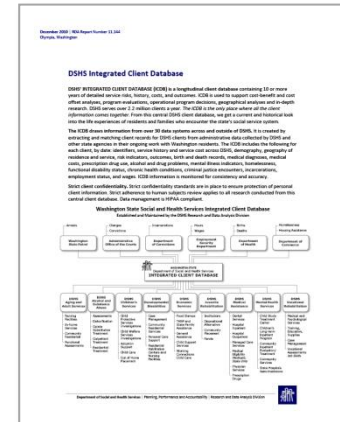
## The ICDB and DSHS programs and clients

### DSHS Integrated Client Database

APRIL 2009 • Kohlenberg

DSHS maintains a longitudinal client database containing 10 or more years of detailed service risks, history, costs, and outcomes. Known as the Integrated Client Database, the information it contains supports cost-benefit and cost offset analyses, program evaluations, operational program decisions, geographical analyses and in-depth research. The 30 data systems across state agencies and within DSHS are identified on this two-page handout.

<http://publications.rda.dshs.wa.gov/1394/>

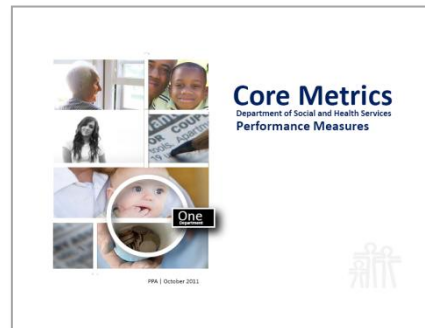


### 2008 Client Information: Program Descriptions

JANUARY 2010 • Felver

Annually, the Department of Social and Health Services provides services for 2.1 million people—one-third of the state's population. Profiles of clients who received these services in State Fiscal Year 2008 are presented here, beginning with department-wide highlights then followed by descriptions of services provided by each of the department's nine major programs. The full set is available for download as well.

<http://publications.rda.dshs.wa.gov/1400/>



### Department Core Metrics: Performance and Population Measures

OCTOBER 2011 • Raiha

These measures hold the Department of Social and Health Services accountable for results, by showing our effectiveness in helping Department clients improve their health, economic stability and school success. They also show our success in keeping the public safe and in using strong management practices. The population measures are those that are bigger than the Department of Social and Health Services – and bigger than government. They help guide us and our partners, by showing the collective results of broad partnership efforts to help all Washington residents improve their health, economic stability, safety and school success.

<http://www.dshs.wa.gov/ppa/coremetrics.shtml>

