Predictive Analytics in the Post-reunification Support Program
Wisconsin's Title IV-E Waiver

June 20, 2016

WISCONSIN DEPARTMENT OF
CHILDREN AND FAMILIES

Presentation Overview and Goals

- Brief description of the P.S. Program design and scope
- How and why we use data in the WI Department of Children and Families
- Describe and showcase our experiences:
    1. Planning and implementing a Title IV-E Waiver based on data
    2. Using Predictive Analytics to determine program eligibility
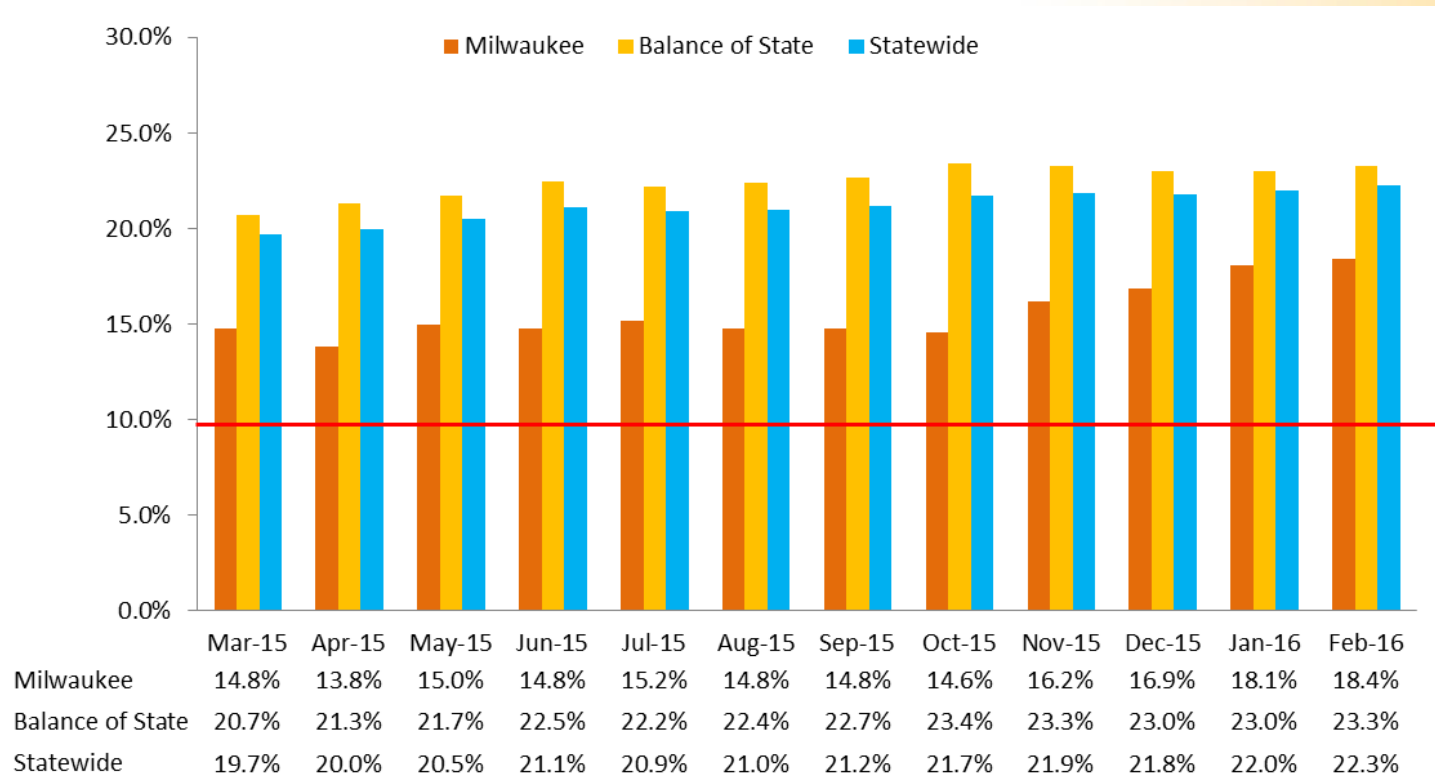- Questions and Discussion

Why focus the WI Waiver on Post-Reunification Support?

- Re-Entry is a significant challenge in Wisconsin
  - The CFSR Round 2 national standard for re-entry is 9.9%
  - In Wisconsin, the rolling 12 month total re-entry rate is 20%
- WI serves about 11,500 kids in Out-of-Home Care each year
- As of June, there are 7,050 kids placed in Out-of-Home Care
  - 76% of those children are likely to reunify within 12 months of placement
- There were 3,012 reunifications in 2014 in WI, and more than 600 children are at risk of experiencing a re-entry

WI CFSR Rd 2: Re-Entry Patterns

	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16
Milwaukee	14.8%	13.8%	15.0%	14.8%	15.2%	14.8%	14.8%	14.6%	16.2%	16.9%	18.1%	18.4%
Balance of State	20.7%	21.3%	21.7%	22.5%	22.2%	22.4%	22.7%	23.4%	23.3%	23.0%	23.0%	23.3%
Statewide	19.7%	20.0%	20.5%	21.1%	20.9%	21.0%	21.2%	21.7%	21.9%	21.8%	22.0%	22.3%

Discharge and Re-Entry within 12 Months from March 2014 to February 2015. This measure looks at the number of children re-entering care within 12 months of the previous discharge to reunification (numerator) compared to the number of children discharged to reunification between March 2014 and Feb 2015 (denominator). The benchmark is 9.9%.
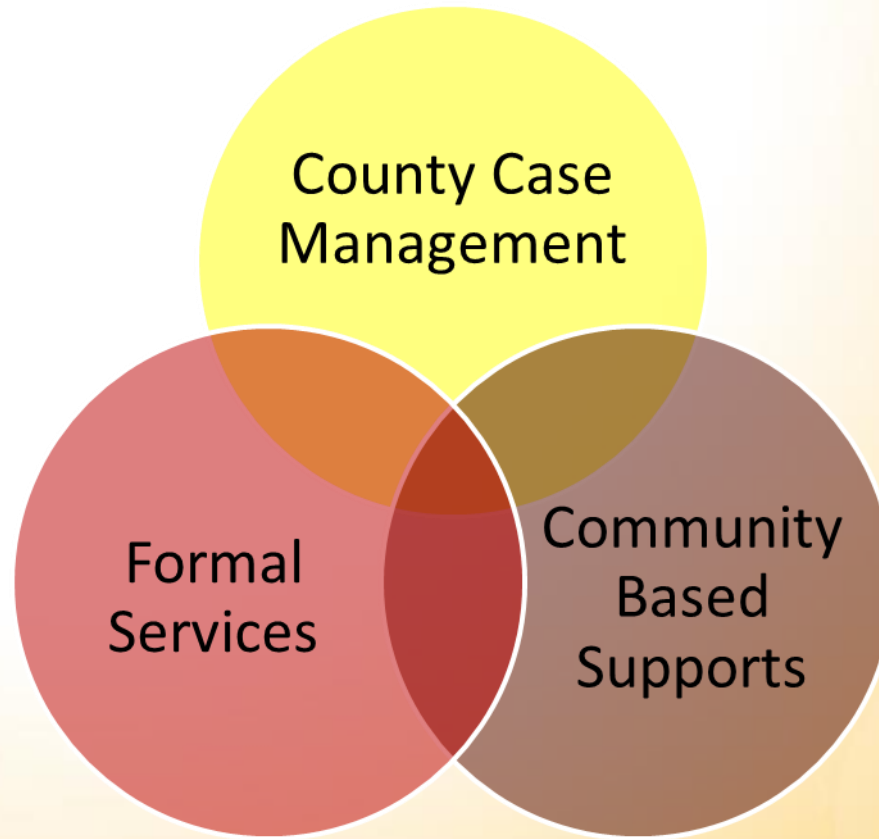
The Post-Reunification Support (P.S.) Program

"Helping Families Stay Together"

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Basic Program Design

County Case Management

Formal Services

Community Based Supports

The 12 month program intervention

Reunification Stabilization
- Intensive Case Management
- Family centered In-Home Case Plans
- Crisis/Respite Plans
- Formal service engagement

Strengthening and Supporting Family
- Frequent check-ins and ongoing engagement
- Sustain family's motivation
- Family centered services and supports

Progressing Towards Independence
- Collaborating with family for empowerment towards independence
- Court Orders may expire
- Long term focus on wellness and stability

By targeting those most at risk of re-entry we hope to:

- Address Unmet Family Needs and Stressors

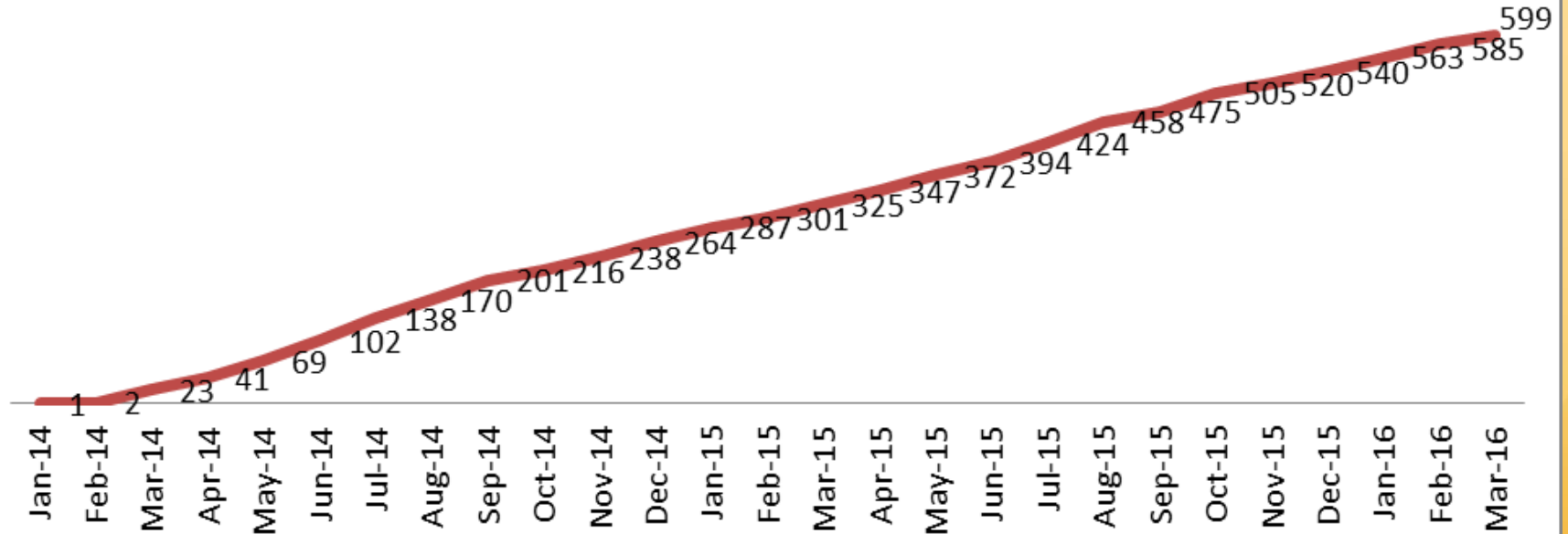- Decrease the Trauma Associated with Reentry

- Make a Smart Investment to Decrease Costs and Reinvest Savings and Help More Families

36 Participating Counties

dcf.wisconsin.gov

Cumulative Eligible Children Referred

dcf.wisconsin.gov

Current Program Population

- 542 Children Enrolled and Served to date
- 212 Children Currently Enrolled
- 245 Children have completed full 12 months of program
- 32 of 36 counties have enrolled children

eWiSACWIS: Wisconsin's child welfare database

The Wisconsin Department of Children and Families has historically supported continual eWiSACWIS developments and advancement with policy changes, as well as recently expanding its data warehouses and dashboards.

- Wisconsin has a strong history of using data in a variety of ways for program monitoring, quality improvement, and to make inform policy decisions.
  - o Division-wide use of KidStat
  - o Data evaluation for grant applications and external research

- Specifically for the P.S. Program, DCF has developed reports for:
  - o Program eligibility
  - o Program enrollment
  - o Payment and reimbursement costs
  - o Case management
  - o Services by case

Predictive Analytics and the R.P.M.

Wisconsin developed a predictive risk model, the Re-entry Prevention Model (R.P.M.) to help target limited resources and determine those children most at risk of re-entry to OHC within 12 months of reunification.

- Working with the Children and Family Research Center (CFRC of University Champaign-Urbana), the program evaluators, WI used the following data to determine the risk models:
    o AFCARS elements
    o Family demographics
    o Placement characteristics
    o Maltreatment history
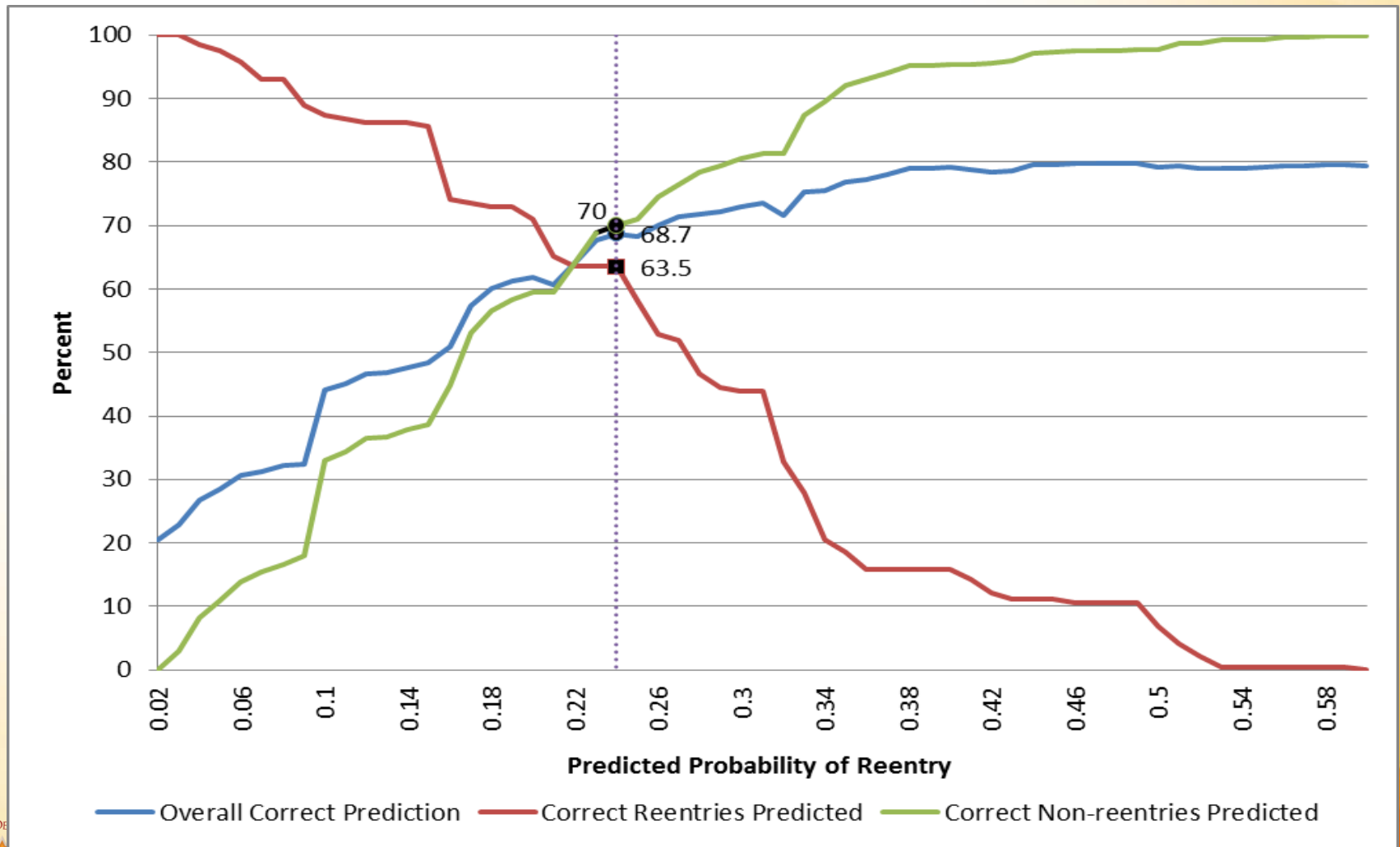   o CANS
    o Safety assessments

Predictive Analytics and the R.P.M.

CFRC used a stepwise logistic regression to find the combination of factors with the highest percentage of accuracy.

- The first version of the R.P.M., had four characteristics that determined eligibility at a threshold of 0.18 or greater are:
    - Care structure at time of most recent removal (Single Caretakers)
    - AFCARS Disability Status
    - Length of Stay in Care (as a 60 day categorical variable)
    - Number of previous CPS or Service Reports

- SACWIS users can run a report that provides child eligibility score and characteristic information to determine whether a referral can be made

Determining a threshold for eligibility

R.P.M. Utilization in the Program

Eligibility and Voluntary Participation

- Counties review R.P.M. scores when planning a reunification
- Counties submit a referral for child(ren) to Program Coordinator prior to reunification
- If approved, a primary caregiver and youth are invited to participate by continuing to work with the agency for 12 months
- A Family Team Meeting is held to update the CANS and set goals for the In-Home Case Plan

Initial County Concerns:

o A lower number of children were eligible for the program than originally projected

o The need to run and meaningfully use a report on a frequent basis

o Variations in county data entry practice and data accuracy affect child eligibility

o Anticipated factors were absent from the model

o Perceived level of *need* may not correlate with statistical assessment of *risk*

Retooling and Development of R.P.M. 2.0

CFRC used a stepwise logistic regression to find the combination of factors with the highest percentage of accuracy.

- WI is currently using a second version of the R.P.M. where the five characteristics that determine eligibility at a threshold of 0.18 or greater are:
    - Care structure at time of most recent removal
    - Caretaker incarceration as a removal reason of most recent removal
    - One or more prior OHC episodes
    - The child's most recent episode *did not* include placement in a treatment foster home (a protective factor)
    - Number of CANS indicators in the child's Life Functioning domain marked as a 2 or 3

How R.P.M. 2.0 Developed

Data from April 2012-March 2014 was analyzed to determine which combination of factors were most predictive of re-entry into OHC within 12 months of reunification, including:

- Child demographics and characteristics
- Placement and episode characteristics, including end and begin dates, placement types, removal reasons, etc.
- Child and parent information from the most recent approved Child and Adolescent Needs and Strengths (CANS)
- assessments completed prior to the child's reunification
- Indicators of need for concurrent planning in Permanency Plans (limited data available)
- Historical CPS Report information
- Historical Initial Assessment information, including most recent IA Safety Assessment Threats and results

Year 1 Lessons Learned

- Four categories of lessons learned:

1. Data
2. Timing
3. Outreach
4. Implementation

Lessons Learned: Data

1. Think carefully about data availability and quality
   o Statistical significance is not synonymous with data quality
   o Key indicators of risk learned from field experience may not be documented
   o The availability of data may not be specific or reliable enough to capture the nuance of emerging risk factors

2. Have a full understanding of the internal data used in model
   o Is data indicative of actual practice in the field?
   o Were all the possible sources of data been used?

Lessons Learned: Timing

3. Determine a timeline for development, testing, and outreach communication

- o Allow enough time for internal understanding, as the use of predictive analytics is a dynamic process

- o Create a cushion of time for involved counties and other key stakeholders to react and ask questions prior to finalizing the model and its implementation

- o Carefully plan messaging and outreach communication- purpose, process, procedure

Lessons Learned: Outreach

4. Consider variables with colleagues from other sections/bureaus

- o Ask about any potential variance in local agency practice related to each data item
- o Understand any possible changes in policy or practice related to each data item
- o Consider any unintended consequences to policy, standards, or other programs that may stem from utilization of the variables

5. Communicate clearly about model development prior to implementation

- o Transparency on how the model is created is crucial for buy-in
- o Temper expectations/anxiety- predictive analytics will capture historic data patterns but may not indicate emerging changes in practice

Lessons Learned: Implementing

6. Expect resistance

- o Understanding and using predictive analytics may not come naturally to many social service professionals

- o Many social service professionals will prefer to serve clients with high needs rather than those who are high risk

- o Even an exceptionally well developed risk model will not identify every case with legitimate risk

7. Be adaptable

- o After initial implementation unforeseen situations or scenarios may come to light

- o Some degree of flexibility will allow program staff to meet the needs of counties, key stakeholders and most importantly, the kids and families served

Review and Conclusions

Wisconsin's use of data regarding program design and evaluation:

1. Planning and implementing a Title IV-E Waiver based on data
2. Using Predictive Analytics to determine program eligibility
3. Monitoring and enhancing program practice fidelity with performance management scorecards
4. Collecting and analyzing data with a Monthly Family Services Reporting process and Cost Reporting Crosswalk

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