



Disrupt the Cycle of Intergenerational Maltreatment

Dashboard of Case History and Complexity



Introductions



- Jim Georges



- Lori Nolen



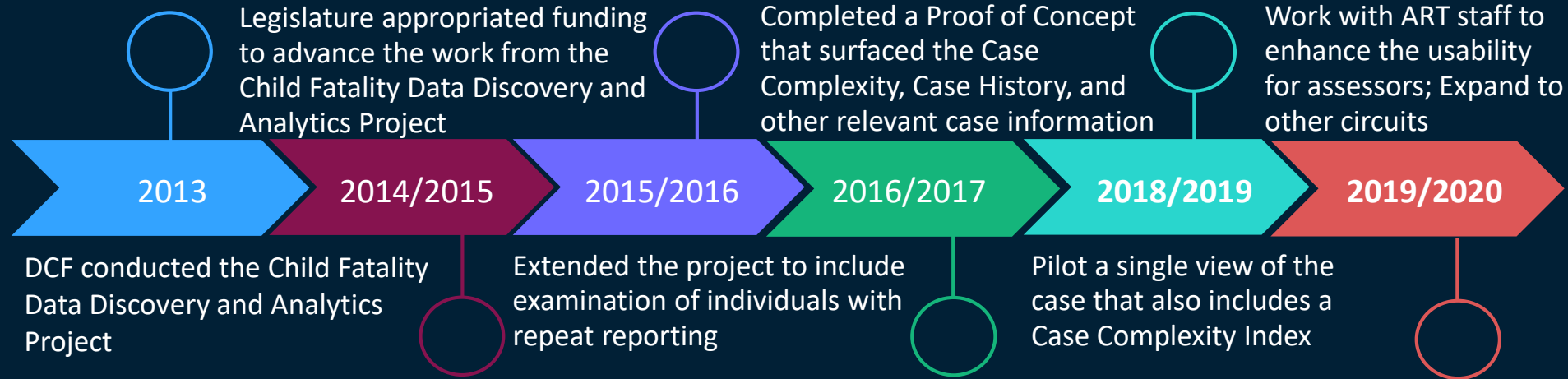
- Corey Buckman

What is the Chronicity Pilot?

Research Based Project

- Identify, integrate, and analyze data around child safety, well-being, and outcomes
- Determine opportunities for addressing, mitigating, and preventing abuse and neglect of children

History of the Current Pilot



Office of Child Welfare

Goals of the Current Pilot

- Impact the cycle of child maltreatment
- Quantify the value of using predictive analytics on pre-commencement activities by the Child Protective Investigator (CPI)
- Reduce the workload on CPIs prior to case commencement
- Increase the efficacy and confidence of CPIs prior to case commencement

A Quick Look at the User Interface

Case Cluster Case IDs	Case Cluster Name(s)	Workers	Case Cluster Start Date	Last Report Date
Most Recent Report ID	Region	Circuit	County	

Case Complexity Index

Click name for details; click anywhere within graph to return to summary

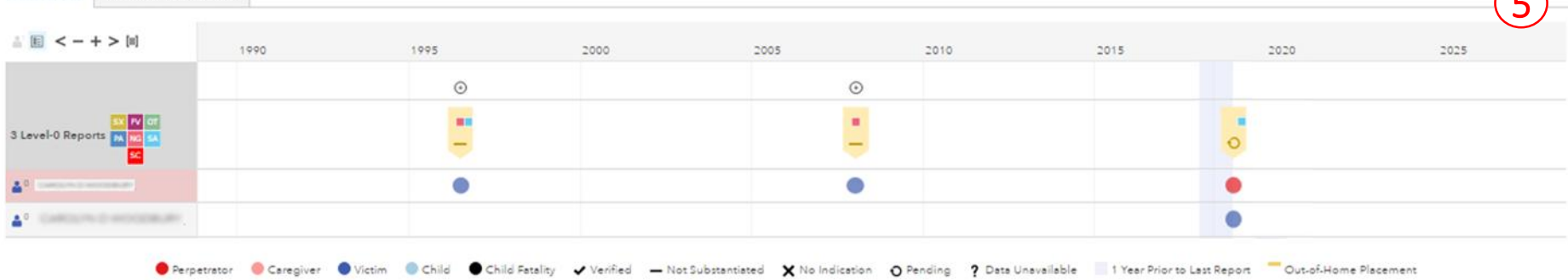
The number of report groups is noted in parentheses next to the AP/CG name (multiple reports that occur within a two-week period are considered a "report group")



Case Complexity Assessment

Case complexity index for one alleged perpetrator/caregiver (SUBJECT) with most recent report date on (SUBJECT). There is one SUBJECT with HIGH complexity index (85th percentile or above, after adjusting for report count). The primary contributors to SUBJECT's HIGH complexity index determination are intergenerational maltreatments in the Report History complexity index category and child age in the Demographics complexity index category.

Person Timeline



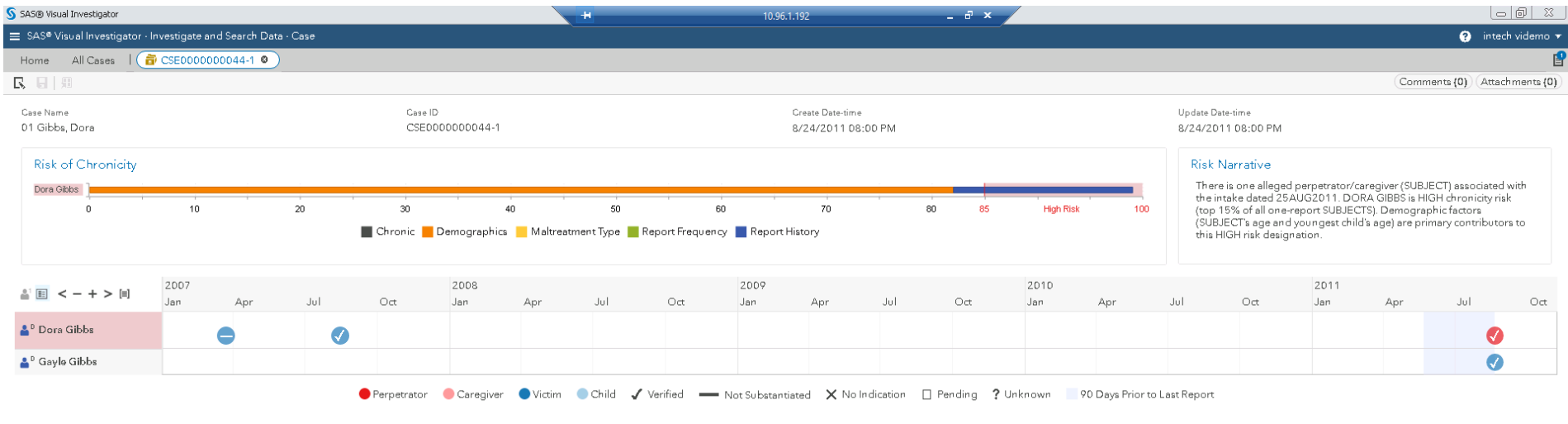
A Research Based Initiative

What We Learned from the Research

- **Intergenerational Data.** There is a high rate of identity duplication in the FSFN data.
 - **Intergenerational Effects.** Adults with a multitude of DCF reports are frequently victims of maltreatment as minors.
 - **Societal Effects.** DCF has touched the lives of nearly half the children born in Florida since 1990.
 - **Case Complexity and Chronicity.** To break the cycle, understand chronic interaction risk.
-
- It is possible to identify nearly half the adults who will have long-term chronic interactions with DCF upon their first adult report.
 - Most (>80%) adults identified as high chronicity risk on their first report will have additional maltreatment-related interactions with the agency.

Early Visualizations of FSFN Data

The 1st Time CW Encounters a High Complexity AC



	2007				2008				2009				2010				2011			
	Jan	Apr	Jul	Oct	Jan	Apr	Jul	Oct	Jan	Apr	Jul	Oct	Jan	Apr	Jul	Oct	Jan	Apr	Jul	Oct
Dora Gibbs		-	✓																	✓
Gayle Gibbs																				✓

● Perpetrator ● Caregiver ● Victim ● Child ✓ Verified — Not Substantiated ✗ No Indication □ Pending ? Unknown 90 Days Prior to Last Report

The 1st Time CW Encounters a High Complexity AC

SAS® Visual Investigator - Investigate and Search Data - Case

10.96.1.192

Home All Cases Report 1059

Case Name: 01 Gibbs, Dora

Risk of Chronic: Dora Gibbs 0

Case ID: CSE0000000025-1

Date: 3/23/2007

Person: Dora Gibbs

Role: Female Victim

Age at Incident: 16

County: Miami-Dade

Allegations:

- Family Violence Threatens Child
- X Alcohol Exposed Child
- X Substance Exposed Child

Case ID: CSE0000000044-1

Create Date-time: 8/24/2011 08:00 PM

Update Date-time: 8/24/2011 08:00 PM

Risk Narrative: There is one alleged perpetrator/caregiver the intake dated 25AUG2011. DORA GIBBS (top 15% of all one-report SUBJECTS). DORA GIBBS (SUBJECT's age and youngest child's age this HIGH risk designation.

Chronic Demographics Maltreatment Type Report Frequency Report History

2008 2009 2010 2011

Oct Jan Apr Jul Oct Jan Apr Jul Oct Jan Apr Jul Oct Jan

Report 1091

Case ID: CSE0000000044-1

Date: 8/21/2011

Person: Dora Gibbs (Parent)

Role: Female Perpetrator

Age at Incident: 20

County: Miami-Dade

Allegations:

- ✓ Physical Injury
- Substance Exposed Child

Report 1061

Case ID: CSE0000000025-1

Date: 8/15/2007

Person: Dora Gibbs

Role: Female Victim

Age at Incident: 16

County: Miami-Dade

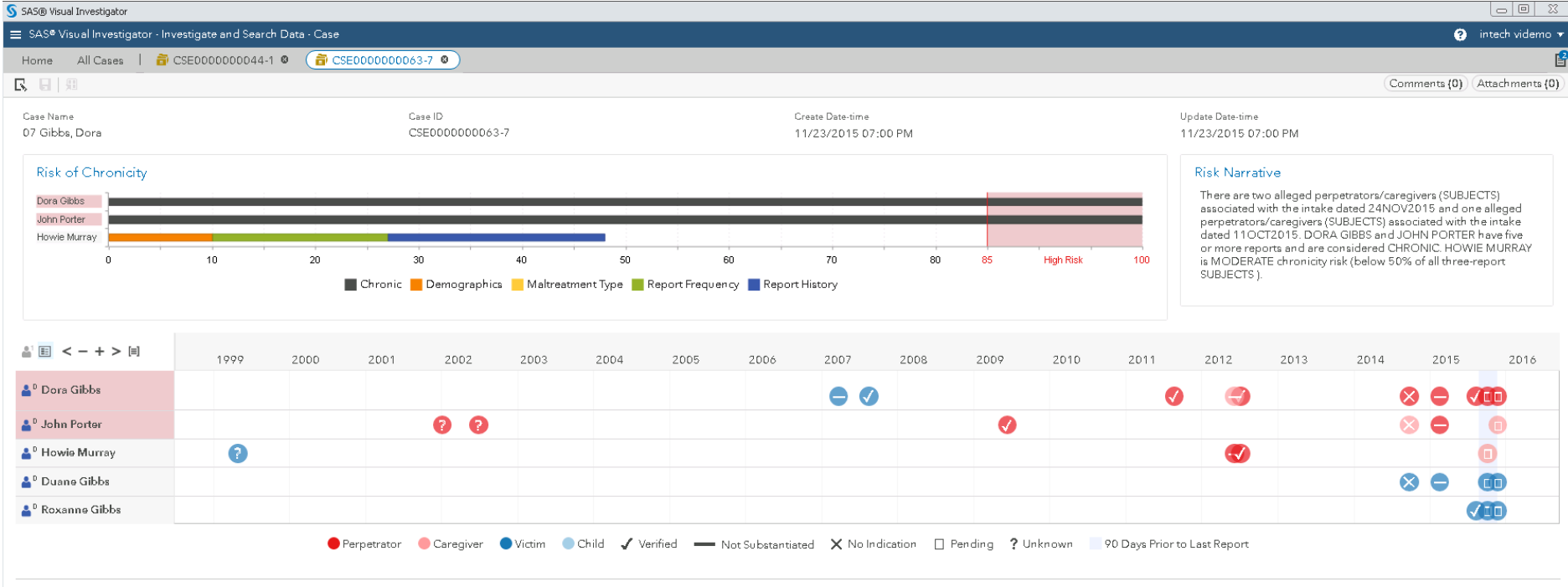
Allegations:

- ✓ Family Violence Threatens Child
- ✓ Physical Injury
- X Substance Exposed Child

Legend:

- Caregiver
- Victim
- Child
- ✓ Verified
- Not Substantiated
- X No Indication
- Pending
- ? Unknown
- 90 Days Prior to Last Report

The Adult Caregiver Final Encounter Ending with a Child Fatality



The Adult Caregiver Final Encounter Ending with a Child Fatality

Report 7132 X

Case ID
CSE0000000063-7

Date
11/22/2015

Person
Dora Gibbs (Parent)

Role
Female Perpetrator

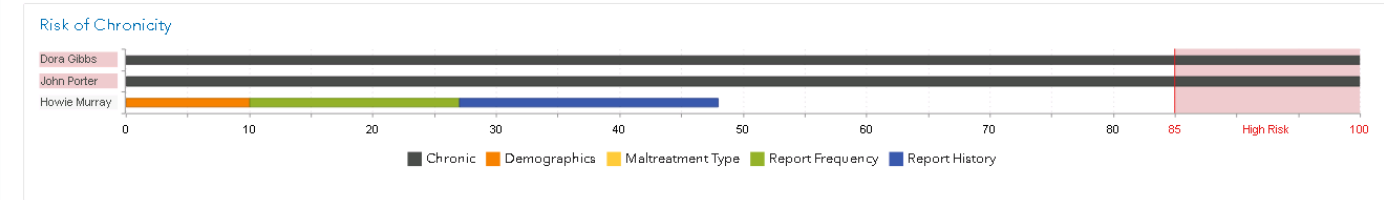
Age at Incident
24

County
Miami-Dade

Allegations

- Death
- Family Violence Threatens Child
- Substance Misuse - Illicit Drugs
- Substance Misuse - Prescription Drugs

Case Name: 07 Gibbs, Dora Case ID: CSE0000000063-7 Create Date-time: 11/23/2015 07:00 PM Update Date-time: 11/23/2015



Risk Narr

There are associated perpetrator dated 11/22/2015 or more recent is MODE SUBJECT

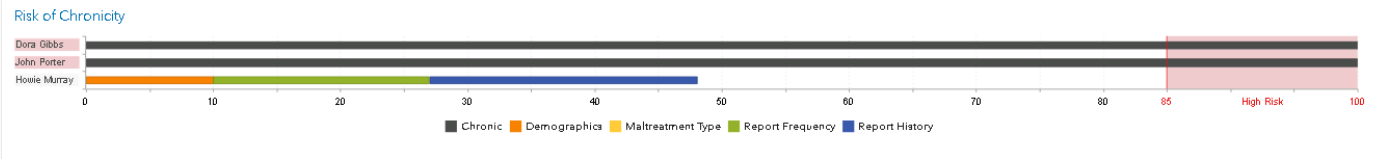
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Dora Gibbs									[-] [✓]					[✓] [⊖]			[✗] [-] [✓] [⊖]	
John Porter				[?] [?]							[✓]						[✗] [-]	[⊖]
Howie Murray	[?]													[⊖]				[⊖]
Duane Gibbs																	[✗] [-]	[⊖]
Roxanne Gibbs																	[✓] [⊖]	[⊖]

Legend: ● Perpetrator ● Caregiver ● Victim ● Child ✓ Verified — Not Substantiated ✗ No Indication □ Pending ? Unknown 90 Days Prior to Last Report



Level 1 Associates to the Adult Caregiver

Case Name: 07 Gibbs, Dora Case ID: CSE0000000063-7 Create Date-Time: 11/23/2015 07:00 PM Update Date-Time: 11/23/2015 07:00 PM



Risk Narrative

There are two alleged perpetrators/caregivers (SUBJECTS) associated with the intake dated 24NOV2015 and one alleged perpetrators/caregivers (SUBJECTS) associated with the intake dated 11OCT2015. DORA GIBBS and JOHN PORTER have five or more reports and are considered CHRONIC. HOWIE MURRAY is MODERATE chronicity risk. (below 50% of all three-report SUBJECTS).

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Dora Gibbs									⊖ ✓					✓			✗ ⊖ ✓ ⊞	
John Porter				?	?						✓						✗ ⊖	⊞
Howie Murray		?												✓				⊞
Duane Gibbs																	✗ ⊖	⊞
Roxanne Gibbs																	✓ ⊞	
Irene Porter				?	?													
Brendan Baldwin											✓							
Patty Gibbs									⊖ ✓									
Jodi Baldwin											✓							
Corey Buchanan		?																
Winston O'Brien									⊖ ✓									
Catherine Porter				?	?													
Cecilia Baldwin											✓							
Edna Gibbs									✓									
Elae Porter				?	?													
Felix Porter				?	?						✓							
Gayle Gibbs													✓	⊖ ✓				
Jackie Silver		?															✓	
Laurence Baldwin											✓							

High-level Walk Through of the Current User Interface Features

No Slides are available for this part of the presentation

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Thank you!

sas.com



Entity Resolution

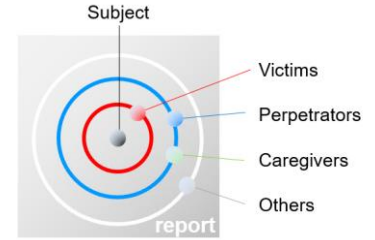
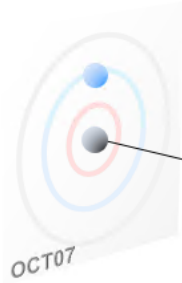
Need to sort of who's who...

- One out of nine persons and one out of five FSFN IDs are duplicates
- Duplication rates increased for individuals with higher number of reports: 38% for APs/CGs with five or more separate FSFN reports.
- Duplication rates for APs who were victimized in their childhood was also 38%.

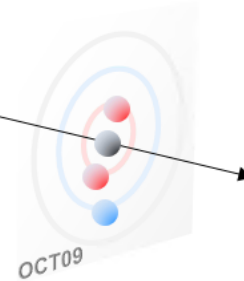


Entity Resolution automatically consolidates the disparate FSFN IDs of individuals statistically likely to be the same person. Using this technology, individual report histories (sometimes spanning decades) can be constructed for analysis and review by case investigators.


Entity Resolution and Fatality Modeling



Modeling success depended using Entity Resolution to transform seemingly simple individual report histories into...



Entity Resolution and Fatality Modeling

 Entity Resolution Applied



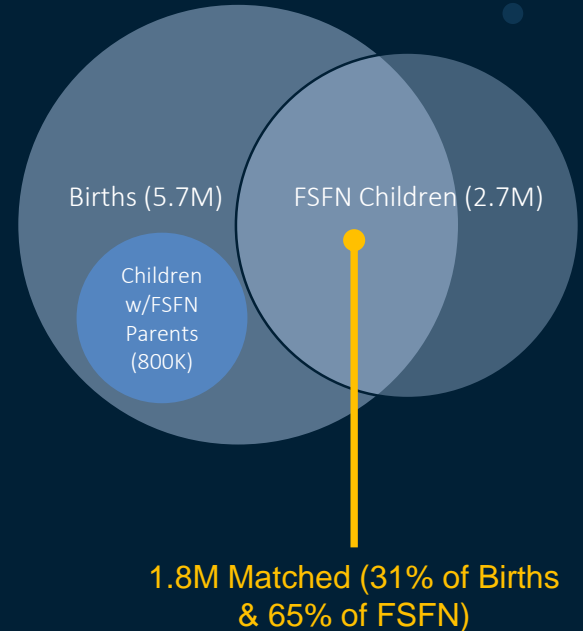
...accurate representations of the circumstances surrounding a fatality.

Intergenerational Maltreatment

- Caregivers or parents who experienced physical abuse or neglect as children were more likely to repeatedly maltreat children compared to parents who were not exposed to physical abuse or neglect.
- One-third of adults with chronic DCF interactions were abused when they were children in contrast to only 8% of adults with one maltreatment report.
- It is more likely than not that an AP/CG with a report (verified or not) as a minor will become chronic.
- Very high chronicity risk subjects averaged of 4.5 victim maltreatments while a minor.

Extent of Maltreatment in Florida

- 31% of children born in Florida after 1990 had at least one touch point with the child welfare system (FSFN) through 2016.
- Another 800,000 children born in Florida with parents who were either a caregiver or perpetrator of other children who were maltreated, even though these children were not themselves in FSFN.
- ***In total, 45% of children born in Florida*** since 1990 have been touched by the Florida child welfare system, either directly or indirectly (parents are in the system although they are not themselves).

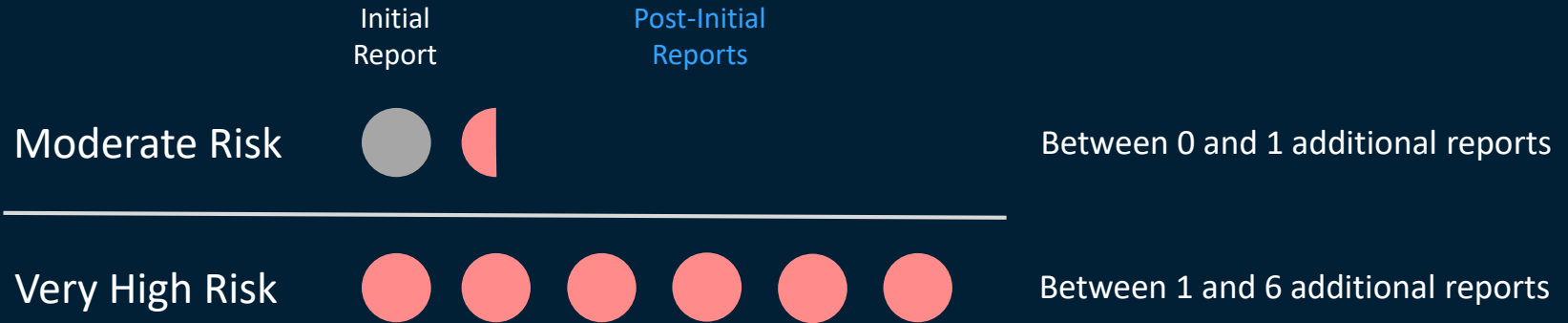


Why Adult-Centric Risk Modeling?

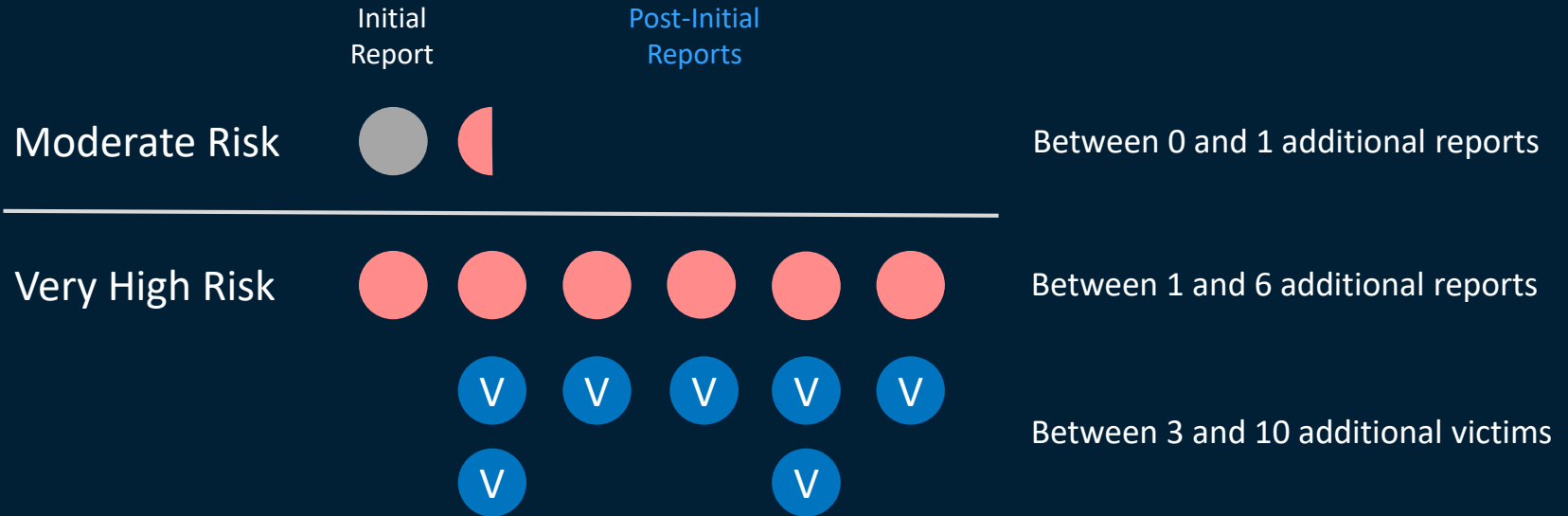
Goal: Identify adults likely to have many future alleged reports (i.e. chronic adults).

- Child fatality is strongly predicted by the numbers of reports in a child's FSFN network. For very young children—where fatality risk is maximized—this risk translates the number of reports in adults linked to a child (i.e. alleged perpetrators and caregivers).
- Child welfare interventions and programs generally designed to produce changes in the behavior of the adults so that adequate care can be provided to children
- Recidivism is not confined to maltreatment of the same children in a family or household
- Intergenerational maltreatment is an influential factor for adverse outcomes such as maltreatment fatalities and chronic maltreatment. Selecting adults as the unit analysis enables the prediction of the recurrence of maltreatment more effectively by incorporating intergenerational maltreatment to the models.

Why Adult-Centric Risk Modeling?



Why Adult-Centric Risk Modeling?



Why Adult-Centric Risk Modeling?



Intervention programs targeted at very high-risk subjects, upon their first report, could eliminate future perpetration and victimization. **Depending on the success rate of these interventions, the cost reductions—in both human and fiscal terms—can be substantial.**

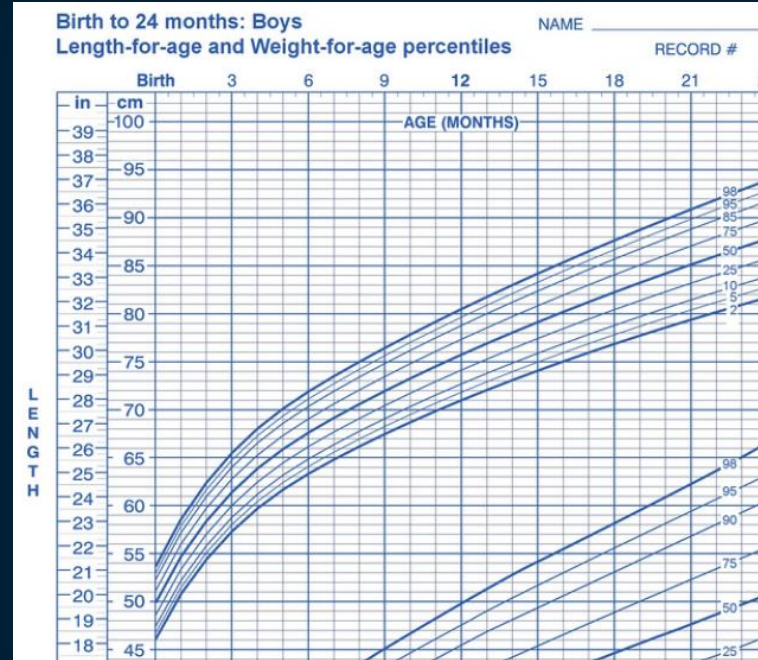
What is a Complexity Index

- A calculated level of likelihood that the adult caregiver will return for additional encounters with the Department and reach a chronic status.
- Uses probability and statistics to inform a predictive analytics model.
- Use the information to intervene BEFORE an adult caregiver's interactions with DCF become chronic, breaking the cycle of intergenerational maltreatment.

Chronicity Growth Chart

When considering measurements that increase over time (like a child's length) it is common to consider the percentile of the measurement rather than the actual measurement itself. This places the measurement in the context of peers (for example, children of a similar age).

For example, Aaron who is 30 inches long at 9 months is much larger than Aiden who is 30 inches at 18 months. Aaron is in the 98th percentile relative to his peers; Aiden is in the 2nd percentile relative to his peers.



Chronicity Risk Scores

Chronicity risk scores for an adult's DCF interactions are numbers between 1 and 100. They indicate the risk of an adult reaching a chronic number of reports relative to other adults with the same number of AP/CG reports. While the scores can be taken at face value (high scores mean a higher chance for chronicity), there is important statistical meaning behind them. (Think of the scores in terms of a child's growth chart).

In general large scores mean "pay attention to this person; they much more likely than their peers to have additional reports and eventually become chronic."

