

# Developing Data Visualizations and Dashboards to Enhance Decision Making

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### Background

- Greg Rafn, MA
- Social Service direct practice and Supervision
- Research and Evaluation



### Background

- Cynthia Shypulski, MSW LISW
- Child Welfare direct practice
- Child Welfare training
- Research and Evaluation



### **Presentation Goal**

# Experience how data visualizations and dashboards can enhance decision making for continuous quality improvement

### **Presenting Problem**

Children and families at high risk for future maltreatment are not receiving on-going child protection case management services in Minnesota

### **Exercise 1 Questions**

Using the contextual information, news article, and excel data in the handout, answer the following questions from the perspective of a state child welfare planner.

- 1. Is the presenting problem supported by the data?
- 2. How would you recommend the State use the allocated money to help "move the needle," and improve the State's performance in this area?
- 3. How you would measure success (performance measure)?
- 4. What, if anything, made it easy to analyze the data?
- 5. What, if anything, made it difficult to analyze the data?
- 6. How did the process of developing recommendations feel?

### **Exercise 1 Follow-up**

- Did data support the presenting problem?
- Where did you target your resources?
- How did they come to make those decisions?
- What data was most helpful?
- Could You identify performance patterns?
- How did the process feel? Difficult? Easy?

### **Exercise 2 Questions**

Using the contextual information, news article, and Tableau Dashboard answer the following questions from the perspective of a state child welfare planner.

- 1. Is the presenting problem supported by the data?
- 2. How would you recommend the State use the allocated money to help "move the needle," and improve the State's performance?
- 3. What, if anything, made it easy to analyze the data?
- 4. What, if anything, made it difficult to analyze the data?
- 5. How did the process of developing recommendations feel?

### **Exercise 2 Follow-up**

- Where did you target your resources? Why?
- What was the issue? Was it statewide or county?
- How did they come to make those decisions?
- What data was most helpful?
- Was it easier to identify performance patterns?
- How did the process feel? Difficult? Easy?
- How did this feel compared to the first goaround? Easier?

Ве	, -	: ×	$\checkmark f_x$	Time to	initial inve	st. Within 24	1 hours						
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3					2 P	2 P-+f	4. Time to		6 F	7 1	8. Placement stability: <=2	9. Timeliness	10. Percent of
4		l. Timelines	s to initial in	vestigation	2. Repeat Maltreatme nt	3. Rate of entry into foster care	reunifica- tion in 12 months	5. Rate of relative care	6. Foster care re-entry percent	7. Aging out of foster care percent	stability: <=2 placements < 12 mos.	to adoption within 24 mos.	Children with Visits Each and Every Month
5 6 7 8	County	FI Time to initial invest. Within 24	FI Time to initial invest. Within 5	FA Time to initial invest. Within 5	% with no repeat maltreatme nt within	% of children entering foster care	% of children who leave foster care & re-	% of children in relative care	% of children who leave foster care and re-enter	Of all FC children who during the yr reached 18th B	% of Children w/2 or <plc settings when in</plc 		% of Children with Visits Each and Every
10 11	l	hours la	days lc	days le	six months	for first time	enter 4	5	< 1 yr 6	Day while in foster care, in 7	fc < 12 months	recent entry in fr 9	Month 10
12	Ď1	100.0%	100.0%	50.8%	100.0%	66.7%	100.0%	40.4%	41.2%	75.0%	88.9%	100.0%	17.0%
	02	56.5%	67.9%	60.4%	98.2%	76.3%	86.6%	28.5%	34.3%	64.1%	85.0%	52.8%	34.5%
14	03	53.7%	70.3%	55.0%	92.2%	77.8%	83.1%	31.0%	22.0%	83.3%	80.2%	100.0%	16.3%
15	04	50.5%	100.0%	72.0%	100.0%	68.7%	84.1%	39.2%	10.0%	87.5%	81.2%	33.3%	21.1%
16		70.4%	75.0%	20.507								22.277	
17				79.5%	100.0%	79.5%	87.5%	37.7%	24.1%	100.0%	82.5%	60.0%	45.0%
40		55.6%	73.5%	46.9%	100.0%	100.0%	83.3%	33.3%	0.0%	100.0%	82.5% 100.0%	60.0% 0.0%	50.0%
	07	54.5%	73.5% 80.8%	46.9% 79.4%	100.0% 96.5%	100.0% 71.7%	83.3% 90.7%	33.3% 6.3%	0.0% 28.1%	100.0% 76.9%	82.5% 100.0% 87.5%	60.0% 0.0% 66.7%	50.0% 48.2%
19	07 08	54.5% 81.4%	73.5% 80.8% 100.0%	46.9% 79.4% 91.0%	100.0% 96.5% 97.4%	100.0% 71.7% 62.2%	83.3% 90.7% 90.0%	33.3% 6.3% 20.0%	0.0% 28.1% 32.7%	100.0% 76.9% 40.0%	82.5% 100.0% 87.5% 75.0%	60.0% 0.0% 66.7% 100.0%	50.0% 48.2% 51.1%
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19 20 21 22	07 08 09 10	54.5% 81.4% 20.0% 57.1% 53.8%	73.5% 80.8% 100.0% 100.0% 90.7% 100.0%	46.9% 79.4% 91.0% 95.5% 82.6% 75.0%	100.0% 96.5% 97.4% 100.0% 88.9% 100.0%	100.0% 71.7% 62.2% 75.9% 71.8% 65.8%	83.3% 90.7% 90.0% 78.0% 83.6% 91.2%	33.3% 6.3% 20.0% 38.4% 25.3% 40.7%	0.0% 28.1% 32.7% 37.2% 33.7% 28.8%	100.0% 76.9% 40.0% 58.8%	82.5% 100.0% 87.5% 75.0% 86.3% 88.6%	60.0% 0.0% 66.7% 100.0% 40.0% 60.0%	50.0% 48.2% 51.1% 25.0% 54.7% 23.1%
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### Framework for Data Informed CQI in Minnesota



Agency: Sybil

Performance Year: 2017

State Measure: (2) Caseworker Visits

Performance Standard: 95.0% or greater Observed Performance: 91.7% ( 421 / 459 )

Observed Performance without tribally supervised children: 91.7%

**Description of measure**: Of all children in out-of-home care during the given period, for every month which required a face-to-face contact with a child (that is, any full month that a child was in care), what percentage of months included a face-to-face visit from the social worker?

Description of list: This list shows children in out-of-home care for the selected county or tribal agency. For each child, the number of monthly face-to-face contacts made is shown out of the total number of complete months that a child was in care. An orange X signifies that the child was not seen during that month. A gray check mark indicates the child was seen. An empty cell means that child was not in care for the entire month.

<sup>\*</sup> For an exhaustive description of methodology, please contact the Research and Evaluation Unit at dhs.csp.research@state.mn.us

Name (Person_ID)	Continuous Placement ID #	Supervising Agency	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
Al - nature	8	County Social Services	~	~	~	~	~	~	~	~
Α'	8:	County Social Services								×
B/1	70	County Social Services	~	~						
B/	8>	County Social Services			~	~	~	~	~	~
B/	8>	County Social Services			~	~	~	~	~	~
B/	8(	County Social Services	~	~	~	~	~	~	~	×
BI	8(+	County Social Services	1	J	J	J	J	J	J	1

<sup>\*</sup> Report End Date is the date at which the assessment concluded report occuring sometime during the performance year.

Γ	$\leftarrow$ Undo $\rightarrow$ Redo $\mid \leftarrow$ Revert	🖫 Refresh 🛗 Pause	ा। View: Original	△ Alert	Subscribe	≪ Share	L↓J Download		[□] Full Screen
ŀ	rrence (2018) (3) Re-entry (2018)	(3) Re-entry (2019)	(4) Perm: 12 months (2018)						
- 1	Agency: Moose Performance Year: 2019						Agency Select	ti	

Federal Measure: (3) Foster Care Reentry

Description of measure: Of all children who enter foster care two years prior to the reporting year who were discharged within 12 months to either a) reunification with parents/primary caretakers, b) living with other relatives, c) guardianship to an unrelated individual, or d) transfer of permanent legal and physical custody to a relative, what percent re-enter foster care within 12 months of the discharge date associated with the entry episode?

**Description of list**: This list shows children with an entry into out-of-home care in 2017 that is either still ongoing or ended within 12 months of the start date. These children may be included in the denominator if they meet the inclusion criteria for the reentry measure (i.e. they achieve reunification in less than 12 months from their entry), but this has not yet been determined.

\* For an exhaustive description of methodology, please contact Nikki Kovan at nikki.kovan@state.mn.us

	Current Episode	Prior Episode	Target Permanency			
Full Name (Person ID)	Start Date	Discharge Date	Date	Race / Age	Program Area	
Brown Krajos, andro a	2017-06-06	2017-06-26		White/13	Children's Mental Health	
Do str. san sina 110 c	2017-01-12	2017-07-06		American Indian / 16	Child Protective Services	
Name to the second	2017-02-03	2017-03-06		American Indian / 11	Children's Mental Health	
But of the King of	2017-06-23		2018-06-23	White/0	Child Protective Services	
El INCOST PLANT	2017-05-25		2018-05-25	White/16	Child Protective Services	
Grilline es au e	2017-01-05		2018-01-05	Two or more races / 5	Child Protective Services	
Grid tel est el 2 1 21	2017-01-05		2018-01-05	Two or more races / 8	Child Protective Services	
Girls the leaser in their	2017-01-05		2018-01-05	Two or more races / 9	Child Protective Services	
Historian in terms	2017-06-21		2018-06-21	White/5	Child Protective Services	
Historian ne k	2017-06-21		2018-06-21	White/2	Child Protective Services	~
Kot read insulation was a	2017-06-20		2018-06-20	White/12	Child Protective Services	

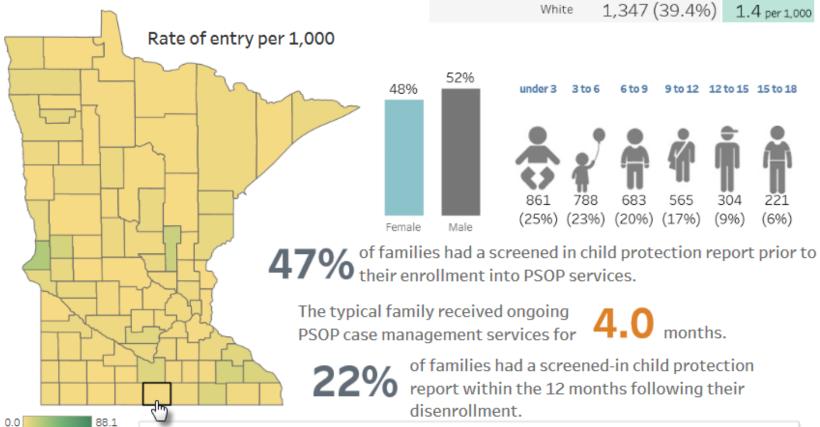
#### Parent Support Outreach Program - 2017

Year 2017 ○ **〈** ▷



#### Characteristics of children entering PSOP

9.1 per 1,000	1,081 (31.6%)	African American/Black
10.3 per 1,000	266 (7.8%)	American Indian
2.1 per 1,000	170 (5.0%)	Asian or Pacific Islander
4.7 per 1,000	338 (9.9%)	Two or more races
N/A per 1,000	220 (6.4%)	Missing
1.4 per 1,000	1,347 (39.4%)	White



During 2017, 1.4 children per 1,000 living in Zephyr entered into the Parent Support Outreach Program (PSOP).

### **Key Considerations: Collaboration**

- Collaboration with Quality Assurance team to develop ongoing improvements plans and strategies with local agencies (county and tribe)
  - Honest two-way communication
  - Clear two-way translation

### **Key Considerations: Be Proactive**

## Stop Chasing Your Tail

Be Proactive, not Reactive



### **Key Considerations: Clear and Intentional**

- Data is only powerful if it is communicated in a method that is clear to the intended audience
  - Simple is often better than complex
- Be intentional
  - Know your audience
  - Have realistic expectations

### **Best Practices for Visualizations**

- Select the chart or graph that best suits the data
  - Trends over time- use a line graph,
- Be consistent with your templates
  - colors, font, white space, clear titles and captions
  - color and font can be effective in highlighting or drawing attention, but over use or jarring colors take away meaningfulness (don't use hot pink)
- Know your audience: what they really want to know, their level of comfort with data

Accessible- build for everyone- be aware of the public that is color blind or needs the data in alternative formats and think ahead of how to build that in...

### Plans for the future state of data driven CQI

- Row level data for agencies for each measure, increase responsiveness to agency needs
- Committing more time to direct work with local agencies and state staff
- Continuing to develop additional measures, dashboards
- Collaborative data projects
  - between state agencies and divisions, and with local child welfare agencies and regions



### Thank you!

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