

Maximizing System-Level Data to Address Health and Social Complexity in Children: Spotlight on Oregon's Current Journey

Technical Assistance Call for Arizona

January 14th, 2020

Purpose of this Presentation

This presentation was delivered by Ms. Reuland as part of the project "Guiding and Inform Policy, System and Practice-Level Efforts Focused on Children with Health Complexity: Supporting and Learning from Efforts in Oregon" which is funded by a grant from the Lucile Packard Foundation for Children's Health, Palo Alto, California

This is a 2 year project (May 1, 2019 – April 30, 2021) to support the meaningful use of population-level health complexity data to drive improved policies and investments in care and health management supports for children with health complexity.

This presentation was delivered to the Arizona Health Care Cost Containment System (AHCCCS) which is Arizona's Medicaid agency that offers health care programs to serve Arizona residents.

Support for this research was provided by the <u>Lucile Packard Foundation for Children's Health</u>. The views presented here are those of the authors and not necessarily those of the Foundation or its directors, officers or staff.



Today's Agenda

- Context Setting: Key Components of Our Efforts and Why OPIP and OHA Were Invested in This Collaborative Work
- Importance of stakeholder engagement and input
- Review Specific System-level Data Used to Operationalize Health Complexity, State-Level Findings
- From Data to Action: Current and Proposed Uses
- Question and Answer

Oregon Pediatric Improvement Partnership OPIP

The Oregon Pediatric Improvement Partnership (OPIP) supports a meaningful, **long-term** collaboration of stakeholders invested in child health care quality, with the common purpose of improving the health of the children and youth of Oregon.

OPIP is primarily contract and grant funded. We are based out of Oregon Health & Science University, Pediatrics Department.

Learn more: oregon-pip.org

Problem...or Opportunity in Oregon!

Despite wonderful gains in patient centered primary care homes, coordinated care organizations, and other efforts there is a **need to better support children with health complexity**.

- To impact children's future health & preventable chronic conditions, need to address predictive social determinants of health and build resilience
- In order to address children with health complexity a population and communitybased approach and cross-sector engagement is required.



Efforts that Led Up to OPIP's Proposal

Supporting practices and health systems focused on:

- Identifying children and youth with special health care needs
- Care Coordination, methods for tiering patients
- Complex Care Management Pilot within Kaiser Permanente Northwest (KPNW)

Through these efforts, identified barriers in:

- Staffing and resources to serve these children within the practice
- Community-level resources
- Lack of metrics focused on this population (what is measured is what is focused on)
- Lack of payment models aligned with a focus on this population

Stakeholder Engagement on the Need and Opportunity for System-Level Methods to Identify Children with Health Complexity:

- OPIP Partners Meetings (Public and Private Stakeholders): Fall 2015, Spring 2016
- Meeting of Leaders within OHA, State Departments that Address Social Complexity, CCOs and Health Care Providers: August 2016

OHA's Perspective:

- Children and families still face significant obstacles to health and well-being
- Health disparities persist for many in Oregon
- Early life experiences, such as Adverse Childhood Events, can impact lifelong health
- Need to prioritize the value in intervening early and building resiliency



Coordinated Care Organizations Provide Services to 85% of the People on the Oregon Health Plan



OHP provides:

- Physical, oral, and behavioral health care
- For about one million Oregonians
- Of which 43% are children

OHP includes:

- Medicaid
- Children's Health Insurance Program (CHIP)
- Cover All Kids
- Reproductive Health Equity Act (RHEA)
- Other related services



CCO 2.0 Focus Areas

CCO 2.0 policies build on Oregon's strong foundation of health care innovation and tackle our biggest health problems.



Improve the behavioral health system and address barriers to the integration of care



Increase value and pay for performance



Focus on the social determinants of health and health equity



Maintain sustainable cost growth and ensure financial transparency



Power of Data

Strength of robust claims data across types of services, service lines, and CCOs enrolled

Centralized staffing to analyze data

- Value in centralized learning curve
- · Value in facilitation of across agency agreements about how data can be shared

Value in more robust data to understand state level population needs, regional needs

- Understand better child health needs based on data available
- Informing shared conversations across departments

Identify federal, state, local and private partners that are leads or influence the area/determinate

• Identify related performance measures or quantified objectives

Consider how this information can possibly be used to enhance Medicaid Value Based Payments for addressing Social Determinants of Health

Funding from Lucile Packard Foundation for Children's Health to OPIP

Grant #1: System-Level Approaches to Identify Children with **Health Complexity** and Develop Models for Complex Care Management

Goal: Inform health systems on novel and generalizable approaches to identify **children with health complexity**, use of this inform to design better support systems for children and their families

Key Partners: Oregon Health Authority (OHA), Coordinated Care Organizations (CCOs), Kaiser Permanente Northwest – Publicly & Privately insured*

Grant #2: Health Complexity Indicators to Guide and Inform Policy, System- and Practice-Level Efforts: Supporting and Learning from Efforts in Oregon

Goal: Support the meaningful use of population-level health complexity data to drive improved policies and investments in care and health management supports for children with health complexity.

Key Partners: Oregon Health Authority (OHA), Coordinated Care Organizations (CCOs), Health System

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Measuring Children's Health Complexity: Definitions and Tools

Medical Complexity

Defined using the Pediatric Medical Complexity Algorithm (PMCA)

- Takes into account: 1) Utilization of services, 2) Diagnoses, 3) Number of Body Systems Impacted
- Assigns child into one of three categories: a) Complex with chronic conditions; b) Non-Complex, with chronic conditions; or c) Healthy

Social Complexity

Defined by The Center of Excellence on Quality of Care Measures for Children with Complex Needs (COE4CCN) as:

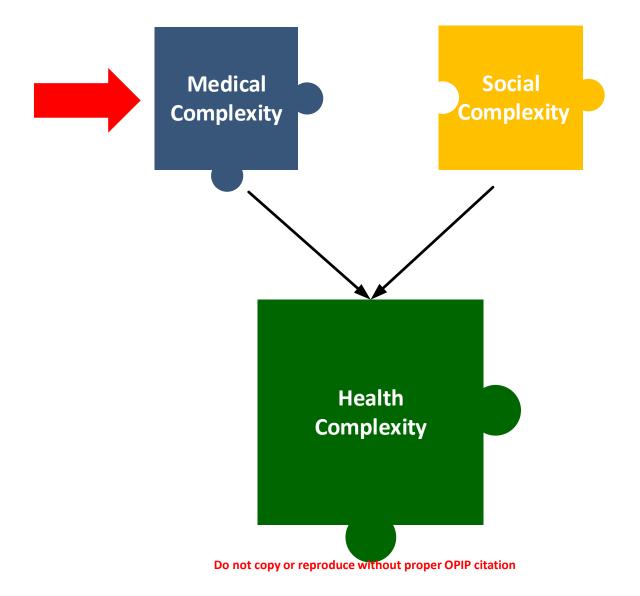
"A set of co-occurring individual, family or community characteristics that can have a direct impact on health outcomes or an indirect impact by affecting a child's access to care and/or a family's ability to engage in recommended medical and mental health treatments"

Our work incorporates factors identified by COE4CCN as predictive of a high-cost health care event (e.g. emergency room use).

Medical Complexity

Combines the factors of **Medical** and **Social Complexity**.







Pediatric Medical Complexity Algorithm

Developed by a team at Seattle Children's, Validated by Center of Excellence on Quality of Care

Measures for Children with Complex Needs (COE4CCN)

- For children 0 to 18 insured
- Developed as a way to identify a population, stratify quality metrics, and to target patients who may benefit from complex care management
- Intentionally meant to address issue with CDPS

Based on claims and diagnosis

Categorizes complexity into three categories:

- 1. Complex Chronic Disease,
- 2. Non-Complex Chronic Disease, and
- 3. Healthy

The three categories are co-linear with COST (i.e. as complexity increases, so does cost)



PMCA Findings for Publicly Insured Children in Oregon

Statewide Publicly Insured in 2018: N=390582

1. Complex Chronic Disease: 6.1%

N=23,681

24.4%

2. Non-Complex Chronic Disease: 18.3%

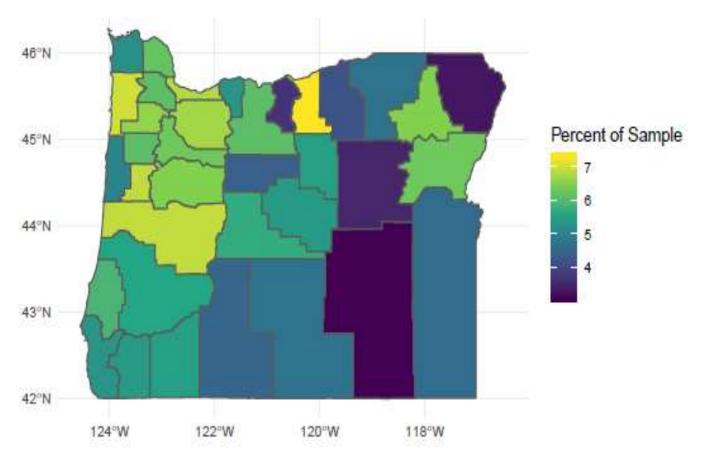
N=71,591

3. Healthy: 75.6%

There is a **statistically significant** difference in the distribution of the three PMCA Categories **across counties** in Oregon.

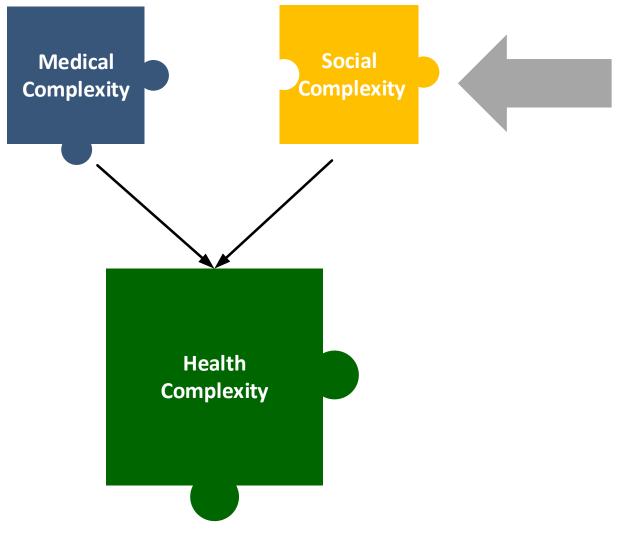


Complex, Chronic



Data Source: ICS Data Warehouse & Medicaid data sourced from Medicaid Management Information System (MMIS)





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18 Social Complexity Factors

Identified by the Center of Excellence on Quality of Care Measures for Children with Complex Needs (COE4CCN) as Associated in Literature with Worse Health Outcomes and Costs

12 SC risk factors from literature review related to worse outcomes:

- 1. Parent domestic violence
- 2. Parent mental illness
- 3. Parent physical disability
- 4. Child abuse/neglect
- 5. Poverty
- 6. Low English proficiency
- 7. Foreign born parent
- 8. Low parent educational attainment
- 9. Adolescent exposure to intimate partner violence
- 10. Parent substance abuse
- 11. Discontinuous insurance coverage
- 12. Foster care

COE4CCN studies showed worse outcomes or consensus on impact:

- 13. Parent death
- 14. Parent criminal justice involvement
- 15. Homelessness
- 16. Child mental illness
- 17. Child substance abuse treatment need
- 18. Child criminal justice involvement



Identifying Feasible Social Complexity Variables in Oregon:

Leveraged Integrated Client Data Warehouse (ICS)

- Data sources from OHA- Health Analytics and Integrated Client Data Warehouse (ICS)
 - https://www.oregon.gov/DHS/BUSINESS-SERVICES/OFRA/Pages/ICS.aspx
- Collaboration between OHA & DHS to provide staffing
- Data sharing agreements
- Linkage of the child and parent to allow for child-level and population-level analysis
- Input obtained from public and private stakeholders in November 2017 and April 2018 about data methodologies



Identifying Feasible Social Complexity Variables in Oregon:

Leveraged Integrated Client Data Warehouse (ICS)

- Data sources from OHA- Health Analytics and Integrated Client Data Warehouse (ICS)
- ICS includes data across the Department of Human Services (DHS), OHA client-based services, and data from other external agencies

DHS program data includes:

• Aging and People with Disabilities, Child Welfare, Developmental Disability Services, Self-Sufficiency and Vocational Rehabilitation

OHA program data includes:

Alcohol and Drug (AD), Contraceptive Care (C-Care), Family Health Insurance Program (FHIAP),
Healthy Kids Connect (HKC), Medical Assistance Programs (MAP), Mental Health (MH), Women
Infants and Children (WIC)

Additional agency data includes:

• Department of Corrections, Oregon Housing and Community Services



INDICATOR: Descriptive Information* (Source)	CHILD FACTOR	FAMILY FACTOR	TOTAL
POVERTY – CHILD: For Child - Access of Temporary Assistance for Needy Families (TANF), Below 37% Federal Poverty Level (ICS, data ovailable 2000-2017)	x		х
POVERTY - PARENT: Parent Access of TANF (ICS, data available 2000-2017)		x	x
FOSTER CARE: Child received foster care services (ICS, data available 2000-2017)	x		x
PARENTAL DEATH: Death of parent/primary caregiver in OR (ICS-Death Certificate in Oregon, data available 1989-2017)		х	х
PARENTAL INCARCERATION: Parent incarcerated or supervised by the Dept. of Corrections in Oregon (ICS-Department of Corrections for state felony charges, not including county/municipal charges, data available 2000-2017)		x	x
MENTAL HEALTH – CHILD: Received mental health services through DHS/OHA (ICS- NMH Caseloads, data available 2000-2017)	x		x
MENTAL HEALTH – PARENT: Received mental health services through DHS/OHA (ICS- NMH Caseloads, data available 2000-2017)		х	x
SUBSTANCE ABUSE – CHILD: Substance abuse treatment through DHS/OHA (ICS- AD Caseloads, data available 2000-2017)	x		x
SUBSTANCE ABUSE – PARENT: Parent – Substance abuse treatment through DHS/OHA (ICS- AD Caseloads, data available 2000-2017)		х	x
CHILD ABUSE AND NEGLECT: ICD-9, ICD-10 dx codes related used by provider (OHA Medicaid Claims Data, data available 2002-2017)	x		х
POTENTIAL LANGUAGE BARRIER: Language other than English listed in the primary language field (OHA Medicaid Enrollment, most current data for family)		x	x
PARENTAL DISABILITY: Parent is eligible for Medicaid due to a recognized disability (OHA Medicaid Enrollment, data available 2002-2019)		x	x
TOTAL NUMBER OF INDIVIDUAL FLAGS	5	7	12



Health

Social Complexity Findings:

Linkages for Child and Child's Parent(s)

Important Notes About Data Being Shown for the Population of Publicly Insured Children:

- For "Child" indicators: all children included matched with ICS
- For "Family" indicators: linkage of publicly insured children to a parent in ICS:
 - Unable to link to a parent: 20.44%
 - 1 parent: 11.62%
 - 2 Parents: 67.94%

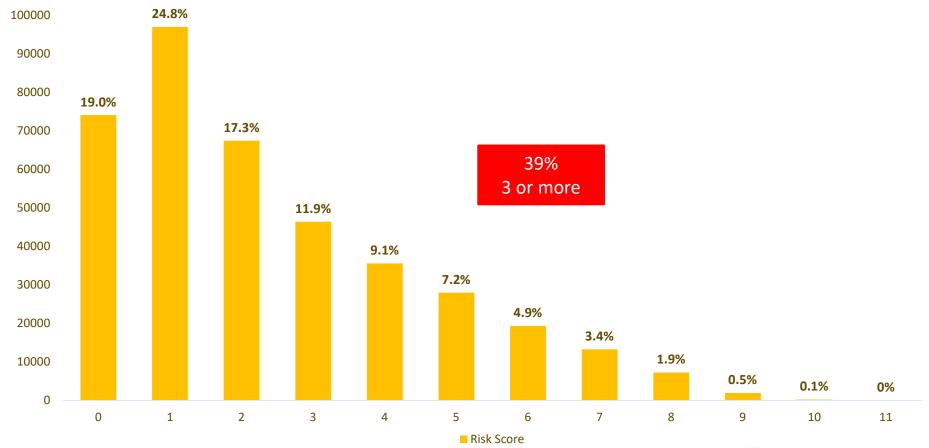


State Level: Findings on Prevalence of Each Social Complexity Variable

INDICATOR	CHILD FACTOR	FAMILY FACTOR
Poverty –TANF (For Child and For Either/Both Parent), Below 37% of Poverty Level	40.6% (158,650)	31.2% (121,952)
Foster care – Child received foster care services since 2012	13.0% (50,672)	
Parent death – Death of parent/primary caregiver in OR		1.3% (5,172)
Parental incarceration – Parent incarcerated or supervised by the Dept. of Corrections in Oregon		19.1% (74,707)
Mental Health: Child – Received mental health services through DHS/OHA	33.1% (129,212)	
Mental Health: Parent – Received mental health services through DHS/OHA		40.0% (156,221)
Substance Abuse: Child – Substance abuse treatment through DHS/OHA	4.5 % (17,763)	
Substance Abuse: Parent – Substance abuse treatment through DHS/OHA		29.0% (113,124)
Child abuse/neglect: ICD-9, ICD-10 dx codes related used by provider	5.3% (20,589)	
Potential Language Barrier: Language other than English listed in the primary language		20.5% (80,262)
Parent Disability: Parent is eligible for Medicaid due to recognized disability		3.0% (11,892)



Distribution of Social Complexity Factors



Data Source: ICS Data Warehouse & Medicaid data sourced from Medicaid Management Information System (MMIS)

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Putting the Data Into Perspective

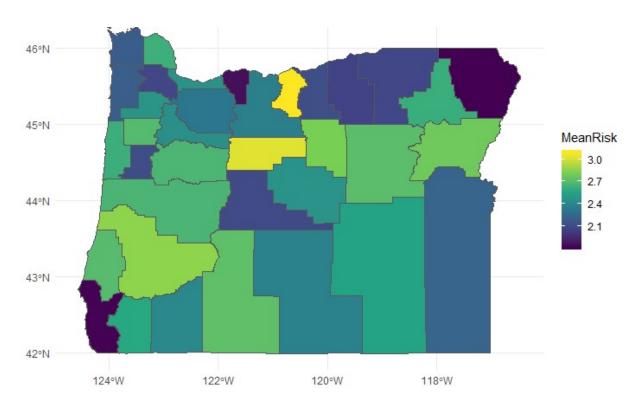
In Terms of the Number of Individual Children

Looking at the 0-17 Population:

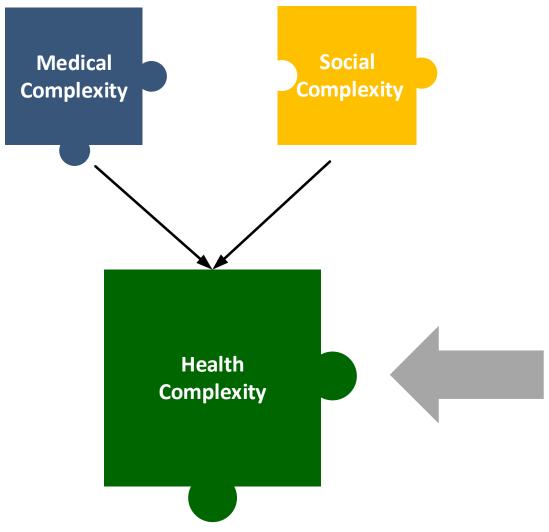
- There are N= 256 kids who have a 10 or 11 social complexity factors
- When we look at the proportion of kids exposed to 3 or more of the risk factors: 38.91% → 152,004 kids



Social Complexity by County



For the social risk score distribution (range: 0 - 11), there is a statistically significant difference in the social complexity indicator count between counties. (Kruskal-Wallis 2 = 4132.3, p < .001).



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Health Complexity Categorical Variable: Purpose and Goal

Given that medical complexity and social complexity will be independently examined and shared, create a <u>health categorical variable</u> that combines both factors

- Categories anchored to level of medical complexity <u>AND</u> level of social complexity
- Understand the population with <u>both levels</u> of complexity

Build off the learnings from the COE4CCN

- 1 or more social complexity indicators associated with higher costs
- The more factors present, the higher costs Gradient effect

Create a manageable level of categories for population-level aggregate reports

Ensure categories have sufficient denominators to allow for state and county-level reporting, maintain data sharing agreements when shared at a child-level



State-Level Health Complexity Categorical:

Source Variables Related to Medical and Social Complexity

MEDICAL COMPLEXITY	SOCIAL COMPLEXITY (Total Factors Possible in Preliminary Data Shown Here N=12)			
(3 Categories)	3 or More Indicators	1-2 Indicators	None in System-Level Data	
HIGH Medical Complexity (Chronic, Complex PMCA=1)	3% (11,637)	2.4% (9,342)	0.7% (2,702)	
MODERATE Medical Complexity (Non-Complex, Chronic PMCA=2)	9.5% (36,908)	7.2% (27,952)	1.7% (6,731)	
NO MEDICAL COMPLEXITY (PMCA=3)	26.5% (103,459)	32.6% (127,169)	Neither Medically or Socially Complex 16.6% (64,682)	

OPIP Health (DHS Oregon Department of Human Services

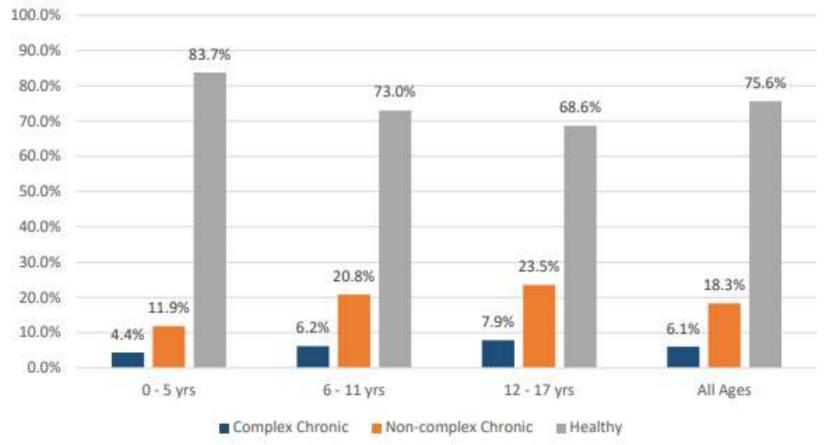
Aggregate Data Reports Display the Data by Groups of Children

Data Displayed by:

- Three Age Groups
 - 0-5, 6-11, and 12-17 years old
- County
- Race (2018 State-Level Report, Examining the Data to Improve Variables)
- Ethnicity (2018 State-Level Report, Examining the Data to Improve Variables)



Pediatric Medical Complexity Algorithm Findings: By Age of Child



Data Source: ICS Data Warehouse & Medicaid data sourced from Medicaid Management Information System (MMIS) Do not copy or reproduce without proper OPIP citation





Social Complexity By Age of Child

	Children 0-5 N=145,970		Children 6-11 N=118,965		Children 12-17 N=125,647	
	Child Factor	Parent Factor	Child Factor	Parent Factor	Child Factor	Parent Factor
Poverty –TANF (For Child and For Either/Both Parent)	34.2% (49,990)	30.5% (44,464)	44.9% (53,380)	33.7 % (40,138)	44.0% (55,280)	29.7% (37,350)
Foster care – Child received foster care services	7.4% (10,772)		13.8% (16,446)		18.7% (23,454)	
Parent death – Death of parent/primary caregiver in OR		0.5% (675)		1.3 % (1,513)		2.4% (2,984)
Parental incarceration – Parent incarcerated or supervised by the Dept. of Corrections in Oregon		17.5% (25,604)		20.7% (24,674)		19.4% (24,429)
Mental Health: Child – Received mental health services through DHS/OHA	14.2% (20,779)		36.8% (43,753)		51.5% (64,680)	
Mental Health: Parent – Received mental health services through DHS/OHA		44.1% (64,419)		40.6% (48,350)		34.6% (43,452)
Substance Abuse: Child – Substance abuse treatment through DHS/OHA	0.4% (547)		1.7% (2,059)		12.1% (15,157)	
Substance Abuse: Parent – Substance abuse treatment through DHS/OHA		29.0% (42,387)		30.5% (36,248)		27.4% (34,489)
Child abuse/neglect: ICD-9, ICD-10 dx codes related used by provider	4.9% (7,224)		5.6% (6,625)		5.4% (6,740)	
Potential Language Barrier: Language other than English listed in the primary language field		17.7% (25,779)		22.8% (27,162)		21.7% (27,321)
Parent Disability: Parent is eligible for Medicaid due to recognized disability		2.4% (3,561)		3.0% (3,553)		3.8% (4,778)

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Data in Action: Reports and Data Sharing 2018, 2019 and Expected in 2021 & 2020

1. Population-Level Reports: Aggregate Data

- Data shown for the population at state and county-level
 - Includes prevalence of specific indicators
 - Three age groups: 0-5, 6-11, and 12-17 years old

CCO Population-Level Report: Aggregate Data

- Data shown for the population at a CCO-Level and Across CCOs
- Includes prevalence of specific indicators at a CCO-level

3. **To CCOs for Their Attributed Populations**: Child-Level Data File

- Currently attributed population (smaller population)
- The variables are blinded and indicate the number of risk factors, but do NOT indicate WHICH specific indicators.
- Child-level indicator of:
 - Medical Complexity Categorical Variable (3 categories),
 - Three Social Complexity Count Variable: Child (0-5), Family (0-7) and Total (0-12)
 - Health Complexity Categorical Variable (9 Categories that Map to Slides Shows)





Data in Action: Supporting CCOs and Communities to Address Children's Health Complexity

1. Use the Population-Level Findings to Engage Community Partners to:

- Understand Child and Family Needs,
- Identify Community-Level Assets, and
- Address Capacity of Services to Serve Children with Health Complexity

2. Use the Population and Child-Level Findings to Identify:

- Opportunities to Enhance Care Coordination and Care Management
- Community-based and centralized supports for children with health complexity

3. Leverage the Data to Support a Health Complexity Informed Approach with Front-Line Health Care Providers:

- Trauma informed and culturally responsive care
- Explore role of health complexity in Value-based Payment models



Examples of How the Data Have Been Used to Inform A Multi-Generational Approach to Support Young Children with Health Complexity

- Convening community-level partners to discuss data and implications and priorities for moving forward
- Examining the data by zipcode, region and Patient Centered Primary Care Home to which the child is attributed
 - Identifying areas of high-need
 - Considering how the information can be used to inform grant based investments
 - Considering how the information can be used to inform VBP models with PCPCHs
- Galvanizing community-level investments and focus
 - Central Oregon Health Council investment in a targeted focus on how to build health and resilience for children 0-5 from socially complex families

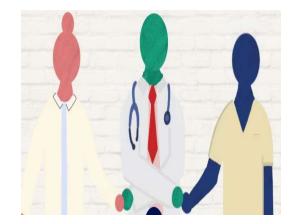


Examples of Current Work Related to Enhanced Care Coordination and Care Management

- Support development of new models of best match care coordination and case management using a child- and family-centric lens
- Community-based, centralized supports for children with varying levels of health complexity

Examples of Technical Assistance:

- ➤ Using the data to compare and contrast which kid are getting supports now vs in future
- ➤ Zipcode analysis
- > Analysis by Patient Centered Primary Care Home Attributed to
- ➤ Strategies for reviewing the data and considering care coordination and care management resources
- ➤ Sharing about the different outreach and supports needed within ninepart health complexity variable
- Starting point conversations about VBPs that would then support best match care coordination





Examples of Starting Point Successes

- Awareness that their nurse run, telephone based models will not work for a majority of children with health complexity
- Investments in care coordination resources and programs
 - Example: Novel Interventions in Children's Healthcare
- Investments in regional care teams that include multidisciplinary teams
- ➤ Payments models to primary care that support integrated behavioral health





#3: Leveraging the data to support a health complexity informed approach with front-line health care providers

Meant to be focused on how the population-level and child-level information can be used to partner with and inform activities with front-line health providers.

- Part 1: Value of examining aggregate population-level data by practice and by geographic regions to assess resources and health complexity management needs in the practice and/or in the community
- Part 2: Sharing the child-level data variable indicators with the primary care practice to which the child is attributed





Leveraging the **Health Complexity** Model to Inform Oregon Approach to the Integrated Care for Kids (InCK) Cooperative Agreement Application

- Focuses integrated, family-centered care coordination for publicly insured children across physical, behavioral, and other local service providers.
- Focus on multi-generational and dyadic approaches to care
- InCK Goals to target reductions in
 - 1. Out of home placements
 - 2. Costs for prolonged hospital stays or multiple readmissions
- Core Elements of InCK Model and Oregon Approach
 - Leverage Health Complexity data to identify children who may benefit from enhanced care coordination and community connection ("risk stratification")
 - Implement child-level needs assessments to better identify health and care coordination needs
 - Provide training and disseminate best practices for care coordination, including a focus on culturally and linguistically responsive care
 - Hire Service Integration Coordinator and enhance health information exchange capability in reach region
 - Develop and implement value-based payment (VBP) models in alignment with CCO 2.0



Some Learnings Gathered to Date from OPIP's Perspective

- Thankful for state partners with vision and commitment
- Game changer in highlighting needs of children and pace and tone of conversations
- A number of key levers and policies focused on this population in state priorities
- Very clear awareness that there is a gap in services needed to address the capacity of need identified in the data
 - Understanding and awareness about the need and value of family and dyadic based approach to children and parent family health
 - Interest in programs like Novel Interventions of Children's Healthcare is increasing given awareness about needs for best match models



Some Learnings Gathered to Date from OPIP's Perspective: Part 2

- Supporting this work is about relationships, time, and project management
 - OHA has provided in-kind support for time intensive process
 - Need for support to manage across agency agreements and analytic staff to support data pulls and data transfers
 - Importance of stakeholder engagement, engagement of families should be primary and of paramount importance
- Robust data (a strength!) like this requires point in time data capture, which makes the data not real-time (a barrier to some uses)



Example of Challenges and Barriers Encountered

- Magnitude and level of need articulated in the data can be overwhelming "These numbers are so much bigger than I thought, I thought kids were healthy.
- Communicating and sharing about the data in way that is anchored to a strength- and resiliency- based approach and not further traumatizing
 - Need for strategies to engage and learn from communities of color on how to talk about this system-level data in a way that is empowering and informing, not traumatizing
 - Data is meant to highlight factors correlated with difficulty in accessing our systems well,
 not meant to indicate deficits in the family
- Gap in available services across sectors, care coordination models, and related payment models that take a family-based and dyadic approach that are accessible and culturally sensitive.
 - Dyadic behavioral health therapies
 - Health systems that manage and have accountability for the "family unit"
 - Services located where families with high health complexity live & can <u>and</u> want to access





Priority Areas We Want to Focus Next

- Framing the report with a resiliency and strength-based lens, adding in resiliency data
- Hearing from and learning from families about their lived experience
 - Understanding the data and what it means, and doesn't
 - Parent informed and driven solutions about how to provide best match supports to meet the needs of families
 - Learn from families with high complexity that are thriving what made it work and what barriers do we need to remove
- Hearing from communities about the strengths and weakness of the data
- Ensuring those people who are using the data and who may receive the data are trauma informed and use a trauma informed lens in all applications

System-Level Approaches to Identify Children with Health Complexity and Develop Models for Complex Care Management

Visit: oregon-pip.org/projects/Packard.html

For More Information

Children's Health Complexity Data

Transformation Center, Oregon Health Authority

Visit: <u>oregon.gov/oha/HPA/dsi-tc/Pages/Child-Health-Complexity-Data.aspx</u>

Lucile Packard Foundation for Children's Health

https://www.lpfch.org/cshcn/blog/2019/03/04/march-14-identifying-and-serving-children-health-complexity-spotlight