

The background of the slide features a stylized illustration of several human figures in shades of blue, holding hands in a circle. The figures are simplified, with rounded heads and rectangular bodies, creating a sense of community and support. The overall color palette is various shades of blue, from light to dark.

Preventive Care for Chronically Ill Children in Medicaid Managed Care

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American Statistical Association – Albany Chapter

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Presentation Overview



- Children with Special Health Care Needs
- Medicaid Managed Care
- NYS Quality Annual Reporting Requirements (QARR)
- Clinical Risk Groups
- Study Methods
- Study Findings
- Study Limitations
- Policy Implications

Children with Special Health Care Needs



- HRSA's Maternal Child Health Bureau
Definition of CSHCN

“Those who **have or at increased risk for a chronic physical, developmental, behavioral, or emotional condition and** who also **require** health and related **services** of a type or amount **beyond that required by children generally.**”

- Prevalence Estimates
 - 10-20% of children in US have **chronic health issues.**
 - 22.3% of children in NYS have at least **one chronic health condition.**

Children with Special Health Care Needs



- Importance of Preventive Care
 - Recommended for *most* children, regardless of health status.
 - For CSHCN preventive care may also...
 - Reduce the need for intensive or specialized care (beyond the standard treatment of their condition(s)).
 - Improve care management and reduce unmet needs.

Children with Special Health Care Needs



- The Role of Health Insurance
 - Generally **improves access to health care services**, resulting in improved quality of care.
 - However, even with health insurance, **barriers to care still exist**, especially for CSHCN.

Children with Special Health Care Needs



- Putting It All Together
 - Preventive care important
 - Health insurance should improve access
 - BUT are CSHCN accessing preventive care at the same rate as healthy children in managed care? There's limited knowledge.
- Study's Objective
 - Determine whether there is an association between the quality of child preventive care received through Medicaid managed care and the existence of one or more chronic conditions.

Medicaid Managed Care



- Types of Health Insurance
 - Commercial Insurance (HMO, PPO, etc.)
 - Public Insurance (Medicaid, CHP, FHP, etc.)
- Managed Care Plan
 - A commercial *or* public health insurance plan or health care system that **coordinates the provision, quality and cost of care** for its enrolled members.
 - Approximately 5.7 million individuals were enrolled in a managed care plan in NYS in 2010.

Medicaid Managed Care



- Medicaid Managed Care (MMC)
 - Enrollees are enrolled in one of several health plans, which then **coordinates members' services** for NYS.
 - Approximately **2.8 million** individuals enrolled in NYS MMC in 2010.

Study
Population
Source

NYS Quality Annual Reporting Requirements



- QARR Is...
 - An annual submission of healthcare quality data to NYS DOH.
- Who Submits QARR...
 - All NYS managed care plans (both commercial *and* public).
- Type of Information Collected...
 - Specific quality measures defined by NCQA's HEDIS and NYS DOH.
 - Measures cover a wide area of healthcare topics.

NYS Quality Annual Reporting Requirements



- Data Submitted...
 - Each plan submits **aggregate data** for each required measure.
 - Derived from claims and medical records.
 - Medicaid managed care plans also submit **member-level information** for a subset of the full measurement set.
 - Indicates whether member was eligible for a measure and, if so, whether the relevant service was received.

Study
Data
Source

Clinical Risk Groups (CRGs)



- CRGs are a...
 - Method for **defining health status**.
 - Determined by applying a proprietary 3M **algorithm to diagnosis, pharmacy & procedure data**.
 - Created annually by NYS for all Medicaid enrollees.

Clinical Risk Groups



- **Nine Categories**

**Basis for Study
Definition of
Chronically Ill**

1. Healthy
2. Acute Illness
3. Single minor chronic disease
4. Minor chronic disease in multiple organ systems
5. Single dominant/moderate chronic disease
6. Dominant/moderate chronic disease in two organ systems
7. Dominant/moderate chronic disease in 3+ organ systems
8. Dominant, metastatic, & complicated malignancies
9. Catastrophic conditions



- The Cohort
 - Children and adolescents (<21 years)
 - Enrolled in Medicaid managed care
 - Who qualified for at least one preventive care QARR measure.



- The Outcome Measures
 - 10 child-relevant, preventive care, member-level QARR measures
 - Counseling, screening, testing, immunizations, and well-care visits
 - 8 sampled measures (weighted)
 - 2 population measures
 - 5 were collected in 2008
 - 5 were collected in 2007

Study Methods



- The Definition of Chronic Illness

Health Status Category	CRG Level	Comparable NYS MMC Population	Study Cohort	Most Common CRG Conditions in Health Status Category
Healthy/Acute	CRG = 1: Healthy	70.5	66.3	Healthy (82.5%); Acute Ear-Nose-Throat Illnesses (4.2%).
	CRG = 2: History of Significant Acute Disease	9.2	8.9	
Minor Chronic	CRG = 3: Single Minor Chronic Disease	5.5	6.5	Attention Deficit / Hyperactivity Disorder (ADHD; 14.2%); Chronic Eye Diagnoses (14.4%); Psoriasis (13.8%); Chronic Joint / Musculoskeletal Diagnoses (8.0%).
	CRG = 4: Minor Chronic Disease In Multiple Organ Systems	0.4	0.5	
Significant Chronic	CRG = 5: Single Dominant Or Moderate Chronic Disease	12.0	14.6	Asthma (47.2%); Developmental Delay (11.3%); Schizophrenia (7.3%); Obesity (4.9%).
	CRG = 6: Significant Chronic Disease In Two Organ Systems	2.3	2.9	
	CRG = 7: Dominant Chronic Disease In Three Or More Organ Systems	0.02	0.02	
	CRG = 8: Dominant, Metastatic, And Complicated Malignancies	0.1	0.1	
	CRG = 9: Catastrophic Conditions	0.1	0.1	



- The Analysis

1. **Demographic comparisons** across health status groups – tested using X^2 tests
2. **Bivariate analysis** of outcomes by health status – each chronic group compared to the healthy/acute group.
 - **Population** measures - ANOVA with Scheffe's
 - **Sampled** measures – generalized least squares
 - Generated **performance rates**



- The Analysis, continued
 3. **Generalized Linear Modeling** of outcomes
 - **Unadjusted** model – Performance based on health status alone
 - **Adjusted** model – Performance based on health status and member characteristics
 - Generated **risk ratios**

Study Results – Cohort Characteristics



- 606,301 unique members
- Health Status Distribution
 - 75.2 Healthy/Acute
 - 7.0% Minor Chronic
 - 17.8% Significant Chronic
- Health status groups significantly different on all demographic characteristics

Study Results – Cohort Characteristics



- Overall Demographic Distribution

Characteristic	Percent of Cohort
Sex (%)	
Male	49.0
Female	51.0
Race and ethnicity (%)	
Non-Hispanic White	21.1
Non-Hispanic Black	22.7
Hispanic	39.3
Other	16.9
Age group (%)	
Early childhood, 0-5 years	30.3
Middle childhood, 6-11 years	30.8
Adolescence, 12-20 years	38.9

Characteristic	Percent of Cohort
Aid category (%)	
Supplemental Security Income (SSI)	5.0
Temporary Assistance for Needy Family (TANF)	94.5
Received cash assistance (%)	
Yes	29.5
No	70.5
Region of residence (%)	
New York City	80.8
Rest of state	19.2
Primary Care Utilization (mean # of visits in 2007)	3.6

Study Results – Cohort Characteristics



- Demographic Differences by Health Status
 - Significant chronic children
 - More likely to be male, non-white, and younger compared with the healthy/acute and minor chronic children.
 - Higher rates of receiving Supplemental Security Income and cash assistance and had a slightly higher rate of living outside of NYC.
 - Minor chronic children
 - Highest proportion of non-Hispanic whites and adolescents.
 - Primary care utilization was lowest for the healthy/acute group and increased for both the minor chronic and significant chronic groups.

Study Findings – Bivariate Outcomes



Children/Adolescent Preventive Care Measure	Healthy/Acute (CRG ≤ 2)		Minor Chronic (CRG 3 or 4)		Significant Chronic (CRG ≥ 5)	
	Number in Measure	Performance Rate	Number in Measure	Performance Rate	Number in Measure	Performance Rate
Weight Assessment and Counseling for Children/Adolescents – BMI Percentile (Ages 2-17 years)	5,997	41.7	624	43.1	1,655	45.7
Weight Assessment and Counseling for Children/Adolescents – Nutrition (Ages 2-17 years)	5,997	55.7 ^	624	54.9	1,655	62.8 ^
Weight Assessment and Counseling for Children/Adolescents – Physical Activity (Ages 2-17 years)	5,997	41.4 ^	624	42.0	1,655	46.9 ^
Annual Dental Visit (Ages 2 -18)	359,352	51.5 † ^	32,937	57.6 †	85,922	49.7 ^
Chlamydia Screening (Ages 16-20)	27,322	59.4 ^	4,650	60.4	7,752	57.4 ^
Childhood Immunization Combo 3 (4313314) (Age 2 years)	6,364	69.6 † ^	272	77.8 †	1,841	75.3 ^
Lead Testing (Age 2 years)	6,367	86.1 ^	275	90.2	1,842	91.0 ^
Well Child Visits for First 15 months (Age 15 months)	14,412	79.0 ^	739	82.0	4,371	85.3 ^
Well Child Visits for 3, 4, 5 and 6 year olds (Ages 3-6 years)	42,731	81.6 † ^	3,658	89.4 †	8,299	85.9 ^
Adolescent Well Care Visits (Ages 12-20)	51,493	60.3 † ^	5,321	67.6 †	10,011	69.6 ^

† Rates for the healthy/acute and minor needs groups are significantly different at $p = 0.05$.

^ Rates for the healthy/acute and significant needs groups are significantly different at $p = 0.05$.

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Study Findings– Modeled Outcomes



Children/Adolescent Preventive Care Measure	Minor Chronic (CRG 3 or 4)		Significant Chronic (CRG >= 5)	
	Unadjusted RR † (95% CI)	Adjusted RR † ^ (95% CI)	Unadjusted RR † (95% CI)	Adjusted RR † ^ (95% CI)
Weight Assessment and Counseling for Children/ Adolescents – BMI Percentile (Ages 2-17 years)	1.03 (0.91, 1.18)	1.05 (0.92, 1.20)	1.10 (1.02, 1.18)	1.12 (1.03, 1.21)
Weight Assessment and Counseling for Children/ Adolescents – Nutrition (Ages 2-17 years)	0.99 (0.90, 1.08)	1.03 (0.94, 1.12)	1.13 (1.06, 1.20)	1.14 (1.06, 1.23)
Weight Assessment and Counseling for Children/ Adolescents – Physical Activity (Ages 2-17 years)	1.01 (0.89, 1.15)	0.99 (0.88, 1.12)	1.13 (1.01, 1.27)	1.14 (1.01, 1.29)
Annual Dental Visit (Ages 2 -18 years)	1.12 (1.11, 1.13)	1.08 (1.07, 1.09)	0.97 (0.96, 0.97)	1.00 (0.996, 1.01)
Chlamydia Screening (Ages 16-20 years)	1.02 (0.99, 1.04)	1.02 (0.99, 1.05)	0.97 (0.95, 0.99)	0.96 (0.94, 0.98)
Childhood Immunization Combo 3 (4313314) (Age 2 years)	1.12 (1.02, 1.22)	1.07 (0.98, 1.17)	1.08 (1.05, 1.11)	1.07 (1.03, 1.11)
Lead Testing (Age 2 years)	1.05 (1.01, 1.09)	1.00 (0.96, 1.05)	1.06 (1.04, 1.07)	1.03 (1.01, 1.05)
Well Child Visits for First 15 months (Age 15 months)	1.04 (0.99, 1.09)	1.03 (1.00, 1.05)	1.08 (1.06, 1.10)	1.05 (1.04, 1.07)
Well Child Visits for 3, 4, 5 and 6 year olds (Ages 3-6 years)	1.10 (1.05, 1.15)	1.10 (1.06, 1.14)	1.05 (1.03, 1.08)	1.05 (1.02, 1.08)
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† The referent group is children who are healthy or have acute illness (CRG <=2).

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Study Findings - Summary



- All analyses agree that on *most measures*, **children with chronic conditions** received preventive care at rates **comparable to or higher than healthy/acute** children.
- Primary exception = **Chlamydia screening**.
 - Reason for difference?
 - Clinically meaningful difference?

Study Limitations



- **Only examines Medicaid managed care.**
 - MMC does cover 1/3 of children in NYS.
- **Measures limited in scope** for chronically ill population.
 - Measures still important for this group.
- **Does not address the overall low rates** for some measures across all health groups.
 - Quality improvement still needed but NYS generally higher than national benchmarks.
- **CRG accuracy** and potential for **bias**.
 - Data improving and impact of bias unclear.
 - An efficient method for stratifying populations based on conditions.

Policy Implications



- Federal child quality initiatives.
- Healthcare reform's focus on measurement to...
 - improve care quality
 - reduce disparities.
- Health plan engagement to improve care quality within NYS.

Additional Information



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Managed Care Reports (including QARR reporting):

http://www.health.ny.gov/health_care/managed_care/reports/index.htm