PREDICTORS OF THREE TYPES OF EMPLOYMENT AND INCOME ASSISTANCE USAGE IN EARLY ADULTHOOD

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SOCIAL ASSISTANCE IN CANADA

- Introduced in 1956
- Provincially administered
- Provincial/territorial and federal government cost-shared
- The Employment and Income Assistance Program (EIA) provides financial help to Manitobans who have no other way to support themselves or their families.

(Statistics Canada, 2014; Government of Manitoba, n.d.)

EIA CATEGORIES

1) General Assistance (18 – 65)

Do not have a disability AND are a single person without dependents/children OR couple without dependents/children OR two parent family

2) Single Parent (18 – 65)

Have custody of a dependent child or children or are in your seventh, eighth or ninth month of pregnancy AND are unmarried, separated, divorced, widowed or have a spouse who is in prison

3) Disability (18+)

Have a mental or physical disability that is likely to last more than 90 days and this disability keeps you from earning enough money to pay for your or your family's basic needs

(Government of Manitoba, 2013(a); Government of Manitoba, 2013(b); Government of Manitoba, 2013(c))

OBJECTIVE

Do the predictors of EIA usage in early adulthood differ depending of the type of EIA an individual receives?

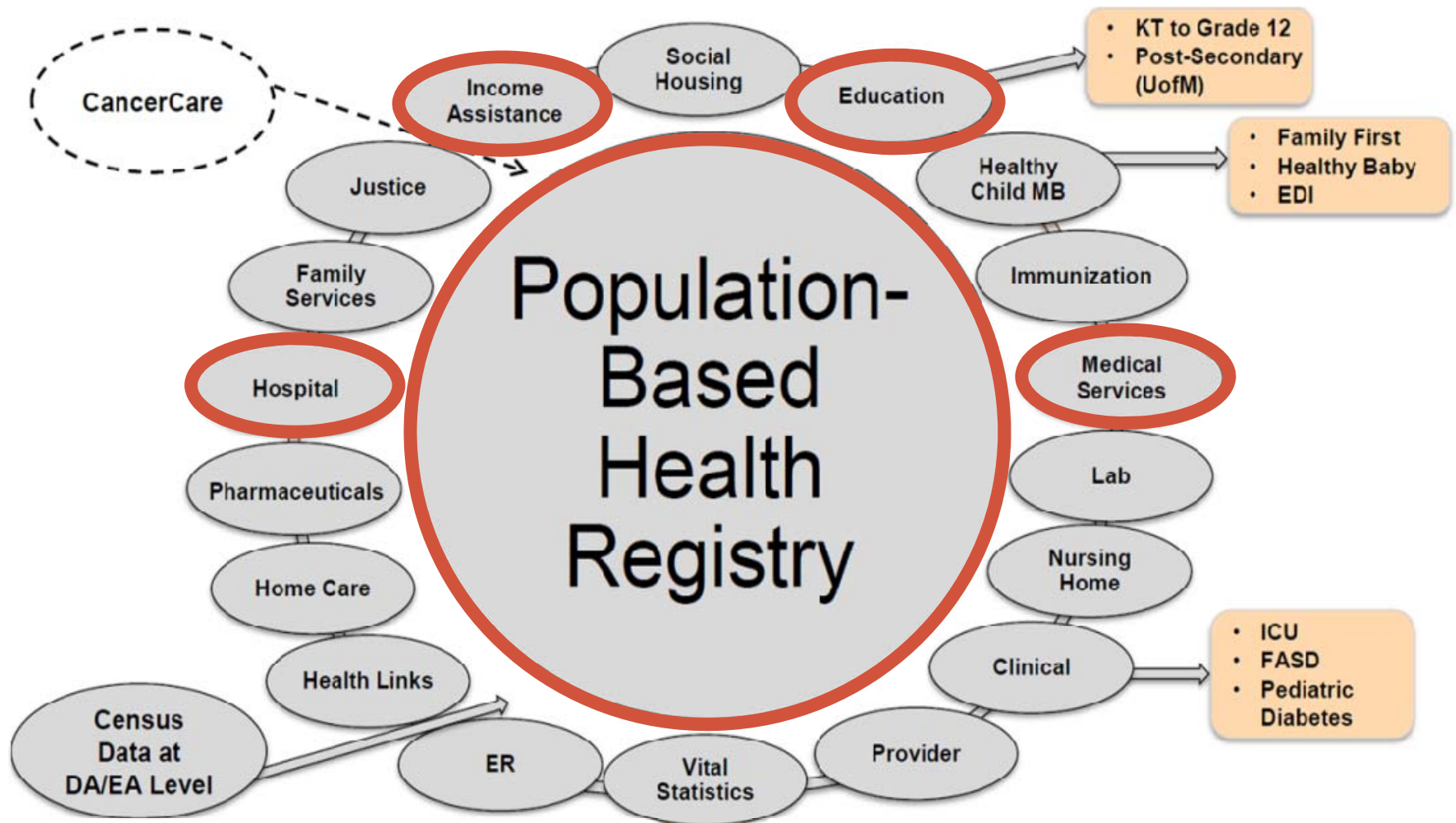# WHAT IS KNOWN ABOUT PREDICTORS OF EIA?

Predictors At Birth
- Health at Birth (APGAR Score, Birth Weight, Gestational Age)
- Sex
- Mother's Marital Status at time of Birth
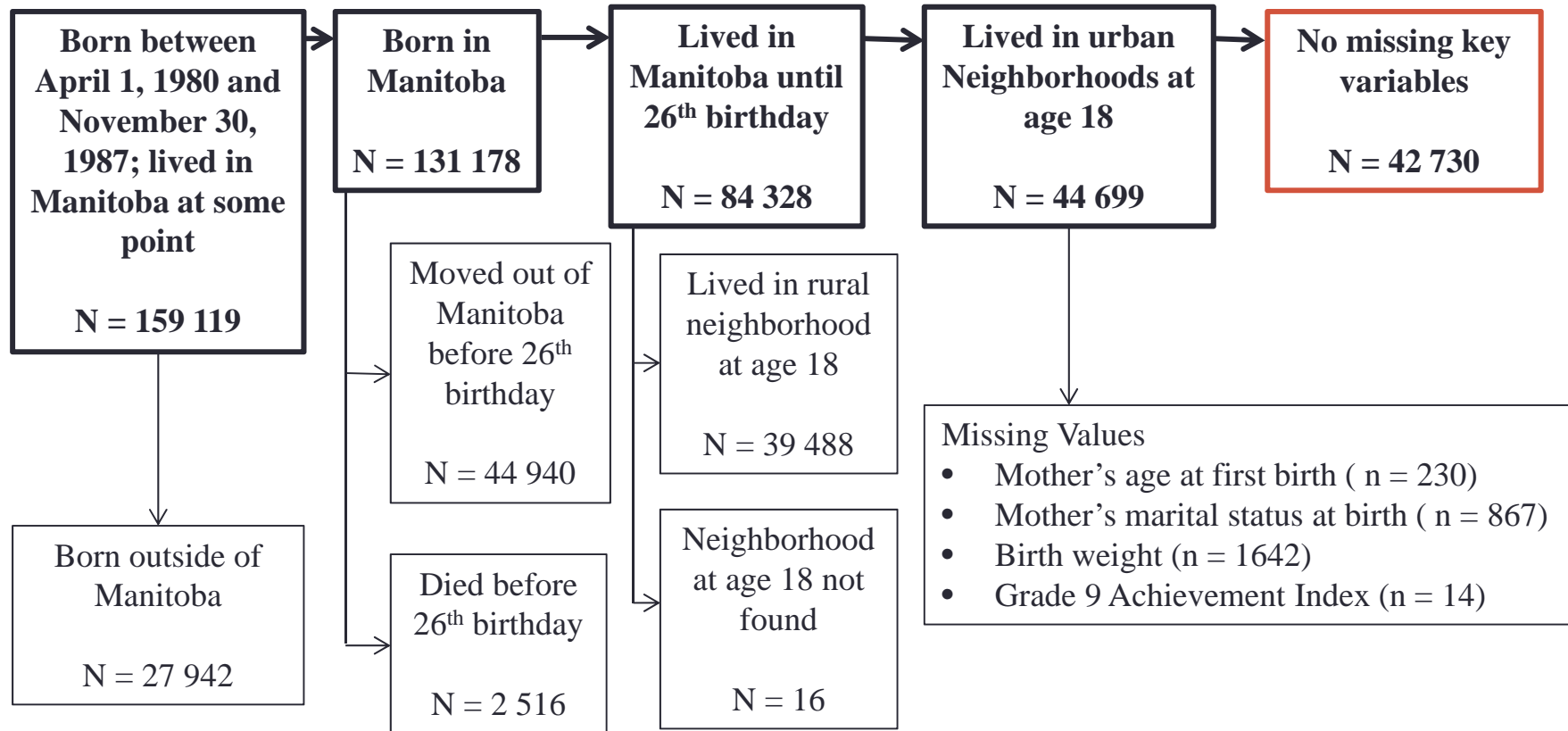
Events in Childhood/Adolescence
- Externalizing Mental Health Conditions
- Major Injuries
- Residential Mobility
- Family Structure Changes

(Aquilino, 1996; Caspi et al., 1998; Currie et al., 2010; Oreopoulos et al., 2008)

DATA

COHORT SELECTION

Born between April 1, 1980 and November 30, 1987; lived in Manitoba at some point N = 159 119	→	Born in Manitoba N = 131 178	→	Lived in Manitoba until 26th birthday N = 84 328	→	Lived in urban Neighborhoods at age 18 N = 44 699	→	No missing key variables N = 42 730

Born outside of Manitoba

N = 27 942

Moved out of Manitoba before 26th birthday

N = 44 940

Died before 26th birthday

N = 2 516

Lived in rural neighborhood at age 18

N = 39 488

Neighborhood at age 18 not found

N = 16

Missing Values
- Mother's age at first birth (n = 230)
- Mother's marital status at birth (n = 867)
- Birth weight (n = 1642)
- Grade 9 Achievement Index (n = 14)

EIA CATEGORY COHORTS

EIA Category	Received EIA, 18 - 25	Did not receive EIA, 18 - 25
General Assistance	1,913 (35.2%)	13,102
Single Parent	2,258 (41.5%)	15,485
Disability	1,217 (22.3%)	8,696

VARIABLES

|	Predictors		Outcome
Birth	Age 14	0 - 17	18 - 25
Characteristics		Events in Childhood and Adolescence	EIA usage
• Mother's Age at First Birth • Mother's Marital Status • Birth Weight • Sex	• Grade 9 Achievement Index	• Residential Mobility • Major Mental Health Conditions* • Minor Mental Health Conditions* • Major Injuries*	

*All health conditions are defined using Johns Hopkins ACG software

DESCRIPTIVE STATISTICS

Variable	n	%
Received EIA, 18 - 25	5 442	12.74
Average Mother's Age at First Birth (SD)	26.54 (5.03)	
Average Birth Weight (grams) (SD)	3411.6 (5418.7)	
Mother Unmarried at time of Birth	7 552	17.67
Male	21 382	50.04
Average Grade 9 Achievement Index Score	0.0129 (0.9981)	
Moved, 0 - 17	12 573	29.42
Major Mental Health Conditions, 0 - 17	1 630	3.81
Minor Mental Health Conditions, 0 - 17	17 644	41.29
Major Injuries, 0 - 17	34 282	80.23

METHODS

- Logistic regression

- Assessing Performance
  - Brier Score (Accuracy)
  - C-Statistic (Discrimination)
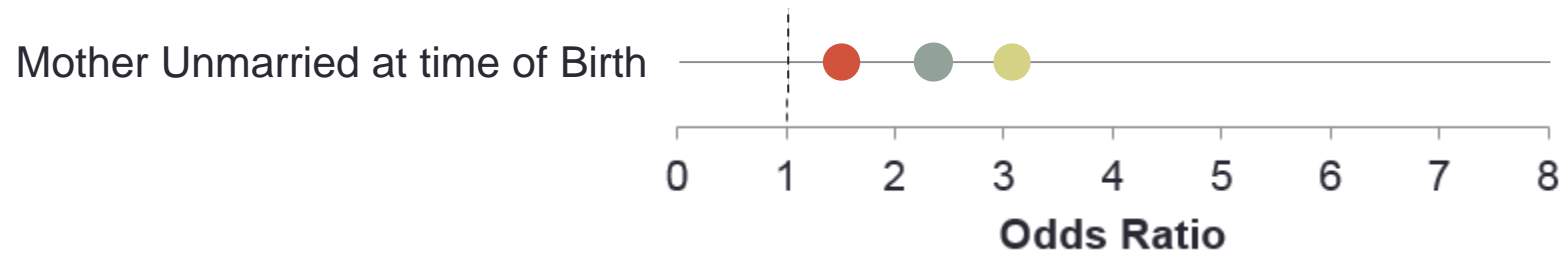
PREDICTORS ACROSS EIA TYPE

PREDICTORS ACROSS EIA TYPE

Mother's Age at First Birth/5
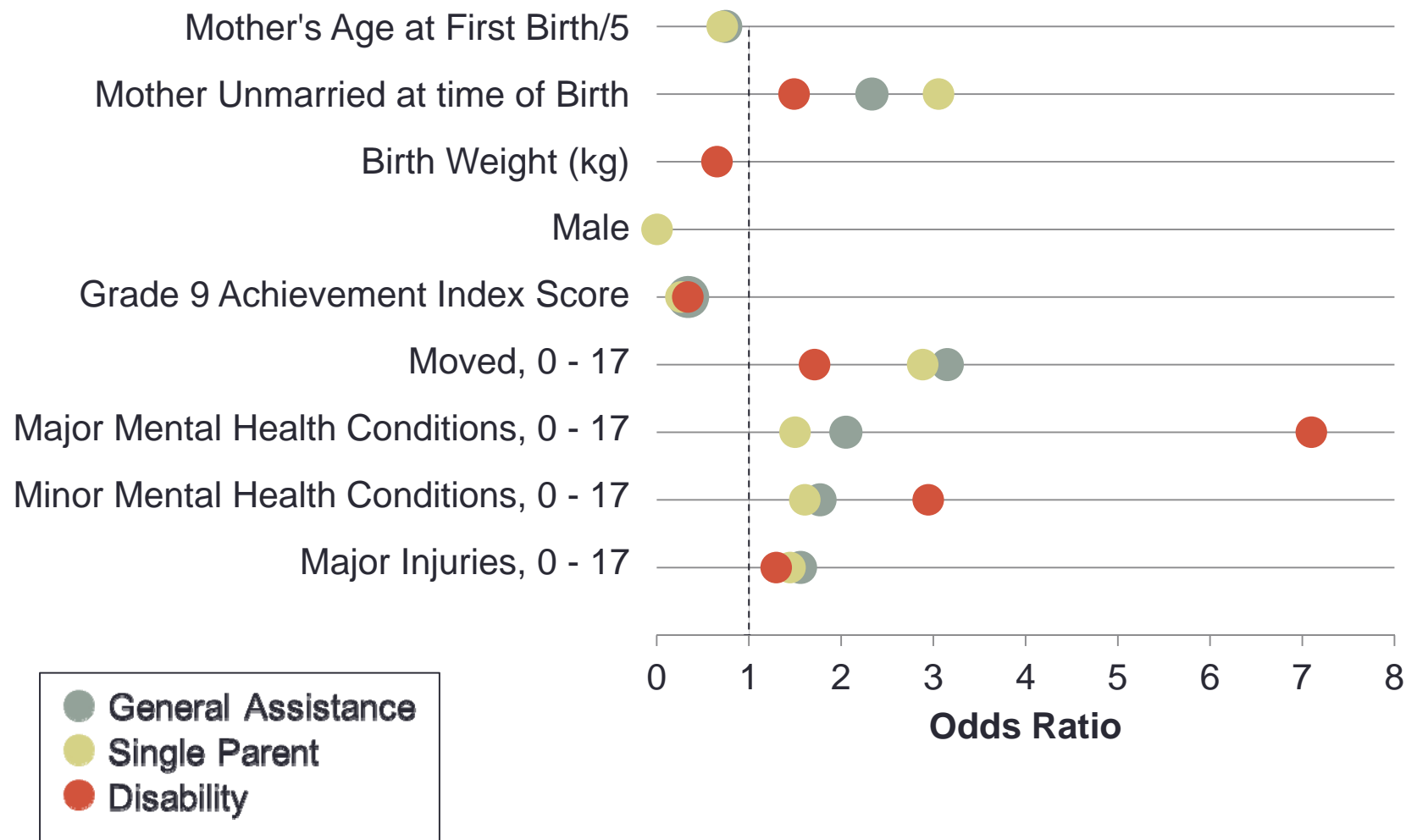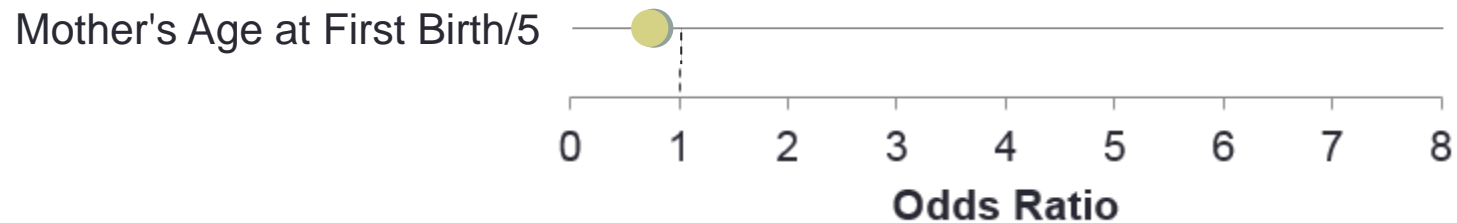
- Only significant for 'General Assistance' and 'Single Parent' EIA
  - Odds not significantly different
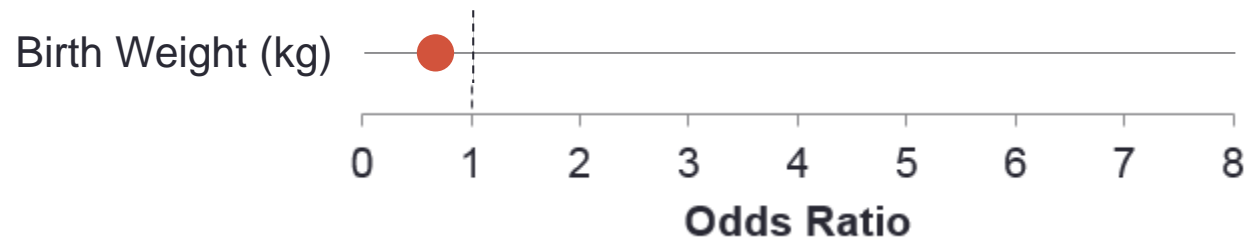
General Assistance
Single Parent
Disability

PREDICTORS ACROSS EIA TYPE

Mother Unmarried at time of Birth

Odds Ratio

- Significant for all types
- All odds are significantly different from each other

General Assistance
Single Parent
Disability

PREDICTORS ACROSS EIA TYPE

Birth Weight (kg)

- Only significant for 'Disability' EIA

- General Assistance
- Single Parent
- Disability

PREDICTORS ACROSS EIA TYPE

Male ⬤ ┊———————————————————————

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

Odds Ratio

- Only significant for 'Single Parent' EIA
- If indicator had been 'Female', odds ratio would be 183

⬤ General Assistance
⬤ Single Parent
⬤ Disability

PREDICTORS ACROSS EIA TYPE

- Higher educational Achievement is a protective factor for all types of EIA
  - Protective effect of educational achievement is greater for 'Single Parent' EIA than 'General Assistance' or 'Disability' EIA
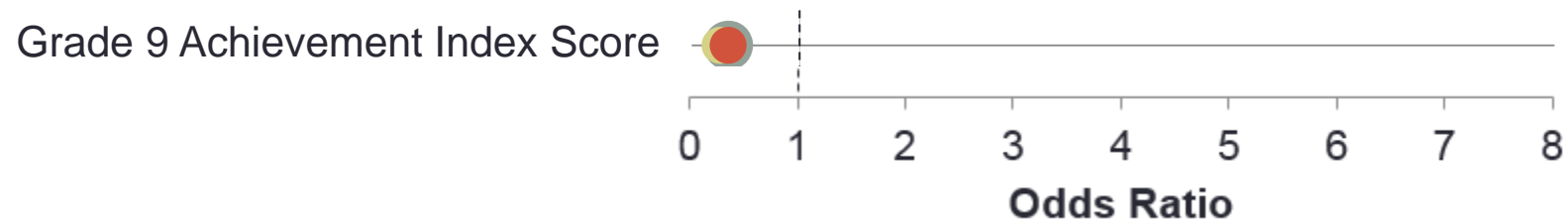
Grade 9 Achievement Index Score

Odds Ratio

0   1   2   3   4   5   6   7   8

- General Assistance
- Single Parent
- Disability

PREDICTORS ACROSS EIA TYPE

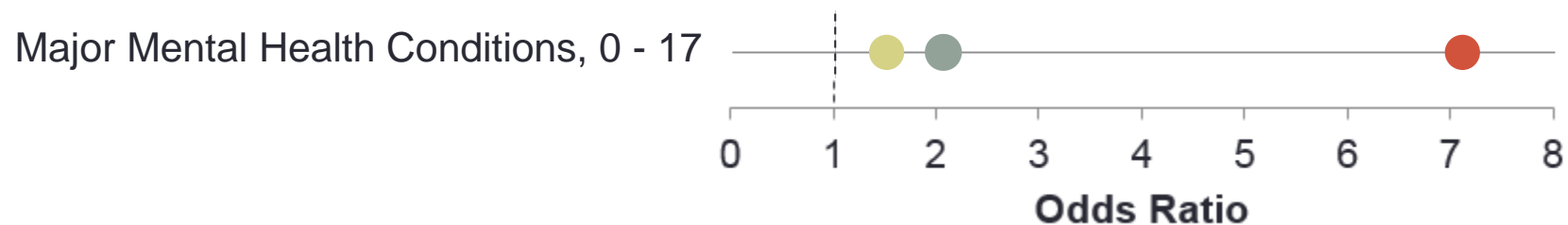- Significant for all types of EIA
- Odds significantly greater for 'General Assistance' and 'Single Parent' EIA than 'Disability' EIA

Moved, 0 - 17

Odds Ratio

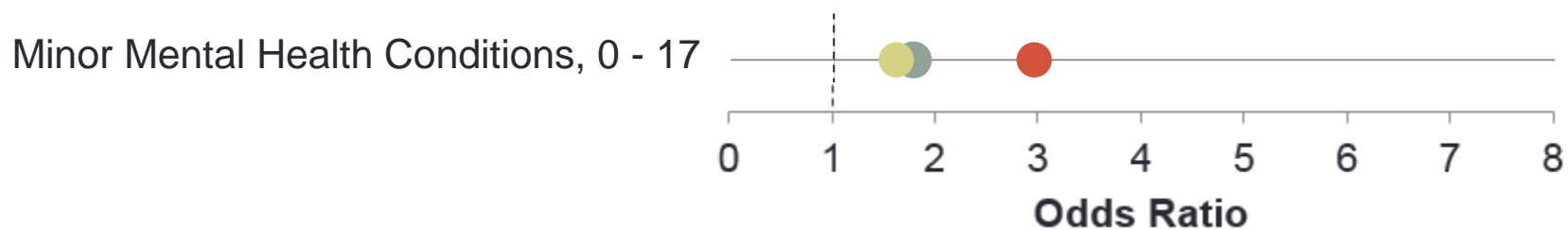General Assistance
Single Parent
Disability

PREDICTORS ACROSS EIA TYPE

- Significant for all type of EIA
- Odds for 'Disability' EIA significantly greater than for 'General Assistance' or 'Single Parent' EIA

Major Mental Health Conditions, 0 - 17

Odds Ratio

General Assistance
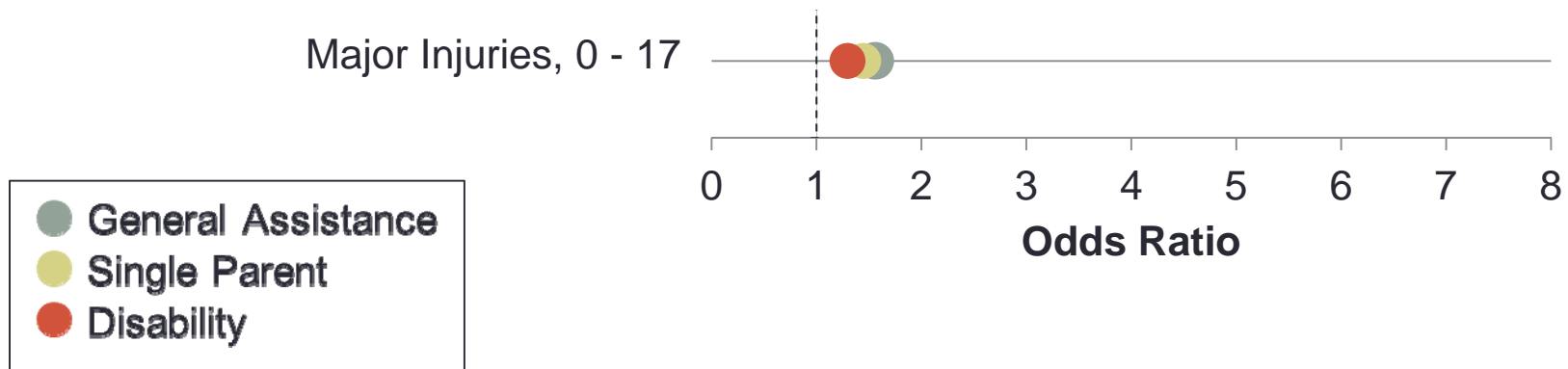Single Parent
Disability

PREDICTORS ACROSS EIA TYPE

- Significant for all types of EIA
- Odds significantly greater for 'Disability' EIA than for 'General Assistance' or 'Single Parent' EIA

Minor Mental Health Conditions, 0 - 17

Odds Ratio

0 1 2 3 4 5 6 7 8

General Assistance
Single Parent
Disability

PREDICTORS ACROSS EIA TYPE

- Significant for all types of EIA
- Odds not significantly different between types

Major Injuries, 0 - 17

Odds Ratio
0 1 2 3 4 5 6 7 8

General Assistance
Single Parent
Disability

FIT STATISTICS

EIA Type	Brier Score	C-Statistic
All	0.078	0.884
General Assistance	0.079	0.887
Single Parent	0.056	0.948
Disability	0.078	0.865

ADDITIONAL ANALYSIS

	General Assistance	Single Parent	Disability
Major Mental Health Conditions, 0 – 17	2.05*	1.50*	7.10*
Minor Mental Health Conditions, 0 - 17	1.77*	1.61*	2.95*
Episodic Mood Disorders	2.00*	1.75*	5.69*
Pervasive Developmental Disorders	2.13	0.27	**35.75***
Adjustment Reaction	1.60*	1.67*	4.11*
Depressive Disorder	1.68*	1.54*	3.80*
Disturbance of Conduct	1.81*	1.03	3.43*
Hyperkinetic Syndrome of Childhood	1.61*	1.12	3.56*
Specific Delays in Development	1.47*	1.04	4.92*
Nondependent Abuse of Drugs	**2.68***	**1.99***	2.63*
Anxiety, Dissociative and Somatoform Disorders	1.49*	1.54*	2.43*

* $p < 0.05$

ADDITIONAL ANALYSIS

	General Assistance	Single Parent	Disability
Major Injury, 0 - 17	1.56*	1.45*	1.30*
Fracture	1.31*	1.22*	1.02
Dislocation	1.14	1.01	0.86
Sprain or Strain	1.29*	1.09	0.97
Open Wound	1.69*	1.43*	1.14
Burn	1.47*	1.06	1.28
Poisoning	**3.31***	**1.77***	**3.85***
Other Injury	1.33*	1.25*	1.14

* p < 0.05

CONCLUSIONS

1) There are significant differences in predictors of the three different types of EIA examined

2) To best understand predictors of EIA usage, it is necessary to examine each category individually

3) Mental health conditions are a significant predictor of EIA usage for individuals from all EIA types

LIMITATIONS

Confounding factors

Diagnosis vs actual condition

Period of Study

FUTURE RESEARCH

1) Include confounders as they become available

2) Predictors across Income Quintiles

3) Life Course Approach

Sensitive/Critical periods for time-varying predictors?

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Questions??