

# Challenges to Recovery Following Early Psychosis: Implications of Recovery Rate and Timing

Mental Health Exchange Group

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# Background

- One component [the quantitative investigation] of mixed methods study of recovery among individuals in an early psychosis program;
- Prospective cohort study examining time-to-first recovery using survival analysis (n = 260)
  - Secondary analysis of program database
  - 308 individuals admitted consecutively to early psychosis program from January 2001 – December 2009;
  - 260 (85%) had appropriate admission data for inclusion in study

# Study Site: The Early Psychosis Program

The PIER program (Psychosis Intervention Early Recovery) , a service of the Eastern Regional Health Authority in Eastern NL, Canada:

- is a specialized mental health program focused on the recognition, assessment & treatment of individuals experiencing a first episode of psychosis;
- has 3 admission criteria: i) individuals experiencing symptoms of psychosis for the 1<sup>st</sup> time; ii) between the ages of 16 & 50; iii) with less than 6 mos of antipsychotic treatment.
- has an interdisciplinary team providing a range of services to individuals and families

# St. John's NL Canada



# St. John's NL Canada



# Research Questions

1. What is the **rates and timing** of recovery following a first psychotic episode?
1. What are the **factors that influence** the timeliness of recovery?

# Study Measures

Two outcomes of interest (target events):

**Partial Recovery** as measured by 2 criteria:

1. Symptom Remission (manic and psychotic)
2. Adequate daily functioning

**Comprehensive Recovery** as measured by 3 criteria:

1. Symptom Remission (both manic and psychotic)
2. Adequate Daily Functioning
3. Quality of Life

# Program Scales Used for Operational Measures

## Positive and Negative Syndrome Scale (PANSS)

- Contains 30 items, adapted from two earlier rating instruments (Brief Psychiatric Rating Scale and Psychopathology Rating Scale), that evaluate positive, negative and other symptoms in schizophrenia;
  - 8 items have been determined that best represent remission of psychotic symptoms
- Each item is rated on 7 point scale (1=absent, 7=extreme); 7 items assess features that are not present in a normal mental state (*Positive Scale*); 7 items assess features that are absent in individuals with schizophrenia but present in those with normal mental state (*Negative Scale*). The final scale, *The General Psychopathology Scale* assesses the overall severity of the disease by summation of the remaining 16 items (Kay, Fiszbein & Opler, 1998; 1997)



# Program Scales Used for Operational Measures

## Young Mania Rating Scale

- Contains 11 items to assess the severity of mania but not depression
- Designed to be administered by a trained clinician in 15-30 minutes
- Items are rated on a 5-point scale with varying descriptors for each and are based on the individual's subjective report of the previous 48 hours but with emphasis on the clinician's observations during interview.

# Program Scales Used for Operational Measures

## Global Assessment Scale

- Is a single item rating scale for evaluating the overall functioning of an individual during a specified period (usually 1 week prior to administration) on a continuum from psychologic or psychiatric sickness to health;
- Scale values range from 1 to represent the hypothetically sickest individual to 100 to represent the healthiest and are divided into 10 equal intervals. (Endicott, Spitzer, Fleiss & Cohen, 1976)

# Program Scales Used for Operational Measures

## Quality of Life Scale

- Contains 21 items designed to assess deficits in social and occupational functioning by examination of the richness of personal experiences, the quality of interpersonal relationships and productivity in occupational roles;
- Contains 4 subscales: 1) *Intrapsychic Foundations* comprises 7 items; 2) *Interpersonal Relations* has 8 items; 3) *Instrumental Role uses* 4 items; and 4) *Common Activities* has 2 items.
- Each item is scored on a 7-point scale with descriptor anchors for each point. High scores (“5” or “6”) reflect normal/unimpaired functioning while low scores (“0” or “1”) reflect severe impairment. (Heinrichs & Carpenter, 1984)

# Operational Definitions

## Partial Recovery

- For the purpose of this study, individuals achieved the target event, **partial recovery**, when:
  - They scored '3 or less' on the 8 PANSS items
  - They scored '5 or less' on Young Mania Rating Scale
  - They scored '61 or higher' on Global Assessment of Functioning
- All 3 had to be reached for the target to be achieved

# Operational Definitions

## Comprehensive Recovery

- For the purpose of study, individuals achieved comprehensive recovery when:
  - They scored '3 or less' on the 8 PANSS items
  - They scored '5 or less' on YMRS
  - They scored '61 or higher' on GAS; &
  - They scored '4 or above' on each item of Quality of Life Scale
- All 4 had to be reached

# Data Analysis

## Descriptive Statistics

## Survival Analysis Methods

- **Kaplan-Meier statistics:** survival curve and hazard function
- **Cox Regression:** multivariate impact analysis

# RESULTS



# Recovery Cohort n = 260

Characteristics	Males n=188 (72%)	Females n=72 (28%)	TOTAL n=260
<b>AGE:</b> ≤ 24 years	n = 125	n = 35	n = 160 (62%)
≥ 25	n = 63 (34%)	n = 37 (51%)	n = 100 (38%)
AGE at 1 <sup>st</sup> Contact	24.2	27.9	25.0
<b>EDU:</b> < high school	53(28%)	31(43%)	84 (32%)
high school	68(36%)	16(22%)	84 (32%)
> high school	57(30,%)	25(35%)	82(32%)*
<b>EMP:</b> employ/student	58 (31%)	28 (39%)	86 (33%)
had worked	61(32%)	18 (25%)	79 (30%)
never worked	56 (30%)	23 (32%)	79 (30%)*
<b>LIV CIRC:</b> with parents	128 (68%)	33 (46%)	161 (62%)
<b>MARTIAL:</b> single	179 (95%)	51 (71%)	230 (89%)
* Small # missing			

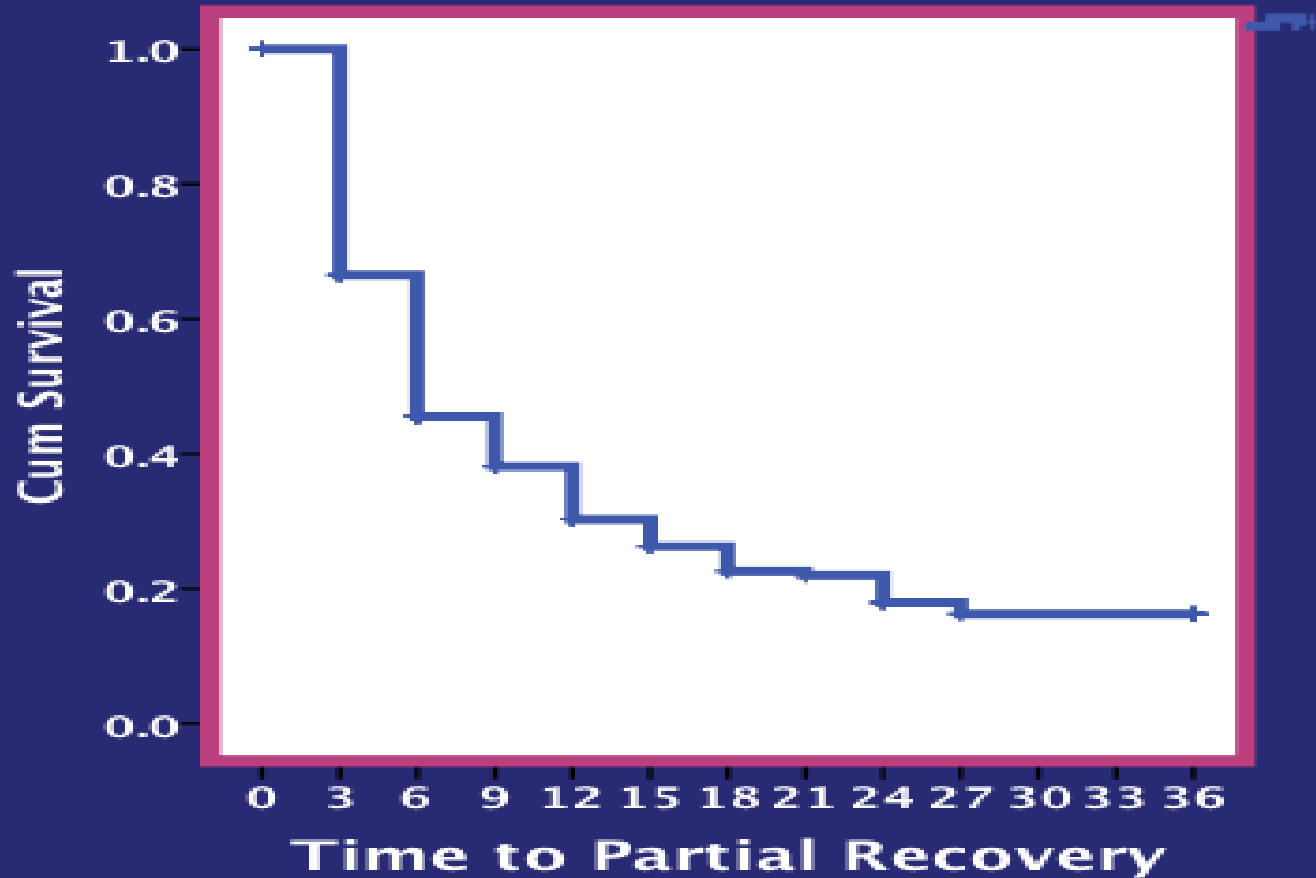


# Clinical Characteristics at Program Entry

Clinical Characteristic	Total Population
<b>DIAGNOSIS:</b> Schizophrenia Spectrum Disorders	103 (40%)
Affective Psychosis	60 (23%)
Other Psychosis	97(37%)
<b>COMORBID:</b> Psychiatric	158 (61%)
Physical	36 (14%)
<b>SUB USE:</b> None	64 (25%)
Alcohol	45 (18%)
Marijuana only	15 (6%)
Alcohol + marijuana	82 (32%)
Other	51 (20%)
<b>FAM HX:</b> None	46 (18%)
1 <sup>st</sup> degree relative	86 (33%)
Other relative	66 (25%)*
* missing	

# RESULTS OF SURVIVAL ANALYSIS

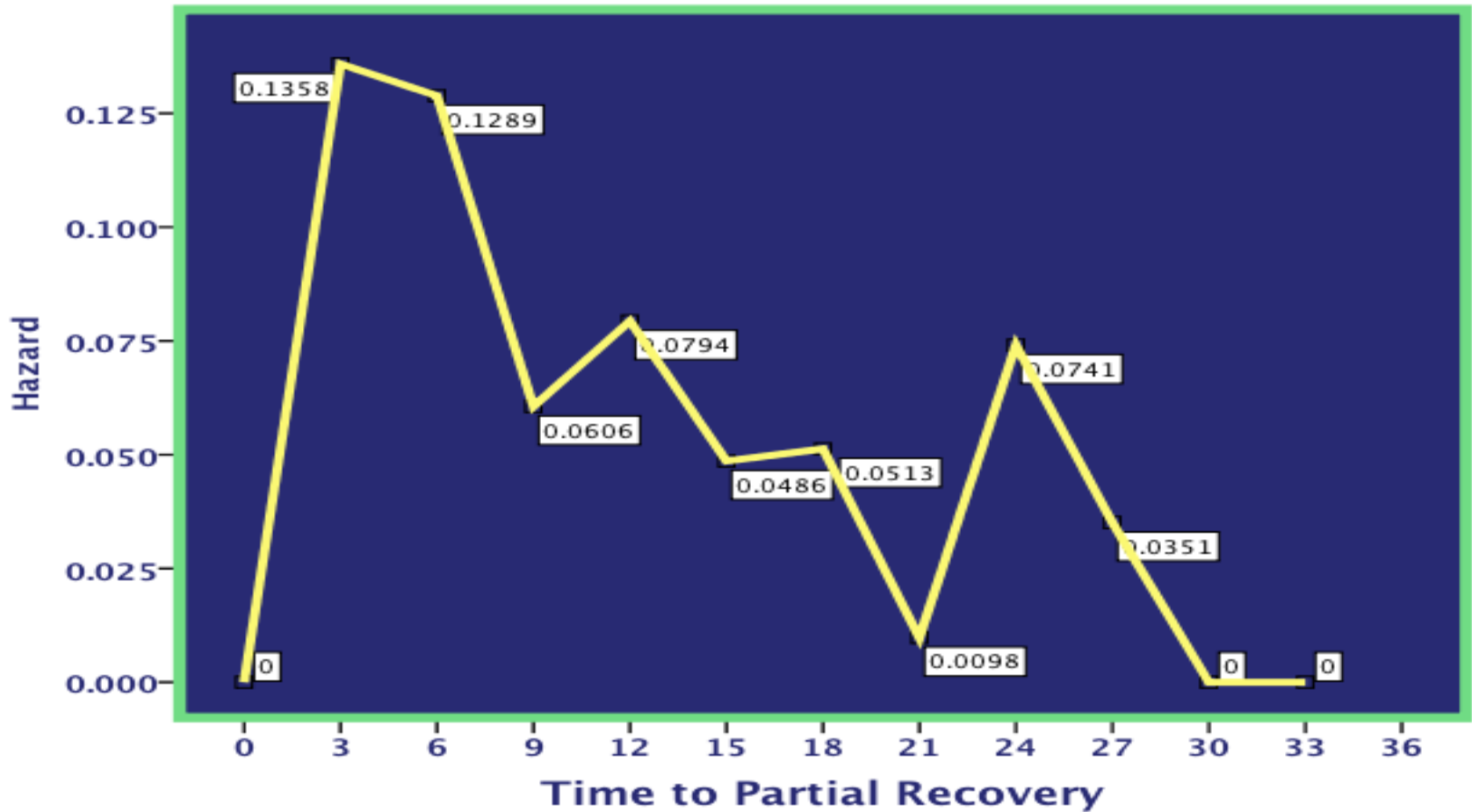
# Survival Curve (Kaplan Meier) for Partial Recovery



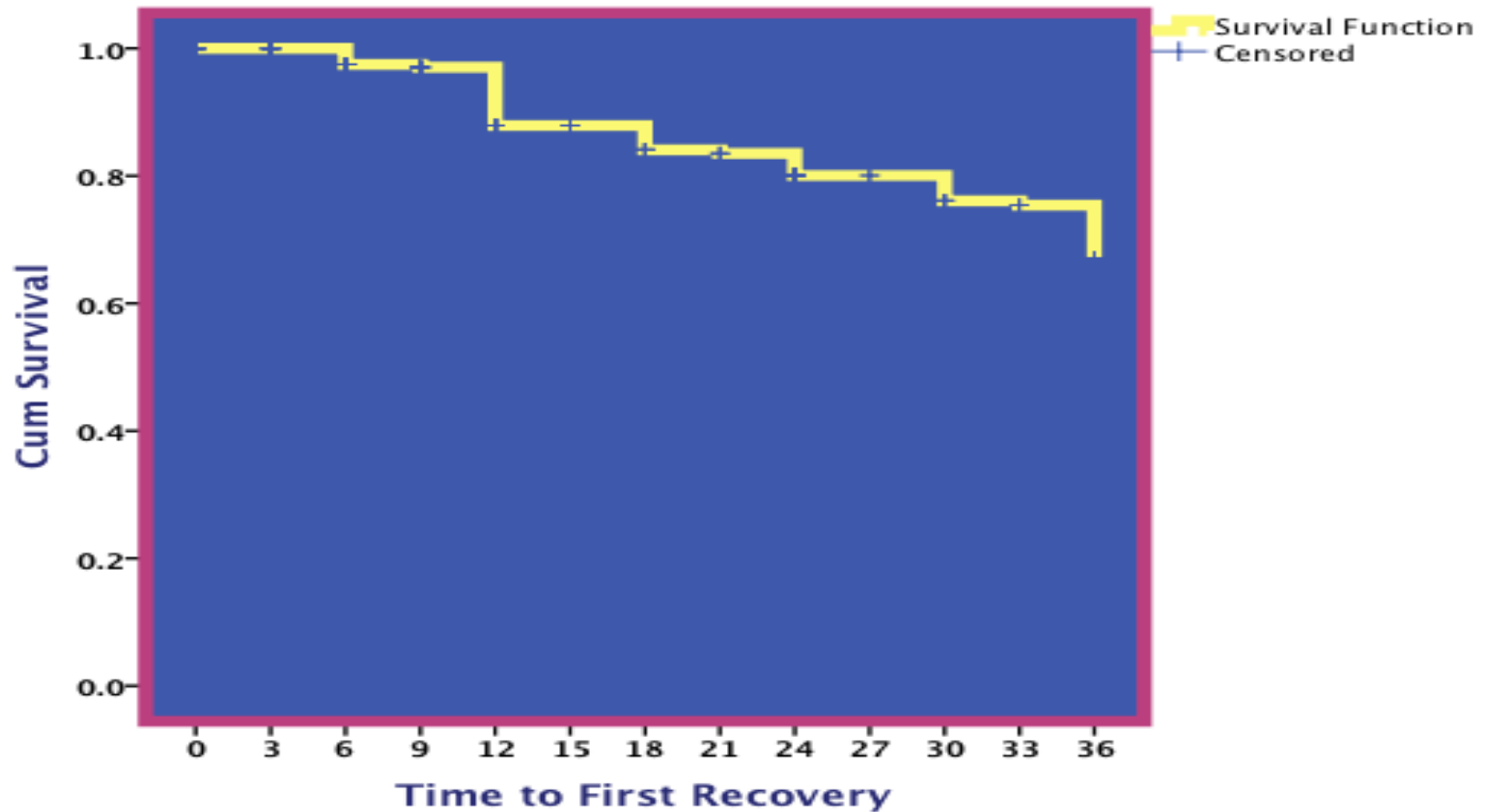
# PARTIAL RECOVERY n=238

- 174 participants or 73% achieved partial recovery over the 3-year program
- 122 recovered in the first 12 months
  - Median time for partial recovery = 8.3 months
  - Mean time was 12.6 months

# Hazard Function for Partial Recovery



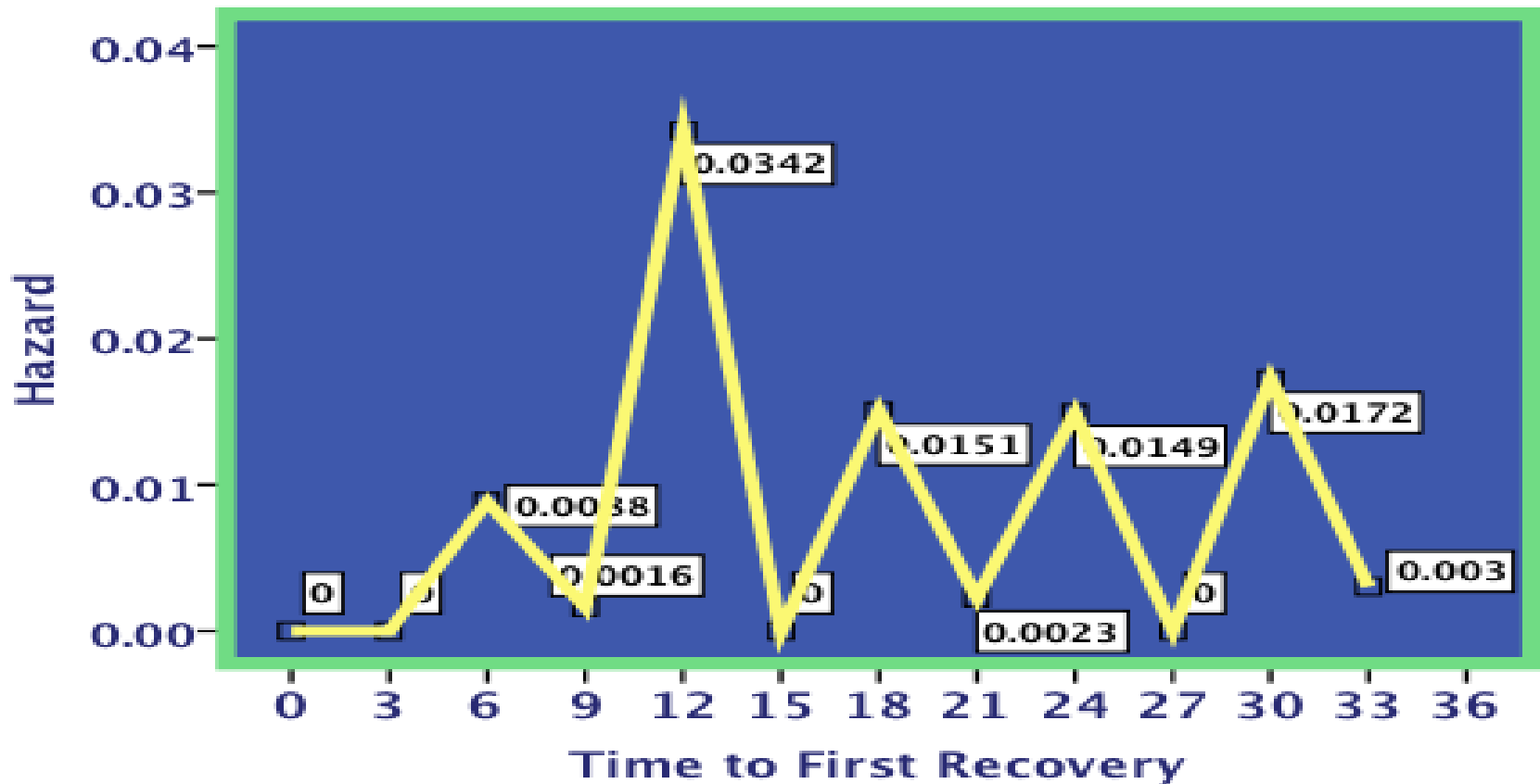
# Survival Curve (Kaplan-Meier) Time to Comprehensive Recovery



# COMPREHENSIVE RECOVERY

- 59 or 22.7% of the cohort achieved comprehensive recovery;
- A small number (n=7) recovered in the first 12 months;
- The largest number of recoveries occurred in Year 2 (n=27, 46%) and 25 individuals achieved comprehensive recovery in Year 3 (42%);
- 60% of the 59 maintained recovery for 6 months or more.

# Hazard Function for Time to Comprehensive Recovery





# Cox Regression Results



# COX REGRESSION

## Partial Recovery

- **Diagnosis:** Individuals with affective psychosis were more likely to reach partial recovery (HR 1.84  $p=.007$ );
- **Education:** Those who completed high school more than 2 times as likely to achieve partial recovery (HR 2.19,  $p=.005$ ) as were those with post secondary (HR 1.77  $p=.01$ )

# COX REGRESSION

## Partial Recovery

- Two factors were negatively associated with timeliness to partial recovery:
  - Individuals b/t ages 25 and 29 were 50% less likely to reach partial recovery status (HR 0.50 p=.02)
  - Individuals who were unemployed but had a work history were 44% less likely to reach partial recovery (HR 0.56 p= .006)

# COX REGRESSION

## Comprehensive Recovery

1. **Diagnosis:** individuals with affective psychosis were 2 & ½ times more likely to recover than those with SSD (**HR 2.5 p=.008**); those with other psychoses were more than twice as likely to recover (**HR 2.3 p=.03**)
2. **Comorbid condition of anxiety:** Individuals with anxiety were 2 ½ times more likely to recover (**HR 2.62 p=.07**)
3. **Education:** individuals with more than high school were 2 times as likely to achieve comprehensive recovery (**HR 2.0, p=.06**)

# Implications & Conclusion

- The results indicate that much of the progress of recovery (symptom control & daily functioning) occurs in the first 12 months following the initial episode of psychosis;
- Issues related to quality of life, however, remain problematic for the majority of those who experience a psychotic disorder; in particular interpersonal and occupational factors seriously impact the health and well being of the cohort;

# Implications & Conclusion (con'd)

- This raises a number of questions about recovery trajectories (do we know what they are?) & whether any one recovery model can address the needs of a diverse group of individuals and families;
- The findings support maintaining a sustained program of interventions that provide (or create) opportunities for individuals to develop and maintain new, age- appropriate social networks and build skills and capacity to achieve personal satisfaction in the achievement of their life's goals.

Thank You

