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Division of Public and Behavioral Health

Bureau of Behavioral Health Wellness and Prevention

Evidence-based Early Treatment Program for Early Serious Mental Illness

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Helping people. It's who we are and what we do.

Efficacy of Evidence-based Coordinated Specialty Care for Early-Stage Psychosis

Delivered within a State Public Health System

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Agenda

I. Overview

II. Access to Coordinated Specialty Care for Early-Stage Psychosis in Nevada, 2023

III. Theoretical Framework and Analytic Strategy

IV. Outcomes-Driven Quality Control and Continuous Performance Improvement

I. OVERVIEW

NEVADA Early Treatment Program *for* First-Episode Psychosis (FEP)

***Based on*: The RAISE (*Recovery After an Initial Schizophrenia Episode*) Research Initiative, National Institute of Mental Health (NIMH)**
***and* the Evidence-based NAVIGATE Early Treatment Program for First Episode Psychosis**

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Background and Significance: Nevada Department of Health and Human Services recognizes the importance of building a statewide evidence-based program of early interventions to address early-stage psychosis disorders. Setting this priority follows recognition of key factors by national and international communities of mental health professionals and funding agencies:

- **Historically**, mental health services have focused on later stages of serious mental illness (SMI), which has meant that interventions often occur only after things have reached a crisis and only after prolonged periods of untreated illness.
- **Duration of Untreated Psychosis (DUP)**: The length of time that a person does ***not*** receive treatment for psychosis predicts the severity of his/her/their clinical outcome. **Definition of DUP**: Length of time between the onset of a psychotic disorder and the point when an individual enters treatment.
- **Funding priority & guidance by SAMHSA** have also been informed by:
  - Advocacy efforts by clients and their family members urging Mental Health Systems to do more when people first experience ESMI/FEP.
  - Societal & Economic Burden of Schizophrenia Psychosis, alone, was **$155.7 billion in US in 2013, which included additional costs associated with unemployment, productivity loss because of caregiving, and direct health care.**
- **Goals of Program:** Early interventions for early-stage psychosis may accomplish the following:
  - Prevent or delay medical and psychological impairments, suicides and undesirable social circumstances (poverty and homelessness).
  - Reduce the numbers of periods with severe symptoms.
  - Improve social functioning and clinical outcomes.

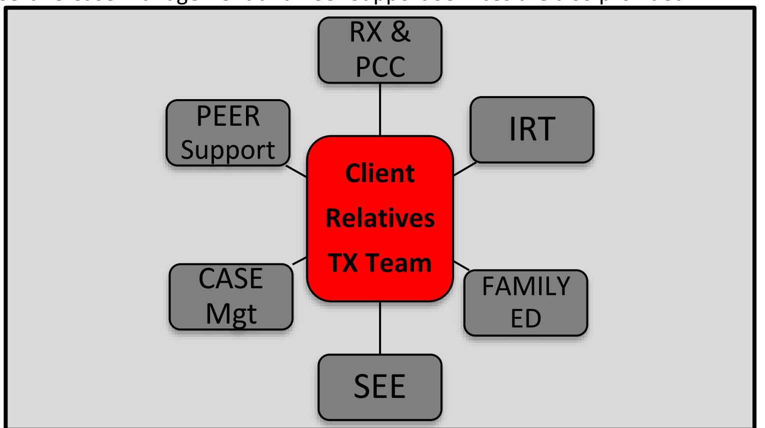
SAMHSA MH Block Grant funding, FFY 2022-2023: Minimum 10% set aside.

Target Population: How many *new cases* of FEP occur each year?
The *median rate of new cases (incidence)* each year for schizophrenia, one of the principal schizophrenia spectrum and other psychotic disorders, is estimated to be 15.2 per 100,000 population (McGrath et al. 2008). First episodes show a peak onset between ages 15-25 years, although approximately 20% of this population have an onset after age 40.

Priorities: Statewide implementation of NAVIGATE, an evidence-based early treatment program of Coordinated Specialty Care (CSC) for individuals experiencing a first episode of psychosis, including:

- **Northern Behavioral Health Region:** Clinic Home, Carson Tahoe BH Services, Carson City, which began enrolling clients in FEB 2019.
- **Clark Behavioral Health Region:** Clinic Home, UNLV/Mojave Counseling, Las Vegas, which began enrolling clients in FEB 2020.
- **Washoe Behavioral Health Region**: Clinic Home, UNR SOAR Program, Reno, which launched in SEPT 2021.

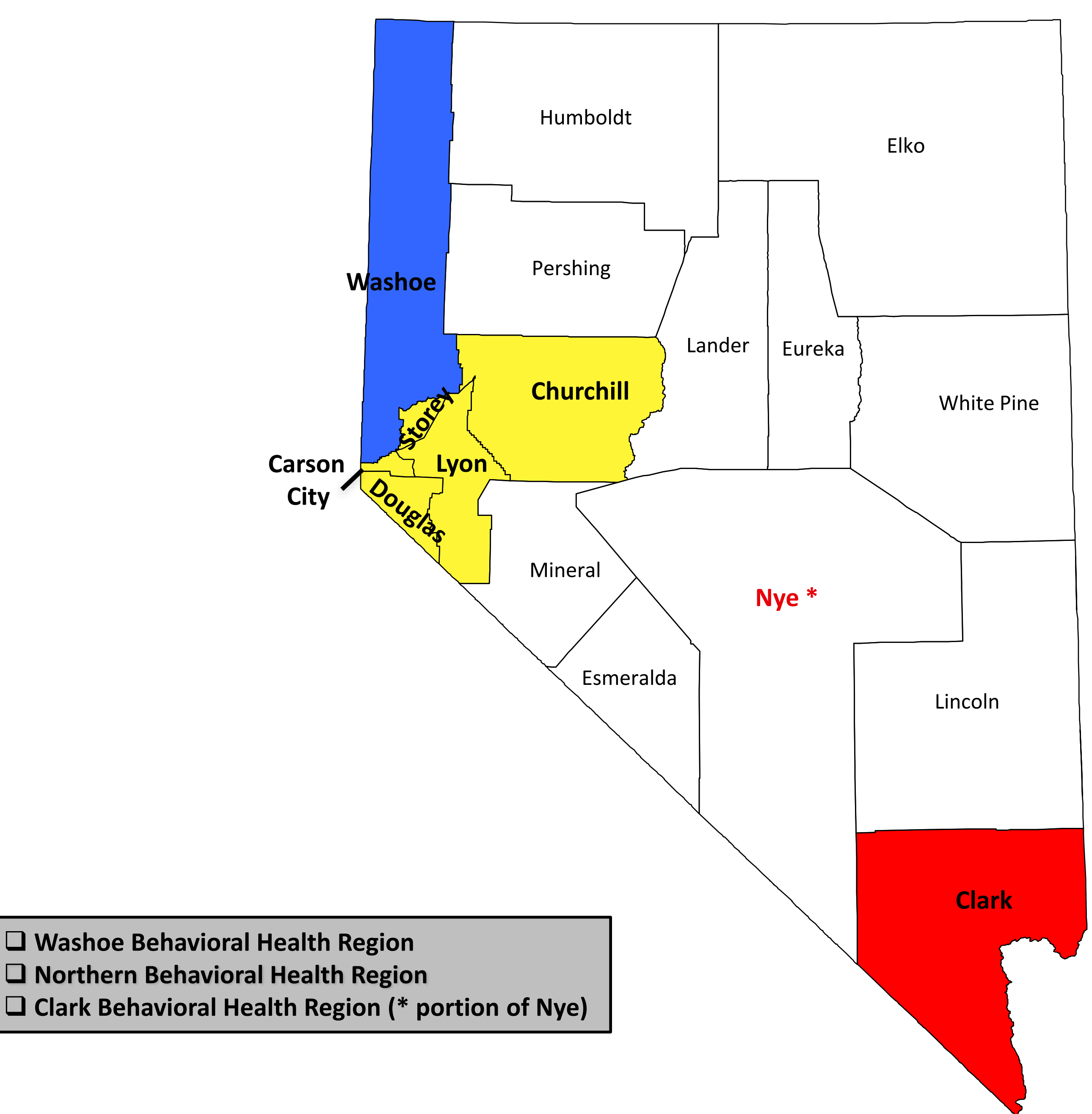
NAVIGATE Early Treatment Program (ETP) of Coordinated Specialty Care (CSC) for First Episode of Psychosis (FEP) is provided by a multi-disciplinary team of mental health professionals whose clinical expertise span biological, psychological and social domains. Recovery-oriented interventions involve clients, multi-disciplinary team members, relatives and significant others. CSC feasibility and efficacy have been demonstrated for community mental health settings, as well as for rural and low-density population regions (*Kane et al., 2016*). The evidence-based NAVIGATE program for FEP involves a manualized protocol of 4 core interventions https://raiseept.org/: (1) Pharmacotherapy & Primary (Medical) Care Coordination (RX & PCC); (2) Individual Psychotherapy-Individual Resiliency Training (IRT);
(3) Family Education (Family ED); (4) Supported Employment & Education (SEE). Assertive Case Management and Peer Support Services are also provided.



II. Access to Coordinated Specialty Care for Early-Stage Psychosis

Nevada, 2023

Access to Nevada's Early Treatment Program for Early-Stage Psychosis, 2023



Access to Nevada's Early Treatment Program for FEP by State Behavioral Health Region, 2023

A. Regionalizing the Mental Health System in NEVADA (2014-2017): Historically, the governance structure of Nevada's behavioral and mental health system was centralized at the state level with limited involvement at regional and local levels. ***A policy study conducted in 2014 identified Nevada as one of only four states in the country that directly operated community-based mental health services*** (*Kenny C. Guinn Center for Policy Priorities, Mental Health Governance: A Review of State Models & Guide for Nevada Decisions Makers, December, 2014*). During that same year, ***the State began to move from its centralized governance structure to a more localized model involving regional, county and city entities. A key consideration was a growing recognition that increasing the State's responsiveness to the unique needs of individual communities was crucial.***

B. Access to Early Treatment Program of Coordinated Specialty Care for First-Episode Psychosis in Nevada, 2022-2023 is currently available in the three most populous Behavioral Health Regions (*NRS 433.428*), which include 96% of Nevada's residents [*est. population of Nevada, 2023* = 3,276,217].

Northern Behavioral Health Region (*est. population* = 199,973): Carson Tahoe Health, Behavioral Health Services, Carson City was the first site selected and currently serves individuals living in Carson City and the counties of Churchill, Douglas, Lyon and Storey. Carson Tahoe FEP Program opened its doors in **February 2019 and is active and ongoing**.

Clark Behavioral Health Region (*est. population* = 2,451,755): University of Nevada, Las Vegas, Mojave Counseling was the second site selected and currently serves individuals living in Clark County and part of Nye County including the unincorporated town of Pahrump. UNLV/Mojave Counseling FEP Program opened its doors in **February 2020 and is active and ongoing.**

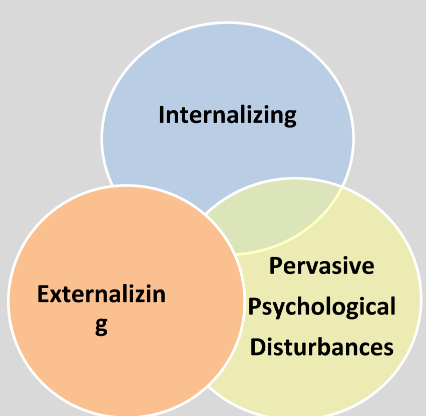
Washoe Behavioral Health Region (*est. population* = 505,821): **University of Nevada, Reno, School of Medicine, Department of Psychiatry and Behavioral Sciences, Reno** was the third site selected and serves individuals living in Washoe County. UNR FEP Program **began accepting patients in September 2021.**

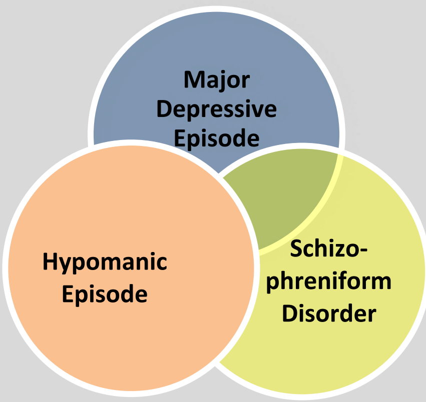
Source for population estimates: *Nevada State Demographer's Office, 2022, In: Griswold, Packham, et al., Nevada Rural and Frontier Health Data Book – Eleventh Edition, January 2023, University of Nevada, Reno, School of Medicine, Office of Statewide Initiatives.*

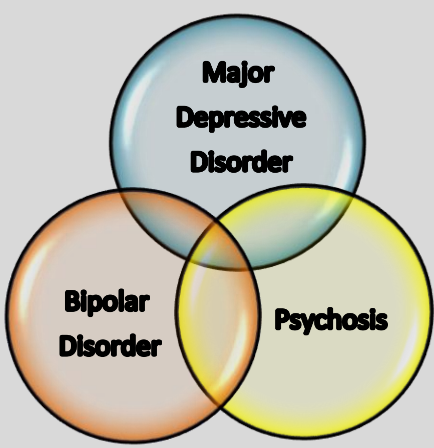
III. Theoretical Framework and Analytic Strategy

Figure 2: Serious Mental Illness (SMI) as a Dynamic, Emerging Process

adapted from: McGorry P.D., et al., (Aug 2010): Clinical Staging. *The Canadian Journal of Psychiatry*, Vol 55, p. 489.







At Clinical Risk: Mild, non-specific Signs & SXs [1]

Early-to-Late Stage SMI: Diagnostic threshold met for full disorders, moderate to severe SXs

[1] **At Clinical Risk: Mild Signs and Symptoms:**

Internalizing Signs/Symptoms:	*Anxious, Depressive, Somatic*
Pervasive Psychological Disturbances:	*Cognition, Perception, Affect, Language, Social relationships*
Externalizing Signs/Symptoms:	*Impulsive, Disruptive conduct, Substance misuse/abuse*

IV. Outcomes-Driven Quality Control *and* Continuous Performance Improvement:

Group Data

1. Social and Occupational Functioning;

2. Key Features that Define the Psychosis Disorders;

3. Additional symptoms that vary across different psychological disorders (*trans-diagnostic*) and produce distress and/or decreased functioning.

Efficacy of Clinical Program Interventions

Clinical outcomes were evaluated to estimate the effectiveness of 12 months of early interventions of coordinated specialty care (CSC) for first-episode psychosis (FEP). The following domains were assessed: *social and occupational functioning*; *key features that define psychosis disorders*; and *additional psychological characteristics that vary across different psychological disorders (trans-diagnostic) and that are a focus of treatment and clinical monitoring due to their associated psychological distress and/or decline in functioning*.

Clinical outcomes were examined for 14 individuals (**de-identified and with signed informed consent**) who were diagnosed with early-stage psychosis disorders within the schizophrenia spectrum. **All data were analyzed as group data and are reported in the aggregate.** The average age of this group is 21.8 (SD = 6.3) years and all individuals had participated in 12 months or more of an evidence-based early treatment program of coordinated specialty care for first episode of psychosis. The questions of primary interest include Items 1. and 2.a.-c. described below.

1. **Do participants improve clinically and socially during the course of 12 months of CSC for FEP? Specifically, does the severity of clinical symptoms, as reflected in clinician ratings, improve from Baseline (enrollment in treatment) to Month 11?**
2. **If participants improve in their clinical symptoms and social functioning, what is the magnitude (how much?) of that improvement? And what is the pattern (or trend) of that improvement?**
    a) **Do clinical and social improvements show a straight line from Baseline to Month 11 (⁄)?**
    b) **Or, do improvements have ups and downs (reversals) from Baseline to Month 11 (⋀ and/or ⁄⋁)?**
    c) **If patterns of improvement involve reversals, what psychological structures and functions might account for those trend components? And what might be the bio-psycho-social drivers of such changes?**

1. Social and Occupational Functioning Assessment Scale [1]

Consider psychological, social and occupational functioning on a continuum from excellent functioning to grossly impaired functioning. Include impairments due to physical limitations, as well as those due to mental impairments. To be counted, impairment must be direct consequence of mental and physical health problems; the lack of opportunity and other environmental limitations are not to be considered. (Rated on Scale of 0-100 with intermediate scores assigned when appropriate, e.g., 45, 88, 72.)

100 – 91: Superior functioning in a wide range of activities.

90 – 81: Good functioning in all areas, occupationally and socially effective.

80 – 71: No more than a slight impairment in social, occupational, or school functioning (e.g., infrequent interpersonal conflict, temporarily falling behind in schoolwork).

70 – 61: Some difficulty in social, occupational, or school functioning, but generally functioning well, has some meaningful interpersonal relationships.

60 – 51: Moderate difficulty in social, occupational, or school functioning (e.g., few friends, conflicts with peers or coworkers).

50 – 41: Serious impairment in social, occupational, or school functioning (e.g., no friends, unable to keep a job).

40 – 31: Major impairment in several areas, such as work, school, or family relations (e.g., depressed person avoids friends, neglects family, and is unable to work; child often beats up younger children, is defiant at home, and is failing in school).

30 – 21: Inability to function in almost all areas (e.g., stays in bed all day; no job, home, or friends).

20 – 11: Occasionally fails to maintain minimal personal hygiene; unable to function independently.

10 – 1: Persistent inability to to maintain personal hygiene. Unable to function without harming self or others or without considerable external support (e.g., nursing care and supervision).

[1] Goldman HH, Skodol AE, Lave TR (1992): Revising Axis V for DSM-IV: A Review of Measures of Social Functioning. *American Journal of Psychiatry* 149: 1148-1156.

Social and Occupational Functioning at Baseline and across 11 months, Year 1 of Early Treatment Program (ETP)

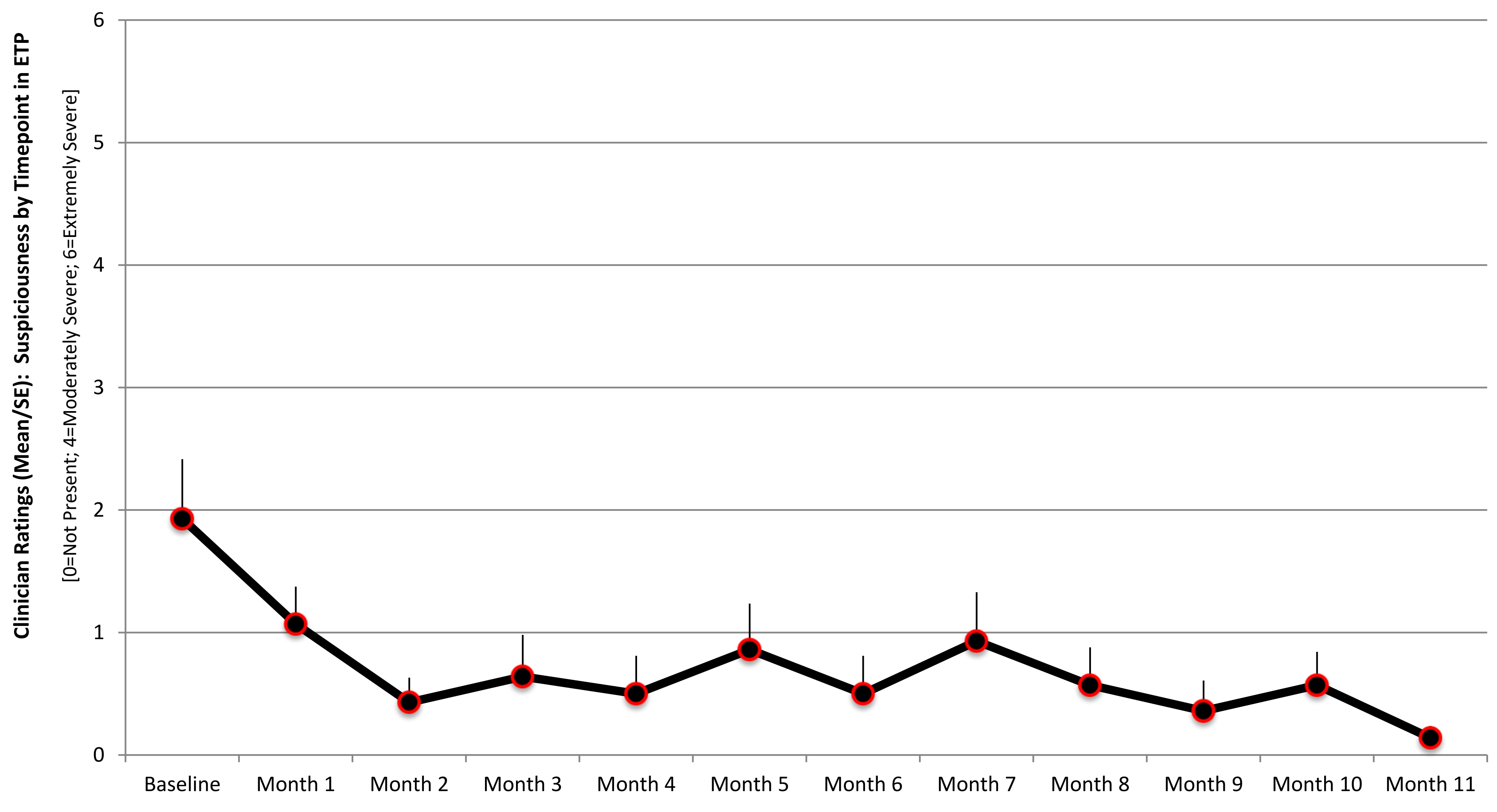
(n=8 patients diagnosed with first-episode psychosis: SOFAS at Timepoint, $p < 0.001$)

Clinician Ratings (Mean/SE): SOFA Scale Score (1-100) by Timepoint in ETP

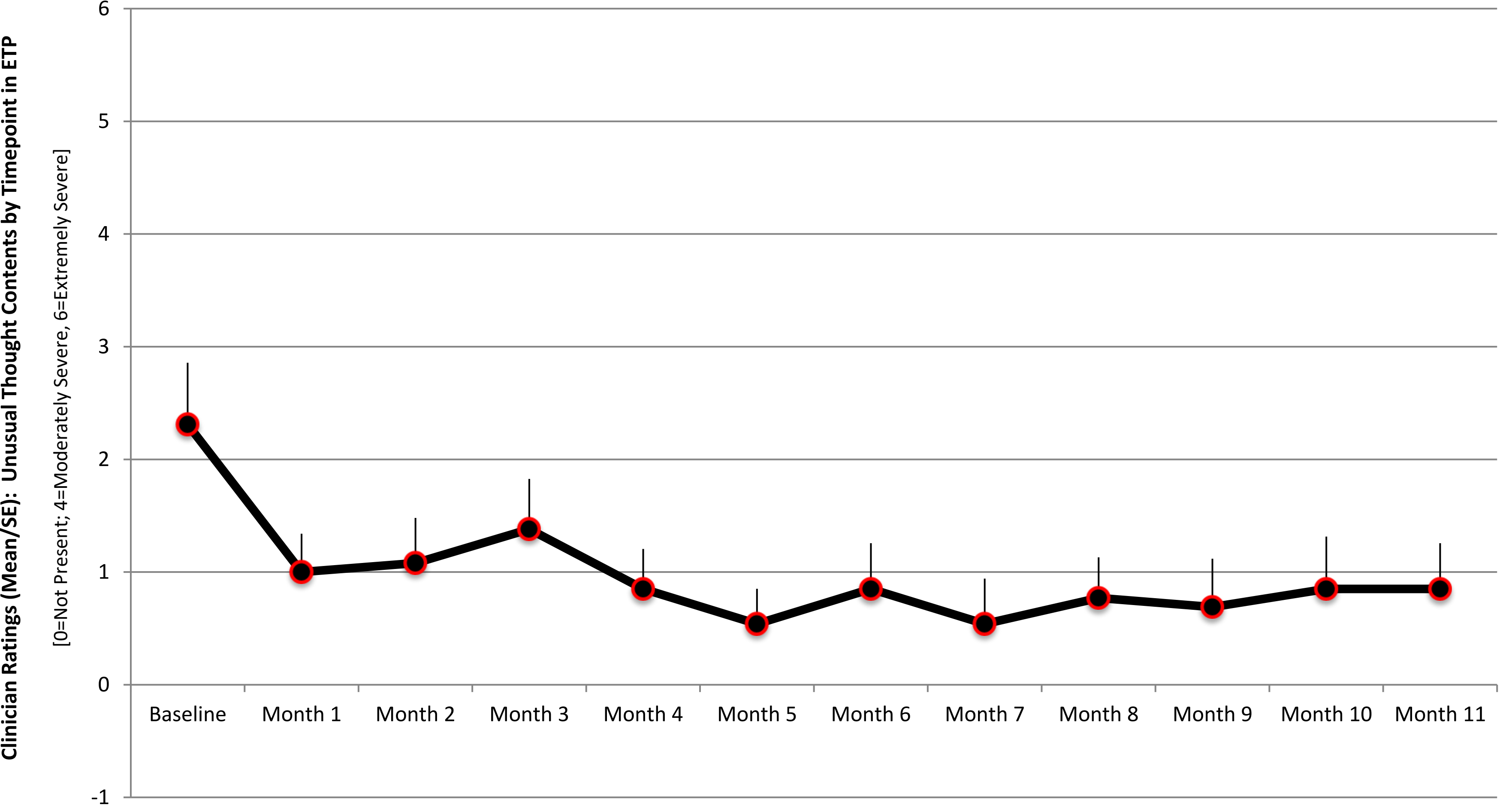
[1-10=Persistent impairment/disability; 50=Serious impairment; 100=Superior function]

	Baseline	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11
Series1	46.375	57.5	58.125	66.5	66.625	62	66.875	67.25	70.125	71.375	72.5	67.125

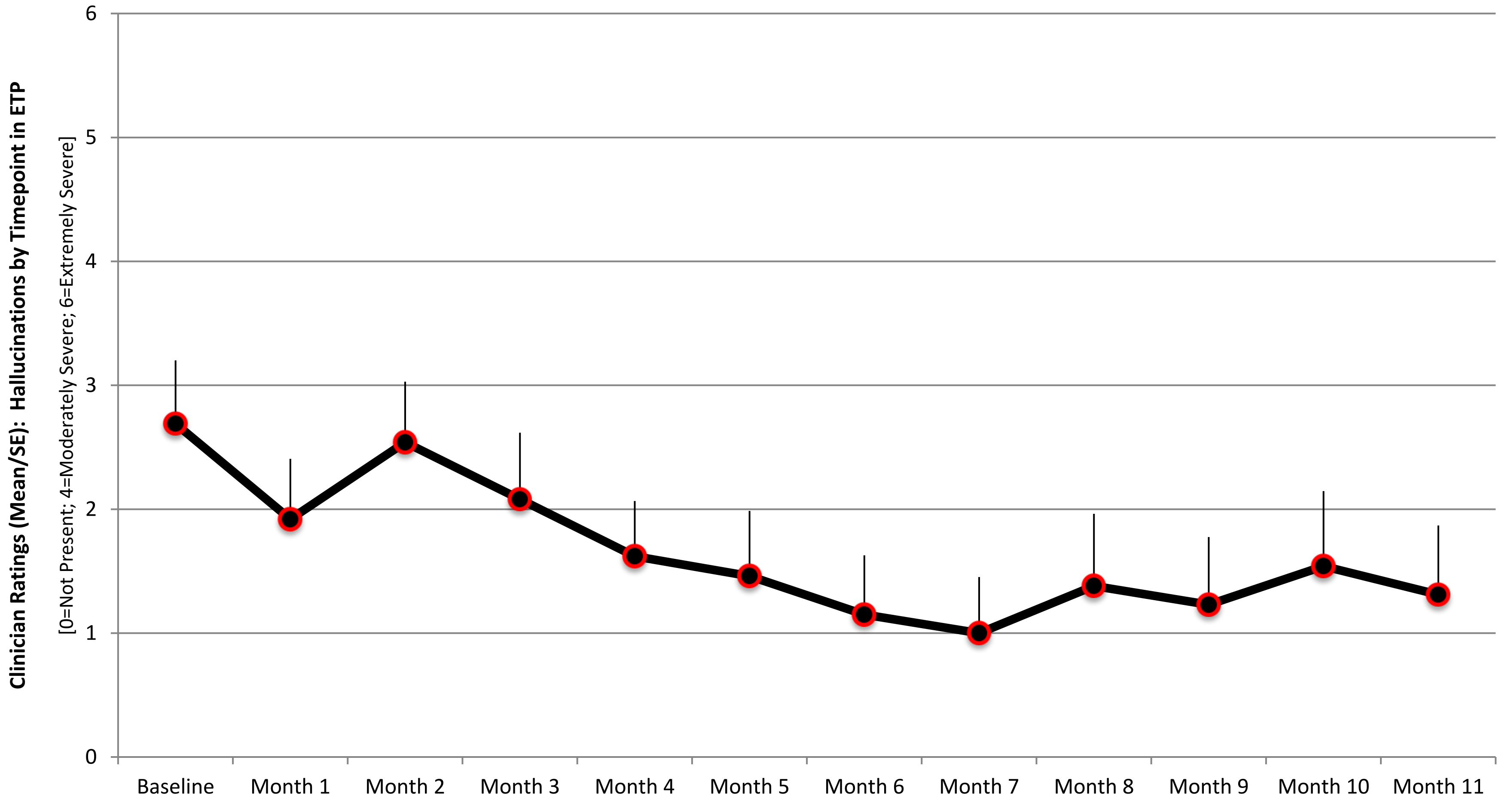
SOFAS Mean Difference (Month 11 *minus* Baseline) = 20.7



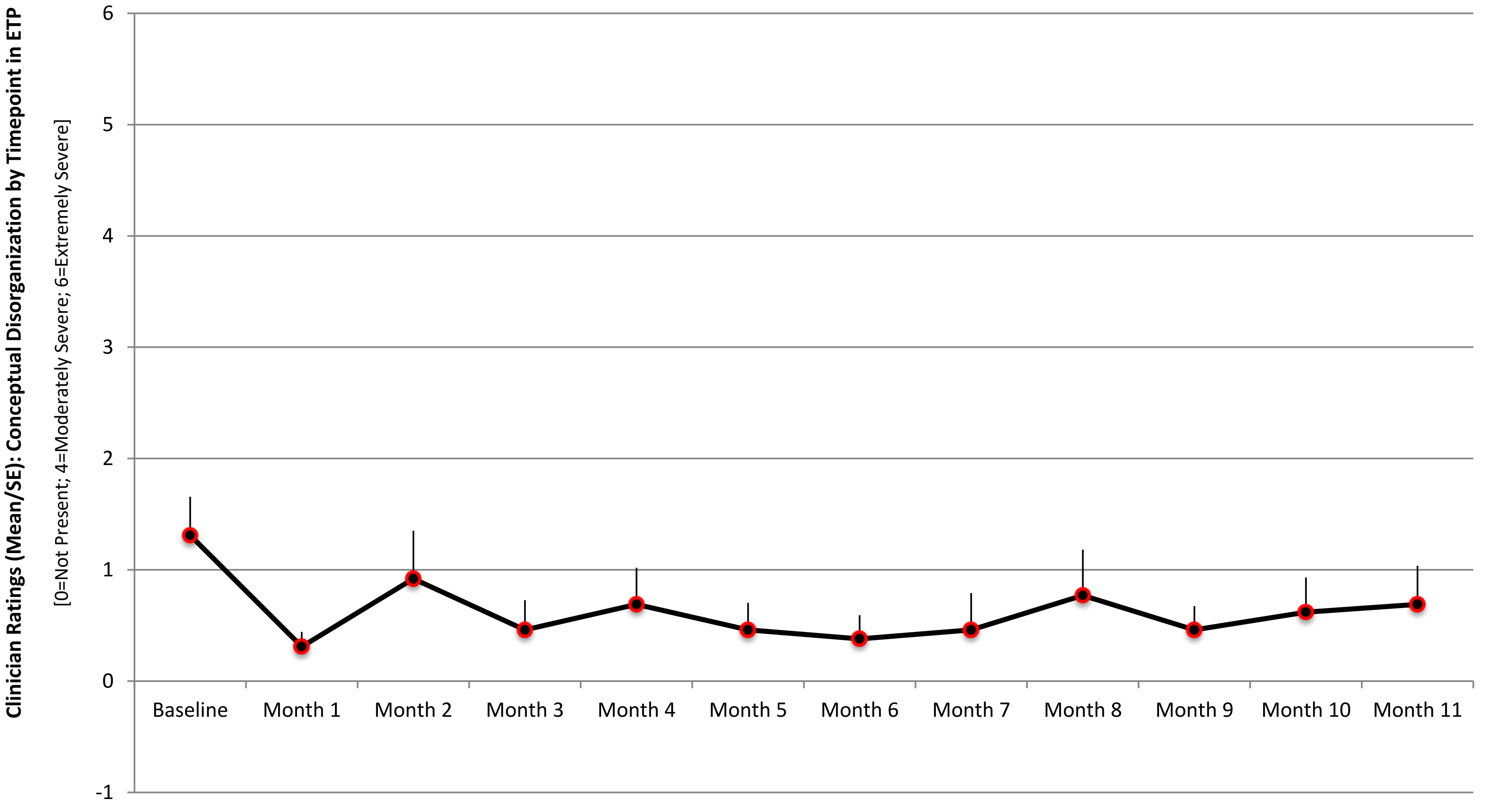
Suspiciousness Mean Difference (Month 11 *minus* Baseline) = -1.79

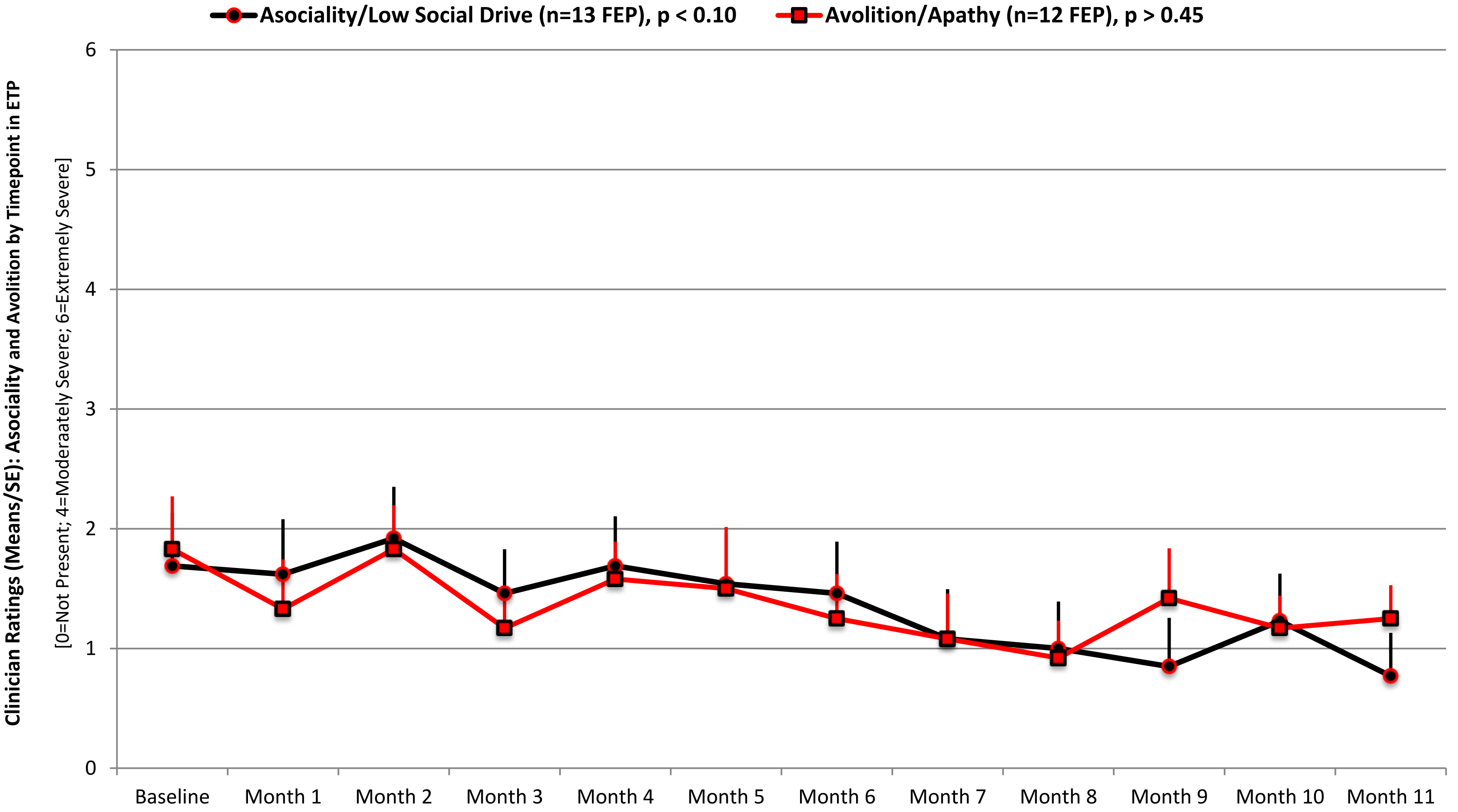


Unusual Thought Content Mean Difference (Month 11 *minus* Baseline) = - 1.46

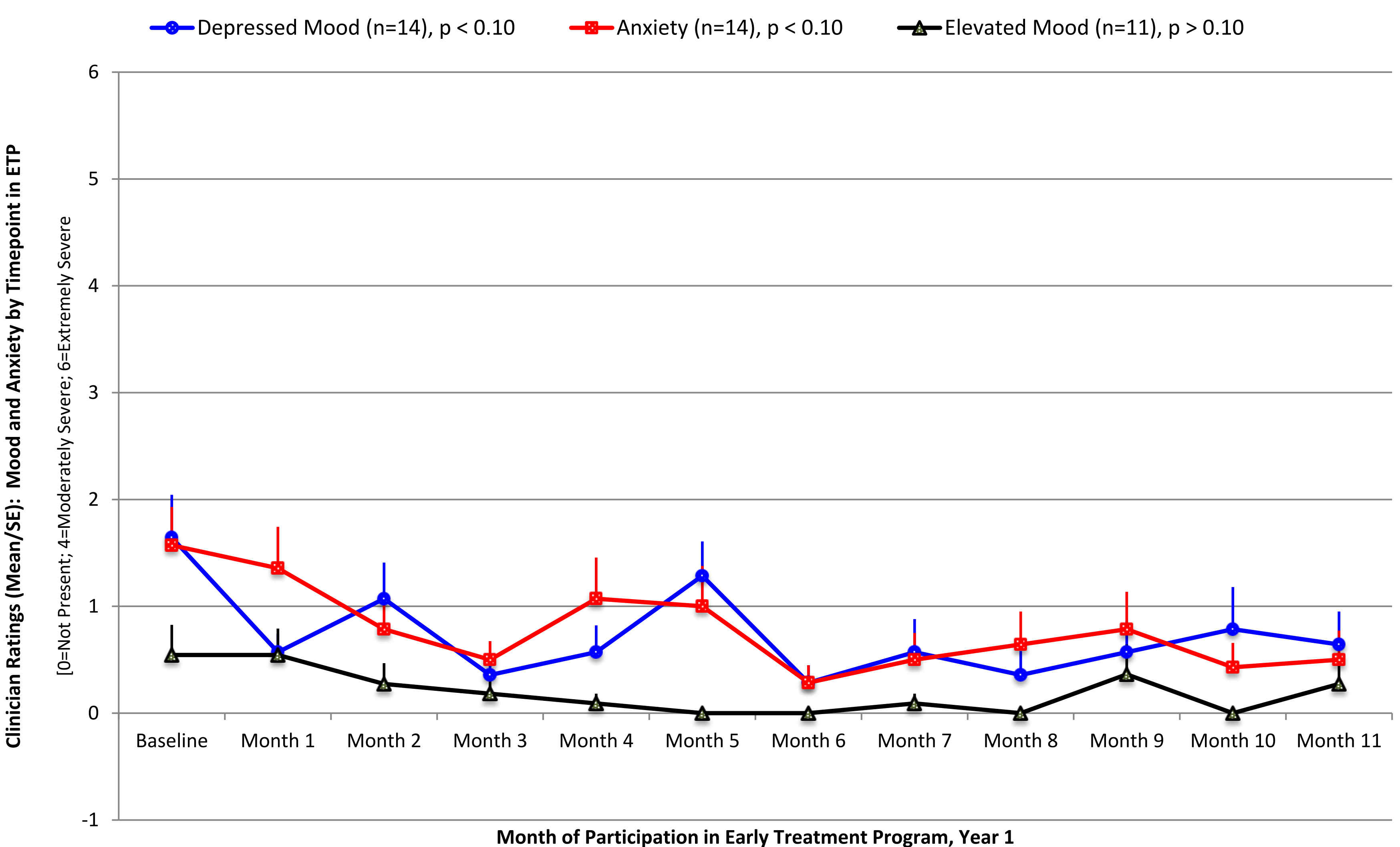


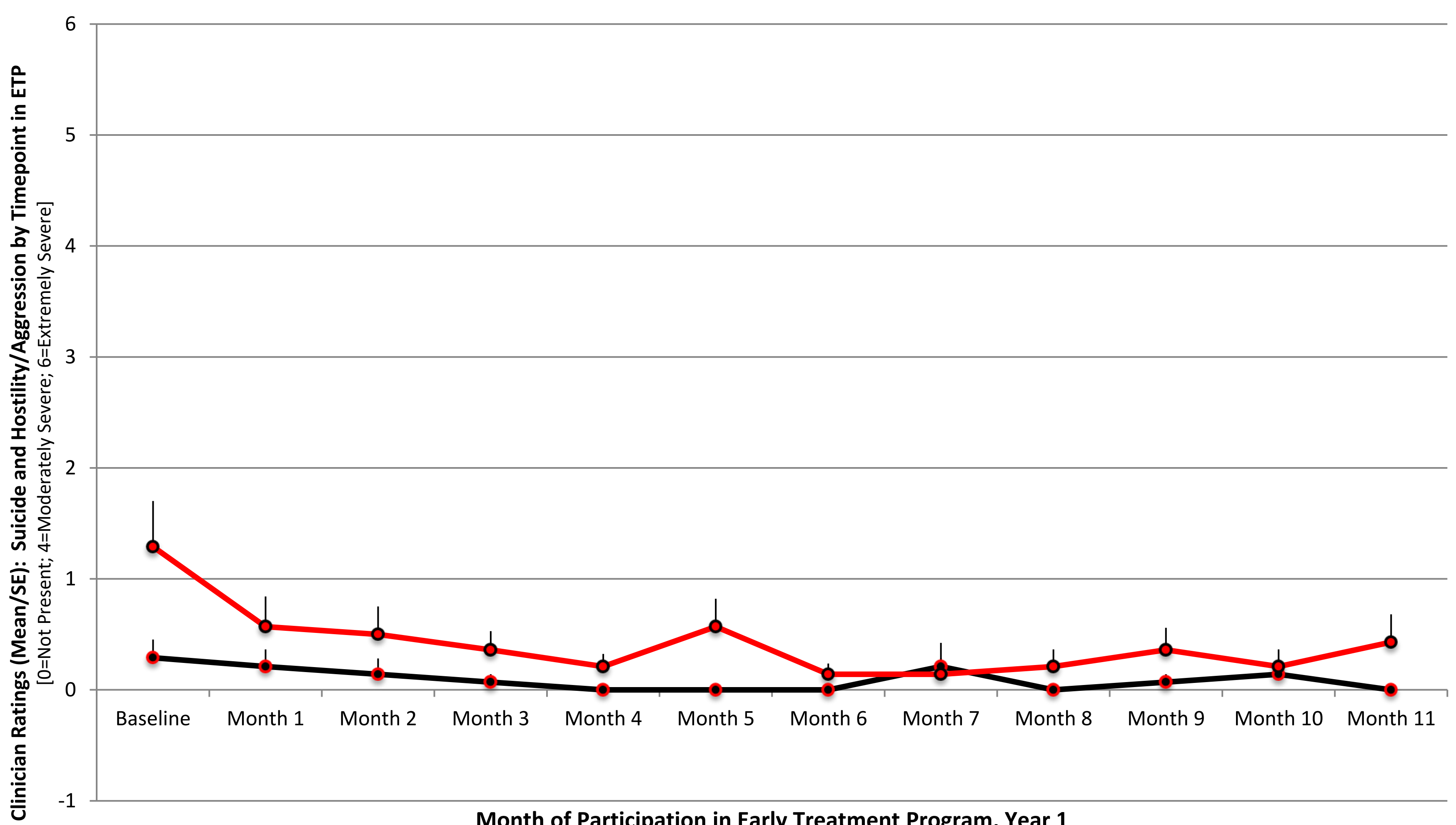
Hallucinations Mean Difference (Month 11 *minus* Baseline) = - 1.38


2. Conceptual Disorganization at Baseline and across 11 months, Year 1 in Early Treatment Program (ETP)
(n=13 patients diagnosed with first-episode psychosis: Conceptual Disorganization by Timepoint in ETP, p > 0.10)
Clinician Ratings (Mean/SE): Conceptual Disorganization by Timepoint in ETP
[0=Not Present; 4=Moderately Severe; 6=Extremely Severe]
6
5
4
3
2
1
0
-1
Baseline
Month 1
Month 2
Month 3
Month 4
Month 5
Month 6
Month 7
Month 8
Month 9
Month 10
Month 11
Month of Participation in Early Treatment Program, Year 1
Conceptual Disorganization Mean Difference (Month 11 minus Baseline) = - 0.62



Negative Symptoms Mean Difference (Month 11 *minus* Baseline): Asociality = - 0.92; Avolition = - 0.58


3. Mood and Anxiety at Baseline and across 11 months, Year 1 of Early Treatment Program (ETP)
Depressed Mood (n=14), p < 0.10
Anxiety (n=14), p < 0.10
Elevated Mood (n=11), p > 0.10
Clinician Ratings (Mean/SE): Mood and Anxiety by Timepoint in ETP
[0=Not Present; 4=Moderately Severe; 6=Extremely Severe
6
5
4
3
2
1
0
-1
Baseline
Month 1
Month 2
Month 3
Month 4
Month 5
Month 6
Month 7
Month 8
Month 9
Month 10
Month 11
Month of Participation in Early Treatment Program, Year 1
Mean Difference (Month 11 *minus* Baseline): Depressed Mood = - 1.0 ; Anxiety = - 1.07; Elevated Mood = -.19


3. Suicide and Hostility/Aggression at Baseline and across 11 Months, Year 1 of Early Treatment Program (ETP)
Suicidal Ideation/Behavior (n=14 FEP), p > 0.20
Hostile/Aggressive Behavior (n=14 FEP), p < 0.05
Clinician Ratings (Mean/SE): Suicide and Hostility/Aggression by Timepoint in ETP
[0=Not Present; 4=Moderately Severe; 6=Extremely Severe]
6
5
4
3
2
1
0
-1
Baseline
Month 1
Month 2
Month 3
Month 4
Month 5
Month 6
Month 7
Month 8
Month 9
Month 10
Month 11
Month of Participation in Early Treatment Program, Year 1
Mean Difference (Month 11 *minus* Baseline): Suicidal Ideation/Behavior = - 0.29; Hostility/Aggressive Behavior = - 0.86

3. Suicide- and Violence-related Behavior at Baseline and across 11 Months, Year 1 of Early Treatment

(Continued)

Suicide- and aggression-related behaviors are important behavioral health risks in the Early Serious Mental Illness Population: *Suicide in persons with psychosis* may be the principal cause of premature death in this population with the greatest risk of suicide attempts and completed suicides occurring during the earliest stages of this disorder. For example, across 15 studies of individuals receiving treatment for first-episode psychosis, a range of 10-40% reported having attempted suicide *before* entering treatment. Completed suicide accounts for between 2-5% of deaths in early-stage psychosis illness—individuals with a first-episode psychosis (Pompili et al., 2011) and adolescents with psychotic disorders (Barbeito et al., 2021). Similarly, approximately 30% of individuals experiencing first-episode psychosis engaged in aggressive behaviors and violence to others before entering initial treatment (Rolin et al., 2019). And across 10 studies of *homicides committed by individuals with psychotic illness*, 38% of homicides occurred during a first episode of psychosis and before initial treatment (Nielssen and Large, 2010). Mitigation of these risks of harm to self and others is therefore essential to building safe communities through early detection and rapid engagement in early treatment for individuals with early-stage psychoses. These activities will be an important focus in the **Needs Assessment** (Aim1) and for the revision and expansion of the current State **Emergency and Disaster Behavioral Health Plan** (Aims 2 and 3) for Nevada's recently funded SAMHSA Bipartisan Safer Communities (BSCA) Plan.

Suicide- and Violence-related Behavior at Baseline and across 11 Months, Year 1 of Early Treatment

(Continued)

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SUMMARY

Clinical outcomes were examined for 14 individuals (de-identified and with signed informed consent) who were diagnosed with early-stage psychosis disorders within the schizophrenia spectrum. These individuals had participated in 12 months or more of the Nevada early treatment program of coordinated specialty care for first episode of psychosis. The following clinical outcomes were observed and described in the previous slides:

A. Statistically significant improvements were observed in the following domains:

1. Social and Occupational Functioning;
2. Key features that define the psychotic disorders, including:
   a. Suspiciousness
   b. Unusual Thought Content
   c. Hallucinations
   d. Negative symptom of Asociality/Low Social Drive
3. Additional symptoms that produce psychological distress and social and occupational dysfunction and that are the focus of treatment and clinical monitoring:
   a. Hostility and Aggression

B. Limited improvements were obtained in the following domains:

1. Conceptual Disorganization, also a key feature that defines psychosis
2. Additional symptoms of Depressed Mood and Anxiety

C. The *pattern* of clinical improvements over the course of treatment varied across symptom domains and between symptoms within symptom domains. Some improvements followed a linear trend **(/)** and others exhibited ups and downs (Λ **and/or** /V).

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THANK YOU!

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