Intervening Early to Improve Outcomes for Youth with Psychosis

The PIER Team
USM Abromson Center
Portland, ME
May 9, 2016
Learning Objectives

• Identify early warning symptoms and behaviors that suggest an illness process
• Understand how symptoms are assessed
• Learn about the course of illness for first episode psychosis through case studies
• Understand treatment interventions used by PIER to support clients and families
• Understand how the symptoms and behaviors following a psychotic episode make school participation and relationships challenging
Case example –
Brian
Clinical High Risk
Background

- 16 year old, junior in HS, lives at home with parents and sibling
- Very bright student, artistic/musical—involved in art and band, good grades, creative, unique, introverted
- Spring 2016—grades dropped, stopped activities after school (quit band), isolating at home, more time in his room, concerns of depression and suicidal ideation
- Attempted 1x1 counseling at school, did not attend, avoided sessions
- Fall 2016—continued isolation with a decline in school attendance and all activities. Confided in dad, “I’m scared I’m going crazy.”
- Denies any drug/alcohol use
- No identifiable triggers
Progressing symptoms without treatment

- Continued isolation
- Not engaging in functional life activities
- Persistent anxiety
- Depression
- ED visit
- Involuntary hospitalization
Case example—Monica
First Episode Psychosis
Background

• A 20 year old Caucasian female, currently living with her biological mother in a small city where she recently moved, little outside connection.

• Housebound due to severe anxiety

• Spends the majority of her day on the computer, playing with the family cat and pet hamster

• Substantial hearing loss requiring dual hearing aids

• Completed the 10th grade before dropping out of an alternative education program due to her “nervousness about being around others” and fears of being judged for her body size.
Treatment Course

- Hospitalized in late 2014 reporting perceptual disturbances in the form of auditory and visual hallucinations, depersonalization, and nightmares with clear suicide plan.

- Started on anti-psychotic producing some positive results but discontinued as it “deadened her creativity”. Resistant to trying other medications

- Recently agreed to a trial of a low dose anti-depressant in the hopes that this will address the extreme social anxiety.

- Continues to be hopeful that someday she can pursue a career in zoology.
Progressing symptoms without treatment

**Without Treatment**

- Continued isolation
- Not engaging in functional life activities
- Persistent anxiety
- Suicidal ideation
- Continued hospitalizations
What is psychosis?

A **number of symptoms** indicating loss of contact with reality, including:

- **Hallucinations**: Hearing voices, seeing visions
- **Delusions**: False beliefs or marked suspicions of others
- **Disorganized thinking**: Jumbled thoughts, difficulty concentrating
# Psychosis occurs on a spectrum

<table>
<thead>
<tr>
<th>Grandiosity</th>
<th>Suspiciousness</th>
<th>Auditory hallucinations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Youth enjoys basketball and plans to attend college on a full scholarship.</td>
<td>Young woman goes to the mall and feels like people are looking at her sometimes.</td>
<td>Hearing indistinct buzzing or whispering</td>
</tr>
<tr>
<td>Youth is heading to New York City because he believes he is talented enough to join the Knicks.</td>
<td>She refuses to go to the mall because she is certain that a specific person is watching her.</td>
<td>Hearing a voice clearly outside one’s head saying, “You’re a loser” or “You’re a failure.”</td>
</tr>
</tbody>
</table>
Assessing for CHR and Early First Psychotic Episode (EFPE)
What is the difference between the prodrome and psychosis?

• Prodrome or clinical high risk (CHR) for psychosis
  • symptoms = moderate to severe
  • retention of insight—the person questions if the experiences are real or “in my head”

• Psychosis
  • loss of insight about ideas/experiences and full belief that symptoms are real
How do we differentiate CHR from psychosis?

- Onset, duration, frequency of symptoms
- Degree of distress they cause
  - Fear
  - Worry
- Degree of symptom interference with life
  - Do you ever act on this experience?
  - Does having the experience ever cause you to do something differently?
- Degree of conviction/meaning regarding the symptom(s)
  - How do you explain this?
  - Do you ever feel like it could just be in your head?
Early warning signs* before psychosis starts

- Feeling “something’s not quite right”
- Having unusual thoughts and confusion
- Experiencing fear for no good reason
- Hearing sounds/voices that are not there
- Declining interest in people, activities and self-care
- Having trouble communicating and understanding

*See your handout for more detailed warning signs
People with emerging psychosis often experience:

- Social withdrawal
- Odd, unusual behaviors
- Decreased motivation
- Inability to enjoy activities
- Mood swings
- Pervasive anxiety
- Disrupted sleep patterns, and
- Changes in appetite and eating
- Preoccupation with physical symptoms
PQ-B (Prodromal Questionnaire-Brief)*

• Based on a longer structured interview (SIPS)
• Guides you to ask relevant questions when concerned about risk for psychosis
• 21-question self-report screening tool that also measures degree of distress
• Can be administered by clinician with the client

*PQ-B is in your packet
Structured Interview for Psychosis-Risk Syndromes (SIPS)

- Developed at Yale University
- Assesses symptoms of clinical high risk for psychosis
- Measures severity and change
- Inter-rater reliability and predictive validity
- Translated into 14 languages
- **PQ-B** (Prodromal Questionnaire-Brief) is a pre-screening tool for the SIPS
## Positive Symptom Scale

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never, Absent</td>
<td>Questionably Present</td>
<td>Mild</td>
<td>Moderate</td>
<td>Moderately Severe</td>
<td>Severe but Not Psychotic</td>
<td>Severe and Psychotic</td>
</tr>
</tbody>
</table>

### Positive Symptoms

- **P1. Unusual Thought Content / Delusional Ideas**
  - 0 | 1 | 2 | 3 | 4 | 5 | 6
- **P2. Suspiciousness / Persecutory Ideas**
  - 0 | 1 | 2 | 3 | 4 | 5 | 6
- **P3. Grandiosity**
  - 0 | 1 | 2 | 3 | 4 | 5 | 6
- **P4. Perceptual Abnormalities / Hallucinations**
  - 0 | 1 | 2 | 3 | 4 | 5 | 6
- **P5. Disorganized Communication**
  - 0 | 1 | 2 | 3 | 4 | 5 | 6
PIER Services

Multifamily Group
CBTp – Cognitive Behavioral Therapy for Psychosis
Intensive Medication Management
Supported Education/Employment
Peer Support
Care Management
Occupational Therapy
Family Psychoeducation
An intervention for the entire family and support network
When we **partner with families** in the early phases of psychosis, we find we can preserve family connections because we **increase understanding**, **reduce stress** and **relieve burden**.
An evidence-based treatment designed to:

- Help families and consumers better understand mental illness while working together toward recovery

- Recognize the family’s important role in recovery

- Help clinicians see markedly better outcomes for clients and families
Mutual causal effects

Family interaction + Patient symptoms
High expressed emotion (EE)

What is it?
- Critical comments
- Hostility
- Over-involvement
- Lack of warmth
Building skills and alliances:

- Stigma reversal
- Social network construction/continuation
- Communication improvement
- Crisis prevention
- Treatment adherence
- Anxiety and arousal reduction
# Multifamily group format

<table>
<thead>
<tr>
<th>Step</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Socializing with families and consumers</td>
<td>15 m.</td>
</tr>
<tr>
<td>2. A Go-around, reviewing:</td>
<td>20 m.</td>
</tr>
<tr>
<td>a) The week’s events</td>
<td></td>
</tr>
<tr>
<td>b) Relevant biosocial information</td>
<td></td>
</tr>
<tr>
<td>c) Applicable guidelines</td>
<td></td>
</tr>
<tr>
<td>3. Selection of a single problem</td>
<td>5 m.</td>
</tr>
<tr>
<td>4. Formal Problem-solving:</td>
<td>45 m.</td>
</tr>
<tr>
<td>a) Problem definition</td>
<td></td>
</tr>
<tr>
<td>b) Generation of possible solutions</td>
<td></td>
</tr>
<tr>
<td>c) Weighing pros and cons of each</td>
<td></td>
</tr>
<tr>
<td>d) Selection of preferred solution</td>
<td></td>
</tr>
<tr>
<td>e) Delineation of tasks and implementation</td>
<td></td>
</tr>
<tr>
<td>5) Socializing with families and consumers</td>
<td>5 m.</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>90 m.</strong></td>
</tr>
</tbody>
</table>
Key clinical strategies in family intervention specific to psychosis

Minimizing internal family stressors:
• Strengthening relationships and creating an optimal, protective home environment
• Reducing intensity, anxiety and over-involvement
• Preventing onset of negativity and criticism

Buffering external stressors:
• Adjusting expectations and performance demands
Rehabilitation effects of multiple family groups

- Reducing family confusion and tension
- Shifting focus to functional goals
- Breaking down goals into manageable steps
- Coordinating efforts of family, team, consumer and other supports (work/school)
- Developing formal and informal job leads and contacts
- Cheerleading and ongoing problem solving
CBT for Psychosis (CBTp)
Overarching Goals of CBTp

- Foster a curious attitude about symptoms--Normalize symptoms and psychotic experiences
- Decrease distress about symptoms (but not necessarily frequency or intensity of symptoms themselves!)
- Adopt “living with illness” strategy
- Improve sense of personal control
- Enhance healthy, effective coping with symptoms
- Improve day-to-day functioning
- Prevent relapse
Overview of the Assessment Process

Assessment
- Socratic questioning
- Specific measures

Develop Problem/Goal List
- Preliminary list is shaped over time
- Includes at least one goal related to a psychotic symptom

Making Sense
- Case formulation that is developed with and shared with client
- Information gained here is used to refine problem/goal list
## Sample Assessment Questions

<table>
<thead>
<tr>
<th>To Assess</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voices</td>
<td>How much control do you have over the (most distressing) voices? Do the voices seem to know everything about you? What do you make of where the voices come from?</td>
</tr>
<tr>
<td>Paranoia</td>
<td>Do you feel like your thoughts are not private? Do you think others might be trying to harm you or even kill you? How have you been able to figure out why they are targeting you?</td>
</tr>
<tr>
<td>Values</td>
<td>What do you think of as the most important things in life? In what ways have you tried to live your life in line with these values? Does feeling uncomfortable in public (voices) get in the way?</td>
</tr>
<tr>
<td>Subjective sense of negative sxs</td>
<td>Do other people seem to think that you do not show a lot of emotion in your facial expression or in conversation? Does this cause you any difficulties do you think?</td>
</tr>
</tbody>
</table>
Beliefs about Voices: Helpful Probe Questions

Control
• How much control do you have over the voices?
• Are there some things the voices told you to do where you drew the line and refused?

Power
• Who is more powerful, you or the voices?
• Do the voices make empty threats?

Benevolence
• Are they ever helpful/kind? Is there anything you might miss about them if they were gone?
CBT-p Questioning with Psychosis

- Explore **meaning** client attaches to a specific event, voice, thought...
  
  “What does it say about you that you are being watched by the government? If this were not the case, what would that say about you as a person?”

- Explore possible **consequences** of staying with particular maladaptive thoughts or behaviors
  
  “So, what happens if you continue to yell at your voices in public?”
  
  “You spend a lot of time thinking about the idea that you need to develop superpowers to read others minds in order to be happy. I wonder if that gets in the way of you pursuing other meaningful things in life?”
First primary strategy in CBTp
The Alternative Beliefs Exercise

• Teach cognitive flexibility as a skill
• Pre-cursor to Cognitive Restructuring
• Begin with coaching around generating alternative beliefs for everyday scenarios, then progress to scenarios that are tailored to the individual’s delusional or paranoid beliefs
• Help client “loosen up” their thinking rigidity and reduce “jumping to conclusions”
Alternative Beliefs Exercise– Brian

“The Teachers in the hallway look at me and give me a *death stare*”

- They want to hurt me for some reason, I don’t know why. They’re just bad people. *(original belief)*
- They are mad at me for dropping their class
- They just have ‘resting grumpy face’
- They are looking at me because they are concerned
- They think I’m a bad kid– use drugs etc, but they don’t want to hurt me
- They wonder why I avoid them
- They want to talk to me because they care about me
Second primary strategy in CBTp
Cognitive Restructuring

- Educate about Common Styles of Thinking
- Focus on Cognitive Distortions
- Gather and Examine Evidence
- Thought Records
- CR as Self-Management Tool
CBTp Interventions for Negative Symptoms

- Activity scheduling
- Cognitive restructuring of defeatist beliefs
- Goal-setting
- Behavioral experiments
## Sample Activity Scheduling Grid: Monica

<table>
<thead>
<tr>
<th></th>
<th>Mon</th>
<th>Tues</th>
<th>Wed</th>
<th>Thur</th>
<th>Fri</th>
<th>Sat</th>
<th>Sun</th>
</tr>
</thead>
<tbody>
<tr>
<td>8-10</td>
<td>bathe</td>
<td></td>
<td>bathe</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>Lie in bed</td>
<td>Walk around block</td>
<td>Meet with YSP at library</td>
<td>Dr.'s appt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-2</td>
<td>Lunch at home</td>
<td></td>
<td></td>
<td></td>
<td>PIER appt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>Screen time</td>
<td>Screen time</td>
<td>Screen time</td>
<td>Coffee Shop</td>
<td>Screen time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td></td>
<td>Make Dinner</td>
<td></td>
<td></td>
<td>Pharmacy to pick up meds</td>
<td>Visit the park</td>
<td></td>
</tr>
<tr>
<td>6-8</td>
<td>Dinner at home</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MFG Group</td>
<td></td>
</tr>
<tr>
<td>8-10</td>
<td>TV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>Bedtime</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Supported Education and Employment
The employment specialist is a trained clinician who provides support with education and employment when indicated.

He/she assists individuals to meet their educational and/or vocational goals by connecting them to the community through school or employment.

The Employment Specialist also serves as a resource to both clients and employers on the American with Disabilities Act (ADA) and federal/state subsidies when indicated.
Examples of supported education include

• developing educational goals
• exploring available educational programs
• offering registration assistance
• offering financial aide assistance
• explaining how to identify and request helpful accommodations
• assisting with organizational skills development
• providing guidance on disclosure of mental illness
• providing IEP or 504 preparation and support
How can supported education help?

1. **Assistance with achieving success in school, which can**
   - help an individual with their overall recovery
   - contribute to improved self-confidence
   - provide important connections to teachers and friends

2. **Supporting clients by**
   - explaining the role of education in achieving career goals
   - becoming independent
What is Supported Employment?

Examples of specific services include:

• exploring vocational or volunteer interests
• identifying skills and environment matches
• creating an updated resume and references
• setting up job shadows
• learning ways to search for a job
• practicing interview skills
• providing on-site or off-site job coaching to maintain employment
How does supported employment help?

**Supported employment can lead to**

- building self esteem
- moving to independence and self reliance
- learning to manage finances
- developing coping skills
- improving social skills
- acquiring a work history
- broadening interests in all life areas
- identifying a career
Who is eligible for supported employment?

• No one is excluded from participating in supported employment.

• All clients are considered ready to work, regardless of their symptoms, work history, or other problems, such as substance abuse or involvement with the legal system.
Occupational Therapy
OT’s role on the early intervention team

- The occupational therapy practitioner works with team members to identify a client’s interests, strengths, abilities, challenges, and sensitivities.

- Cognitive and functional assessments are administered to better understand how changes in cognition affect performance in all life areas.
• Recommendations are made to support the client’s goals and develop necessary skills.

• The OT practitioner collaborates closely with the Employment Specialist (ES) to promote functioning and may attend school meetings (specifically, 504 meetings and IEPs).
Case Management and Peer Support
How does Case Management help?

- The care manager can help client and families access:
  - Community supports
  - Health insurance and MaineCare applications
  - Assistance with medication, i.e., organizational tools, reminder calls, pharmacy calls
  - Help with housing, food stamps, transportation, etc.
  - Applications for disability when warranted
How does Peer Support help?

• Help clients integrate into the community
• Youth-driven (personal goals & needs)
• Focuses on “natural supports”
• Builds motivation to increase involvement in community activities
• Builds social connections
Case example – Brian
Clinical High Risk
Reason for referral: Prominent symptoms from PQ-B

- Referred by PCP, supported by school counselor—depression, isolation, SI, rapid decline
- Did PQ-B with PIER Program and endorsed
  - hearing voices
  - seeing ‘presence’
  - severe anxiety, i.e., at school he had distorted thoughts that he was unsafe & teachers intended to harm him
- “Depression” secondary to emerging psychosis with a fear of going crazy
DIAGNOSES CONSIDERED

• Unspecified Psychotic Disorder
• Schizophreniform Disorder
• Major Depression with psychotic features
• Generalized Anxiety Disorder with psychotic features
Progressing symptoms with/without treatment

**Without Treatment**
- Continued isolation
- Not engaging in functional life activities
- Persistent anxiety
- Depression
- ED visit
- IV hospitalization

**With Treatment**
- ES support in school to develop accommodations
- MFG psychoeducation about symptoms and family strategies
- CBTp to develop cognitive flexibility and maintain/improve insight
- Psychiatry + CBTp combined to consider medication
State of engagement & menu of accepted treatment options

- Attending scheduled CBTp weekly
- MFG—family meetings biweekly to reduce family stress
- ES support in school → accommodations, continued support
- CBTp + Psychiatry jointly → consideration of medications (ongoing)
- YSP meetings outside of school (art class, MECA)
Case example—
Monica
First Episode Psychosis
Reason for referral: Prominent symptoms from PQ-B

- Referred by outpatient nurse practitioner
- Symptoms = depersonalization, de-realization, dulled cognitive ability
- Issues with attention and concentration
- Not engaged in school or work, not leaving the house
- Denies any drug or alcohol use
DIAGNOSES CONSIDERED

• Schizophreniform Disorder
• Schizophrenia
• Generalized Anxiety Disorder with panic symptoms
Progressing symptoms with/without treatment

**Without Treatment**
- Continued isolation
- Not engaging in functional life activities
- Persistent anxiety

**With Treatment**
- Decreased anxiety with medication and CBTp
- Decreased isolation by socially engaging in MFG group and with YSP
- Enrolled in Adult Education to achieve high school equivalency diploma
- Improved relationship with mother
- Activity scheduling with YSP, ES
State of engagement & menu of accepted treatment options

- Attending scheduled therapy and medication management appointments
- Visited adult education program in her area with support of Employment and Education Specialist
- Case management support with setting up transportation to and from appointments.
- Recently agreed to a trial of medication
- Agreed to a referral for a YSP
How to make a referral to the PIER Program

• Contact Sarah Lynch 662-3162 or lynchs@mmc.org with questions or to make a referral.

• Important Resource: “Early Intervention in Psychosis” website to be launched at National Association of Mental Health Program Directors: http://www.nasmhpd.org

• For conference materials and to review the video of this conference, please visit the PIER Program website: www mmcri.org/pierprogram
Early Intervention in Psychotic Disorders: Necessary, Effective, and Overdue

William R. McFarlane, MD
Douglas R. Robbins, MD
Maine Medical Center
May 9, 2016
Special thanks to...

- The SAMHSA Community Mental Health Block Grant
- NITT-HT Grant
- Youth Move Maine
- TIP (Transition to Independence Process) Initiative
- MaineHealth
the CATCHER in the RYE

a novel by J. D. SALINGER
Early detection and prevention in another illness

“If you catch cancer at Stage 1 or 2, almost everybody lives. If you catch it at Stage 3 or 4, almost everybody dies.

We know from cervical cancer that by screening you can reduce cancer up to 70 percent. We’re just not spending enough of our resources working to find markers for early detection.”

---Lee Hartwell, MD
Nobel Laureate, Medicine
President and Director,
Hutchinson Center
New York Times Magazine
December 4, 2005, p. 56
Proportion of people who have one psychotic episode, are diagnosed with schizophrenia, and then develop disability.
2-3% Proportion of youth who develop schizophrenia or a severe, psychotic mood disorder
12-15%

Proportion of people with schizophrenia or a psychotic mood disorder who commit suicide.
Odds that a person with (versus without) psychotic symptoms will attempt or commit suicide.

>33 : 1
25

Years of life lost by people with schizophrenia due to all causes, including heart disease, cancer and suicide.
Functioning as an effect of number of psychotic episodes
Major psychiatric disorders are determined by the continual interaction of specific biological dysfunctions and specific social phenomena.

*Psychological factors determine course at the case level by influencing biological and social forces.
Cognitive Deficits

Affective Sx: Depression

Social Isolation

School Failure

Early Insults

e.g. Disease
Genes, Possibly Viral Infections,
Environmental Toxins

Brain Abnormalities

Structural Biochemical Functional

Biological Vulnerability: CASIS

Social and Environmental Triggers

Increasing Positive symptoms

Disability

After Cornblatt, et al., 2005
Cortical volume reduction in childhood-onset schizophrenia, ages 14-19
Biosocial causal interactions in schizophrenia prodrome

Early prodrome

Social & performance deficits

Late prodrome

Withdrawal "Oddness" Functional deterioration

Pervasive anxiety

Illusions Dread Insomnia Anorexia

Critical comments CD, EOI Anxiety

Acute onset

Panic Misattribution High EE

Perceptual distortions Pervasive anxiety

Structural

Family/Social

Physiological

Psychosis
Is early intervention indicated prevention of psychotic disorders?
Figure 3. Model of psychosis onset from the clinical high-risk state. The higher the line on the y-axis, the higher the symptom severity.
Risk of psychosis over 10 years

% of at-risk subjects converting to psychosis

Early intervention in Psychiatric Disorders: Necessary for Population-based Healthcare

- Burden of illness → disability, premature mortality
- Healthcare resources
- Societal costs
Early intervention is prevention
One year rates for conversion to psychosis
Risk reduction = 66%

Fusar-Poli, et al, JAMA Psychiatry, 2013
# Rates of Conversion or Relapse

### Over 24 months

<table>
<thead>
<tr>
<th></th>
<th>CLR</th>
<th>CHR</th>
<th>EFEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>87</td>
<td>205</td>
<td>45</td>
</tr>
<tr>
<td>Severe Psychosis</td>
<td>2.3%</td>
<td>6.3%</td>
<td></td>
</tr>
<tr>
<td>Relapse</td>
<td></td>
<td></td>
<td>11%</td>
</tr>
<tr>
<td>Negative Events*</td>
<td>22%</td>
<td>25%</td>
<td>40%</td>
</tr>
</tbody>
</table>

*Hospitalizations, incarcerations, suicide attempts, assaults, rape
Psychotic Symptoms

CHR vs. CLR = 0.0034
EFEP vs. CLR <0.0001
Negative Symptoms

CHR vs. CLR = 0.099
EFEP vs. CLR <0.012
In school or working
Baseline and 24 months

<table>
<thead>
<tr>
<th></th>
<th>In School or Working at baseline</th>
<th>In School or Working at 24 months</th>
</tr>
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<tbody>
<tr>
<td>CLR</td>
<td>84%</td>
<td>79%</td>
</tr>
<tr>
<td>CHR&amp;EFEP</td>
<td>43%</td>
<td>53%</td>
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Outcomes in Four California PIER Programs*

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>12 Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 125</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working</td>
<td>15%</td>
<td>49%</td>
</tr>
<tr>
<td>In school</td>
<td>57%</td>
<td>56%</td>
</tr>
<tr>
<td>Onset of Psychosis:</td>
<td>21%</td>
<td>3%</td>
</tr>
<tr>
<td>Hospitalizations:</td>
<td>13%</td>
<td>7%</td>
</tr>
<tr>
<td>Suicide attempts:</td>
<td>8%</td>
<td>2%</td>
</tr>
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*San Diego, Santa Clara (San Jose), Ventura Counties*
Current PIER programs

- San Diego County, CA
- Ventura County, CA Santa Clara County (San Jose), CA
- San Francisco, CA
- Contra Costa County, CA
- Sacramento, CA
- Imperial County, CA
- Weber County, UT
- State of Delaware
- City of Philadelphia, PA
- Several Counties, OR
- Albuquerque, NM
- Ann Arbor, MI
- Queens, NY
- Portland, ME
- Boston, MA

Total Population >15 million
Conclusions

• Community-wide education is feasible in 10 US cities.
• Referrals were 30% up to 60% of the at-risk population.
• Global outcome in FACT was better than regular treatment.
• The 2-year conversion rate for CHR is 1/5 of expected.
• The 2-year relapse rate for FEP is 1/4 of expected.
• Average functioning was in the normal range by 24 months.
• >80% were in school or working at 2 years.
• ¾ were in school or working up to 10 years later.
• Five cities show a declining incidence.
• Four county-wide California programs are replicating.
Multiple causes of psychosis: Final common pathway

• Medical illnesses
  • Brain tumor, Parkinson’s, Huntington’s, HIV, dementia

• Medications
  • Prednisone, Dextromethorphan, Stimulants (ADHD), ACE inhibitors (Lisinopril), Benzodiazepines, Barbiturates

• Drugs of abuse
  • Alcohol, Cannabis, Hallucinogens, Amphetamines, MDMA, Cocaine
Multiple causes of psychosis: Final common pathway

Psychiatric disorders

- Schizophrenia
- Major Depressive Disorder with Psychosis
- Bipolar Disorder – Mania with Psychosis
- Schizoaffective Disorder
Poor outcomes and high costs: *Bipolar Disorder*

- Recurrent in 90% of cases—over 50% recur in 1 year
- Average = 5 hospitalizations in 10 years
- 47% of lifetime illness
  - Days depressed 3X > Days manic
- High suicide rate
- Indirect costs = disability, premature death
- Lifetime cost for severe cases = $624,785
- Intangible costs
  - Family burden of illness, lost work productivity
  - Impaired Health Related Quality of Life (HRQoL)
Poor outcomes and high costs: **Major Depressive Disorder**

  - 2nd leading cause of disease burden overall (DALYs)
  - Women 15-44 – Leading cause of disease burden

- Recurrence in 2/3

- Earlier onset = more recurrence

- Bipolar outcome in many with early onset
Poor outcomes and high costs: *Schizophrenia*

- Continuously or episodically ill = 61%
- Relapse within 1 year = 15-30%
- Suicide in 10% of cases
- Earlier mortality = 25 years shorter lives
Most mental illness begins early in life

- 50% before 14
- 75% before 25

- **Major Depressive Disorder**
  - Frequent onset in adolescence.

- **Bipolar I Disorder**
  - 50-67% onset before age 18. Usually with depression.

- **Schizophrenia**
  - Neurocognitive deficits in childhood
  - First psychosis between 16 and 25 in 75%
Mental health and substance use disorders account for 60% of the non-fatal burden of disease amongst young people aged 15-34 (Public Health Group 2005)
Earlier treatment and improved outcome

• Psychosocial effects
  • Maintains family and community support
  • Educational, vocational skill development
  • Preservation of positive sense of self
  • Decrease in adverse experience, trauma (ACEs)

• Neurobiological mechanisms
  • Minimize Neurotoxic effects of decompensated states
    • Glucocorticoid effects
    • Inflammatory processes

• Neuroprotective effects of some agents
  • Lithium, SSRI antidepressants, Omega 3 fatty acids
Early intervention
Major Depressive Disorder

• Early treatment of adolescent depression
  • Decreased substance abuse, educ/voc. Impairment.
  • Decreased suicide attempts, duration of episodes

• Treatment of depression in high-risk adolescents
  • Prevention of Depression Study – Garber J, et.al, 2009
  • High-Risk:
    • Offspring of Depressed adult – And
    • History of depression or current sub-syndromal depression or both.
  • Group CBT effective
    • *Family factor – No effect with actively depressed parent
  • Cost effective.
    • Cost per Quality Adjusted Life Year (QALY) $10-35,000 – lower than medical treatments considered cost-effective. (cf. Lynch FL)
Untreated depression and mania may increase frequency and severity of later episodes
  - Sensitization or Kindling. -Post, RM, et. al, 1996, 2013

Early intervention may delay or attenuate progression to a first manic episode
  - Correll, C.U., et.al – studies underway, unpublished protocol
  - Conus, P., et.al, 2008

Family Focused Therapy decreases frequency and severity of Depressed phase
  - Miklowitz, D., 2012
    - Increased overall function
    - Indicated and Secondary Prevention
Early Intervention
Schizophrenia

- Longer untreated psychosis – poor prognosis

  - Sub-threshold positive symptoms of psychosis
  - Brief limited intermittent psychotic episodes
  - First-degree relative w psychosis or schizotypal PD plus functional deterioration
  - 8% - 40% Transition to psychosis in 1 year
    - i.e., 60% to 92% do not develop psychosis in 1 year
Intervention in First Episode Psychosis

- NIMH – Recovery After Initial Schizophrenia Episode (RAISE)
- Team-Based Treatment vs. Fragmented care
- Care Coordination
- Psychotherapy – Cognitive Behavioral Therapy for Psychosis
- Family Psychoeducation and Support
- Vocational and Educational Support
- Evidence-based Psychopharmacological Treatment
Psychopharmacology in early psychosis

- Balance – Effectiveness vs. Adverse Effects
- First meds – Minimal sedation, Extrapyramidal effects
  - Aripiprazole
  - More acute – Risperidone
- Dose ranges - Start low if possible
- Long-Acting Injectable Antipsychotic medications. E.g.
  - Paliperidone Invega Sustenna
  - Risperidone Long-Acting
- Associated symptoms important to the patient:
  - Mood Symptoms
  - Anxiety
  - Insomnia
- Active management of Adverse Effects
  - EPS, Akinesia, Sedation, Weight gain, Sexual
Early intervention for Psychotic Disorders in Maine

- Portland Identification and Early Referral (PIER)
  - Focused on Clinical High Risk for Psychosis
  - William McFarlane, MD

- Now Is The Time: Healthy Transitions (NITT-HT) – SAMHSA
  - 5 Year grant to Maine DHHS. 2015-2020
  - CHR and First Episode Psychosis, Ages 16-25
  - 25 patients per year. 2 year duration of treatment
  - Initially Cumberland County. Expansion to Androscoggin, York, Penobscot
  - Maine Medical Center, Youth Move, Transition to Independence (TIP)
NITT-HT: Year One

Year One, Month 10: 27 patients

Diagnoses – first 25

Clinical High Risk for Psychosis 1
Schizophrenia 7
Major Depressive Disorder w Psychosis 5
Bipolar Disorder – Mania w Psychosis 4
Schizophrenia Spectrum – Other 6
Schizoaffective Disorder 2
## World Health Organization Disability Assessment Schedule 2.0

Overall, in the past 30 days, how many days were these difficulties present?

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<td>19.6</td>
<td>12.5</td>
<td>7.6</td>
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In the past 30 days, for how many days were you totally unable to carry out your usual activities or work because of any health condition?

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<td>20.0</td>
<td>11.9</td>
<td>9.0</td>
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In the past 30 days, not counting the days that you totally unable, for how many days did you cut back or reduce your usual activities or work because of any health condition?

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<td>6.1</td>
<td>4.1</td>
<td>3.0</td>
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# World Health Organization Disability Assessment Schedule 2.0

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Intake</th>
<th>90</th>
<th>180</th>
<th>270</th>
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<tbody>
<tr>
<td>Schizophrenia</td>
<td>34</td>
<td>31</td>
<td>31</td>
<td>28</td>
</tr>
<tr>
<td>Maj Dep w P</td>
<td>41</td>
<td>23</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Bipolar M w P</td>
<td>24</td>
<td>16</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>SchizoAffective</td>
<td>32</td>
<td>27</td>
<td>32</td>
<td>24</td>
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BREAK

Please return at 10:50
November 3, 2010

Dear colleague,

Attached please find a copy of the Prodromal Questionnaire, Brief Version (PQ-B), a screening measure for symptoms indicating risk for psychosis. Please note that this measure does NOT diagnosis a psychosis prodrome- it is intended to be followed by an interview-based assessment with a trained clinician to identify young people at ultra high risk for a psychotic disorder. This 21-item self-report questionnaire is comprised of positive symptom items plus follow-up questions about related distress/impairment. Scoring guidelines are described below. When using this instrument, please cite it as follows:


Please use the following to cite the preliminary validation data for the PQ-B; we will send you the final citation, once it is published:


Scoring:

Total Score = Sum of all 21 items with No = 0, Yes = 1.

Distress Score= Sum of all 21 items with No = 0; Yes: strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, strongly agree = 5.

Cutoff scores:
The choice of which cutoff scores to use should be determined by a number of individual factors including the intent of your research, the extent of your resources and your recruitment sources and goals. Here, we provide some initial validity data to help guide your choice:

We have examined the concurrent validity of the PQ-B in a sample of 141 adolescents and young adults who presented consecutively for assessment either the Prodrome, Assessment, Research & Treatment (PART) program at the University of California, San Francisco or the Staglin Music Festival Center for Assessment and Prevention of Prodromal States (CAPPS) at UCLA. All participants were administered the Structured Interview for Prodromal Syndromes (SIPS) and the PQ-B at intake. Based on agreement between the PQ-B and SIPS/SOPS in this sample, we recommend the following:

Maximizing sensitivity and specificity:
A Distress Score of 6 or more on the PQ-B differentiated between patients with no SIPS diagnosis and those with Ultra High Risk/Psychotic Syndrome diagnoses with 88% sensitivity, 68% specificity, 95% Positive Predictive Value, 50% Negative Predictive Value and a positive Likelihood Ratio of 2.83. In practice, this results in missing about 1 out of every 9 true UHR cases, while eliminating interviews for over two-thirds of the non-psychotic spectrum cases. These values are very similar when patients with psychotic syndromes are excluded from the analyses.

1
Maximizing Sensitivity:
In our validity sample, we found that increasing sensitivity to 96% resulted in an unacceptable loss of specificity (16%). However, if you wish to capture as many true cases as possible, even at the risk of conducting a very large number of interviews, you may wish to use this cutoff of a **Total Score of 1 or more** positive symptom items endorsed as present.

Maximizing specificity:
In our validity sample, we found that increasing specificity to 100% resulted in an unacceptable loss of sensitivity (31%). However, if you wish to conduct as few interviews as possible in order to ascertain your sample, you may wish to use this cutoff of a **Total Score of 6 or more** positive symptom items endorsed as present.

The PQ-B is less than adequate at differentiating prodromal from fully psychotic patients, as this distinction requires information regarding duration, frequency and severity that must be addressed by clinical interview.

Thank you for your interest in the PQ-B, and please feel free to contact us with any further questions.

Sincerely,

Rachel Loewy, Ph.D.
Assistant Professor of Psychiatry
University of California, San Francisco
RLoewy@Lppi.ucsf.edu
Please indicate whether you have had the following thoughts, feelings and experiences in the past month by checking “yes” or “no” for each item. Do not include experiences that occur only while under the influence of alcohol, drugs or medications that were not prescribed to you. If you answer “YES” to an item, also indicate how distressing that experience has been for you.

1. Do familiar surroundings sometimes seem strange, confusing, threatening or unreal to you?
   - YES  NO
   If YES: When this happens, I feel frightened, concerned, or it causes problems for me:
     - Strongly disagree
     - disagree
     - neutral
     - agree
     - strongly agree

2. Have you heard unusual sounds like banging, clicking, hissing, clapping or ringing in your ears?
   - YES  NO
   If YES: When this happens, I feel frightened, concerned, or it causes problems for me:
     - Strongly disagree
     - disagree
     - neutral
     - agree
     - strongly agree

3. Do things that you see appear different from the way they usually do (brighter or duller, larger or smaller, or changed in some other way)?
   - YES  NO
   If YES: When this happens, I feel frightened, concerned, or it causes problems for me:
     - Strongly disagree
     - disagree
     - neutral
     - agree
     - strongly agree

4. Have you had experiences with telepathy, psychic forces, or fortune telling?
   - YES  NO
   If YES: When this happens, I feel frightened, concerned, or it causes problems for me:
     - Strongly disagree
     - disagree
     - neutral
     - agree
     - strongly agree

5. Have you felt that you are not in control of your own ideas or thoughts?
   - YES  NO
   If YES: When this happens, I feel frightened, concerned, or it causes problems for me:
     - Strongly disagree
     - disagree
     - neutral
     - agree
     - strongly agree

6. Do you have difficulty getting your point across, because you ramble or go off the track a lot when you talk?
   - YES  NO
   If YES: When this happens, I feel frightened, concerned, or it causes problems for me:
     - Strongly disagree
     - disagree
     - neutral
     - agree
     - strongly agree

7. Do you have strong feelings or beliefs about being unusually gifted or talented in some way?
   - YES  NO
   If YES: When this happens, I feel frightened, concerned, or it causes problems for me:
     - Strongly disagree
     - disagree
     - neutral
     - agree
     - strongly agree

8. Do you feel that other people are watching you or talking about you?
   - YES  NO
   If YES: When this happens, I feel frightened, concerned, or it causes problems for me:
     - Strongly disagree
     - disagree
     - neutral
     - agree
     - strongly agree

9. Do you sometimes get strange feelings on or just beneath your skin, like bugs crawling?
   - YES  NO
   If YES: When this happens, I feel frightened, concerned, or it causes problems for me:
     - Strongly disagree
     - disagree
     - neutral
     - agree
     - strongly agree

10. Do you sometimes feel suddenly distracted by distant sounds that you are not normally aware of?
    - YES  NO
    If YES: When this happens, I feel frightened, concerned, or it causes problems for me:
      - Strongly disagree
      - disagree
      - neutral
      - agree
      - strongly agree
11. Have you had the sense that some person or force is around you, although you couldn’t see anyone?
   □ YES □ NO  If YES: When this happens, I feel frightened, concerned, or it causes problems for me:
   □ Strongly disagree □ disagree □ neutral □ agree □ strongly agree

12. Do you worry at times that something may be wrong with your mind?
   □ YES □ NO  If YES: When this happens, I feel frightened, concerned, or it causes problems for me:
   □ Strongly disagree □ disagree □ neutral □ agree □ strongly agree

13. Have you ever felt that you don’t exist, the world does not exist, or that you are dead?
   □ YES □ NO  If YES: When this happens, I feel frightened, concerned, or it causes problems for me:
   □ Strongly disagree □ disagree □ neutral □ agree □ strongly agree

14. Have you been confused at times whether something you experienced was real or imaginary?
   □ YES □ NO  If YES: When this happens, I feel frightened, concerned, or it causes problems for me:
   □ Strongly disagree □ disagree □ neutral □ agree □ strongly agree

15. Do you hold beliefs that other people would find unusual or bizarre?
   □ YES □ NO  If YES: When this happens, I feel frightened, concerned, or it causes problems for me:
   □ Strongly disagree □ disagree □ neutral □ agree □ strongly agree

16. Do you feel that parts of your body have changed in some way, or that parts of your body are working differently?
   □ YES □ NO  If YES: When this happens, I feel frightened, concerned, or it causes problems for me:
   □ Strongly disagree □ disagree □ neutral □ agree □ strongly agree

17. Are your thoughts sometimes so strong that you can almost hear them?
   □ YES □ NO  If YES: When this happens, I feel frightened, concerned, or it causes problems for me:
   □ Strongly disagree □ disagree □ neutral □ agree □ strongly agree

18. Do you find yourself feeling mistrustful or suspicious of other people?
   □ YES □ NO  If YES: When this happens, I feel frightened, concerned, or it causes problems for me:
   □ Strongly disagree □ disagree □ neutral □ agree □ strongly agree

19. Have you seen unusual things like flashes, flames, blinding light, or geometric figures?
   □ YES □ NO  If YES: When this happens, I feel frightened, concerned, or it causes problems for me:
   □ Strongly disagree □ disagree □ neutral □ agree □ strongly agree

20. Have you seen things that other people can’t see or don’t seem to see?
   □ YES □ NO  If YES: When this happens, I feel frightened, concerned, or it causes problems for me:
   □ Strongly disagree □ disagree □ neutral □ agree □ strongly agree

21. Do people sometimes find it hard to understand what you are saying?
   □ YES □ NO  If YES: When this happens, I feel frightened, concerned, or it causes problems for me:
   □ Strongly disagree □ disagree □ neutral □ agree □ strongly agree
### WHAT ARE THE EARLY SYMPTOMS?

Some feelings or behaviors listed here might indicate a brief reaction to stressful events. On the other hand, these changes could be early symptoms of a developing mental illness. It is important that the person in question be assessed by a professional, especially if the symptoms last longer than a few weeks, the changes in the person’s behavior are sudden, or seem very out of character or bizarre. Early symptoms or new experiences can occur on and off over time. **It is the combination of several symptoms rather than any one symptom that puts a person at risk.**

<table>
<thead>
<tr>
<th>Feeling “something’s not quite right”</th>
<th>Hearing sounds/voices that are not there</th>
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<tbody>
<tr>
<td>• Feeling like your brain is just not working right</td>
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<tr>
<td>• Not able to do school work or one’s usual job</td>
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<tr>
<td>• Heightened sensitivity to sights, sounds, smells or touch</td>
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<tr>
<td>• Feeling like your brain is playing tricks on you</td>
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<tr>
<td>• Intermittently hearing, seeing, smelling, and feeling things that others don't</td>
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<tr>
<td>• Somatic illusions</td>
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<thead>
<tr>
<th>Jumbled thoughts and confusion</th>
<th>Declining interest in people, activities and self-care</th>
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<tbody>
<tr>
<td>• Trouble with focus and attention</td>
<td></td>
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<tr>
<td>• Fear that others are putting thoughts in your brain or reading your mind</td>
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<tr>
<td>• Forgetfulness and getting lost</td>
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<tr>
<td>• Bizarre preoccupations or obsessional thoughts</td>
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<tr>
<td>• Having the sense that the world, other people, and/or you aren't real at times</td>
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<tr>
<td>• Withdrawal from friends and family</td>
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<tr>
<td>• Loss of motivation and/or energy</td>
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<tr>
<td>• Dramatic changes in sleeping and/or eating habits</td>
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<tr>
<td>• Lack of interest in things you used to enjoy</td>
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<tr>
<td>• Not caring about your appearance</td>
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<table>
<thead>
<tr>
<th>Experiencing fear for no good reason</th>
<th>Having trouble communicating</th>
</tr>
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<tbody>
<tr>
<td>• Worrying that others are thinking bad thoughts about you</td>
<td></td>
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<tr>
<td>• Thinking others wish to harm you or are watching and following you</td>
<td></td>
</tr>
<tr>
<td>• Feeling uneasy around people or suspicious of them</td>
<td></td>
</tr>
<tr>
<td>• Losing track of conversations</td>
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<tr>
<td>• Difficulty speaking and/or understanding others</td>
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<tr>
<td>• Increased vagueness or focusing on small details in conversations</td>
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<tr>
<td>• Trouble with reading comprehension and writing</td>
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### THE FOLLOWING SYMPTOMS NEED IMMEDIATE ATTENTION:

- Suicidal or homicidal thoughts
- Dramatic change in sleep or appetite
- Hearing voices commanding you to do certain things
- Believing without reason that others are plotting against you
- Extreme unreasonable resentments or grudges
- Severely disorganized communication