

psychLINK™



When the Goal is Recovery: Managing Long-Term Schizophrenia One Patient at a Time

Participant Guide for Enduring Materials

Original Program Date: Wednesday, November 19, 2008

Enduring Materials Expiration Date: November 19, 2009



Dear Learner,

Thank you for interest in our CME/CE/CPE certified activity titled: **When the Goal Is Recovery: Managing Long-term Schizophrenia One Patient at a Time**

This participant guide includes the following:

- Directions for viewing the CD-Rom
- Webcast Requirements (if participating online)
- Program and CME/CE/CPE Information
- Faculty Bios and Financial Disclosures
- Presentation Slides
- Preactivity Survey, Posttest, CME/CE/CPE Credit Application/Evaluation Form
- Attendance Sheet

Learners are asked to view (via the Web) or listen to the program in its entirety and remember to:

- Complete the
 - Preactivity survey
 - Posttest
 - CE/CME/CPE credit application/evaluation form
- Sign the evaluation form
- Provide the length of time spent on the activity
- Complete the preactivity survey (very important) before the start of the program so that we may gauge your knowledge prior to being exposed to the educational content
- Write all of the responses (pre/postsurveys and posttest) in the appropriate boxes on the CE/CME/CPE application/evaluation form (especially if you are seeking a certificate of credit)
- Return the CE/CME/CPE credit application/evaluation form by December 17, 2008

Instructions

- Record your answers/responses on the CE/CME/CPE credit application/evaluation form that follows the test questions
- Participants must fill in all information fields in the boxed area at the top of the form to receive credit
- Participants must achieve a score of at least 70% on this posttest to receive credit
- The participant's signature is required to verify attendance
- Submit the completed form to the site coordinator or to the mailing address or fax number indicated for processing
- Use only the CE/CME/CPE credit application and evaluation form included in this guide

RETURN FORMS TO:

The Chatham Institute
26 Main Street, Suite 350
Chatham, NJ 07928-2402
Phone: 800-242-6309
Fax: 866-813-0920
Web site: www.psychLINK.com

Enjoy the program!

For CD-ROM Participants:

Place the CD-ROM in your computer's CD-ROM drive. If autorun is activated on your computer, it will load the presentation automatically. If autorun is not activated, double-click the START_Here.htm icon in the root directory of your CD-ROM. This will open your browser and launch the opening page.

Windows Media Player and Adobe Acrobat must be installed on your computer for this CD-ROM to function properly. If you are connected to the Internet, you may click on the links at the bottom of the opening page to download either of these free programs as needed.

Once the opening page has loaded, click on the "Start the Presentation" button to view the presentation.

For Webcast Participants:

Please click on the link provided below (you may also copy and paste or type the address into your Web browser).

To access the program, log on to: <http://events.variview.net/clients/chatham/20081119>

Hardware Requirements

Network connection (56k dial-up, DSL, cable/ISDN, and T1 connections all supported); speakers

Minimum System Requirements:

- Video screen resolution: 1024 x 768 pixels
- PC: Windows 98, Me, 2000, XP

Preferred Web Browsers:

Windows: Microsoft Internet Explorer 5.5 or later, Netscape 6.2 or later, Firefox 1.0 or later

Media Player Requirements:

Windows: Microsoft's Windows Media Player version 6.4 or better, Real Networks' RealPlayer version G2 or better

Helpful Tips:

To add an activity to your Outlook Calendar, click the small "Add to Outlook" button on the top right side of the confirmation page. The "File Download" dialog box will pop up in a new window. Click "Open." Your Outlook appointment window will open in a new window. You may adjust the date, time, and reminder settings as appropriate.

When you have finished, click the "Save" and "Close" buttons.

If you do not see new pop-up windows, you likely have "pop-up blocker" turned on in your browser. You can turn off this feature from your browser's Tools menu. From the Tools drop-down menu, choose "Internet Options." Click the "Privacy" tab. Uncheck the box labeled "Turn on Pop-up Blocker." We also recommend updating your computer to the latest version of Windows Media Player and/or RealPlayer to get optimum performance.

Windows Media Player:

<http://www.microsoft.com/windows/windowsmedia/player/download/download.aspx>

RealPlayer: <http://www.real.com/>

When the Goal Is Recovery: Managing Long-term Schizophrenia One Patient at a Time

This course guide is designed to be used in conjunction with the educational activity: When the Goal Is Recovery: Managing Long-term Schizophrenia One Patient at a Time

Unlabeled use of commercial products and/or investigational uses not yet approved for any purpose may be discussed in the educational activity. The faculty will disclose when unlabeled or investigational uses are being discussed.

The information provided by individual faculty members, moderators, and audience participants during the course of the educational events are the views and opinions of such individual(s) and are not necessarily the views of The Chatham Institute. This information is not intended as, nor is implied to be a substitute for, professional medical advice. Always seek the advice of your physician or other qualified health care provider prior to starting any new treatment or with any questions you may have regarding a medical condition.

The curriculum is supported through an educational grant from the following:
Ortho-McNeil-Janssen Pharmaceuticals, Inc.

Statement of Need and Learning Objectives

Statement of Need

Approximately 80% of patients with schizophrenia will relapse within 5 years of first episode in the absence of appropriate treatment. Antipsychotics are highly effective in the prevention of relapse in remitted first-episode patients, with 1-year relapse risk varying from 0% to 46%. Many experts are now in favor of continuous use of antipsychotics for patients who have had multiple episodes of schizophrenia, although the recommendation remains controversial. Long-term use of antipsychotics may cause adverse effects that interfere with drug adherence and affect social adjustment. Thus, it is paramount to identify appropriate pharmacotherapy and nonpharmacological options for long-term maintenance of schizophrenia.

This psychLINK program will update clinicians on the latest available evidence-based studies and guidelines regarding maintenance therapy for patients diagnosed with schizophrenia, with the goal of achieving full remission and significantly reducing relapse rates.

Learning Objectives

Upon completion of this activity, the participants should be able to:

- Outline the relapse and rehospitalization rates that typically occur during the maintenance phase of schizophrenia treatment
- Identify comprehensive rehabilitation strategies to prevent relapse, including long-acting, injectable medications and psychosocial rehabilitation
- Communicate effectively with patients regarding the need for and duration of maintenance phase treatment

Credit Information

These course materials are designed by The Chatham Institute to be used in conjunction with the educational activity: *When the Goal Is Recovery: Managing Long-term Schizophrenia One Patient at a Time* (**Meeting Code: P8N04-SB**)

The duration of ACCME, ANCC, and ACPE credit for the recorded educational activity is 1 year from release date unless notified that the content is outdated.

This commercially supported educational activity is made possible through an educational grant provided by Ortho-McNeil-Janssen Pharmaceuticals, Inc.. The Chatham Institute adheres to ACCME Standards for Commercial Support of Continuing Medical Education during its program planning design, implementation, and evaluation.

Target Audience

The target audience for this activity includes physicians (especially psychiatrists), nurses, and pharmacists.

Credit Instructions

Successful completion of this continuing education activity includes the following:

- Viewing (or listening to) the presentation and reviewing the course materials
- Completing the appropriate CE/CME/CPE credit application and activity evaluation forms
- Submitting forms to the site coordinator, faxing them to 866-813-0920, or mailing them to the address indicated on page 2 for processing

Participants viewing the live presentation are required to sign the psychLINK attendance sheet to receive credit. Participants will receive a continuing education statement of credit within 6 to 8 weeks following the receipt of the CE/CME/CPE application and activity evaluation form. There is no fee for participation in this activity. The estimated time for completion of this activity is 60 minutes.

Physicians

The Chatham Institute is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians. The Chatham Institute designates this activity for a maximum of 1.0 *AMA PRA Category 1 Credit*.™ Physicians should only claim credit commensurate with the extent of their participation in the activity.

Nurses

The Chatham Institute LLC is an approved provider of continuing nursing education by the New Jersey State Nurses Association (NJSNA), an accredited approver by the American Nurses Credentialing Center's (ANCC's) Commission on Accreditation, provider number P175-11/2006-2009.

The Chatham Institute LLC is approved by the California Board of Registered Nursing (CBRN), provider number CEP 12433.

This activity is approved for 1.0 contact hour.

Disclaimer: Accreditation refers to educational content only and does not imply endorsement of products by NJSNA, ANCC, CBRN, or The Chatham Institute LLC.

Pharmacists



® The Chatham Institute is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education. This program is approved for 1.0 contact hour (0.10 CEUs) of continuing education for pharmacists.

Universal Program Number:

812-000-08-021-H01-P (recorded activity)

Activity credit expires November 19, 2009 for the recorded enduring material.

Disclosure:

It is the policy of The Chatham Institute to ensure balance, independence, objectivity, and scientific rigor in all of its educational activities. All faculty, planners, and managers who affect the content of medical education activities sponsored by The Chatham Institute are required to disclose to the audience any real or apparent conflict of interest related to the activity. Faculty, planners, and managers not complying with the disclosure policy will not be permitted to participate in this activity.

Program faculty and planners have disclosed the financial relationships with commercial interests cited below. All program content has been peer reviewed for balance and any potential bias. The conflict of interest resolution process aims to ensure that financial relationships with commercial interests and resultant loyalties do not supersede the public interest in the design and delivery of continuing medical education activities for the profession.

FACULTY

John Kane, MD (Moderator and Content Developer)

Chairman, Department of Psychiatry
The Zucker Hillside Hospital;
Professor of Psychiatry, Neurology, and Neuroscience
Albert Einstein College of Medicine

John M. Kane, MD is vice president for Behavioral Health Services at the North Shore-Long Island Jewish Health System and chairman of the Department of Psychiatry at The Zucker Hillside Hospital. He is professor of psychiatry, neurology, and neuroscience and holds the Dr. E. Richard Feinberg Chair in Schizophrenia Research at the Albert Einstein College of Medicine. He currently directs the National Institute of Mental Health (NIMH)-funded Advanced Center for Interventions and Services Research in Schizophrenia at The Zucker Hillside Hospital.

Dr. Kane received his BA from Cornell University and his MD from the New York University School of Medicine.

Dr. Kane has been a member of the Board of Scientific Counselors for the NIMH, and he has served on the council of the American College of Neuropsychopharmacology. He has chaired the NIMH Psychopathology and Psychobiology Review Committee as well as the Psychopharmacologic Drugs Advisory Committee of the Food and Drug Administration. Dr. Kane is a recipient of the Arthur P. Noyes Award in Schizophrenia, the NAPPH Presidential Award for Research, the American Psychiatric Association Foundations' Fund Prize for Research, the Kempf Fund Award for Research Development in Psychobiological Psychiatry, the Lieber Prize for Outstanding Research in Schizophrenia, the Heinz E. Lehmann Research Award from New York State, and the Dean Award from the American College of Psychiatrists.

Dr. Kane is on speaker bureaus for AstraZeneca Pharmaceuticals LP, Bristol-Myers Squibb Company, Eli Lilly and Company, and Janssen, L.P.; and is a consultant for Bristol-Myers Squibb Company, Cephalon, Inc., Eli Lilly and Company, Janssen L.P., Lundbeck Pharmaceuticals, Pfizer Inc, and Wyeth Pharmaceuticals.

Donald C. Goff, MD

Director, Schizophrenia Program
Massachusetts General Hospital;
Associate Professor of Psychiatry
Harvard Medical School

Donald C. Goff, MD is director of the Schizophrenia Program at Massachusetts General Hospital and associate professor of psychiatry at Harvard Medical School. In addition, he is medical director of the Freedom Trail Clinic at the Erich Lindemann Mental Health Center in Boston.

Dr. Goff earned his undergraduate degree in humanities at the University of California in Berkeley, and his medical degree at the University of California School of Medicine in Los Angeles. He completed his internship in internal medicine at Cedars-Sinai Medical Center in Los Angeles, and his residency in psychiatry at Massachusetts General Hospital. His research fellowship in psychopharmacology was completed at Tufts-New England Medical Center.

Dr. Goff has authored and coauthored numerous articles concerning schizophrenia and related topics. His articles have been published in prestigious journals such as *Archives of General Psychiatry*, *The American Journal of Psychiatry*, and *The Journal of the American Medical Association*. He also has been principal investigator for studies concerning the treatment and management of schizophrenia. Dr. Goff is a recipient of the Faculty Scholar Award in Schizophrenia, a Mid-Career Development Award presented by the

National Institute of Mental Health, and the Kempf Award for Mentorship in Biological Psychiatry from the American Psychiatric Association. He is a member of the American College of Neuropsychopharmacology.

Dr. Goff is an advisory board member for Forest Laboratories, Inc., Organon USA Inc., Vanda Pharmaceuticals, and Xytis Inc.; has received grant/research support from Johnson & Johnson and Pfizer Inc; is on the Safety Adjudication (DSMB) Committee for Pfizer Inc; and is a DSMB member for Wyeth Pharmaceuticals.

John Lauriello, MD

Professor and Vice Chair
Executive Medical Director
University of New Mexico Psychiatric Center
University of New Mexico Health Sciences Center

John Lauriello is professor and vice chairman of the Department of Psychiatry at the University of New Mexico (UNM) in Albuquerque, where he also serves as the executive medical director of the UNM Psychiatric Center and the director of the Schizophrenia Research Group.

Dr. Lauriello is a graduate of Yale College and received his medical degree from Temple University Medical School in Philadelphia. He completed his psychiatry residency at New York Hospital-Payne Whitney Clinic, which he followed with fellowships in clinical psychopharmacology at the University of California at San Diego and the Stanford University/Palo Alto VAMC.

Dr. Lauriello is the UNM site principal investigator for the National Science Board of the MIND Research Network. He serves as a reviewer for *The American Journal of Psychiatry*, *Journal of Clinical Psychiatry*, and *Schizophrenia Research*, among others, is author of 45 journal articles and 15 chapters, and has been a coeditor on several works, including *Atypical Antipsychotics: From Bench to Bedside*. Dr. Lauriello has been active in clinical trial drug research and brain imaging studies, and has received funding from the National Institutes of Health. He was recognized in the 2001-2008 editions of the *Best Doctors in America* and is a past recipient of the National Alliance for the Mentally Ill Exemplary Psychiatrist Award, as well receiving the 2006 Milton Rosenbaum UNM Psychiatry Faculty Award. In 2006, he was appointed by New Mexico Governor Bill Richardson to the New Mexico Medical Board. He also serves at the Biomedical Research Institute of New Mexico and on the New Mexico Medicaid Drug Utilization Review Board, and has served on the New Mexico Value Options Statewide Formulary Committee.

Dr. Lauriello is an advisory board member for Eli Lilly and Company; is a consultant for Eli Lilly and Company and Vanda Pharmaceuticals; and has received research grants from Eli Lilly and Company and Pfizer Inc.

TCI Staff

William Glazer, MD

Medical Director, Psychiatry, The Chatham Institute
Dr. Glazer is a consultant to Eli Lilly and Company and Schering-Plough; and on the scientific advisory boards of Eli Lilly and Company and Schering-Plough.

Bagirathy Ravishankar, PhD

Scientific Director, The Chatham Institute
No real or apparent relationships to disclose.

When the Goal Is Recovery: Managing Long-term Schizophrenia One Patient at
Program # P8N04-SB – Preactivity Survey

Please write your responses to these questions in the Preactivity Survey Responses section of the CME application/program evaluation form.

1. For patients who are in the early phase of schizophrenia, which of the following factors would predict nonadherence?

- a. Denial of their condition
- b. Socioeconomic status
- c. Educational background
- d. Race/ethnicity
- e. All of the above

2. Recent studies have shown that nonadherence can be best monitored by using which of the following objective measures?

- a. Patient report
- b. Physician report
- c. Electronic monitoring
- d. Pill count
- e. All of the above

3. According to a recent study, female patients who have a shorter duration of illness and better social functioning at baseline are likely to have a more favorable outcome of schizophrenia than their male counterparts.



- a. True
- b. False

4. Family treatment can have a significant impact on reducing relapse rates.

- a. True
- b. False

**5. Please rate your confidence in your ability to:
Communicate effectively with patients regarding the need for and duration of maintenance-phase treatment.**

- a. Not at all confident
- b. A little confident
- c. Somewhat confident
- d. Quite confident
- e. Extremely confident

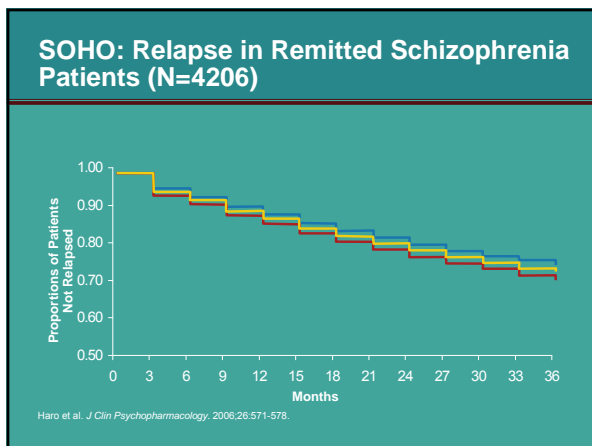
**When the Goal Is Recovery:
Managing Long-term
Schizophrenia One
Patient at a Time**

*Live Satellite
Broadcast/Webcast/Teleconference
Wednesday, November 19, 2008
12:30 PM Eastern*

*Rebroadcast via Satellite and Telephone
1:30 PM and 3:00 PM Eastern*

Definitions of Relapse

- Rehospitalization
- Symptom worsening
- Additional interventions



SOHO: Factors Associated With Relapse

- Hostility
- Substance abuse
- Poor social function
- Treatment with mood stabilizer

- Chronic patients less likely to achieve remission and less likely to relapse

Haro et al. *J Clin Psychopharmacology*. 2006;26:571-578.

Predictors of relapse

- Antipsychotic medication status
- Gender difference
- Social functioning at baseline

Robinson D, Woerner MG, Alvir JM, et al. Predictors of relapse following response from a first episode of schizophrenia or schizoaffective disorder. *Arch Gen Psychiatry*. 1999;56:241-247.
Haro JM, Novick D, Suarez D, Ochoa S, Roca M. Predictors of the course of illness in outpatients with schizophrenia: a prospective three year study. *Prog Neuropsychopharmacol Biol Psychiatry*. 2008;32:1287-1292.
Emsley R, Rabinowitz J, Medori R. Remission in early psychosis: Rates, predictors, and clinical and functional outcome correlates. *Schizophr Res*. 2007;89:129-139.

Relapse After First Hospitalization: Observational Follow-up of Adult Schizophrenia Patients in Finland

- 2230 schizophrenia patients
- First hospitalization between 1995 and 2001
- Mean follow-up of 3.6 years
- 36% discontinued medication within 30 days of hospitalization
- Mortality increased 10-fold following discontinuation of medication

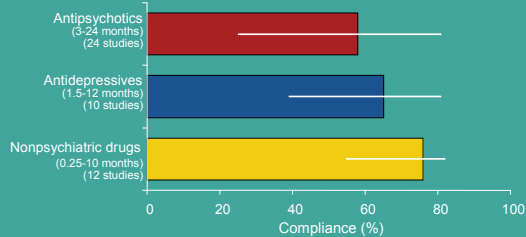
Tilhonen et al. *BMJ*. 2006;333:224-229.

CATIE: Hospitalizations for Exacerbation of Schizophrenia (N=1460)

Assessment	QLZ (n=336)	QUET (n=337)	RISP (n=341)	PER (n=261)	ZPR (n=185)	P Value
No. of patients hospitalized	38 (11%)	68 (20%)	51 (15%)	41 (16%)	33 (18%)	<0.001
Hospitalizations per person-years of exposure (risk ratio)	81/280 (0.29)	131/199 (0.66)	103/229 (0.45)	891/175 (0.51)	62/109 (0.57)	—

Lieberman et al. *N Engl J Med.* 2005;353:1209-1923.

Nonadherence in Long-term Treatment: Are We All Alone?



Cramer J, Rosenheck R. *Psychiatr Serv* 1998;49:196-201.

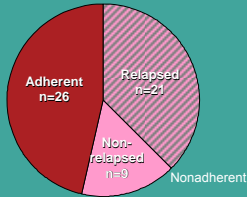
Prevalence of Nonadherence With Antipsychotics: Literature Review

- 39 studies published between 1980 and 2000
- 20%-89% range of nonadherence to antipsychotics
- Depending on
 - Assessment method
 - Patient sample
- Mean nonadherence rate was 49.5% in studies that used a “stricter” set of assessment criteria

Lacro JP, et al. *J Clin Psychiatry.* 2002;63:892-809.

A Significant Proportion of Patients Who Are Nonadherent Will Relapse Within the First Year

70% of patients who discontinue antipsychotics will relapse within the first year

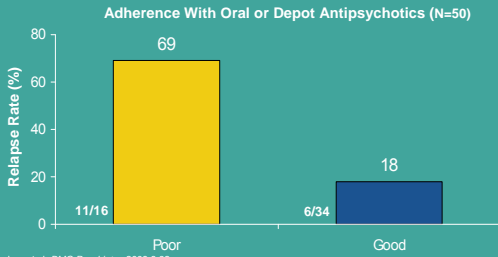


- 56 male patients with first-episode schizophrenia, schizophreniform, or schizoaffective disorder were followed up for 1 year post-discharge
- 30 patients discontinued (54%); of them, 21 relapsed (70%)

Novak-Grubic, Tavcar. *Eur Psychiatry*. 2002;17:148-154.

Patients With Poor Adherence Show High Relapse Rates

Study population included patients with recent onset of schizophrenia, schizophreniform, or schizoaffective disorders



Morken et al. *BMC Psychiatry*. 2008;8:32.

California Medicaid Results: Hospitalization by Maximum Gap

Maximum Gap in Therapy	Hospitalization	
	%	Odds ratio
None (n=327)	6.4	1.0
1-10 days (n=1710)	11.9	1.98 ($P=0.004$)
11-30 days (n=1166)	16.1	2.81 ($P<0.001$)
>30 days (n=1122)	21.6 ($P<0.005, \chi^2$)	3.96 ($P<0.001$)

Weiden PJ, et al. *Psychiatr Serv*. 2004;55:886-891.

Case Study: Jamie

- 25-year-old Caucasian
- Single and unemployed
- 5-year history of schizophrenia
- Ambivalent about continuing his medication
- Often relapses

Jamie: Medical/Family History

- Overweight with moderately elevated cholesterol
- Paranoid schizophrenia: maternal uncle

Jamie: Course of Illness

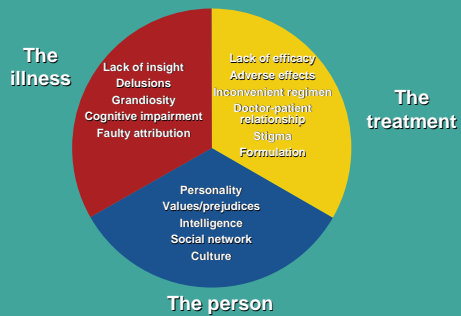
- **First episode:** signs of schizoaffective disorder at 20 years of age, diagnosed with “psychosis NOS,” hospitalized for 6 weeks, and treated with an antipsychotic
- **Relapse:** experienced a psychotic relapse 7 months after discontinuing medication
- **Second episode:** partial adherence to medication led to a second episode of psychosis 3 years later

Polling Question #1

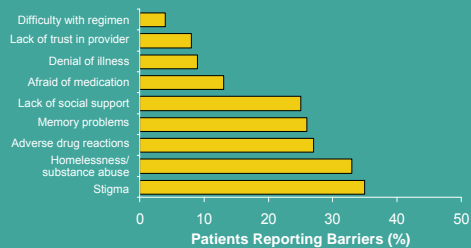
What is the best next course of action for this patient?

- A. Extended-release oral formulation of an antipsychotic
- B. Doctor's choice of long-acting injectable antipsychotic medication
- C. Antipsychotic plus psychosocial intervention
- D. Psychotherapy alone

Factors Contributing to Nonadherence

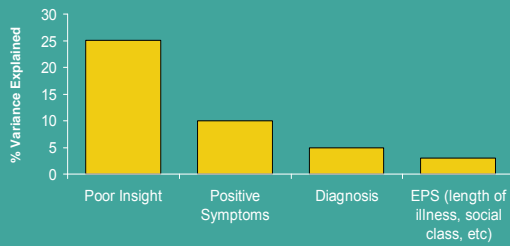


Patient-reported Barriers to Adherence With Antipsychotic Medications



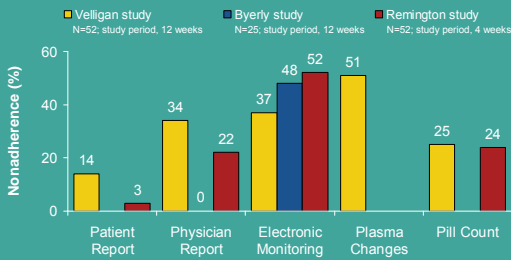
Hudson T.J., et al. *J Clin Psychiatry*. 2004;65:211-216.

Predictors of Noncompliance



Novak-Grubic, Tavcar. *Eur Psychiatry*. 2002;17:148-154.

Assessment of Medication Nonadherence Using Subjective and Objective Measures

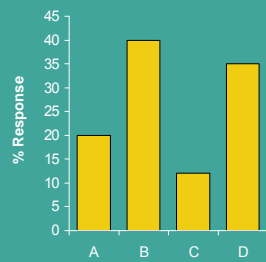


Velligan et al. *Psychiatr Serv*. 2007;58:1187-1192; Byerly et al. *Psychiatry Res*. 2005;133:129-133; Remington et al. *Schizophr Res*. 2007;90:229-237.

Polling Question #1 Results

What is the best next course of action for the patient?

- A. Extended-release oral formulation of an antipsychotic
- B. Long-acting injectable antipsychotic medication
- C. Antipsychotic plus psychosocial intervention
- D. Psychotherapy alone



Goals of Psychoeducation

- Work with patient and family in the attainment of “basic competence”
- Educate patient and family about the illness and its treatment
- Reinforce concept that patient is the “expert”
- Involve relatives in patient’s treatment plan
- Create a plan to improve adherence
- Educate patient and family about crisis management and suicide prevention
- Help family and patient identify areas of strength and health
- Support and empower healthy components
- Create a plan to address relapse prevention

Baumi et al. *Schizophr Bull.* 2006;32(suppl 1):S1-S9.

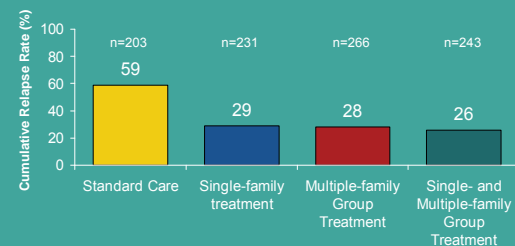
Family Psychoeducation Interventions

- Offer family psychosocial intervention to patients who have ongoing contact (<9 months) with their family or nonfamily caregivers
- Program should combine education about illness, family support, crisis intervention, and problem-solving skills training
- Do not restrict programs from families identified as having high levels of “expressed emotion” (eg, criticism, hostility, overinvolvement)
- Do not employ therapies based on premise that family dysfunction is the etiology of the problem

Dixon et al. *Schizophr Bull.* 2000;26:5-20.

Family Psychoeducation Research

Effects of Family Intervention on 2-year Cumulative Relapse Rates in Schizophrenia (12 Studies)



McFarlane et al. *J Marital Fam Ther.* 2003;29:223-245.

Cognitive Adaptation Training (CAT)

"A psychosocial treatment that uses environmental supports such as signs, checklists, alarms, and the organization of belongings to cue and sequence adaptive behaviors in the home."

CAT bypasses deficits in cognitive function

Velligan et al. Schizophr Bull. 2008;34:483-493.

Using CAT to Address Nonadherence

- Reasons for nonadherence
 - Failure to establish routines that promote adherence
 - Chaotic surroundings
 - Unstable living arrangements
 - Lack of necessary household items to track time/days
- Utilizes supports for medication adherence
 - Alarms
 - Signs
 - Checklists
 - New technologies (eg, Med-eMonitor™ System)
- Shown to improve adherence and community function, and reduce rates of relapse

Velligan et al. Psychiatr Serv. 2006;57:219-224; Velligan et al. Psychiatr Serv. 2003;54:665-667.

Prior to CAT Intervention: Dresser and Drawers



Courtesy of Dawn Velligan, PhD

CAT Interventions



Courtesy of Dawn Velligan, PhD

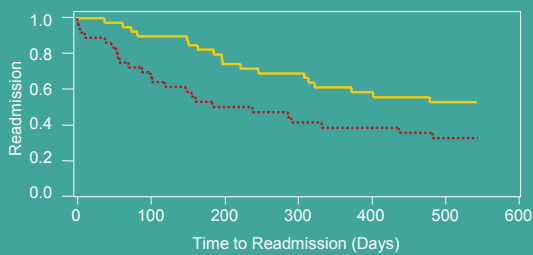
Compliance Therapy

4-6 sessions focused on

- Acknowledgment of illness (insight)
- Misgivings about medication
- Analogies for maintenance treatment of physical illness
- Medication to facilitate life goals
- Weighing of benefits and disadvantages

Kemp R, et al. *Br J Psychiatry*. 1998;172:413-419.

Effects of Compliance Therapy vs Control on Rehospitalization Rates



Kemp R, et al. *Br J Psychiatry*. 1998;172:413-419.

Medication Usage Skills for Effectiveness (MUSE)

- Intervention group (n=41)
 - Digital display on pill bottle cap
 - Develop cues to remember dose times
 - Monthly review of compliance
- Control group (n=40)
 - Treatment as usual

Assessment of compliance by digital recorder.
Cramer JA, Rosenheck R. *Psychiatr Serv.* 1998;49:196-201.

Example of a Patient Dosing Calendar

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
2	2	2	2	2	2	2
2	0	2	2	2	0	0
0	2	2	2	2	2	2
2	2	2	2	2	0	0
0	0	0	0	0	0	0
1	2	2	2	2	2	2
2	2	2	2	2	1	1
1	2	2	2	2	2	2
1	2	2	2	2	2	2

Cramer JA, Rosenheck R. *J Nerv Ment Dis.* 1999;187:53-55.

Effects of MUSE on Medication Compliance

	Compliance Rate		
	% Intervention	% Control	Significance
1 month (n=60)	81	68	P=0.02
6 months (n=45)	76	57	P=0.008

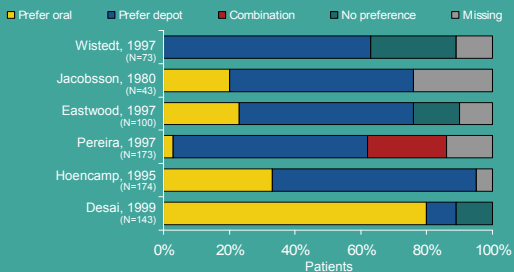
Cramer JA, Rosenheck R. *Psychiatr Serv.* 1998;49:196-201.

Polling Question #2

When treating patients with schizophrenia, how often do you use long-acting injectable antipsychotic medications?

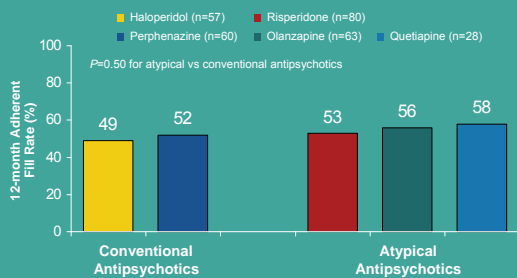
- A. 90% of the time in my patients
- B. 50% of the time in my patients
- C. 10% of the time in my patients
- D. None of the above

Patients Often Prefer Long-acting Antipsychotics



Walburn J, et al. *Br J Psychiatry*, 2001;179:300-307.

Oral Atypical Medications Have Not Solved the Issue of Nonadherence



Reprinted with permission from Dolder CR, et al. *Am J Psychiatry*, 2002;159:103-108.

Advantages of Long-acting Antipsychotics

- Injectable formula improves adherence by ensuring medication delivery
- Encouraging regular contact between patient and management team
- Avoiding first-pass metabolism, thereby producing predictable and stable plasma levels
- Minimum dosage required to prevent relapse
- No abrupt discontinuation of treatment if injection is missed
- Preferred by many patients

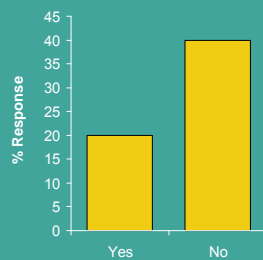
Kane. *J Clin Psych*. 2006;67(suppl 5):9-14.

Long-acting Formulations

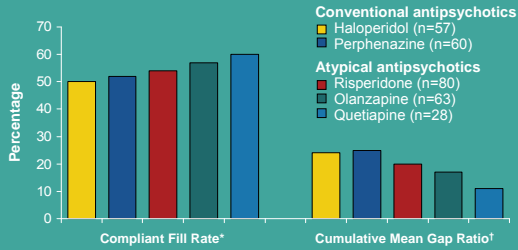
- Depot injectable formulations are underused
 - Only 17.6% of psychiatrists use these agents to treat nonadherent adult patients¹
- Possible reasons
 - Fear of EPS associated with older agents²
 - Socioeconomic factors
 - Initiation was significantly and positively associated with public insurance, prior inpatient admission, proportion of time nonadherent, average or above average intellectual functioning, and living in a mental health residence¹
 - Patients' fears of injections
 - Physicians' fear of rapidly withdrawing medication on emergence of adverse events

Polling Question #2 Results

- Are you currently using long-acting injectable antipsychotic medications for your patients?

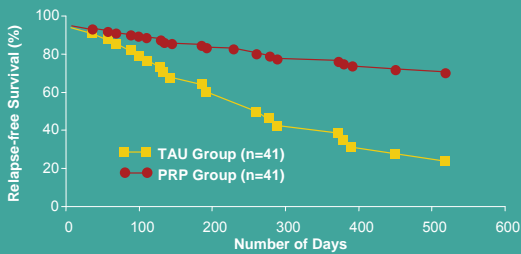


Tracking Medication Adherence With Pharmacy Records of Prescription Fill Rates



*Percentage of total medication fills that occurred at time-appropriate intervals.
 †Percentage of total study days during which medication was unavailable because of a delayed refill.
 Dolder CR, et al. *Am J Psychiatry*. 2002;159:103-108.

Early Intervention Essential for Relapse Prevention



TAU=treatment as usual; PRP=program for relapse prevention.
 Herz MI, et al. *Arch Gen Psychiatry* 2000;57:277-283.

Information Technology–aided Relapse Prevention Program in Schizophrenia (ITARPS)

- Weekly automated monitoring by cell phone
- Patient and family members report early warning signs
- Clinicians monitor status by home PC: Web-based interface
- Relapse rates decreased by 60% compared with rates prior to program initiation in pilot trial of 45 subjects

Spaniel et al. *Schizophr Res*. 2008;98:312-317.

ITARPS: Early Warning Signs Questionnaire (Patient Version)

- Sleep
- Appetite
- Concentration
- Fearfulness
- Restlessness or irritability
- Energy
- Unusual happenings
- Voices
- Coping
- Patient-specific warning signs

Spaniel et al. Schizophr Res. 2008;98:312-317.



Upcoming CME/CE Programs

Complete the online postactivity CaseLink related to this program

When the Goal Is Recovery: Managing Long-term Schizophrenia One Patient at a Time

and earn an additional 0.5 CME credits

Available online Wednesday,
December 17, 2008

psychLINK

Visit us at www.psychLINK.com!



References

1. Mueser KT, McGurk SR. Schizophrenia. *Lancet*. 2004;363(9426):2063-2072.
2. Schultz SH, North SW, Shields CG. Schizophrenia: a review. *Am Fam Physician*. 2007;75(12):1821-1829.
3. Wu EQ, Birnbaum HG, Shi L, et al. The economic burden of schizophrenia in the United States in 2002. *J Clin Psychiatry*. 2005;66(9):1122-1129.
4. Freedman R. Schizophrenia. *N Engl J Med*. 2003;349(18):1738-1749.
5. Lehman AF, Kreyenbuhl J, Buchanan RW, et al. The Schizophrenia Patient Outcomes Research Team (PORT): updated treatment recommendations 2003. *Schizophr Bull*. 2004;30(2):193-217.
6. Lehman AF, Lieberman JA, Dixon LB, et al. Practice guideline for the treatment of patients with schizophrenia, second edition. *Am J Psychiatry*. 2004;161(2 suppl):1-56.
7. Lieberman JA, Perkins D, Belger A, et al. The early stages of schizophrenia: speculations on pathogenesis, pathophysiology, and therapeutic approaches. *Biol Psychiatry*. 2001;50(11):884-897.
8. Hogarty GE, Ulrich RF. The limitations of antipsychotic medication on schizophrenia relapse and adjustment and the contributions of psychosocial treatment. *J Psychiatr Res*. 1998;32(3-4):243-250.
9. Palmer BA, Pankratz VS, Bostwick JM. The lifetime risk of suicide in schizophrenia: a reexamination. *Arch Gen Psychiatry*. 2005;62(3):247-253.
10. Ditton PM. *Mental Health and Treatment of Inmates and Probationers*. Bureau of Justice Statistics, US Department of Justice; 1999.
11. Perkins DO, Gu H, Boteva K, Lieberman JA. Relationship between duration of untreated psychosis and outcome in first-episode schizophrenia: a critical review and meta-analysis. *Am J Psychiatry*. 2005;162(10):1785-1804.
12. Lieberman JA, Alvir JM, Koreen A, et al. Psychobiologic correlates of treatment response in schizophrenia. *Neuropsychopharmacology*. 1996;14(3 suppl):13S-21S.
13. McGorry PD, Yung AR, Phillips LJ, et al. Randomized controlled trial of interventions designed to reduce the risk of progression to first-episode psychosis in a clinical sample with subthreshold symptoms. *Arch Gen Psychiatry*. 2002;59(10):921-928.
14. Woods SW, Breier A, Zipursky RB, et al. Randomized trial of olanzapine versus placebo in the symptomatic acute treatment of the schizophrenic prodrome. *Biol Psychiatry*. 2003;54(4):453-464.
15. Yung AR, Phillips LJ, Yuen HP, et al. Psychosis prediction: 12-month follow up of a high-risk ("prodromal") group. *Schizophr Res*. 2003;60(1):21-32.
16. McGlashan TH. Early detection and intervention in schizophrenia: research. *Schizophr Bull*. 1996;22(2):327-345.
17. McGlashan TH. Commentary: Progress, issues, and implications of prodromal research: An Inside View. *Schizophr Bull*. 2003;29(4):851-858.
18. Perkins DO. Evaluating and treating the prodromal stage of schizophrenia. *Curr Psychiatry Rep*. 2004;6(4):289-295.
19. Hafner H, Maurer K. Early detection of schizophrenia: current evidence and future perspectives. *World Psychiatry*. 2006;5(3):130-138.
20. Miller TJ, McGlashan TH, Rosen JL, et al. Prodromal assessment with the structured interview for prodromal syndromes and the scale of prodromal symptoms: predictive validity, interrater reliability, and training to reliability. *Schizophr Bull*. 2003;29(4):703-715.
21. West JC, Wilk JE, Olfson M, et al. Patterns and quality of treatment for patients with schizophrenia in routine psychiatric practice. *Psychiatr Serv*. 2005;56(3):283-291.
22. Freudenreich O, Goff DC. Antipsychotic combination therapy in schizophrenia. A review of efficacy and risks of current combinations. *Acta Psychiatr Scand*. 2002;106(5):323-330.
23. Kane JM. Review of treatments that can ameliorate nonadherence in patients with schizophrenia. *J Clin Psychiatry*. 2006;67 Suppl 5:9-14.
24. Lehman AF, Steinwachs DM. Patterns of usual care for schizophrenia: initial results from the Schizophrenia Patient Outcomes Research Team (PORT) Client Survey. *Schizophr Bull*. 1998;24(1):11-20; discussion 20-32.
25. Young AS, Sullivan G, Burnam MA, Brook RH. Measuring the quality of outpatient treatment for schizophrenia. *Arch Gen Psychiatry*. 1998;55(7):611-617.
26. Lieberman J, Jody D, Geisler S, et al. Time course and biologic correlates of treatment response in first-episode schizophrenia. *Arch Gen Psychiatry*. 1993;50(5):369-376.
27. Robinson DG, Woerner MG, Alvir JM, et al. Predictors of treatment response from a first episode of schizophrenia or schizoaffective disorder. *Am J Psychiatry*. 1999;156:544-549.
28. Addington J, Mansley C, Addington D. Weight gain in first-episode psychosis. *Can J Psychiatry*. 2003;48(4):272-276.
29. Sanger TM, Lieberman JA, Tohen M, Grundy S, Beasley C, Jr., Tollefson GD. Olanzapine versus haloperidol treatment in first-episode psychosis. *Am J Psychiatry*. 1999;156(1):79-87.
30. McEvoy JP, Lieberman JA, Perkins DO, et al. Efficacy and tolerability of olanzapine, quetiapine, and risperidone in the treatment of early psychosis: a randomized, double-blind 52-week comparison. *Am J Psychiatry*. 2007;164(7):1050-1060.
31. Schooler N, Rabinowitz J, Davidson M, et al. Risperidone and haloperidol in first-episode psychosis: a long-term randomized trial. *Am J Psychiatry*. 2005;162(5):947-953.
32. Chatterjee A, Chakos M, Koreen A, et al. Prevalence and clinical correlates of extrapyramidal signs and spontaneous dyskinesia in never-medicated schizophrenic patients. *Am J Psychiatry*. 1995;152(12):1724-1729.
33. McEvoy JP, Hogarty GE, Steingard S. Optimal dose of neuroleptic in acute schizophrenia. A controlled study of the neuroleptic threshold and higher haloperidol dose. *Arch Gen Psychiatry*. 1991;48(8):739-745.
34. Dickey B, Normand SL, Eisen S, et al. Associations between adherence to guidelines for antipsychotic dose and health status, side effects, and patient care experiences. *Med Care*. 2006;44(9):827-834.
35. Weiden PJ, Miller AL. Which side effects really matter? Screening for common and distressing side effects of antipsychotic medications. *J Psychiatr Pract*. 2001;7(1):41-47.

36. Kane JM, Leucht S, Carpenter D, Docherty JP. The expert consensus guideline series. Optimizing pharmacologic treatment of psychotic disorders. Introduction: methods, commentary, and summary. *J Clin Psychiatry*. 2003;64(suppl) 12:5-19.
37. Cuffel B, et al. Poster presented at: 58th Institute on Psychiatric Services Annual Meeting; October 5-8, 2006; New York, NY.
38. Nasrallah HA, Meyer JM, Goff DC, et al. Low rates of treatment for hypertension, dyslipidemia and diabetes in schizophrenia: data from the CATIE schizophrenia trial sample at baseline. *Schizophr Res*. 2006;86(1-3):15-22.
39. Covell NH, Jackson CT, Evans AC, Essock SM. Antipsychotic prescribing practices in Connecticut's public mental health system: rates of changing medications and prescribing styles. *Schizophr Bull*. 2002;28(1):17-29.
40. Weissman EM. Antipsychotic prescribing practices in the Veterans Healthcare Administration—New York metropolitan region. *Schizophr Bull*. 2002;28(1):31-42.
41. Lieberman JA, Stroup TS, McEvoy JP, et al. Effectiveness of antipsychotic drugs in patients with chronic schizophrenia. *N Engl J Med*. 2005;353(12):1209-1223.
42. Essock SM, Covell NH, Davis SM, Stroup TS, Rosenheck RA, Lieberman JA. Effectiveness of switching antipsychotic medications. *Am J Psychiatry*. 2006;163(12):2090-2095.
43. Coldham EL, Addington J, Addington D. Medication adherence of individuals with a first episode of psychosis. *Acta Psychiatr Scand*. 2002;106(4):286-290.
44. Cramer JA, Rosenheck R. Compliance with medication regimens for mental and physical disorders. *Psychiatr Serv*. 1998;49(2):196-201.
45. Weiden PJ, Olfson M. Cost of relapse in schizophrenia. *Schizophr Bull*. 1995;21(3):419-429.
46. Keith SJ, Kane JM. Partial compliance and patient consequences in schizophrenia: our patients can do better. *J Clin Psychiatry*. 2003;64(11):1308-1315.
47. Byerly M, Fisher R, Whatley K, et al. A comparison of electronic monitoring vs. clinician rating of antipsychotic adherence in outpatients with schizophrenia. *Psychiatry Res*. 2005;133(2-3):129-133.
48. Kane JM. Treatment adherence and long-term outcomes. *CNS Spectr*. 2007;12(10)(suppl 17):21-26.
49. Lacro JP, Dunn LB, Dolder CR, Leckband SG, Jeste DV. Prevalence of and risk factors for medication nonadherence in patients with schizophrenia: a comprehensive review of recent literature. *J Clin Psychiatry*. 2002;63(10):892-909.
50. Hamann J, Mischo C, Langer B, Leucht S, Kissling W. Physicians' and patients' involvement in relapse prevention with antipsychotics in schizophrenia. *Psychiatr Serv*. 2005;56(11):1448-1450.
51. Weiden PJ, Kozma C, Grogg A, Locklear J. Partial compliance and risk of rehospitalization among California Medicaid patients with schizophrenia. *Psychiatr Serv*. 2004;55(8):886-891.
52. Schooler NR, Keith SJ, Severe JB, et al. Relapse and rehospitalization during maintenance treatment of schizophrenia. The effects of dose reduction and family treatment. *Arch Gen Psychiatry*. 1997;54(5):453-463.
53. Schooler NR. Relapse and rehospitalization: comparing oral and depot antipsychotics. *J Clin Psychiatry*. 2003;64(suppl 16):14-17.
54. Gilbert PL, Harris MJ, McAdams LA, Jeste DV. Neuroleptic withdrawal in schizophrenic patients. A review of the literature. *Arch Gen Psychiatry*. 1995;52(3):173-188.
55. Bola JR. Medication-free research in early episode schizophrenia: evidence of long-term harm? *Schizophr Bull*. 2006;32(2):288-296.
56. Schooler NR. Implications for future research of "medication-free research in early episode schizophrenia". *Schizophr Bull*. 2006;32(2):297-298.
57. Marder SR. Antipsychotic drugs and relapse prevention. *Schizophr Res*. 1999;35(suppl):S87-92.
58. Bergiannaki JD, Hatzimanolis J, Liappas J, Sakkas PN, Stefanis CN. Relapse prevention in schizophrenia: attitudes of neurologists-psychiatrists. *Eur Psychiatry*. 2001;16(2):90-98.
59. Shepherd M, Watt D, Falloon I, Smeeton N. The natural history of schizophrenia: a five-year follow-up study of outcome and prediction in a representative sample of schizophrenics. *Psychol Med Monogr Suppl*. 1989;15:1-46.
60. Kissling W. Compliance, quality assurance and standards for relapse prevention in schizophrenia. *Acta Psychiatr Scand Suppl*. 1994;382:16-24.
61. Day JC, Bentall RP, Roberts C, et al. Attitudes toward antipsychotic medication: the impact of clinical variables and relationships with health professionals. *Arch Gen Psychiatry*. 2005;62(7):717-724.
62. Frank AF, Gunderson JG. The role of the therapeutic alliance in the treatment of schizophrenia. Relationship to course and outcome. *Arch Gen Psychiatry*. 1990;47(3):228-236.
63. Weiss KA, Smith TE, Hull JW, Piper AC, Huppert JD. Predictors of risk of nonadherence in outpatients with schizophrenia and other psychotic disorders. *Schizophr Bull*. 2002;28(2):341-349.
64. Stewart MA. Effective physician-patient communication and health outcomes: a review. *CMAJ*. 1995;152(9):1423-1433.
65. Ereshefsky L, Mascarenas CA. Comparison of the effects of different routes of antipsychotic administration on pharmacokinetics and pharmacodynamics. *J Clin Psychiatry*. 2003;64(suppl 16):18-23.
66. Kane JM. Strategies for improving compliance in treatment of schizophrenia by using a long-acting formulation of an antipsychotic: clinical studies. *J Clin Psychiatry*. 2003;64(suppl 16):34-40.
67. Lasser RA, Bossie CA, Gharabawi GM, Baldessarini RJ. Clinical improvement in 336 stable chronically psychotic patients changed from oral to long-acting risperidone: a 12-month open trial. *Int J Neuropsychopharmacol*. 2005;8(3):427-438.

When the Goal Is Recovery: Managing Long-term Schizophrenia One Patient at a Time
Program # P8N04-SB – Posttest

Please write your responses to these questions in the Posttest Responses section of the CME application/program evaluation form.

- 1. For patients who are in the early phase of schizophrenia, which of the following factors would predict nonadherence?**
 - a. Denial of their condition
 - b. Socioeconomic status
 - c. Educational background
 - d. Race/ethnicity
 - e. All of the above
- 2. First-episode patients who discontinue medication are more likely to relapse than those who continue. How frequently are they likely to relapse?**
 - a. Five times more likely to relapse than those who continue medication
 - b. Twice as likely to relapse than those who continue medication
 - c. The rate of relapse is comparable to those who continue medication
 - d. The frequency of relapse in patients who discontinue medication is not known
 - e. None of the above
- 3. Which of the following are often reported by patients as barriers to medication adherence?**
 - a. Stigma
 - b. Adverse drug reactions
 - c. Substance abuse
 - d. Forgetfulness
 - e. All of the above
- 4. Recent studies have shown that nonadherence can be best monitored by using which of the following objective measures?**
 - a. Patient report
 - b. Physician report
 - c. Electronic monitoring
 - d. Pill count
 - e. All of the above
- 5. Antipsychotic medication status is a predictor of relapse in first-episode patients.**
 - a. True
 - b. False
- 6. According to a recent study, female patients who have a shorter duration of illness and better social functioning at baseline are likely to have a more favorable outcome of schizophrenia than their male counterparts.**
 - a. True
 - b. False
- 7. Family treatment can have a significant impact on reducing relapse rates.**
 - a. True
 - b. False
- 8. According to a recent study, 70% of patients who discontinue antipsychotics will relapse within the first year.**
 - a. True
 - b. False
- 9. Which of the following available methods reduce relapse rates?**
 - a. Single-family treatment
 - b. Multiple-family group treatment
 - c. Single- and multiple-family group treatment
 - d. Electroconvulsive therapy
 - e. All of the above
- 10. Advantages of long-acting antipsychotics include:**
 - a. Injectable formula improves adherence by ensuring medication delivery
 - b. Avoiding first-pass metabolism, thereby producing predictable and stable plasma levels
 - c. Minimum dosage required to prevent relapse
 - d. No abrupt discontinuation of treatment if injection is missed
 - e. All of the above

PLEASE PRINT CLEARLY

Name (First MI Last)	Field of Expertise	Date Activity Completed
Mailing Address	City, State, Zip	
Daytime Phone	Fax Number	
Email Address		
Facility Affiliation		
Practice Setting: <input type="checkbox"/> Private Practice <input type="checkbox"/> Institution Based <input type="checkbox"/> Home Office		
Activity Title: When the Goal Is Recovery: Managing Long-term Schizophrenia One Patient at a Time		Meeting Code: P8N04-SB
How did you participate in this activity?		
<input type="checkbox"/> Live Satellite Broadcast	<input type="checkbox"/> Webcast (Online streaming video)	<input type="checkbox"/> Telephone Audio Conference Only
<input type="checkbox"/> Rebroadcast at 1:30 PM ET	<input type="checkbox"/> Rebroadcast at 3 PM ET	<input type="checkbox"/> CD-ROM

Preactivity Survey Responses				
1.	2.	3.	4.	5.

Posttest Responses: A minimum score of 70% is required to pass and received CME/CE credit (this pertains to Web-based and telephone conference only).									
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.

Activity Evaluation

Original Program Date: November 19, 2008 12:30PM - 1:30PM ET (Live)

Enduring Material – Activity Credit Expiration Date: November 19, 2009 Meeting Code: P8N04-SB

Please circle the response that best matches your opinion about this activity.

1. In the table below, on the left, please circle your current frequency of use of each of the listed diagnosis and treatment strategies. Then, on the right, circle your planned frequency of use of the same strategies, based on your participation in today's CME activity.

<i>CURRENT</i> FREQUENCY OF USE					DIAGNOSIS/TREATMENT STRATEGY	<i>PLANNED</i> FREQUENCY OF USE				
Never	Always			Never		Always				
1	2	3	4	5	Use antipsychotic medications alone	1	2	3	4	5
1	2	3	4	5	Continue using maintenance treatment with antipsychotics for at least 1 year after first episode for relapse prevention	1	2	3	4	5
1	2	3	4	5	Use psychosocial treatment options in combination with antipsychotics	1	2	3	4	5
1	2	3	4	5	Monitor nonadherence to antipsychotics using pill count, electronic monitoring, or measuring plasma levels for medication	1	2	3	4	5

2. Please rate your confidence in your ability to:
- | | | | | | |
|---|----------------------|---|---------------------|---|---|
| | Not confident at all | | Extremely confident | | |
| a. Identify comprehensive rehabilitation strategies to prevent relapse, including long-acting, injectable medications and psychosocial rehabilitation | 1 | 2 | 3 | 4 | 5 |
| b. Communicate effectively with your patients who have schizophrenia regarding the need for and duration of maintenance phase treatment. | 1 | 2 | 3 | 4 | 5 |

3. How many patients do you currently have with schizophrenia? _____ patients

	Strongly Disagree	Disagree	Agree	Strongly Agree	
4. Please indicate your level of agreement with how well the program met each of the following objectives.	1	2	3	4	N/A
a. Outline the relapse and rehospitalization rates that typically occur during the maintenance phase of schizophrenia treatment	1	2	3	4	N/A
b. Identify comprehensive rehabilitation strategies to prevent relapse, including long-acting, injectable medications and psychosocial rehabilitation	1	2	3	4	N/A
c. Communicate effectively with patients regarding the need for and duration of maintenance phase treatment	1	2	3	4	N/A
5. The learning objectives were related to the overall purpose.	1	2	3	4	N/A
6. The presenters demonstrated expertise in the subject matter.					
Dr. John Kane, Moderator	1	2	3	4	N/A
Dr. John Lauriello	1	2	3	4	N/A
Dr. Donald C. Goff	1	2	3	4	N/A
7. The instructional process (teaching strategy) was of high quality.	1	2	3	4	N/A
8. The activity was fair, balanced, and free of commercial bias.	1	2	3	4	N/A
9. The activity enhanced my professional effectiveness.	1	2	3	4	N/A
10. The topics were current and clinically relevant to my practice.	1	2	3	4	N/A

11. Do you plan to make improvements in your practice based on new knowledge gained during this session?

- Yes I am considering it No (please explain)

12. How likely are you to utilize 50% of the new clinical information in your practice? Very likely Somewhat likely Not likely

If you participated in this activity online, please answer the following; if not, skip to the end for signature.

13. Did you experience difficulty accessing the educational activity? Yes No If "Yes," please explain; if "No," skip to the end.

14. What technical difficulties did you experience? Please explain.

15. Did you require technical assistance? Yes No If "Yes," please explain; if "No," skip to the end.

*To obtain a certificate of credit for this program, please complete the section at the top of this form before submitting this evaluation for processing. **This section must be completed to receive credit.** This information will NOT be reported in conjunction with your evaluation and is recorded solely for documentation of awarded credit. Thank you for your participation.*

I, _____, certify that I spent _____ minutes at this activity.

(Signature)

(Maximum 60)

Please check here if you are interested in learning about additional educational activities sponsored by The Chatham Institute and the psychLINK network.