**NAVIGATE Psychopharmacological Treatment Manual**

Developed by The NAVIGATE Psychopharmacological Treatment Committee.

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**IMPORTANT NOTE TO READERS WHO ARE NOT STAFF OF THE RAISE-ETP STUDY:** NAVIGATE medication treatment includes use of COMPASS, web-based computer decision support system. COMPASS is currently available for use exclusively by RAISE-ETP study participants and staff. Readers who are not part of the RAISE-ETP program may adapt their systems to use COMPASS principles in their treatment delivery. For example, paper versions of the patient and prescriber forms used in COMPASS are included in this manual. These paper forms do not support the interactive features of the COMPASS system but can be used to incorporate some of the COMPASS assessment models into treatment settings without access to the COMPASS program.

**NOTE TO ALL READERS**: NAVIGATE is a comprehensive intervention program for people who have experienced a first episode of psychosis. Treatment is provided by a team of mental health professionals who focus on helping people work toward personal goals and get their life back on track. More broadly, the NAVIGATE program helps consumers navigate the road to recovery from an episode of psychosis, including supporting efforts to function well at home, job, and in the social world. The NAVIGATE program includes four different treatments: Individualized Medication Management, Supported Employment and Education, Individual Resiliency Training, and Family Education. There is also a Team Members manual posted to describe the NAVIGATE team member structure and functioning. This manual focuses on NAVIGATE medication treatment. For further description of the NAVIGATE model and of the manuals available for other NAVIGATE components, please see the INTRODUCTION section of this manual.

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To aid readers in obtaining information rapidly, some information is repeated in related manual sections.


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# Introduction

## Introduction

NAVIGATE is a comprehensive intervention program for individuals who are experiencing a first episode of psychosis. It is a team-based approach that has an ambitious goal – recovery defined by good quality of life, including hope, social connection, personal responsibility, involvement in meaningful life activities, a positive identity, experiencing a full life beyond the illness, and personal growth. Significant improvement of symptoms of the illness, maintenance of that improvement and prevention of relapses are key components in attaining recovery goals. Optimal use of the pharmacological agents that are available today is central to that effort.

This manual provides details about how NAVIGATE psychiatrists and nurse practitioners will provide psychopharmacologic treatment for NAVIGATE patients using a measurement-based care tool – COMPASS - that has been specifically tailored for the treatment of patients with first episode and early phase psychosis in the NAVIGATE program.

The goal of this introduction is to place the pharmacological treatment in the context of the team approach that characterizes NAVIGATE, introduce the other members of the team and their roles and describe how a shared decision making model will be used to help individuals in treatment and their families participate in decisions regarding their treatment goals and options. The NAVIGATE clinical team includes a psychiatrist and/or a nurse practitioner, a Project Director, two case managers or clinicians and a supported employment/education specialist. The team will also be supported by a part-time Research Assistant who will help with scheduling and complete other important tasks to help in providing care for patients.

The Project Director is central to the clinical team. He or she will serve as the primary point person for recruitment and engagement of patients into the NAVIGATE program, will lead team meetings, provide supervision for other NAVIGATE clinicians and the supported employment specialist.

In addition to measurement-based pharmacological treatment, NAVIGATE includes three other components.

*A Family Education Program (FEP)* is provided in order to facilitate the management of the illness by providing information about the psychotic disorder and its treatment, giving guidance in monitoring early warning signs of relapse, helping to reduced stress in the family by improving communication and problem-solving, and working towards recovery goals, such as improved social relationships, work or school functioning. In many NAVIGATE sites, this element will be provided by the Project Director.

*Supported employment/education (SEE)* is provided in order to help clients achieve goals related to improved role functioning by focusing on return to school or competitive employment. *SEE* principles and methods include *zero exclusion* (desire to work or go to school is the only criterion for participation), focus on *competitive work* in integrated community settings (rather than sheltered or transitional work), *rapid job search* (rather than extended vocational assessments or prevocational training), attention to *client preferences* (e.g., preferences with respect to type of job sought and decision about disclosure to prospective employers), and the provision of *follow-along support* after starting school or a job. SEE will be provided by supported employment specialists.

*Individual resiliency training (IRT)* aims to help individuals attain personal goals through a combination of teaching illness self-management (e.g., information about the disorder and treatment, monitoring early warning signs of relapse, reducing substance abuse, teaching skills for coping with persistent symptoms), social rehabilitation, and improving well-being through teaching resiliency skills, helping the person process the experience of psychosis, and addressing self-stigmatizing beliefs IRT will be provided by case-managers or other clinicians.

Patients who are part of the NAVIGATE research and treatment program will be discussed at team meetings so that information and concerns from all team members are common knowledge and can be used to the best advantage for the patient's benefit. The NAVIGATE team will also work to identify the goals of patients and their families. Common goals in first episode individuals include returning to school or work, establishing

independence from one's family, and reengaging in peer relationships. But these may vary and the team's goal will be to align treatment with the individual's goals.

The primary method for doing this is shared decision making – which is incorporated into COMPASS for NAVIGATE. Further, decisions about inclusion of all components of NAVIGATE involve collaboration with the patient/client (and family members and/or alternative significant others – if he or she chooses to include them in the process). Often, when asked about goals, first episode patients define anti-psychotic medication discontinuation as a goal. Strategies for addressing this are discussed in detail below. (Enhancing Adherence to Medication, starting on page 21).

Information from all team members will be incorporated into a brief case summary (prepared by the RA) that will be available to all. The COMPASS patient self rating and the clinician assessments are central to this summary but these will be augmented by information from other members of the team. Patient clinical needs that are identified during the regular medication visits may be addressed by other components of the program. For example, IRT includes modules for smoking cessation, weight management, stress reduction and coping with persistent delusions and hallucinations (among others).

Manuals for each NAVIGATE component are available.

## Clinical Issues Specific to Early Phase Illness

## Clinical Tips for Assessment

As every clinician knows, schizophrenia is a common illness. However, there are relatively few new cases of schizophrenia each year. Unless you have specialized in the treatment of early psychosis, your experiences with patients with schizophrenia will have been heavily weighted to multi-episode patients. All your accumulated clinical knowledge about how to treat patients with schizophrenia will be invaluable for treating NAVIGATE patients. In treating any specialized patient group, there are often some clinical areas that require increased emphasis. The following are some clinical tips about managing early phase patients to supplement your current professional experiences.

Initial Assessment

Problem: By definition, early phase patients have no, or only limited, prior medical records. You will need to be a detective to find out the patients' history of illness.

- Suggestions:
    - Get as much collateral information as possible
        - Families are important sources of information
            - Usually one or more of the parents are the primary informants
            - Siblings frequently are the best informants about substance use
            - (Note: while collecting information, you can concurrently assess who among the family is in favor and who is against treatment of the patient)
        - Other NAVIGATE team members may get valuable parts of the patient history
            - This may be discovered during their assessments, e.g., the supported education specialist may find out that poor school functioning is due to severe hallucinations or substance use
            - At the beginning of treatment, patients sometimes don't follow the usual clinical breakdown about which staff member does what function. They may tell parts of their history to different team members in patterns that differ from what multi-episode patients who are familiar with clinics usually do.
    - Often the patient is the only source of vital information. The usual strategy is to find some aspect of the patient's illness that they agree is a problem and use that as an entry point to explore the extent of symptoms. Each patient varies in what they see as a problem but it usually consists of either:
        - A symptom that the patient experiences as negative (usually this is anxiety or worry, sometimes depression). Exploring what drives these symptoms frequently uncovers psychotic symptoms. For example, anxiety may be a reaction to fears of harm; insomnia to nighttime hallucinations.
        - Problems with role function. First episode patients usually do not see themselves in a patient role. Their expectations are that they will have a role (school, work) similar to their peers. First episode patients will frequently respond to discussions of role performance problems. Psychotic symptoms are often elicited when describing performance difficulties (e.g., hallucinations may make it difficult to concentrate in classrooms leading to academic failure).
        - Problems with social functioning. Similarly, first episode patients expect to have the same social interactions as their healthy peers. Discussing problems of social isolation or other social difficulties can be an entry point to exploring psychotic symptoms.

Clinical Characteristics that influence assessment:

- Subjects usually have been psychotic for 1-2 years before being brought into treatment
    - Both patients and families are often in denial about the extent of the patient's symptoms
        - One frequently gets only a limited history of symptoms and the extent of symptoms at the first interview. Families and patients often will need time to fully disclose the extent of symptoms. Be prepared to learn more over the first few months of treatment.
    - Dating the onset of symptoms can be especially difficult and the known onset usually changes over the first months of treatment. Obtaining the time of first social and of first role (education or work) dysfunction often gives good indications of the onset of symptoms.
- When the patient finally enters treatment, their psychotic symptoms can be very severe
        - Be prepared for the assessment of more extreme versions of psychosis, such as bizarre delusions and catatonic features.
- 40%-50% of first episode schizophrenia-spectrum patients met criteria for a past or current DSM-defined substance abuse or dependence disorder (not counting nicotine dependence). This is overwhelmingly alcohol and/or marijuana use disorders. How to tell substance induced psychosis from schizophrenia with substance use? Clinicians sometimes automatically assume that young patients who present with psychosis and substance use have a drug induced psychosis. An important clinical point is to get a chronology of the psychotic symptoms and of the substance use. For some patients, you will obtain a clear history of psychotic symptoms predating the substance use. For subjects whose psychotic symptoms started concurrently or after the onset of substance abuse, it is important to determine if there are periods of psychosis in the absence of substance abuse. Patients with early phase schizophrenia and substance use often report that they had a period when they stopped substances all together or drastically cut down the amount of use in an attempt to eliminate their psychotic symptoms, which they attribute to substance use. After a while, patients realize that their psychotic symptoms persist after stopping their substance abuse. At this point, they usually resume their substance use (and thus are often abusing substances at the time of initial treatment contact). Without obtaining a chronology of substance use and psychotic symptoms, patients such as these would mistakenly be given solely a diagnosis of substance induced psychosis.
- Because patients and family are often ambivalent about treatment, many patients have had brief prior treatment for psychosis that ended when the patient stopped treatment. Always inquire about medication taken versus medication prescribed during prior treatment - they often/usually are different and study eligibility is based upon antipsychotic medication taken. Although not related to study eligibility, inquiring about the use of over-the-counter or "alternative" medicines is important for discussions about treatment within NAVIGATE.

## Clinical Tips for Management

All your accumulated clinical knowledge about how to treat patients with schizophrenia will be invaluable for treating NAVIGATE patients. In treating any specialized patient group, there are often some clinical areas that require increased emphasis. The following are some clinical tips about managing early phase patients to supplement your current professional experiences.

For most families, having a son or daughter enter treatment for a psychotic episode is a family crisis. Further, most patients and their families have limited experience with the mental health treatment system.

- Families and patients usually need support during the process of entering treatment. The IRT and family education components of NAVIGATE are important resources for this.
- Patients and families often have an unstable view of the illness even after several months of treatment.
    - It is important to provide patients and families with a clear, consistent description of the illness and its treatment. Reluctance to discuss psychosis or diagnosis prevents patients and their families from having a clear understanding of illness management.

First episode patients frequently have a robust positive symptom response to antipsychotic treatment

- Treatment goals should be high for a young person first starting treatment. For symptom management, the goal is resolution of symptoms as evidenced by a rating of mild or better on the core psychosis items of the NAVIGATE psychopathology rating scale.

Possibly related to an overall good responsiveness to antipsychotic medication, first episode patients may respond to long mono-therapy trials of antipsychotics and to lower doses than more chronic patients

- The Preventing Morbidity study treated first episode patients with olanzapine or risperidone for 16 weeks. Cumulative response rates increased steadily every study week until the end of trial. The cumulative response rate was 40% by week 8; 54% by week 12 and 65% by week 16.
- The recommended NAVIGATE treatment trial duration is a minimum of 8 weeks to establish efficacy. Clinicians and patients may consider longer trials based upon the finding that up to 25% of first episode patients respond to more lengthy treatment. No data are available for treatment longer than 16 weeks with response defined as in COMPASS, so insufficient trials lasting longer than 16 weeks are not recommended.
- First episode patients are frequently more sensitive to antipsychotic effects, both in terms of efficacy but also in terms of adverse effects. Antipsychotics doses that are at 50-60% of what is used in more chronic patients are often sufficient to obtain a treatment response. Higher doses often are associated with a greater side effect burden. The dosing for quetiapine may differ from this pattern as daily doses of around 500 mg were reported in two first episode trials. The dosing for ziprasidone may also differ from this pattern as daily doses of around 110 mg were reported in one first episode trial.

Lack of response after a few weeks of treatment has been demonstrated to predict lack of response to longer trials with multi-episode patients. This may not hold with first episode patients.

- In the Preventing Morbidity study, approximately 40% of subjects who had less than a 20% reduction in symptoms by week 4, meet stringent response criteria by week 16 of treatment.

Families and patients usually have no personal experience of the negative consequences of treatment discontinuation.

- Young people have difficulty accepting that they have a chronic medical illness, regardless of whether it is psychiatric or of other etiology. Families also often wish to not consider that the patient has a chronic illness.
    - Return to good functioning is often interpreted as meaning that treatment is not needed anymore.
    - Substance use and/or stress are frequently cited by patients and families as the sole cause of the psychotic symptoms and not as factors that exacerbated an underlying disorder.

- Prepare for non-adherence. Strategies for managing non-adherence are presented in detail in the next section of the manual. Key components are:
    - Clear communication with patients and their families about the need for maintenance treatment based upon consistent findings from research studies spanning several decades
    - Engagement of the entire family in maintaining adherence. Without guidance, families often stop encouraging adherence after the acute crisis of an inpatient hospitalization subsides.
    - Consider having family members supervise medication intake, but also be mindful of the potential power struggles that can ensue or exacerbate
    - Assessment of adherence at all contacts
    - Consider use of long-acting formulations of antipsychotics before non-adherence begins. Use of long-acting formulations prevents covert non-adherence—prescribers and families are always aware if a patient being treated with long-acting medications is adherent or non-adherent.
- Despite presentation of the evidence base for the effectiveness of maintenance treatment and the risks to function through repeated psychotic relapses, many first episode patients will decide to stop treatment, sometimes repeatedly and often without your knowledge.
    - For most patients, it is important to engage the family in this decision
        - Many families will encourage patients to continue treatment
        - If patients decide to stop treatment, it is often important that families know that the patient is entering a period of increased relapse risk
    - Maintaining engagement is crucial for early detection and management of relapse
        - Patients will frequently agree to longitudinal follow-up after medication discontinuation
        - Participation in other modules of NAVIGATE such as IRT or supported employment/education provide another context for patients to maintain contact with the facility and with health care providers.

Treatment of depressive symptoms: Depressive symptoms very commonly co-occur with a first episode of schizophrenia. Depressive symptoms may be a core part of the acute illness. These symptoms usually resolve with antipsychotic monotherapy as the psychosis remits (see Koreen et al; Am J Psychiatry 1993; 150:1643-1648). Guidelines for when to initiate adjunctive antidepressant treatment with first episode patients are not available. Since most depressive symptoms will remit with antipsychotic treatment alone, prescription of adjunctive antidepressants for all first episode patients with depressive symptoms is not warranted. In the absence of guidelines, persistence of depression (especially if positive symptoms are improving or have remitted) and severity of depression may be factors to consider when making clinical decisions about adjunctive antidepressant treatment. Data are not available on antidepressant dosing with first episode patients. Given what is known about antipsychotic treatment with first episode patients (effective dose ranges are low in comparison with those for multi-episode patients; marked side effect sensitivity), consideration of using slow titration and low to moderate antidepressant doses is reasonable in the absence of data.

Suicide assessment and prevention: The first years of schizophrenia mark the time of greatest risk for suicide attempts. Make sure to look for signs of hopelessness, resignation, or ruminations about falling behind peers or own / family expectations. Make sure to inquire about suicidal thinking or behaviors. Again, family members can be a good source of information.

## Medication Treatment in NAVIGATE

## NAVIGATE Sequence of Medications

### Basis for recommendations

NAVIGATE treatment, both medication and therapy interventions, is based upon a shared decision making model. For a shared decision making model of treatment, the NAVIGATE treatment development group decided to stick as closely as possible to evidence based recommendations and minimize expert hunches about treatment. As shown in the first episode studies detailed elsewhere in the manual, doses for most (but not all) antipsychotics required for treatment of first episode psychosis are lower than those needed for treatment of multi-episode patients. Even with low dose medication strategies, patients with first-episode schizophrenia often experience substantial side effects. Based upon these considerations, NAVIGATE treatment emphasizes medications with data from recent studies suggesting that the medication is effective with first-episode patients and/or adolescents with schizophrenia-spectrum disorders. These studies provide the evidence base for efficacy, dosing and side effect profiles. Medications which have not been specifically studied with these patient groups may be effective but dosing and side effect profiles are unknown for these groups.

### General principles of treatment

RAISE NAVIGATE medications are given in sequence. Subjects progress from one medication to the next until satisfactory outcomes are obtained for both symptoms and side effects. Subjects are encouraged to remain on their successful medication during their remaining time in study. If the antipsychotic dose for treatment of the acute psychotic episode has been carefully determined, dose reduction during maintenance treatment is generally not recommended, unless side effects make a dose reduction necessary. Treatment adherence should be monitored at all subject visits and interventions should be initiated when poor adherence is suspected or detected. If adherent subjects develop new symptoms or side effects during maintenance treatment with a previously successful medication, the dose of the previously successful medication should be optimized followed by advancement to the next medication, if required.

Treatment goals: The overall goal of NAVIGATE treatment is to maximize recovery from an initial episode of psychosis. For symptom management, the goal is resolution of symptoms as evidenced by a rating of mild or better on the core psychosis items of the NAVIGATE psychopathology rating scale.

Side effect management strategies prior to switching medications: Before changing medications at any stage in the treatment sequence due to problems with medication tolerability, side effect reduction strategies should be attempted, if clinically possible. For most side effects, dose reduction will be the first strategy considered. Strategies for specific side effects are provided in COMPASS and in this manual. Examples of strategies for commonly encountered side effects are:

Problems with increased weight/metabolic side effects: Healthy Life Styles program

Problems with Parkinsonism: Dose reduction, if possible, followed by addition of an anticholinergic medication as needed

Problems with akathisia: Decrease dose or speed of titration, if possible, followed by addition of a benzodiazepine, beta blocker or antihistamine as needed.

Problems with sedation/somnolence: Dose reduction, if possible, or change in timing of dosing. Depending upon severity and other clinical factors, waiting for tolerance to develop may be considered.

Trial length to establish efficacy: The proper duration for trying a particular antipsychotic before switching due to lack of efficacy is a matter of controversy. To answer this question would require studies with first episode

patients who do not quickly respond to a medication to be randomly assigned to either continue on their medication or be switched to another medication. No such studies have been performed. Data from other study designs that are available suggest that a subgroup of first episode patients do respond to prolonged treatment with a single antipsychotic. The Preventing Morbidity study treated first episode patients with olanzapine or risperidone for 16 weeks. Cumulative response rates increased steadily every study week until the end of trial. The cumulative response rate was 40% by week 8; 54% by week 12 and 65% by week 16. The recommended NAVIGATE treatment trial duration is a minimum of 8 weeks to establish efficacy. Clinicians and patients may consider longer trials based upon the fact that approximately 25% of first episode patients respond to more lengthy treatment. No data are available for treatment longer than 16 weeks with response defined as in COMPASS, so insufficient trials lasting longer than 16 weeks are not recommended.

**Choice of initial medication to try**

Medications with data from modern first episode studies are: amisulpride (not available in the US), chlorpromazine, clozapine, haloperidol, olanzapine, quetiapine, oral risperidone, risperidone microspheres, and ziprasidone. (Note: Efficacy data from older studies are available for additional medications (e.g., high dose fluphenazine) but these medications were not considered for inclusion because of lack of data with current dosing practices).

All studied antipsychotics are equally effective for the treatment of positive symptoms of the initial episode. Haloperidol has been shown to be less effective as maintenance treatment than second-generation agents. It is unknown if all first-generation agents are also less effective at maintenance treatment. Chlorpromazine, haloperidol and olanzapine have side effect profiles that suggest that other medications with first episode data be tried first.

Clozapine has not demonstrated superiority over other antipsychotics for the treatment of an initial psychotic episode. Due to concerns about its side effects, clozapine is reserved for patients with treatment resistant symptoms based upon data with treatment resistant early phase patients and for patients with persistent suicidal ideation based upon data with multi-episode patients.

Data are also available from studies of adolescents with psychosis for aripiprazole and molindone (now unavailable in the US). These studies included patients early in treatment but also those with more chronic illness. The generalizability of these data to adolescents solely with a first episode of illness or adults with first episode illness is unknown.

Based upon these considerations, the first antipsychotic medication tried for NAVIGATE treatment should be either aripiprazole, quetiapine, risperidone, risperidone microspheres, or ziprasidone. Choice is based upon shared decision making (patient factors and preferences).

Note: For NAVIGATE participants who start the study taking a medication not among the NAVIGATE recommended medications, the efficacy and tolerability of this medication trial needs to be considered. In addition, the potential advantages of taking medications with an evidence base and the potential risks of switching medications will need to be assessed and a clinical decision will need to be made that balances all of these factors.

**Choice of second medication to try, if required**

The medications with first episode or adolescent data include medications with a broad range of side effect profiles. This range allows options in most instances for using another medication from this group as the second medication for patients with tolerability problems due to their first medication.

Recommended medications for side effect management are:

- **Progression to second medication due to problems with increased weight/metabolic side effects:** Consider switching to aripiprazole or ziprasidone

- **Progression to second medication due to problems with Parkinsonism:** Consider switching to aripiprazole, quetiapine, or ziprasidone

- **Progression to second medication due to problems with akathisia:** Consider switching to quetiapine, risperidone or ziprasidone.

- **Progression to second medication due to problems with adherence:** Consider switching to the long acting injectable formulation of risperidone. (Note: long acting formulations are *not* reserved for management of non-adherence and should be considered during initial treatment for a variety of reasons. Long acting formulations of paliperidone and olanzapine are available. Paliperidone is closely related to risperidone and the long acting version has advantages for monthly administration over the long acting formulation of risperidone. However, paliperidone palmitate has not been studied with first episode patients so dosing is unclear for first episode patients. Long-acting injectable olanzapine also has not been studied with first episode patients. It has a warning for a Post-Injection Delirium/Sedation Syndrome (PDSS) and should only be administered in specialty settings that can provide at least 3 hours of supervision after each injection).

- **Progression to second medication due to problems related to hyperprolactinemia:** Consider switching to aripiprazole, quetiapine, or ziprasidone (Note: for patients doing well on first generation agents or risperidone, also consider addition of aripiprazole to their ongoing regime).

Approaches to treatment of persistent positive symptoms: Data specific for the treatment of first episode patients with persistent positive symptoms are not available. Clinical factors to consider include 1) the length of treatment with the initial medication as data suggest that some first episode patients respond after lengthy trials of a single agent, and 2) the possibility of covert nonadherence as a factor in persistence of symptoms. Data from studies of multi-episode patients with treatment resistance suggest that clozapine remains the agent of choice, but that risperidone and olanzapine may have efficacy for this patient group. If risperidone was not tried as the initial medication, consider a trial of risperidone. If risperidone was the initial medication tried, the potential benefits of use of olanzapine as the second medication versus its long-term metabolic side effects should be evaluated.

**Choice of subsequent antipsychotic, if required.**

Medications for side effect management: Due to the availability of side effect data specific to the patient population, the first choice will either be aripiprazole, chlorpromazine, haloperidol, olanzapine, quetiapine, risperidone, or ziprasidone. Clozapine may have a role for management of tardive dyskinesia in some cases. If none of these medications are appropriate for the side effect the patient is experiencing, other antipsychotics should be tried.

Medications for persistent positive symptoms: Clozapine can be considered for patients who have persistent positive symptoms after trials of two antipsychotics and should be the treatment, unless contraindicated or refused, for patients with persistent positive symptoms after trials of three antipsychotics. (Note: earlier use of clozapine in the medication sequence should be considered for patients with persistent suicidal ideation.) Prior to initiating clozapine treatment for persistent positive symptoms, trials of risperidone and olanzapine (and long acting antipsychotics for suspected nonadherence) should be considered. There are no data available specific for first episode patients with persistent positive symptoms after an adequate trial of clozapine. Clinicians should base their decisions for these patients on data from studies of patients with treatment -resistant schizophrenia.

## FDA Indications

Although commonly used for the treatment of adolescents and adults with schizophrenia spectrum disorders, antipsychotics have more limited FDA indications. The current FDA schizophrenia spectrum indications for the antipsychotics in Compass are provided below to aid in discussions with patients.

| Medications | FDA Indications |
|---|---|
| Aripiprazole | Treatment of schizophrenia in adults and adolescents (ages 13-17) |
| Quetiapine | Treatment of schizophrenia in adults and adolescents (ages 13-17) |
| Risperidone | Treatment of schizophrenia in adults and adolescents (ages 13-17) |
| Ziprasidone | Treatment of schizophrenia in adults |
| Chlorpromazine | Treatment of schizophrenia in adults |
| Haloperidol | Treatment of schizophrenia in adults |
| Olanzapine | Treatment of schizophrenia in adults and adolescents (ages 13-17) |
| Clozapine | The management of severely ill schizophrenic patients who fail to respond adequately to standard drug treatment for schizophrenia;<br>Reducing the risk of recurrent suicidal behavior in patients with schizophrenia or schizoaffective disorder who are judged to be at chronic risk for re-experiencing suicidal behavior, based on history and recent clinical state |

## Side Effect Management

### Overview

First episode patients respond well to low dose strategies for most antipsychotics. This makes dose reduction as the first strategy considered for side effect management particularly applicable for first episode patients.

Strategies for specific side effects are:

- Parkinsonism: Dose reduction, if possible, followed by addition of an anticholinergic medication as needed. COMPASS presents data on benztropine dosing.

- Akathisia: Decrease dose or speed of titration, if possible, followed by addition of a benzodiazepine, beta blocker or antihistamine as needed.

- Sedation/somnolence: Dose reduction, if possible, or change the timing of dosing (in most cases to the majority, or all, of medication at bedtime). Depending upon severity, how troubling sedation is to the patient and other clinical factors, waiting for tolerance to develop may be considered.

- Problems related to hyperprolactinemia: Consider switching to aripiprazole, quetiapine, or ziprasidone (Note: for patients doing well on first generation agents or risperidone, also consider addition of aripiprazole to their ongoing regimen).

### Management of Metabolic and Cardiovascular Side Effects

General Principles

- On average, individuals with schizophrenia have a substantially shorter life span than members of the general population
- Cardiovascular disease is one of the primary causes of excess mortality for individuals with schizophrenia
- Based upon prior studies, we anticipate that most patients will enter the study with cardiovascular and metabolic indices within the healthy range
- The primary goal is to prevent NAVIGATE participants from developing cardiovascular or metabolic abnormalities
- A second goal is to appropriately treat participants who have at study entry, or who later develop, abnormalities
    - This may involve direct action by NAVIGATE providers (either prescribers or IRT clinicians) or appropriate referral to primary care physicians or medical specialists
    - NAVIGATE sites vary in their in-house medical facilities. The NAVIGATE recommendations assume that NAVIGATE prescribers do not function as primary care physicians at their facilities.
        - NAVIGATE prescribers who do provide primary care services to their patients may wish to provide services themselves that COMPASS will suggest on the basis of an outside referral.
- NAVIGATE has a standard assessment schedule for all participants. Standard lab testing occurs at study entry; 3 months after starting a new antipsychotic and then annually for participants with no identified abnormalities. This schedule is modified (either in frequency or tests needed) if participants develop abnormalities.
    - All participants in the RAISE trial (either at Community Care or NAVIGATE sties) receive laboratory assessments at study entry, 3 months, 6 months and every 6 months thereafter. If these assessments coincide with a NAVIGATE suggested assessment (which they frequently will), data from the research-mandated assessments will be used for the NAVIGATE required assessment.
    - Weight, BMI and blood pressure are measured at each prescriber visit

Useful Definitions

BMI: A standard way to assess weight ranges is the Body Mass Index (BMI). BMI will be assessed at each prescriber visit. For individuals aged 20 years or older, BMI values correspond to the following weight categories:

- A BMI of less than 18.5 falls within the "underweight" range.
- A BMI between 18.5 and 24.9 falls within the "normal" or Healthy Weight range.
- A BMI between 25.0 and 29.9 falls within the "overweight" range.
- A BMI of 30.0 or higher falls within the "obese" range.

For children and adolescents aged 2 to 19 years old, the standard way to assess weight categories is to compare the individual's BMI with population norms that take into account age and sex. The Centers for Disease Control and Prevention of the federal government has an online program to calculate the BMI-for-age percentile. The program is at http://apps.nccd.cdc.gov/dnpabmi/Calculator.aspx Data required by the program are date of birth, sex, date of weight assessment, weight in pounds and height in feet and inches. BMI-by-age percentile values correspond to the following weight categories:

- Less than the 5$^{th}$ percentile falls within the "underweight" range.
- 5$^{th}$ percentile up to less than the 85$^{th}$ percentile falls within the "normal" or Healthy Weight range.
- 85$^{th}$ to less than the 95$^{th}$ percentile falls within the "overweight" range.
- Equal to or greater than the 95$^{th}$ percentile falls within the "obese" range.

The Metabolic Syndrome: Metabolic syndrome consists of a group of metabolic risk factors. Individuals with metabolic syndrome are at increased risk for coronary heart disease, other diseases related to plaque buildups in artery walls (e.g., stroke and peripheral vascular disease) and diabetes. It is estimated that approximately 47 million adults in the US meet criteria for the syndrome. The revised criteria proposed by the Third Report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III) are the most current and widely used. These criteria require the presence of any three of the following risk factors:

Metabolic Syndrome Criteria

| Risk Factor | Defining Level |
|---|---|
| Abdominal obesity, given as waist circumference | |
| Men | >102 cm (>40 in) |
| Women | >88 cm (>35 in) |
| Triglycerides | ≥150 mg/dL |
| HDL cholesterol | |
| Men | <40 mg/dL |
| Women | <50 mg/dL |
| Blood pressure | ≥130/≥85 mm Hg |
| Fasting glucose | ≥100 mg/dL |

Presence of each risk factor increases patient health risk, so NAVIGATE suggests intervention for participants who meet any of the risk criteria.

**Recommendations for management of weight gain**

NAVIGATE suggests interventions for any participant who is either 1) already overweight or obese, or 2) who is experiencing rapid weight gain. Rapid weight gain is defined as a) gaining 8 pounds or more in any one month on an antipsychotic or b), after starting a new antipsychotic, cumulatively gaining at least 7% of the weight at the time of starting the new antipsychotic.

For participants who are overweight or obese or experiencing rapid weight gain, consider:

- Intensify healthy lifestyles education with exercise and weight loss or diet recommendations
- Obtain blood tests for fasting lipids (triglycerides, cholesterol including LDL and HDL levels) and fasting glucose
- Consider aripiprazole or ziprasidone treatment if participant is not currently taking antipsychotics
- Consider switch to aripiprazole or ziprasidone treatment if participant is taking other antipsychotics

Consider medical consultation for evaluation to add a weight loss medication (for example, metformin, topiramate, orlistat) if the participant has any of the following:

- BMI of 30 or greater
- Weight classification has increased from normal to overweight (i.e., BMI previously less than 25 is now 25 or greater)
- Participant has gained ≥7% of body weight since starting an antipsychotic
- Waist circumference is greater than 40 inches for men or greater than 35 inches for women

**Recommendations for management of glucose abnormalities**

To be interpretable, glucose levels should be obtained when the participant is fasting (no caloric intake for at least 8 hours). Always check with the participant if they were fasting at the time of the blood collection (they frequently are not). If the fasting glucose level is 100 or greater, the next step is to obtain a hemoglobin A1c level and to re-check fasting glucose.

If the fasting glucose is 126 mg/dL or greater on two successive occasions, or the hemoglobin A1c is 6.5% or greater, the participant meets ADA criteria for diabetes and should be referred for medical consultation for treatment of diabetes.

If the fasting glucose is 100 mg/dL or greater but less than 126 mg/dL AND the hemoglobin A1c is between 5.7% and 6.4%, you should consider referral for medical consultation (for example, metformin treatment). If not referred, obtain repeat hemoglobin A1c. If the second hemoglobin A1c is greater than the first, refer for medical evaluation.

For all subjects with a fasting glucose of 100 mg/dL or greater, consider:

- Intensified healthy lifestyles education with exercise recommendation
- An ADA calorie limited diet
- Consider aripiprazole or ziprasidone treatment if the participant is not currently taking antipsychotics
- For participants currently taking an antipsychotic other than aripiprazole or ziprasidone, consider switch to aripiprazole or ziprasidone treatment if either 1) the participant is currently taking olanzapine or quetiapine or 2) the glucose elevation occurs in the context of elevated weight or weight gain that has occurred with other antipsychotics.

**Recommendations for management of lipid abnormalities**

To be interpretable, lipid levels should be obtained when the participant is fasting (no caloric intake for at least 8 hours). Always check with the participant if they were fasting at the time of the blood collection (they frequently are not). If the sample was obtained in a fasting state, evaluate for the need to repeat the lab test to confirm the accuracy of the results.

If the participant has either elevated triglyceride levels (≥150 mg/dL) or low HDL cholesterol (<40 mg/dL for men and <50 mg/dL for women), consider:

- Refer for medical consultation and treatment (for example, statin treatment)
- Recommendation for exercise and proper diet
- Consider aripiprazole or ziprasidone treatment if the participant is currently not taking antipsychotics. Also consider risperidone treatment for participants currently not taking antipsychotics if the participant is within the healthy weight range.
- Consider switch to aripiprazole or ziprasidone treatment if the participant is taking other antipsychotics and the lipid abnormality occurs in the context of elevated weight or weight gain occurring with other antipsychotics.
- Consider switch to aripiprazole, risperidone or ziprasidone if the participant is taking olanzapine or quetiapine and is within the healthy weight range.

**Recommendations for management of hypertension**

If the BP is ≥130/≥85 mmHg, obtain repeat measurement (if BP elevation does not require immediate medical attention). Hypertension recommendations are based upon two consecutive measurements.

If BP is ≥140/90 mmHg on repeat measurement, the participant should be referred for medical consultation for treatment of hypertension.

If BP is 130-139/85-89 mmHg on repeat measurement, the participant is at risk for developing hypertension. If the participant has one or more of any of the other metabolic syndrome criteria, consider referral of the participant to a medical specialist for further evaluation.

For all participants with BP ≥130/≥85, consider:

- Salt reduction diet and recommendation to increase physical activity
- Consider aripiprazole or ziprasidone treatment if patient is not currently taking antipsychotics to minimize the chance for weight gain.
- Consider switch to aripiprazole or ziprasidone treatment if the participant is taking other antipsychotics and the blood pressure elevation occurs in the context of elevated weight or weight gain

## Enhancing Adherence to Medication

The powerful drive toward non-adherence in first episode psychosis

As has been discussed elsewhere in this manual, the overall model for decisions about treatment is to share decision making with the patient, the family and the NAVIGATE team. This approach is especially critical when we face the challenge of encouraging first episode patients to continue taking medication in the face of counter demands. The data regarding the importance of long term anti-psychotic medication in preventing relapse and providing a path toward recovery are very convincing. These patients are at high risk for relapse and stopping medication is one of the most important reasons for that high risk.

Many factors contribute to the high risk for non-adherence in first episode patients. Some important factors are:

- The level of response to anti-psychotic medication is very good for most of these patients, and good response is interpreted by patients and their families as meaning that medication is no longer needed. In contrast, we understand good response to medication as meaning that medication should be continued.
- Although first episode patients typically have a good clinical responseto medication (and often with lower doses than we are accustomed to use in more chronic patients), they also have high rates ofside effects.
- 'Long-term" is defined on different metrics. We are thinking about months and years and patients and their families are thinking about days or weeks.
- Taking medication can be seen by patients and their families as stigmatizing and meaning that they are still ill.

All of these factors contribute to make the likelihood of poor adherence to medication very high.

This section of the manual will consider strategies that can enhance adherence to medication and deal with non-adherence when it occurs. These include:

- Strategies that can be considered within the COMPASS framework for treatment and medication prescription
- Strategies that depend on the NAVIGATE team model including the shared decision making approach to treatment with patients and their families
- Strategies that may involve enlisting families in care and medication monitoring

COMPASS based strategies. A major tenet of the COMPASS approach to treatment is that information about both the course of treatment for a given patient and about medications available can enhance adherence. The highly specific information about individuals obtained over time provides close and easy monitoring of symptoms, treatment response, side effects and patients' perceptions. The specific anti-psychotic medication information is designed to aid in choice of both medications and dosage ranges that are most appropriate in first episode psychosis. Working within these dose ranges can maximize effectiveness and minimize side effects that can contribute to the patient's view that the medications are not helpful – and therefore that the best strategy is to just stop.

Use of long-acting injectable (LAI) medications is highly recommended for a number of reasons including encouraging adherence. In COMPASS, LAI medication is not reserved for individuals who have demonstrated non-adherence, but is seen as a useful strategy for a broader group of patients.

Advantages of LAI medications include:

- From the prescriber's perspective
    - Administration of an LAI provides information about adherence that is both accurate and timely. The prescription is filled as soon as the person receives the injection. There is never a question about missed doses or partial non-adherence because if the person has received the injection the full dose for the prescribed period has been taken.
    - Non-adherence is detected as soon as the person misses an injection and measures can be taken to address the problem before the patient has been off medication for days or weeks.

- From the patient's perspective
    - There is no need to remember medication on a daily basis
- From the family perspective
    - LAI medication can remove medication as a source of contention and friction if the family is persuaded about its value and the patient is not.

Recent studies provide evidence both that many first-episode patients will accept injections and that LAI medication can reduce non-adherence, at least in the short run. Traditionally, long-acting injectable (LAI) anti-psychotic medications have been reserved for patients for whom there is a persistent history of non-adherence and associated relapse. A key factor that has deterred clinicians from using LAI medications has been the assumption that patients early in the illness simply will not agree to injections. The first second-generation LAI. Risperidone microspheres (RM), became available for general use in 2004 and has prompted two complimentary studies in first episode patients. These studies, which are reviewed in more detail at the end of the manual, provide information both about the effects of the medication and also about acceptability of injections and strategies for engaging patients in long-term treatment with them.

The first trial was a 24-month long study of RM by Emsley et al. (2008). Key findings were:

- Of the 60 first episode patients who met all inclusion criteria, only 9 (15%) refused to consent to RM initiation and follow-up.
- 72% of patients completed the 24 month trial.
- Final dose of RM was 25 mg in 54%, 37.5 mg in 30% and 50 mg in 16% and 18% needed added oral risperidone during the course of treatment.
- 84% of patients showed a reduction in PANSS total score of 50%,
- Low relapse rate (8%).
- Social and occupational functioning improved significantly from study entry to end-point (ITT).

In the second study Weiden et al. (2009) followed a two-stage model of engagement and randomization to treatment with either LAI or oral medication in a study called PREFER (PREvent First Episode Relapse). First episode patients were enrolled in a randomized trial that compared RM to oral medication following a stabilization period of up to three months. Following a 2:1 randomization schedule, 26 subjects were randomized to RM and 11 to oral second generation antipsychotics. Key findings were:

- Attitudes toward medication, assessed by raters blind to treatment assignment, indicated no significant differences between treatment groups.
- However, actual medication adherence, measured by time to a two-week medication gap, was significantly longer in those who were randomized to and who also accepted LAI medication.

Taken together, these two important studies indicate that a LAI medication strategy may improve adherence and contribute to improved long term outcomes, even when used early in first episode patients.

Shared decision making. All treatments in NAVIGATE are grounded in a shared decision making model. At each Compass visit, the patient self report includes this question:

| | |
|---|---|
| Between now and your next visit, do you think we should keep your medication the same or consider changing the medications? | ____ Consider changing ____ Stay the Same |

This question is designed to serve as the opening of a dialogue about medication between the prescriber and the patient. The general medical definition of shared decision making targets clinical situations in which there is a genuine question about the path that should be taken. Of course that is relevant – there may be a question about which medication to take – one with better efficacy for a given person as opposed to one with fewer side effects. However, the question of whether or not to take medication at all presents a bigger challenge for sharing the decision making process with a patient because, as already discussed, the evidence from our perspective based upon consistent findings from relapse prevention studies is overwhelmingly in favor of continued medication adherence. So, what can be on the table for discussion? Usual options include:

- First, a review of the available data about relapse prevention.
- Second, consider incorporating the family in the decision process.
- Dosage reduction, if clinically indicated. Reducing dosage and monitoring to see if symptoms remain stable is an option that appeals to many patients.
- Contracting to continue for a specified period of time may also be an option. Some patients may need to review their decision from visit to visit.
- If patients insist on medication discontinuation, developing a monitoring and contingency plan.

NAVIGATE team based problem solving. The NAVIGATE program includes a weekly team meeting of all staff who are working with a NAVIGATE client. These team meetings may generate action items that are posted to COMPASS and are available to the prescriber at a COMPASS visit. Examples might be a report of drowsiness interfering with the patient studying for school identified by the Supported Employment Education specialist or the mother's report that a patient is not taking medication identified by the family clinician. COMPASS also provides the ability for prescribers to send action items to the team and medication adherence may be one that will benefit from input and work from other team members. One strategy that may emerge from the team meeting is enlisting the collaboration of family members in support of medication taking through monitoring or reminding. Enlisting of family member collaboration may be done by the prescriber or the family clinician and could even involve discussion in both contexts.

Maintaining contact with patients who are non-adherent Agencies have policies regarding whether clinical contact can be continuing if patients specifically refuse recommended treatment, such as medication, and in some cases it may be required that charts be formally closed. The NAVIGATE approach is designed to work with patients and to accept their decision regarding treatment acceptability. A patient may decline medication but be willing to come to scheduled visits and may continue to be engaged with other aspects of the NAVIGATE intervention. Whenever possible, we recommend continuing contact and if regular prescriber appointments are declined, to keep the door open for a return to treatment when the patient and family recognizes the need.

For many first episode patients, the first years of treatment are characterized by alternating periods of medication adherence and non-adherence. When symptoms return, patients, with family urging, often accept resuming medication treatment. Keeping a relationship during periods of non-adherence can decrease the risk of the patient having severe deterioration before reaching out for treatment.

## Using the COMPASS Decision Support Program

**IMPORTANT NOTE TO READERS WHO ARE NOT STAFF OF THE RAISE-ETP STUDY:** The COMPASS decision support system is a web-based application that is currently available for use exclusively by RAISE-ETP study participants and staff. Readers who are not part of the RAISE-ETP program may adapt their systems to use COMPASS principles in their treatment delivery. For example, paper versions of the patient and prescriber forms used in COMPASS are included in this manual. These paper forms do not support the interactive features of the COMPASS system but can be used to incorporate some of the COMPASS assessment models into treatment settings without access to the COMPASS program.

**COMPASS Brief Summary**

COMPASS: Rationale

COMPASS is a web-based computer decision support system, dedicated to assist NAVIGATE prescribers with their delivery of pharmacological treatment for patients with first episode psychosis (FEP).

COMPASS utilizes provides feedback to providers at the point of care using:

- measurement based care (MBC), and
- evidence-based guidelines.

The concept of MBC for COMPASS is to use validated ratings at defined intervals to systematically assess:

- symptoms,
- side effects, and
- treatment adherence.

COMPASS then provides evidence-based treatment guidelines accordingly. As with most chronic illnesses, the goal of treatment for patients with FEP is to achieve remission (i.e., freedom of symptoms) in the short term and recovery over the long term. As such, a general principle for COMPASS is to deliver a medication regimen that enables remission of symptoms, minimal side effect burden, and consistent adherence.

COMPASS: Description

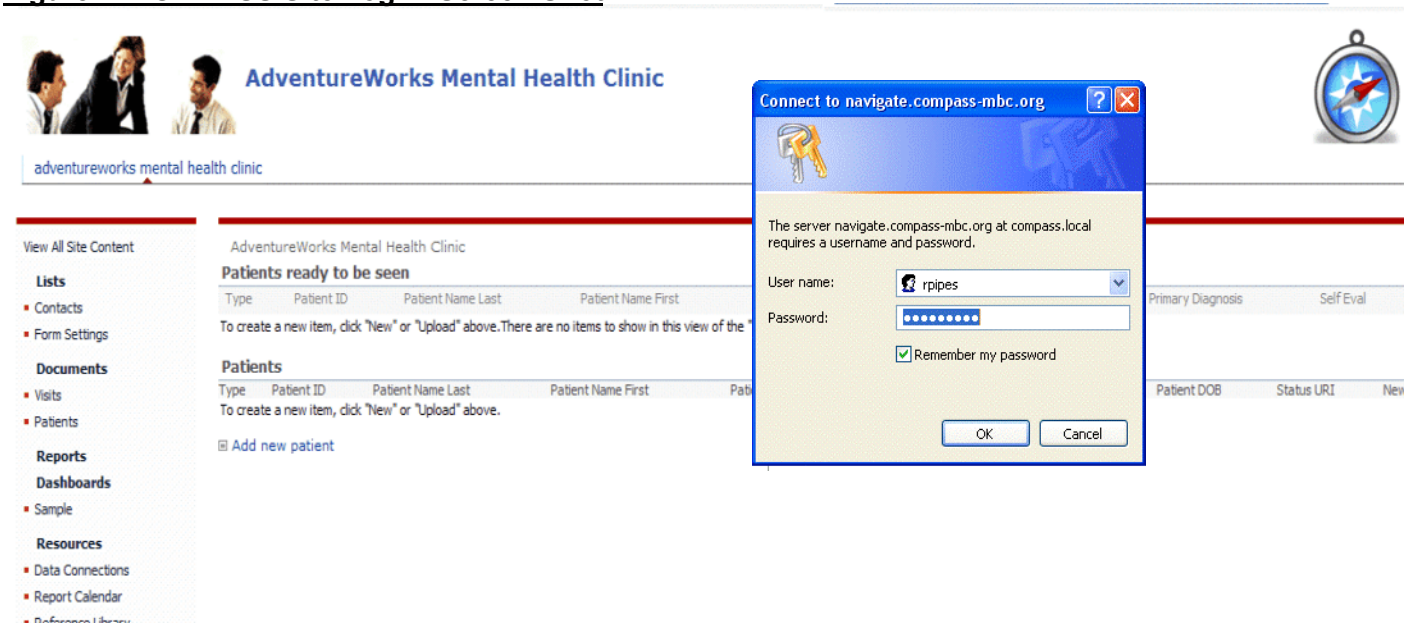
COMPASS is a web-based decision support system that promotes:

- MBC,
- Evidence-based practice, and
- Shared decision-making

COMPASS: Site Specifications

- Each of the 17 NAVIGATE sites will have their own secure COMPASS website that is password protected for all site specific users (see Figure 1).
- For COMPASS to optimally be deployed, each site is required to have a stable internet connection.
- Furthermore, designated members of the treatment team at each site will have their own username and password that will provide unique access based on their clinical responsibilities.
    - For example, prescribers (i.e., physicians, nurse practitioners) at a given site will have full access to NAVIGATE patients enrolled at their site.

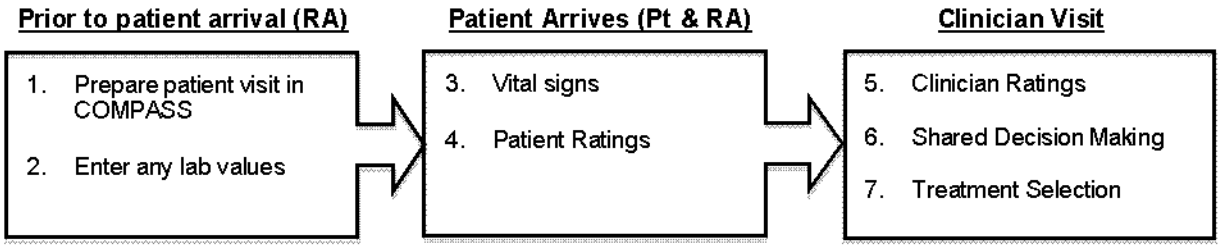
**Figure 1. COMPASS Site Log-In Screen Shot**



COMPASS: Visit Flow Summary

Enrolled patients in the NAVIGATE intervention will undergo monthly (roughly) visits with their medication prescribers (i.e., psychiatrists, nurse practitioners). These visits will incorporate a shared decision-making model, in that both patients and prescribers will utilize COMPASS.

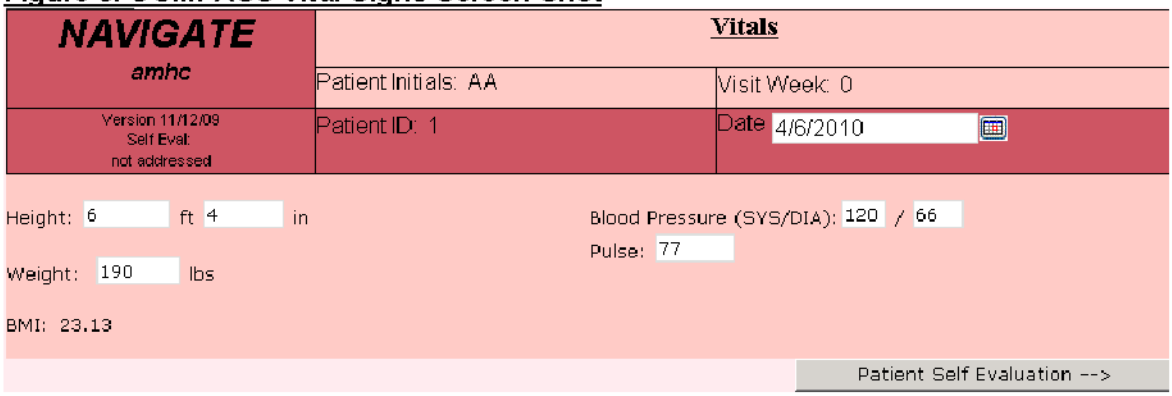
**Figure 2. COMPASS Visit Flow**




**Vital Signs and Labs:**

- Upon arriving for a NAVIGATE visit, patients will have their vital signs measured by the RA.
- The RA will then enter the vital signs into COMPASS prior to the patient seeing the clinician (see Figure 3).
- Also, as part of NAVIGATE, routine laboratory tests will be collected at baseline, 3 months, 6 months and every 6 months thereafter.
- These values will be entered into COMPASS by the RAs as soon as the results are received. COMPASS will create alerts to physicians to view new laboratory data.

**Figure 3. COMPASS Vital Signs Screen Shot**

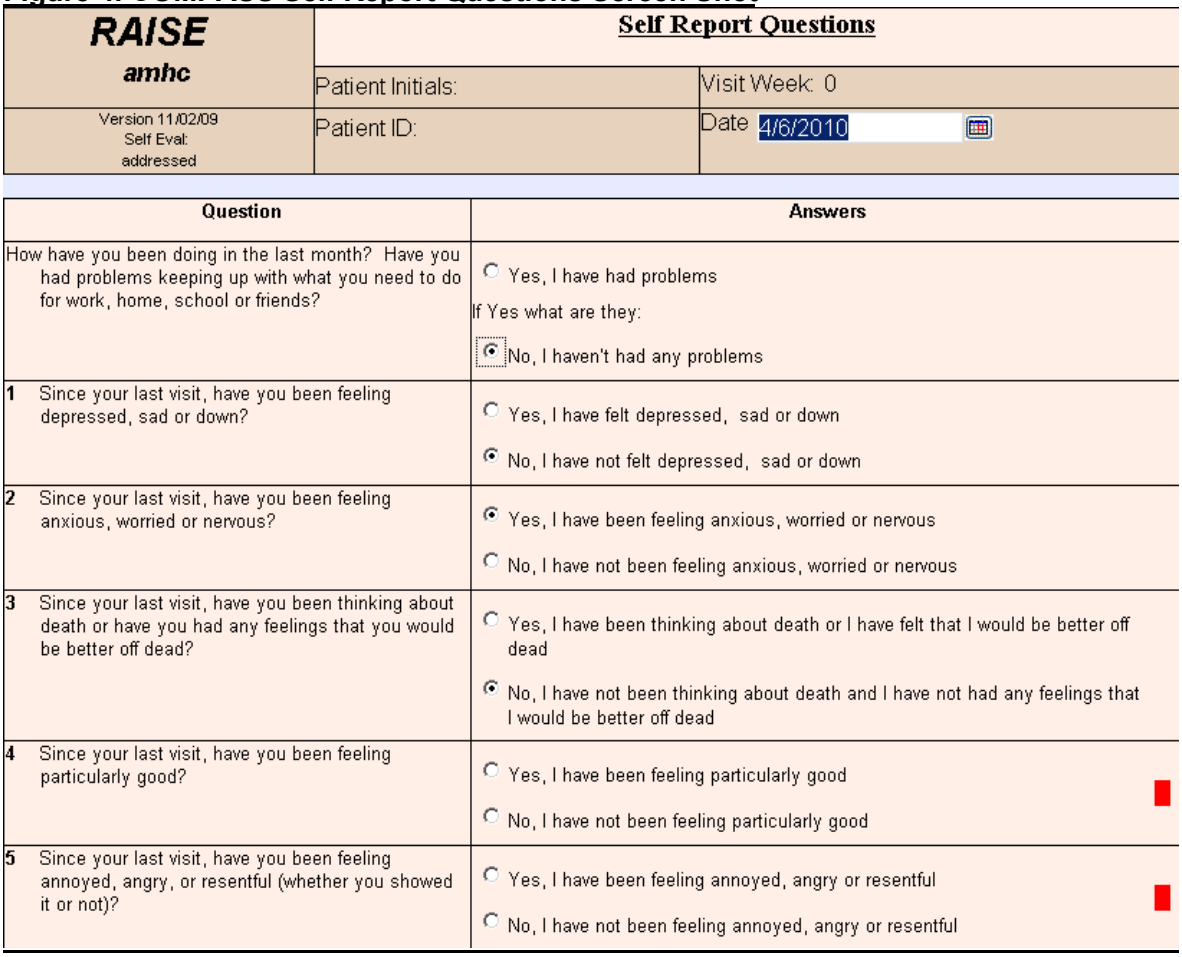



**Completing MBC Assessment Forms:**

- RA assists patient in setting up and completing self-ratings on a computer with COMPASS.
- Information from self-reports are then electronically transmitted through COMPASS to the prescriber
  - So that when the prescriber sees the patient the information can guide their evaluation of the patient. For example, the self-report form asks patients, *"Since your last visit, have you been feeling depressed, sad, or down?"* (See Figure 4)
  - If a patient answers yes to this question, the corresponding question about depression will appear on the clinician report with the following suggested probe: *"You said on the questionnaire that you have been feeling depressed, sad, or down. Tell me about what you have been experiencing…"* (See Figure 5). Note that even if a patient denies problems with symptoms, side effects, or adherence, the prescriber is still expected to explore that domain.

Thus, the self-report and clinician rating scales have been harmonized, such that measurements of symptoms, side effects, and medication adherence are examined on both forms, and responses on the patient-self report can assist in guiding the flow of the treatment visit.

**Figure 4. COMPASS Self Report Questions Screen Shot**



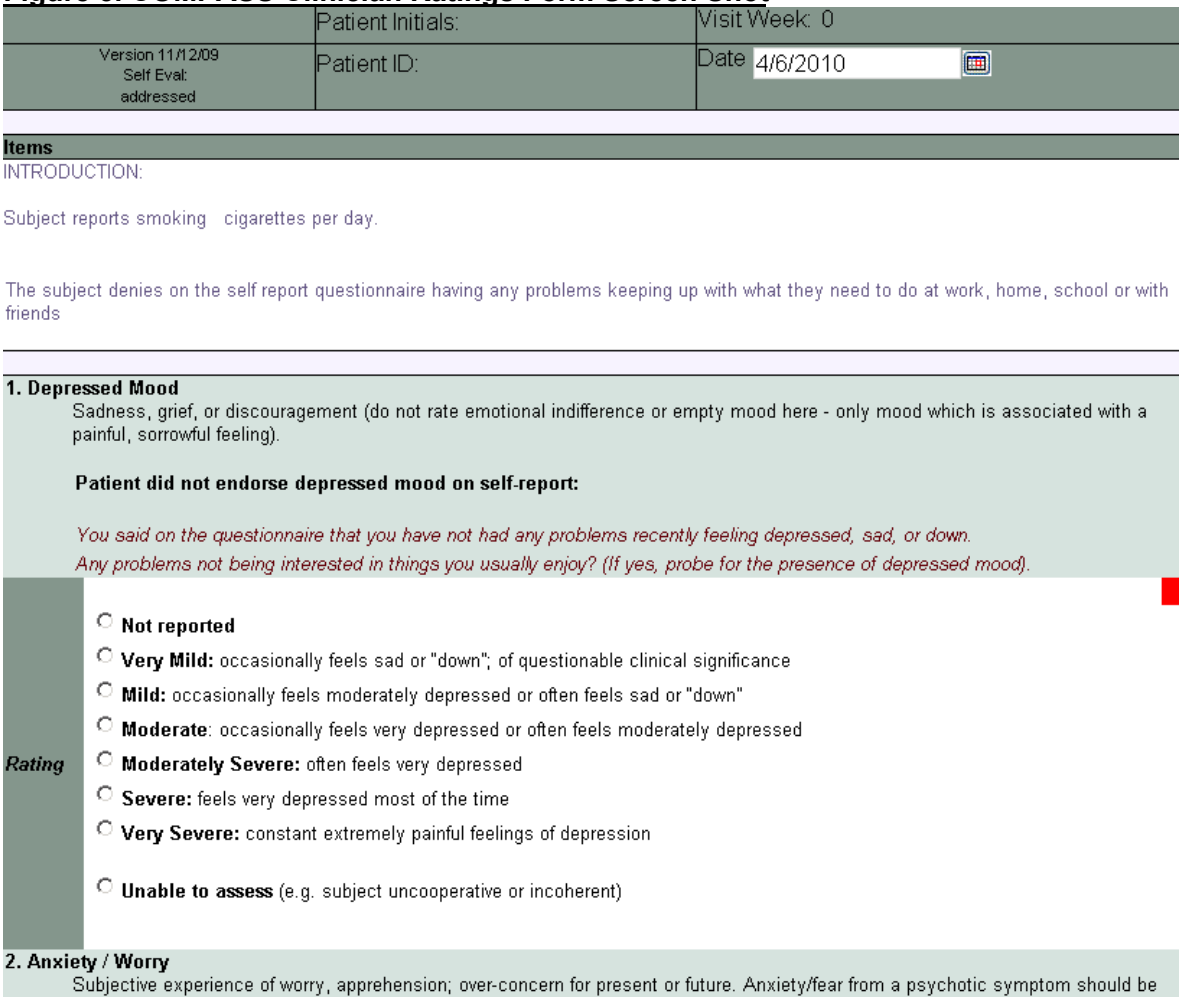
| RAISE amhc | Self Report Questions | |
|---|---|---|
| | Patient Initials: | Visit Week: 0 |
| Version 11/02/09 Self Eval: addressed | Patient ID: | Date 4/6/2010 |

| Question | Answers |
|---|---|
| How have you been doing in the last month? Have you had problems keeping up with what you need to do for work, home, school or friends? | ○ Yes, I have had problems<br>If Yes what are they:<br>◉ No, I haven't had any problems |
| 1 Since your last visit, have you been feeling depressed, sad or down? | ○ Yes, I have felt depressed, sad or down<br>◉ No, I have not felt depressed, sad or down |
| 2 Since your last visit, have you been feeling anxious, worried or nervous? | ◉ Yes, I have been feeling anxious, worried or nervous<br>○ No, I have not been feeling anxious, worried or nervous |
| 3 Since your last visit, have you been thinking about death or have you had any feelings that you would be better off dead? | ○ Yes, I have been thinking about death or I have felt that I would be better off dead<br>◉ No, I have not been thinking about death and I have not had any feelings that I would be better off dead |
| 4 Since your last visit, have you been feeling particularly good? | ○ Yes, I have been feeling particularly good<br>○ No, I have not been feeling particularly good |
| 5 Since your last visit, have you been feeling annoyed, angry, or resentful (whether you showed it or not)? | ○ Yes, I have been feeling annoyed, angry or resentful<br>○ No, I have not been feeling annoyed, angry or resentful |

**Integrating Results:** A key priority of COMPASS is to integrate the self-report and clinician rating scales as part of a treatment sequence at defined intervals, to promote shared decision-making between patients and prescribers (i.e., dosage modification, side effect monitoring, route of medication administration and treatment duration) until remission with an acceptably tolerated treatment is achieved.

- After prescribers have completed their assessment scales, they will collectively with their patients (when possible) rank the five most important facets of treatment at a given visit (Figure 6).
- This rank-order will then be entered into COMPASS, which will in turn provide corresponding hierarchical decision support suggestions.
- Decision support recommendations are based on evidence-based practices, and expert panel consensus, when evidence is lacking.
- **NOTE:** Clinicians are not required to follow the guidelines set forth by COMPASS, however should they choose not to follow the suggested guidelines they will be asked to provide a rationale for their alternative.

**Figure 5. COMPASS Clinician Ratings Form Screen Shot**




**Treatment Selection:** Selecting treatments is based on a few essential principles:

- Measurement Based Care − evidence-based principles to guide treatment selection based on the prescriber's assessment of the patient symptoms, side effects, and adherence.

- Shared-Decision Making − The 5 priorities that patient and prescriber jointly decide are the most important concerns to address for that particular visit.

- Suggested Sequence of Medications − The suggested sequence of medications is designed to follow as closely as possible evidence based practices, and minimize expert consensus. In general, NAVIGATE treatment emphasizes medications with data from recent studies suggesting that the medication is effective with first-episode patients and/or adolescents with schizophrenia-spectrum disorders (see Figure 7).
  - These studies provide the evidence base for efficacy, dosing and side effect profiles.
  - **NOTE:** Antipsychotic and side effect medications, which have not been specifically studied with FEP patient groups, are not supported by COMPASS. These medications may be effective, however, dosing and side effect profiles are unknown for these groups. COMPASS does provide support for antidepressants and mood stabilizers. These recommendations are based

upon studies with patients with primary mood disorders, as data from studies with FEP patients are not available.

**Figure 6. COMPASS Shared Decision-Making / Prioritizing Treatment Screen Shot**

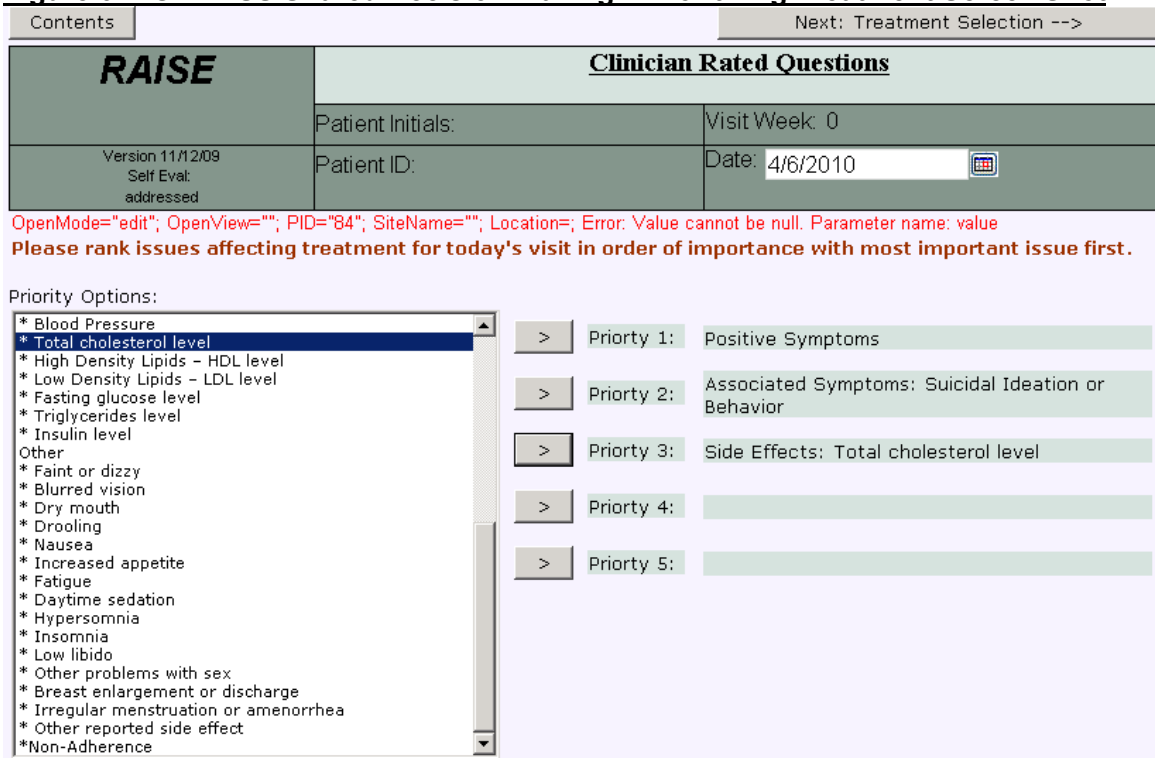
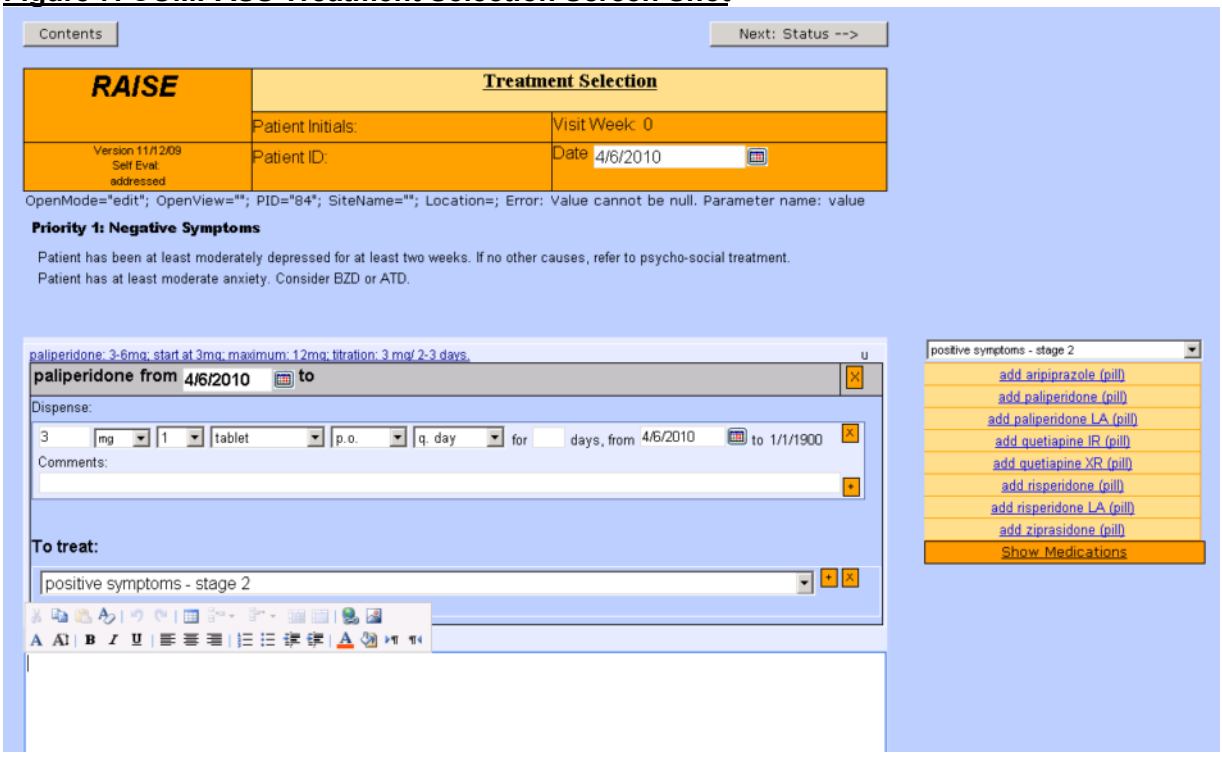



**Figure 7. COMPASS Treatment Selection Screen Shot**



**List of COMPASS Supported Medications:**

Antipsychotics (alphabetical order):

1. Aripiprazole
2. Chlorpromazine
3. Clozapine
4. Haloperidol
5. Olanzapine
6. Paliperidone
7. Quetiapine
8. Risperidone
9. Ziprasidone

Antidepressants (alphabetical order):

1. Bupropion
2. Citalopram
3. Duloxetine
4. Escitalopram
5. Fluoxetine
6. Mirtazapine
7. Paroxetine
8. Sertraline
9. Venlafaxine

Mood Stabilizers (alphabetical order):

1. Divalproex
2. Lithium

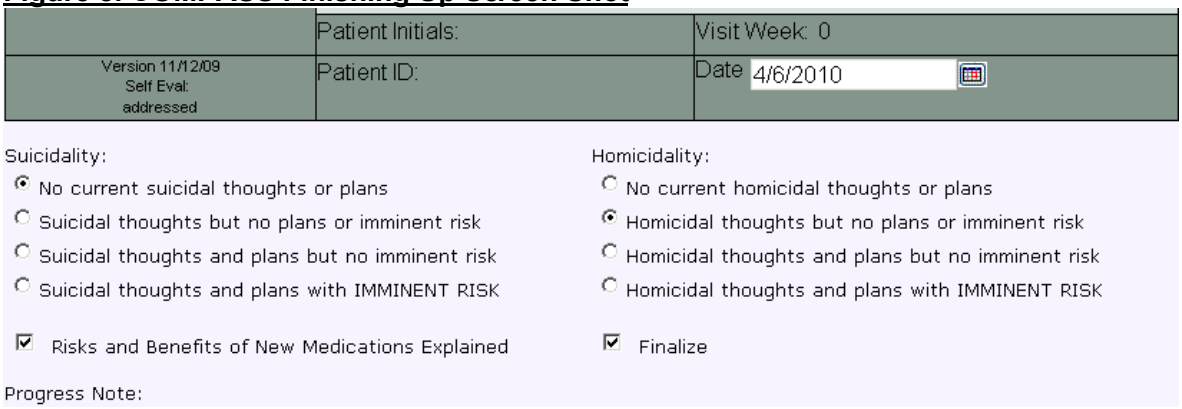
Side Effect Medications (alphabetical order):

1. Benztropine
2. Lorazepam
3. Propranolol

**Finishing Up:** Lastly, COMPASS will summarize each visit by allowing prescribers to print out a note that:

- Includes all aspects of the visit, from the patient self-report forms to the treatment decisions made.
- Prior to allowing the prescriber to print out the visit summary, COMPASS will ask the prescriber specifically if the patient has any suicidal or homicidal ideations, and if risks and benefits of treatment were explained to the patient (See Figure 8).

**Figure 8. COMPASS Finishing Up Screen Shot**



COMPASS: Other Aspects

In addition to pharmacological treatment, NAVIGATE includes three other components:

- family psychoeducation,
- supported employment/education (SEE), and
- Individual resiliency training (IRT).

While the focus of COMPASS is to assist with the delivery of pharmacological treatment, it will also provide other treatment team members unique access to COMPASS, such that members administering the psychosocial and pharmacological treatment for a given patient can communicate with each other, and facilitate truly collaborative care.

COMPASS: Access and Security

Each of the sites randomized to the NAVIGATE intervention will have their own secure COMPASS website that is password protected for all site specific users. The only requirement for each site is to have a stable Internet connection, and Internet Explorer v6.0 or later. Furthermore, designated users at each site will have their own username and password that will provide unique access based on their clinical responsibilities.

- For example, prescribers at a given site will have full access to NAVIGATE patients enrolled at their site.
  - This includes viewing the patient history entered into COMPASS, creating new patient visits – centered around MBC (i.e., questionnaires measuring symptoms, side effects, and adherence), making treatment decisions, and entering a note that records information specific to that visit.
- Whereas, other treatment team members (i.e., family psychoeducation counselor, SEE, IRT) will have access that is limited to viewing (but not creating) patient information in COMPASS.

In designing COMPASS, the two options we considered were to:

- Have a program that would be installed and run directly on sites' computers,
- Or use a web-based application.

Using a web-based application was much more practical, as this only requires that sites be able to access the Internet. A web-based application also allows for easy update of information and rapid correction of any programming problems if they arise.

The UT Southwestern Medical Center will provide COMPASS web support for each of the clinical sites, and will host information collected for each patient.

- Data transmitted to UTSW will include some protected health information (patient name, date of birth, and medical record number). The sole reason that this information will be collected and utilized is to help the prescribers and treatment team members at a given site accurately identify their study patients.
- To minimize the risk of loss of confidentiality, NAVIGATE prescribers logon to COMPASS via a secure connection (split tunnel VPN) and firewall to prevent unauthorized access from outside the physical location.
- Logs are maintained of who accesses data and when.
- After login onto the password protected application, NAVIGATE prescribers have access to data solely about subjects at their site.
- **NOTE:** No protected health information will be analyzed at UTSW, and this information will be destroyed after the study is completed.
- UTSW will de-identify any protected health information prior to transmitting any data for analysis.

COMPASS: Summary

In NAVIGATE, the first priority of COMPASS is to present reliable rating scales that measure an array of symptoms, side effects, and medication adherence to both patients and clinicians at every clinic visit. Patients will first complete rating scales in each domain, and the information they provide will be presented to the clinician and guide the clinician's subsequent ratings. The next priority of COMPASS is to integrate these

measurements as part of a treatment sequence at defined intervals, to promote shared decision-making (i.e., dosage modification, side effect monitoring, route of medication administration and treatment duration) until remission with an acceptably tolerated treatment is achieved. To that end, physicians and patients will collectively rank the most important facets of treatment at a given visit, feed that information into COMPASS, which will in turn provide treatment recommendations. In summary, we have developed a flexible, evidence-based medication sequence that is now coupled with an easy-to-use, web-based COMPASS system that will provide prompts to clinicians and patients to assist with treatment decisions at the point of care.

## Using Rating Scales in COMPASS

### Rationale and procedures

A core element of NAVIGATE is the use of rating scales

- Why do ratings?
  - Routinely using ratings helps prescribers and consumers evaluate whether medications are having the desired effects. It can be difficult to determine whether improvements have been made between visits when using global terms, such as somewhat psychotic or other subjective statements.
  - Measuring outcomes is at the heart of medication management for serious mental illnesses, just as accurate measures of blood pressure and glucose are at the heart of medication management of hypertension and diabetes.
  - Ratings offer a common language to promote a clearer description of consumers' symptoms and conditions. In contrast, it is difficult, if not impossible, for another prescriber to interpret symptom levels when global or subjective terms are used.
  - Ratings allow careful tracking over time not only of symptoms but also of side effects. Antipsychotic medications may cause serious medical problems, including weight gain, diabetes, hyperlipidemia, and hyperprolactinemia. NAVIGATE includes a number of specific measures of these side effects, at specified intervals, and suggests a variety of interventions, depending upon the nature and severity of the problem.

    .
- Fitting rating scales into a busy clinical service
  - It is a common misconception that rating scales are too lengthy to use in busy clinic settings. In fact, brief scales have been developed for many disorders, and brief scales assessing key symptom dimensions and side effects are part of NAVIGATE.

- Staff Training
  - Proper training is vital to obtaining reliable outcome assessments that may be integrated into clinical assessments.
  - Training should not be a one-time event. If NAVIGATE staff work in isolation and do not periodically recalibrate with other NAVIGATE staff, they may "drift" to more idiosyncratic ways of interviewing and scoring.
  - NAVIGATE will help you by providing periodic re-training through telemedicine sessions and training DVDs.

Rating procedures in NAVIGATE—How it works

- Before you see the patient
  - Just before your visit, the patient completes a self-rating form (included in the manual) in COMPASS about their current symptoms and side effects.
  - The NAVIGATE research assistant obtains the patients vital signs
  - The NAVIGATE research assistant inputs the vital signs into the COMPASS computer program

- What you do within COMPASS
  - Symptom ratings
    - The ratings cover the core symptoms that influence prescribing
    - You will complete ratings of all the core symptoms at each visit
    - In COMPASS, you will see a brief description of each symptom to be rated
      - Read each description to ensure that you understand what experiences are (and are not) included in the symptom definition

**Use of probe questions and scale anchors**

- Next, ask the patient the probe question(s) provided
  - Why you should use the probe questions
    - The probe questions are the questions that expert raters use to assess a symptom. Using the probe questions as written gives you access to the "trade secrets" of these experienced raters
    - The probes provided have been tailored by the COMPASS program to the responses of the patient on the self-report form
    - The probes make certain that all patients are asked consistently about symptoms
- Based upon the patient's response to the probe question, you may need to do follow-up questions
  - Based upon your clinical judgment, you should add any follow-up questions that you think are needed to assess the presence or severity of a symptom
- After you integrate the information for the probe and follow-up questions, rate the severity of a symptom using the anchored severity levels
  - Rate based upon what you have found, not what you suspect to be happening
    - Use a detective-judge model. For follow-up to probe questions, you should act like a detective and use all your clinical hunches to elicit symptoms. When you are ready to rate severity, you have to act like a judge and based your ratings on objective findings and not hunches
    - Always read the descriptions (called anchors) of the severity levels when making a rating
      - The anchors ensure that different clinicians have the same understanding of what each severity level means
      - Scale authors spend a lot of time refining the anchors. However, the anchors can't cover all situations.
  - If a patient's symptom does not fit the anchors, use the severity levels as a continuum and rate what makes clinical sense.
    - This usually happens when a patient has a symptom for a brief time but the symptom has a large effect on behavior.
    - The anchors fit most situations, so if you frequently feel the need to not follow the anchors, there probably is a misunderstanding about the anchors' meaning.
  - You may need to revise ratings based upon new information that is elicited later in an interview
    - Patients may deny symptoms initially, but reveal them later during the interview
    - The final rating should be your best synthesis of what you have learned during the interview

- Side effect ratings
  - All core symptoms are rated as each visit. In contrast, the COMPASS system will prompt you to do ratings only of side effects reported by the patient on the self-rating form or identified by vital sign data (for example, weight gain).
  - You are free (and encouraged) to inquire about other side effects based upon your clinical judgment

Note: Both symptom and side effect ratings include the ability to record that you were unable to assess an item. This should be reserved for instances when no information is obtainable. Examples when its use is appropriate include patient refusal to answer a question. If you obtain partial information about a symptom, use that information for the rating and do not use the unable to assess option.

# APPENDIX

**Patient Self-Rating Form**

| Question | Answers |
|---|---|
| How have you been doing in the last month? Have you had problems keeping up with what you need to do for work, home, school or friends? | --- Yes, I have had problems<br>If Yes what are they:<br>--- No, I haven't had any problems |
| **1** Since your last visit, have you been feeling depressed, sad, or down? | ____ Yes, I have felt depressed, sad or down<br>____ No, I have not felt depressed, sad or down |
| **2** Since your last visit, have you been feeling anxious, worried or nervous? | ____ Yes, I have been feeling anxious, worried or nervous<br>____ No, I have not been feeling anxious, worried or nervous |
| **3** Since your last visit, have you been thinking about death or have you had any feelings that you would be better off dead? | ____ Yes, I have been thinking about death or I have felt that I would be better off dead<br>____ No, I have not been thinking about death and I have not had any feelings that I would be better off dead |
| **4** Since your last visit, have you been feeling particularly good? | ____ Yes, I have been feeling particularly good<br>____ No, I have not been feeling particularly good |
| **5** Since your last visit, have you been feeling annoyed, angry, or resentful (whether you showed it or not)? | ____ Yes, I have been feeling annoyed, angry or resentful<br>____ No, I have not been feeling annoyed, angry or resentful |
| **6** Since your last visit, did you do anything that could have gotten you in trouble? | ____ Yes, I have done something that could have gotten me in trouble<br>____ No, I have not done anything that could have gotten me into trouble |

Since your last visit, please let us know if you have experienced any of the following. Please tell us about your experience whether you think that it was because of a medical problem, a medication side effect or other causes.

| | |
|---|---|
| **7** Have you felt dizzy or faint? | _____ Yes, I have felt dizzy or faint<br>____ No, I have not felt dizzy or faint |
| **8** Have you had blurred vision? | _____ Yes, I have had blurred vision<br>____ No, I have not had any blurred vision |
| **9** Have you had dry mouth? | _____ Yes, I have had dry mouth<br>____ No, I have not had dry mouth |
| **10** Have you had too much saliva in your mouth or had drooling? | _____ Yes, I have had too much saliva or have had drooling<br>____ No, I have not had too much saliva and I have not had any drooling |

| | |
|---|---|
| **11** Have you felt nauseous? | _____ Yes, I have felt nauseous<br>____ No, I have not had any nausea |
| **12** Have you been constipated? | _____ Yes, I have had constipation<br>____ No, I have not had any constipation |
| **13** Has your appetite for food been increased? | _____ Yes, my appetite for food has been increased<br>____ No, my appetite for food has not been increased |
| **14** Have you gained weight? | _____ Yes, my weight has gone up<br>____ No, my weight has not gone up |
| **15** Have you lost weight? | _____ Yes, I have lost weight<br>____ No, I have not lost weight |
| **16** Have you felt restless or like you can't stay still? | _____ Yes, I have felt restless or have had difficulty staying still<br>____ No, I have not felt restless and I have not had any difficulty staying still |
| **17** Any shaking of your hands, legs or other muscles? | _____ Yes, I have had shaking of my hands, legs or other muscles<br>____ No, I have not had any shaking |
| **18** Any problems walking or moving or any problems feeling stiff or rigid? | _____ Yes, I had problems walking or moving or have had problems feeling stiff<br>____ No, I have not had any problems walking and I have not had any feelings of being stiff |
| **19** Have your felt tired or fatigued? | _____ Yes, I have felt tired or fatigued<br>____ No, I have not felt tired or fatigued |
| **20** Have you felt drowsy during the day? | _____ Yes, I have felt drowsy during the daytime<br>____ No, I have not felt drowsy during the daytime |
| **21** Have you been sleeping too much at night? | _____ Yes, I sleep too many hours a night<br>____ No, I do not sleep too much at night |
| **22** Have you been sleeping too little or had problems sleeping at night? | _____ Yes, I sleep too little or have had problems sleeping at night<br>____ No, I do not have any problems sleeping |
| **23** Any decrease in your interest in sex? | _____ Yes, my interest in sex is low<br>____ No, my interest in sex is fine |
| **24** Any other problems with sex? | _____ Yes, I have problems with sex<br>____ No, I do not have any problems with sex |

| | |
|---|---|
| **25** Any problems with your breasts such as swelling or discharge? | _____ Yes, I have had problems with my breasts<br>____ No, I did not have any problems with my breasts |
| **26** For women, any problems with your period? | _____ Yes, I have had problems with my period<br>____ No, I did not have any problems with my period |
| **27** Are there other medical or side effect problems you wish to discuss with your prescriber? | ____Yes, I have these problems (please list):<br>____No, I don't have any other medical or side effect problems |
| **28** Since your last visit, how many days have you not taken your medication? | Number of days not taking medication _____ (if you have not missed any medication, please put 0 for number of days) |
| **29** Have you had trouble remembering to take your medication? | ___Yes, I have trouble remembering to take the medication<br>___No, I do not have trouble remembering to take the mediation |
| **30** Do you find the number of medicines or the times when you are supposed to take them confusing or burdensome? | ___Yes, the way I am supposed to take the medication is confusing or is burdensome to do<br>___No, the way I am supposed to take the medication is clear and is not a problem |
| **31** Are you afraid of the medication? | ___Yes, I am afraid of the medication<br>___No, I am not afraid of the medication |
| **32** Do you think that you have an illness that requires taking medication? | ___Yes, I have an illness that requires that I take medication<br>___No, I do not have an illness that requires that I take medication |
| **33** Do you think that other people would think poorly of you if they knew that you take medication? | ____Yes, taking medication might make other people think poorly of me<br>___No, taking medication would not make people think poorly of me |
| **34** On average, how many cigarettes do you smoke per day? | Number of cigarettes I smoke per day___(if you do not smoke cigarettes, please put 0 for number of cigarettes smoked) |
| **35** Since your last visit, did you drink any alcohol? | ____ Yes, I have used alcohol<br>____No, I have not used any alcohol |
| **36** Since your last visit, have you used any marijuana? | ____ Yes, I have used marijuana<br>____No, I have not used any marijuana |
| **37** Since your last visit, have you used any street drugs (other than marijuana)? | ____ Yes, I have used street drugs other than marijuana.<br>____No, I have only used marijuana<br>____No, I have not used any street drugs including marijuana |
| **38** Between now and your next visit, do you think we should keep your medication the same or consider changing the medications? | ____ Consider changing ____ Stay the Same |

## Clinician Rating Form in COMPASS

Clinician version to accompany patient self rating form

NOTE: probe text within parentheses are optional and are asked at the discretion of the clinician.

| Items |
|---|
| INTRODUCTION:<br><br>Background information: COMPASS should display clinical characteristics at index episode from material entered by clinician at baseline visit. This can include text about:<br>Content of delusions<br>Content of hallucinations<br>Other prominent symptoms<br>Substance use history<br>Suicidal or homicidal thoughts or actions<br>Other important information (e.g. social situation, work or employment goals)<br><br>COMPASS should also display current medication treatment.<br><br>COMPASS SHOULD PROMPT THE CLINICIAN THAT EITHER:<br><br>The subject denies on the self report questionnaire having any problems keeping up with what they need to do at work, home, school or with friends<br><br>OR<br><br>The subject stated on the self report questionnaire that they were having the followingproblems keeping up with what they need to do at work, home, school or with friends: (LIST)<br><br>IF APPLICABLE, COMPASS SHOULD PROMPT THE CLINICIAN THAT THE SUBJECT REPORTED DRINKING ALCOHOL, USING MARIJUANA OR USING OTHER STREET DRUGS SINCE THE LAST VISIT. |
| **1. Depressed Mood**<br>Sadness, grief, or discouragement (do not rate emotional indifference or empty mood here- only mood which is associated with a painful, sorrowful feeling).<br><br>**Patient endorsed depressed mood on self-report***:*<br><br>*You said on the questionnaire that you have been feeling depressed, sad, or down.*<br><br>*Tell me about what you have been experiencing. How often did it happen? Does it come and go? How long does it last? How bad is the feeling? (Can you stand it?*)<br><br>**Patient did not endorse depressed mood on self-report:**<br><br>*You said on the questionnaire that you have not had any problems recently feeling depressed, sad, or down.*<br><br>*Any problems not being interested in things you usually enjoy? (If yes, probe for the presence of depressed mood).* |

| Items | |
|---|---|
| ***Rating*** | 0 = **Not reported**<br>1 = **Very Mild:** occasionally feels sad or "down"; of questionable clinical significance<br>2 = **Mild:** occasionally feels moderately depressed or often feels sad or "down"<br>3 = **Moderate:** occasionally feels very depressed or often feels moderately depressed<br>4 = **Moderately Severe:** often feels very depressed<br>5 = **Severe:** feels very depressed most of the time<br>6 = **Very Severe:** constant extremely painful feelings of depression<br><br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |

**2. Anxiety / Worry**

Subjective experience of worry, apprehension; over -concern for present or future. Anxiety/fear from a psychotic symptom should be rated (e.g. the subject feels anxious because of a belief that he/she is about to be killed).

**Patient endorsed anxious mood on self-report***:*

*You said on the questionnaire that you have been feeling anxious, worried or nervous.*

*Tell me about what you have been experiencing. What are some things you worry about or that make your nervous. How often did it happen? Does it come and go? How bad is the feeling?*

**Patient did not endorse anxious mood on self-report:**

*Would you say that you have usually been calm and relaxed recently?*

| | |
|---|---|
| ***Rating*** | 0 = **Not reported**<br>1 = **Very Mild**: occasionally feels a little anxious; of questionable clinical significance<br>2 = **Mild:** occasionally feels moderately anxious or often feels a little anxious or worried<br>3 = **Moderate:** occasionally feels very anxious or often feels moderately anxious<br>4 = **Moderately Severe:** often feels very anxious or worried<br>5 = **Severe:** feels very anxious or worried most of the time<br>6 = **Very Severe:** patient is continually preoccupied with severe anxiety<br><br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |

**3. Suicidal Ideation / Behavior**

The subject reports a passive death wish, thoughts of suicide, or engages in suicidal behavior (do not include self-injurious behavior without suicidal intent).

**Patient endorsed thoughts about death on self-report***:*

*You said on the questionnaire that you have been thinking about death or that you would be better off dead.*

*Tell me about what you have been thinking. How often do you think about death? Have you though about hurting yourself? (Have you thought of any ways to hurt yourself?) (Do these thoughts upset you?) (Any times when you have tried to hurt yourself since our last visit?)*

**Patient did not endorse thoughts about death on self-report:**

*You said on the questionnaire that you have not had any thoughts since your last visit about death or being better off dead. Is that correct?*

| Items | |
|---|---|
| ***Rating*** | 0 = **Not reported**<br>1 = **Very Mild:** occasional thoughts of dying, "I'd be better off dead" or "I wish I were dead"<br>2 = **Mild:** frequent thoughts of dying or occasional thoughts of killing self, without a plan or method<br>3 = **Moderate:** often thinks of suicide or has thought of a specific method<br>4 = **Moderately Severe:** has mentally rehearsed a specific method of suicide or has made a suicide attempt with questionable intent to die (e.g. takes aspirins and then tells family)<br>5 = **Severe:** has made preparations for a potentially lethal suicide attempt (e.g. acquires a gun and bullets for an attempt)<br>6 = **Very Severe:** has made a suicide attempt with definite intent to die<br><br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |

**4. Elevated / Expansive Mood**

elevation of mood (mood unusually good, cheerful, high or expansive)

**Patient endorsed feeling particularly good on self-report**

*On the questionnaire, you said that you have been feeling particularly good. Were you just in a good mood or was it something more than that? Was this different from your normal self?*

*(Did you feel on top of the world?)*

**Patient did not endorse feeling particularly good on self-report**

*On the questionnaire, you said that you have not been feeling particularly good. Is that correct? Any times recently when people have thought that you were not your usual self?*

| | |
|---|---|
| ***Rating*** | 0 = **Not at all**<br>1 = **Very Mild**: questionable; more cheerful than most people in his/her circumstances but of only possible clinical significance<br>2 = **Mild:** brief elevated/expansive mood but only somewhat out of proportion to the circumstances.<br>3 = **Moderate:** brief/occasional elevation of mood which is dearly out of proportion to the circumstances<br>4 = **Moderately Severe:** sustained/frequent elevation of mood which is clearly out of proportion to the circumstances<br>5 = **Severe:** mood is euphoric most of the time<br>6 = **Very Severe:** sustained elation; "everything is wonderful" almost all of the time<br><br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |

**5 Hostility / Anger / Irritability / Aggressiveness**

anger, verbal and non-verbal expressions of anger and resentment including a belligerent attitude, sarcasm, abusive language, and assaultive or threatening behavior.

**Patient endorsed feeling annoyed, angry or resentful**

*On the questionnaire, you said that you had been feeling annoyed, angry or resentful. Tell me how you have been feeling. Have other people done things to make you mad?*

*(Could other people tell that you were angry?)*

*(Have you done anything about your anger [for example, shout at people])?*

**Patient did not endorse feeling annoyed, angry or resentful**

*On the questionnaire, you said that you have not been feeling annoyed, angry or resentful. Have*

| Items | |
|---|---|
| *other people done things that could have make you mad?* | |
| ***Rating*** _____ | 0 = **Not at all**<br>1 = **Very Mild:** occasional irritability of doubtful clinical significance<br>2 = **Mild:** occasionally feels angry or mild or indirect expressions of anger, e.g. sarcasm, disrespect or hostile gestures<br>3 = **Moderate:** frequently feels angry, frequent irritability or occasional direct expression of anger, e.g. yelling at others<br>4 = **Moderately Severe**: often feels very angry, often yells at others or occasionally threatens to harm others<br>5 = **Severe:** has acted on his anger by becoming physically abusive on one or two occasions or makes frequent threats to harm others or is very angry most of the time<br>6 = **Very Severe**: has been physically aggressive and/or required intervention to prevent assaultiveness on several occasions; or any serious assaultive act.<br><br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |

**6 Impulsive Behavior**

doing things at the spur of the moment without thinking, planning, or considering the consequences. do not rate general poor judgement (e.g. not taking medication, drug abuse) unless there is a short term impulsive quality to the act.

**Patient endorsed doing something that could have gotten themselves in trouble**

*On the questionnaire you said that you had done something recently that could have gotten you in trouble. Can you tell me the circumstances?*

*Did you do anything reckless? For example, spending too much money? Did anything sexual that was unusual or reckless for you?*

**Patient did not endorse doing something that could have gotten themselves in trouble**

*On the questionnaire you said that you had not done anything recently that could have gotten you in trouble. Have you recently done anything reckless?*

| | |
|---|---|
| **Rating** | 0 = **Not at all**<br>1 = **Very Mild**: one instance of impulsive behavior which is of doubtful clinical significance<br>2 = **Mild**: occasional impulsive acts, e.g. making phone calls at odd hours<br>3 = **Moderate:** occasional impulsive acts with some potential negative consequence, e.g. leaving work abruptly; changing plans without thinking<br>4 = **Moderately Severe**: impulsive acts with definite negative consequences, e.g. overspending on non-essentials; repeated reckless sexual behavior<br>5 = **Severe**: impulsive acts with direct negative consequences, e.g. spends entire income on nonessentials without regard for basic needs<br>6 = **Very Severe**: impulsive behavior which is potentially life threatening, e.g. jumps from dangerous height (without suicidal intent) or criminal behavior, e.g. impulsive robbery<br><br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |

**7. SUSPICIOUSNESS**

Expressed or apparent belief that other persons have acted maliciously or with discriminatory intent. Include persecution by supernatural or other nonhuman agencies (e.g., the devil). Note: Ratings of "3" or above should also be rated under Unusual Thought Content.

*Do you ever feel uncomfortable in public? Does it seem as though others are watching you?*

*Are you concerned about anyone's intentions toward you?*

*Is anyone going out of their way to give you a hard time, or trying to hurt you? Do you feel in any danger?*

[If patient reports any persecutory ideas/delusions, ask the following]:

**How often have you been concerned that [use patient's description]? Have you told anyone about these experiences?**

***Rating***

0 = **Not Present**
1 = **Very Mild:** Seems on guard. Reluctant to respond to some "personal" questions. Reports being overly self-conscious in public.
2 = **Mild:** Describes incidents in which others have harmed or wanted to harm him/her that sound plausible. Patient feels as if others are watching, laughing, or criticizing him/her in public, but this occurs only occasionally or rarely. Little or no preoccupation.
3 = **Moderate:** Says others are talking about him/her maliciously, have negative intentions, or may harm him/her. Beyond the likelihood of plausibility, but not delusional. Incidents of suspected persecution occur occasionally (less than once per week) with some preoccupation.
4 = **Moderately Severe:** Same as 4, but incidents occur frequently such as more than once a week. Patient is moderately preoccupied with ideas of persecution OR patient reports persecutory Delusions expressed with much doubt (e.g. partial delusion).
5 = **Severe :** Delusional -- speaks of Mafia plots, the FBI, or others poisoning his/her food, persecution By supernatural forces.
6 = **Extremely Severe:** Same as 6, but the beliefs are bizarre or more preoccupying. Patient tends to disclose or act on persecutory delusions.

☐ Unable to assess (e.g. subject uncooperative or incoherent)

**8. UNUSUAL THOUGHT CONTENT**:

Unusual, odd, strange or bizarre thought content. Rate the degree of unusualness, not the degree of disorganization of speech. Delusions are patently absurd, clearly false or bizarre ideas that are expressed with full conviction. Consider the patient to have full conviction if he/she has acted as though the delusional belief were true. Ideas of reference/persecution can be differentiated from delusions in that ideas are expressed with much doubt and contain more elements of reality. Include thought insertion, withdrawal and broadcast. Include grandiose, somatic and persecutory delusions even if rated elsewhere. Note: If Suspiciousness is rated "6" or "7" due to delusions, then Unusual Thought Content must be rated a "4" or above.

*Have you been receiving any special messages from people or from the way things are arranged around you? Have you seen any references to yourself on TV or in the newspapers? Can anyone read your mind? Do you have a special relationship with God?*

*Is anything like electricity, X-rays, or radio waves affecting you? Are thoughts put into your head that are not your own? Have you felt that you were under the control of another person or force? [If patient reports any odd ideas/delusions, ask the following]: How often do you think about [use patient's description]? Have you told anyone about these experiences? How do you explain the things that have been happening [specify]?*

| | |
|---|---|
| ***Rating*** | 0 = **Not Present**<br>1 = **Very Mild:** Ideas of reference (people may stare or may laugh at him), ideas of persecution (people may mistreat him). Unusual beliefs in psychic powers, spirits, UFOs, or unrealistic beliefs in one's own abilities. Not strongly held. Some doubt.<br>2 = **Mild:** Same as 2, but degree of reality distortion is more severe as indicated by highly unusual ideas or greater conviction. Content may be typical of delusions (even bizarre), but without full conviction. The delusion does not seem to have fully formed, but is considered as one possible explanation for an unusual experience.<br>3 = **Moderate:** Delusion present but no preoccupation or functional impairment May be an encapsulated delusion or a firmly endorsed absurd belief about past delusional circumstances.<br>4 = **Moderately Severe:** Full delusion(s) present with some preoccupation OR some areas of functioning disrupted by delusional thinking.<br>5 = **Severe:** Full delusion(s) present with much preoccupation OR many areas of functioning are disrupted by delusional thinking.<br>6 = **Extremely Severe:** Full delusions present with almost total preoccupation OR most areas of functioning are disrupted by delusional thinking.<br><br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |

**9. HALLUCINATIONS**:

Reports of perceptual experiences in the absence of relevant external stimuli. When rating degree to which functioning is disrupted by hallucinations, include preoccupation with the content and experience of the hallucinations, as well as functioning disrupted by acting out on the hallucinatory content (e.g., engaging in deviant behavior due to command hallucinations). Include "thoughts aloud" ("gedankenlautwerden") or pseudohallucinations (e.g., hears a voice inside head) if a voice quality is present.

*Do you ever seem to hear your name being called? Have you heard any sounds or people talking to you or about you when there has been nobody around? [If hears voices]: What does the voice/voices say? Did it have a voice quality? Do you ever have visions or see things that others do not see'? What about smell — odors that others do not smell? [If the patient reports hallucinations, ask the following]: Have these experiences interfered with your ability to perform your usual activities/work? How do you explain them? How often do they occur?*

| | |
|---|---|
| ***Rating*** | 0 = **Not Present**<br>1 = **Very Mild:** While resting or going to sleep, sees visions, smells odors, or hears voices, sounds or whispers in the absence of external stimulation, but no impairment in functioning.<br>2 = **Mild:** While in a clear state of consciousness, hears a voice calling the subject's name, experiences non-verbal auditory hallucinations (e.g., sounds or whispers), formless visual hallucinations, or has sensory experiences in the presence of a modalty-relevant stimulus (e.g., visual illusions) infrequently (e.g., 1-2 times per week) and with no functional impairment<br>3 = **Moderate:** Occasional verbal, visual, gustatory, olfactory, or tactile hallucinations with no functional impairment OR non-verbal auditory hallucinations/visual illusions more than infrequently or with impairment.<br>4 = **Moderately Severe:** Experiences daily hallucinations OR some areas of functioning are disrupted by hallucinations.<br>5 = **Severe:** Experiences verbal or visual hallucinations several times a day OR many areas of functioning are disrupted by these hallucinations.<br>6 = **Extremely Severe:** Persistent verbal or visual hallucinations throughout the day OR most areas of functioning are disrupted by these hallucinations.<br><br>☐ **Unable to assess (e.g. subject uncooperative or incoherent)** |

**10. CONCEPTUAL DISORGANIZATION**:

Degree to which speech is confused, disconnected, vague or disorganized. Rate tangentiality, circumstantiality, sudden topic shifts, incoherence, derailment, blocking, neologisms, and other speech disorders. Do not rate content of speech.

| | |
|---|---|
| ***Rating*** | 0 = **Not Present**<br>1 = **Very Mild:** Peculiar use of words or rambling but speech is comprehensible.<br>2 = **Mild:** Speech a bit hard to understand or make sense of due to tangentiality, circumstantiality, or sudden topic shifts.<br>3 = **Moderate:** Speech difficult to understand due to tangentiality, circumstantiality, idiosyncratic speech, or topic shifts on many occasions OR 1-2 instances of incoherent phrases.<br>4 = **Moderately Severe**: Speech difficult to understand due to circumstantiality, tangentiality, neologisms, blocking, or topic shifts most of the time OR 3-5 instances of incoherent phrases.<br>5 = **Severe:** Speech is incomprehensible due to severe impairments most of the time. Many PSRS items cannot be rated by self-report alone.<br>6 = **Extremely Severe:** Speech is incomprehensible throughout interview.<br><br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |

**11. Avolition /Apathy**

Avolition manifests itself as a characteristic lack of energy, drive, and interest. Consider degree of passivity in pursuing goal-directed activities. Factor in the range of activities available to the subject (e.g. inpatient hospitalization often substantially limits the range of activities available to patients)

*During the past week, how have you been spending your time?*

| | |
|---|---|
| ***Rating*** | 0 = **Not at all**<br>1 = **Very Mild:** questionable decrease in time spent in goal-directed activities.<br>2 = **Mild:** spends less time in goal-directed activities than is appropriate for situation and age.<br>3 = **Moderate:** initiates activities at times but does not follow through.<br>4 = **Moderately Severe:** rarely initiates activity but will passively engage with encouragement<br>5 = **Severe:** almost never initiates activities; requires assistance to accomplish basic activities.<br>6 = **Very Severe:** does not initiate or persist in any goal-directed activity even with outside assistance<br><br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |

**12. Asociality / Low Social Drive**

The subject pursues little or no social interaction, and tends to spend much of the time alone or non-interactively.

*Some people are very outgoing and like to always be around people; they are "the life of the party". Other people are very reserved and like to have a lot of time alone. What type of person are you? (Are you more reserved or more outgoing?)*

*What types of things have you done with people during the past week?*

*Tell me about your friends?*

*Have you had a chance to see or speak with them lately?*

*(If an inpatient) How about people on the ward?*

*What types of things do you do with them?*

| | |
|---|---|
| ***Rating*** | 0 = **Not at all**<br>1 = **Very Mild:** questionable;<br>2 = **Mild:** slow to initiate social interactions but usually responds to overtures by others.<br>3 = **Moderate:** rarely initiates social interactions; sometimes responds to overtures by others.<br>4 = **Moderately Severe:** does not initiate but sometimes responds to overtures by others; little social interaction outside close family members.<br>5 = **Severe:** never initiates and rarely encourages conversations or activities; avoids being with others unless prodded, may have contacts with family.<br>6 = **Very Severe:** avoids being with others (even family members) whenever possible, extreme social isolation.<br><br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |

**13. Adherence**

Based upon responses by patient on questionnaire:

If patient said that they had not missed any medication days on the questionnaire: On the questionnaire you said that you had not missed any days taking your medication. Were there any times when you were too busy to take the medication or didn't have it available for you to take? (What about weekends?)

If patient said that they had missed some medication days on the questionnaire: On the questionnaire you said that since your last visit you had missed XX days taking your medication. When did that occur? What were the circumstances? Any other days when you were too busy to take the medication or didn't have it available? What about weekends? When did you last need to get your medication refilled?

COMPASS SHOULD PROMPT THE CLINICIAN ABOUT OTHER ADHERENCE ITEMS ON THE SELF REPORT FORM THAT A SUBJECT ENDORESED

ON THE SELF REPORT FORM, THE SUBJECT ENDORSED THE FOLLOWING ITEMS THAT MAY BE ASSOCIATED WITH NONADHERENCE; (LIST ITEMS ENDORSED BY SUBJECT—TROUBLE REMEMBERING TO TAKE MEDICATION, FINDING THE MEDICATION SCHEDLUE CONFUSING OR BURDENSOME, BEING AFRAID OF THE MEDICATION, NOT HAVING AN ILLNESS REQUIRING MEDICATION, OTHERS WILL THINK POORLY OF THE PATIENT IF THEY TAKE MEDICATION)

Based upon all available information, the longest continuous time in days since the last visit when the subject did not take medication: _____

**14. EPS**

**Rate Elbow Rigidity for all subjects**

Examiner separately bends at right angles and extends and flexes each elbow joint, with the subject's biceps observed and simultaneously palpated. The resistance to this procedure is rated

| | |
|---|---|
| ***Rating*** | 0 = Normal<br>1 = Slight stiffness and resistance<br>2 = Moderate stiffness and resistance<br>3 = Marked rigidity with difficulty in passive movement<br>4 = Extreme stiffness and rigidity with almost a frozen joint<br><br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |

**EPS part 2**

**COMPASS should prompt clinician that the subject endorsed on self report questionnaire the following items that may be associated with EPS: shaking, problems walking or moving or feeling stiff or rigid or having too much saliva or drooling.**

**Check here ___ if other signs of EPS (e.g. diminished arm swing, postural instability, cogwheeling, tremor, akinesia) are present based upon patient report or exam.**

**15. Akathisia.**

Subject is observed for restlessness. If restlessness is noted, ask: "Do you feel restless or jittery inside; is it difficult to sit still?" Subjective response is not necessary for scoring but subject report can help make the assessment.

COMPASS should prompt clinician if the subject endorsed feeling restless or like they can't stay still.

| | |
|---|---|
| ***Rating*** | 0 = No restlessness reported or observed<br>1 = Mild restlessness observed; e.g., occasional jiggling of the foot occurs when subject is seated<br>2 = Moderate restlessness observed; e.g., on several occasions, jiggles foot, crosses and uncrosses legs or twists a part of the body<br>3 = Restlessness is frequently observed; e.g., the foot or legs moving most of the time<br>4 = Restlessness persistently observed; e.g., subject cannot sit still, may get up and walk<br><br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |

**16. Dyskinetic MOVEMENT RATINGS:**

Rate highest severity observed. Rate movements that occur upon activation one less than those observed spontaneously.

**Patients with Tardive Dyskinesia almost always have oral-facial movements as the sole or one of the muscle groups involved. Please assess for the presence of these involuntary movements. Muscles of Facial Expression (**e.g. movements of forehead, eyebrows periorbital area, cheeks, including frowning blinking, smiling, grimacing) **or Lips and Perioral Area (**e.g., puckering, pouting, smacking) **or Jaw (**e.g. biting, clenching, chewing, mouth opening, lateral movement) **or Tongue (**darting in and out of mouth, choreoathetoid movements of tongue).

| | |
|---|---|
| ***Rating*** | 0 = None<br>1 = Minimal, may be extreme normal<br>2 = Mild<br>3 = Moderate<br>4 = Severe<br><br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |

**Address those side effects that have been reported by the subject**

| | |
|---|---|
| Feel dizzy or faint | 0 = Not present<br>☐ Not related<br>1 = Minimal, may be extreme normal<br>2 = Mild<br>3 = Moderate<br>4 = Severe<br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |
| Blurred vision | 0 = Not present<br>☐ Not related<br>1 = Minimal, may be extreme normal<br>2 = Mild<br>3 = Moderate<br>4 = Severe<br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |
| Dry mouth | 0 = Not present<br>☐ Not related<br>1 = Minimal, may be extreme normal<br>2 = Mild<br>3 = Moderate<br>4 = Severe<br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |
| Having too much saliva or drooling | 0 = Not present<br>☐ Not related<br>1 = Minimal, may be extreme normal<br>2 = Mild<br>3 = Moderate<br>4 = Severe<br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |
| Nausea | 0 = Not present<br>☐ Not related<br>1 = Minimal, may be extreme normal<br>2 = Mild<br>3 = Moderate<br>4 = Severe<br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |
| Constipation | 0 = Not present<br>☐ Not related<br>1 = Minimal, may be extreme normal<br>2 = Mild<br>3 = Moderate<br>4 = Severe<br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |
| Increased appetite for food | 0 = Not present<br>☐ Not related<br>1 = Minimal, may be extreme normal<br>2 = Mild<br>3 = Moderate<br>4 = Severe<br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |
| Weight gain<br><br>COMPASS SHOULD DISPLAY CURRENT AND LAST WEIGHT<br>NOTE: IF THERE IS MORE THAN A 1 | 0 = Not present<br>☐ Not related<br>1 = Minimal, may be extreme normal<br>2 = Mild |

| | |
|---|---|
| POUND WEIGHT GAIN BETWEEN STUDY VISITS, COMPASS SHOULD PROMPT THE CLINICIAN TO RATE WEIGHT GAIN EVEN IF THE SUBJECT DOES NOT ENDORSE WEIGHT GAIN ON THE SELF REPORT QUESTIONNAINE | 3 = Moderate<br>4 = Severe<br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |
| Weight loss<br><br>COMPASS SHOULD DISPLAY CURRENT AND LAST WEIGHT<br><br>NOTE: IF THERE IS MORE THAN A 1 POUND WEIGHT LOSS BETWEEN STUDY VISITS, COMPASS SHOULD PROMPT THE CLINICIAN TO RATE WEIGHT GAIN EVEN IF THE SUBJECT DOES NOT ENDORSE WEIGHT GAIN ON THE SELF REPORT QUESTIONNAINE | 0 = Not present<br>☐ Not related<br>1 = Minimal, may be extreme normal<br>2 = Mild<br>3 = Moderate<br>4 = Severe<br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |
| Feeling tired or fatigued | 0 = Not present<br>☐ Not related<br>1 = Minimal, may be extreme normal<br>2 = Mild<br>3 = Moderate<br>4 = Severe<br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |
| Daytime sedation | 0 = Not present<br>☐ Not related<br>1 = Minimal, may be extreme normal<br>2 = Mild<br>3 = Moderate<br>4 = Severe<br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |
| Hypersomnia | 0 = Not present<br>☐ Not related<br>1 = Minimal, may be extreme normal<br>2 = Mild<br>3 = Moderate<br>4 = Severe<br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |
| Insomnia | 0 = Not present<br>☐ Not related<br>1 = Minimal, may be extreme normal<br>2 = Mild<br>3 = Moderate<br>4 = Severe<br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |
| Low libido | 0 = Not present<br>☐ Not related<br>1 = Minimal, may be extreme normal<br>2 = Mild<br>3 = Moderate<br>4 = Severe<br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |

| | |
|---|---|
| Other problems with sex | 0 = Not present<br>☐ Not related<br>1 = Minimal, may be extreme normal<br>2 = Mild<br>3 = Moderate<br>4 = Severe<br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |
| Breast enlargement or discharge | 0 = Not present<br>☐ Not related<br>1 = Minimal, may be extreme normal<br>2 = Mild<br>3 = Moderate<br>4 = Severe<br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |
| Irregular menstruation or amenorrhea | 0 = Not present<br>☐ Not related<br>1 = Minimal, may be extreme normal<br>2 = Mild<br>3 = Moderate<br>4 = Severe<br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |
| Other reported side effects (list): | 0 = Not present<br>☐ Not related<br>1 = Minimal, may be extreme normal<br>2 = Mild<br>3 = Moderate<br>4 = Severe<br>☐ Unable to assess (e.g. subject uncooperative or incoherent) |

SUBSTANCE USE ASSESSMENT

Note: The assessment of substance use is frequently compromised by patient denial. Impairments in social functioning or intermittent symptom exacerbations may be clues to possible substance use and should be followed up in supplement to the suggested probe questions below.

Severity of alcohol, marijuana and other substances is assessed separately. This may be challenging for some patients as combinations of substance use, particularly alcohol and marijuana, are common.

ALCOHOL SECTION

COMPASS: based upon history, this subject does/does not have a history of
Alcohol use or Alcohol misuse

COMPASS: On self report, the subject did/did not report current use of alcohol:
Alcohol

1) If the subject endorsed using alcohol currently on self report:

Since our last visit, how often have you been drinking any alcohol?

What have you been drinking (beer, wine, mixed drinks, etc)? How many drinks did you have?
Did you drink with other people or alone? If with others, then ask: With who?
Have you had any hang overs the next day or feel sick in any way after drinking?
If yes, ask if they missed work, school, their program or other activities due to alcohol use.
.
2) If the subject denied using alcohol on self report:

For subjects who do not drink by history and deny current use on self report, rate alcohol use now.

For subjects who do drink alcohol but deny current use on self-report:

When was the last time you drank any alcohol?

If drank since last visit, use probes above for subjects who used alcohol since the last visit

3) For subjects who did not answer self report questions:

Since our last visit, how often have you been drinking any alcohol? If response is that they did not drink: When was the last time you drank any alcohol?

For subjects with some indication of alcohol use since last visit,

What have you been drinking (beer, wine, mixed drink, etc)? How many drinks did you have?
Did you drink with other people or alone? If with others, then ask: With who?
Have you had any hang overs the next day or feel sick in any way after drinking?
If yes, ask if they missed work, school or their program.

Alcohol use Severity

0 = none
1 = use without impairment: drinks but no immediate social or medical impairment
2 = use with impairment: e.g. becomes grossly intoxicated; alcohol use or withdrawal compromises school, work or social functioning; alcohol use or withdrawal exacerbates symptoms (e.g. gets depressed when drinking)

MARIJUANA

COMPASS: based upon history, this subject does/does not have a history of
Marijuana use

COMPASS: On current self report, the subject did/did not report current use of marijuana:

1) If the subject endorsed using marijuana on self report:

Since our last visit, how often have you smoked pot or weed?
Did you use mostly with other people or when you were alone? If with others, then ask: With who?
How much did you use (bowl, joint, blunt, etc)?
Approximately how many days did you use since our last visit?
After you used, did you feel sick or abnormal in any way? What about the next day?
If yes, ask if they missed work, school or their program.

2) If the subject denied using marijuana on self report:

For subjects who do not use marijuana by history and deny current use on self report, rate marijuana use now.

For subjects who do use marijuana but deny current use of self-report:

When was the last time you smoked pot or weed?

If used marijuana since last visit, use probes above

3) for subjects who did not answer questions about marijuana on self report

Since our last visit, how often have you smoked pot or weed?
(If no, When was the last time you did?)
If used marijuana since last visit:

Did you use mostly with other people or when you were alone? If with others, then ask: With who?
How much did you use (bowl, joint, blunt, etc)?
Approximately how many days did you use since our last visit?
After you used, did you feel sick or abnormal in any way? What about the next day?
If yes, ask if they missed work, school or their program.

Marijuana use Severity

0 = none
1 = occasional use without impairment: e.g. uses marijuana a few days a month and has no immediate social or medical impairment
2 = frequent use without impairment: e.g. uses marijuana several or more days a week but has no immediate social or medical impairment
3 = use with impairment: e.g. becomes grossly intoxicated; marijuana use compromises school, work or social functioning; marijuana use exacerbates symptoms (e.g. gets paranoid when using)

DRUG USE OTHER THAN MARIJAUANA AND ALCOHOL

COMPASS: based upon history, this subject does/does not have a history of other drug use

COMPASS: On self report, the subject did/did not report current use of other drugs:

1) If the subject endorsed using other drugs currently on self report:

Since our last visit, how often have you used any other street drugs?
If yes, continue, if response is no, go to next question. (If no, you might want to ask When was the last time you did?)
Did you use mostly with other people or when you were alone? If with others, then ask: With who?
How much did you use?
Approximately how many days did you use since our last visit?
After you used, did you feel sick or abnormal in any way? What about the next day?
If yes, ask if they missed work, school or their program.

COMPASS should allow clinician to enter type of drug(s) used (e.g. sedatives, hallucinogens)

2) If the subject denied using other drugs on self report:

FOR SUBJECTS WHO DO NOT use other drugs by history and deny current use on self report, rate other drug use now.

For subjects who do use other drugs but deny current use of self-report:

When was the last time you used street drugs?

If used other street drugs, use probes above

3) for subjects who did not answer questions about other drug use on self report

Since our last visit, how often have you used any other street drugs?
If yes, continue, if response is no, go to next question. (If no, you might want to ask When was the last time you did?)
Did you use mostly with other people or when you were alone? If with others, then ask: With who?
How much did you use?
Approximately how many days did you use since our last visit?
After you used, did you feel sick or abnormal in any way? What about the next day?
If yes, ask if they missed work, school or their program.

Other Drug Use Severity (rate overall severity of use separate from use of alcohol or marijuana)

0 = none
1 = occasional use without impairment: e.g. uses drug(s) a few days a month and has no immediate social or medical impairment
2 = frequent use without impairment: e.g. uses drug(s) several or more days a week but has no immediate social or medical impairment
3 = use with impairment: e.g. becomes grossly intoxicated; drug use compromises school, work or social functioning; drug use exacerbates symptoms (e.g. gets paranoid when using)

TOBACCO USE COMPASS: the subject on self report says that they currently smoke ___cigarettes per day
FINAL COMPASS PROMPTS TO CLINICIAN:

the subject reported on the questionnaire that they wish to stay on the same medications
or
the subject reported on the questionnaire that they wish to consider making changes to their medications.

Tables Summarizing Characteristics of NAVIGATE Medications and Suggested Dose Ranges

| Medication Name | Usual FEP dose range | Titration | Starting dose | Max Day Dose | Schedule |
|---|---|---|---|---|---|
| Aripiprazole | 10-30 mg | 5 mg/2-7 days | 5mg | 30mg | 1x day |
| Chlorpromazine | median 600mg acute, 400mg maintenance | 50-200mg/day | 50-100mg/day | 600mg | 1x day |
| Clozapine | Median 400 acute,300 maintenance | 25mg | 12.5mg | 900mg | 2xday, later 1xday possible |
| Haloperidol | 2-4mg | 2-5md/day | 1-2mg | 10mg | 1x day |
| LA Paliperidone | 39 -117mg | | 39 mg | 117 mg | q 4 weeks |
| LA Risperidone | 25mg q 2 wks | 12.5 mg q2-6 wks | 25mg | 50mg | q 2 weeks |
| Olanzapine | mean medial 12mg | 5mg/wk | 2.5-5.0mg | 20mg | 1x day |
| Paliperidone | 3-6mg | 3 mg/ 2-3 days | 3mg | 12mg | 1x day |
| Quetiapine IR | mean 500mg | 300mg/ 3-7days | 50mg | 800mg | 2xday |
| Quetiapine XR | mean 500mg | 300mg/ 3-7days | 300mg | 800mg | 1xday |
| Risperidone | 3-4mg | 1mg/ 2-3 days | 1-2mg | 8mg | 1x day |
| Ziprasidone | mean 100mg | 20-40mg/ 2-3days | 40-80mg | 160mg | 1or 2x day |

Tables Summarizing Characteristics of NAVIGATE Medications
Motor Side Effects Profiles of Agents

| Medication Name | Akathisia | EPS | Tardive Dyskinesia | Withdrawal Dyskinesia |
|---|---|---|---|---|
| Aripiprazole | ++ | + | 0/+ | +/++ |
| Chlorpromazine | ++ | ++ | +/++ | +/++ |
| Clozapine | + | 0 | 0 | 0 |
| Haloperidol | +++ | +++ | ++ | ++ |
| LA Paliperidone | + | ++ | 0/+ | + |
| LA Risperidone | + | ++ | 0/+ | + |
| Olanzapine | + | + | 0/+ | 0/+ |
| Paliperidone | + | ++ | 0/+ | + |
| Quetiapine IR | + | 0 | 0/+ | 0/+ |
| Quetiapine XR | + | 0 | 0/+ | 0/+ |
| Risperidone | + | ++ | 0/+ | + |
| Ziprasidone | + | + | 0/+ | + |

| | |
|---|---|
| None | 0 |
| Minimal | 0+ |
| Mild | + |
| Moderate | ++ |
| Severe | +++ |

Tables Summarizing Characteristics of NAVIGATE Medications
Endocrine and Metabolic Side Effects

| **Medication Name** | **Diabetes** | **Increased Lipids** | **Weight Gain** | **Increase Prolactin** |
|---|---|---|---|---|
| Aripiprazole | 0/+ | 0/+ | + | 0 |
| Chlorpromazine | ++ | ++ | +++ | + |
| Clozapine | +++ | ++/+++ | +++ | 0 |
| Haloperidol | 0/+ | 0/+ | + | ++ |
| LA Paliperidone | + | + | +/++ | +++ |
| LA Risperidone | + | + | ++ | +++ |
| Olanzapine | +++ | ++/+++ | +++ | +/++ |
| Paliperidone | + | + | +/++ | +++ |
| Quetiapine IR | ++ | ++/+++ | ++ | 0 |
| Quetiapine XR | ++ | ++/+++ | ++ | 0 |
| Risperidone | + | + | ++ | +++ |
| Ziprasidone | 0/+ | 0/+ | + | + |

| | |
|---|---|
| None | 0 |
| Minimal | 0+ |
| Mild | + |
| Moderate | ++ |
| Severe | +++ |

Tables Summarizing Characteristics of NAVIGATE Medications
Other Side Effects Part 1

| Medication Name | Increased QTc interval | Neutropenia | Orthostasis | Sexual dysfunction | Agitation |
|---|---|---|---|---|---|
| Aripiprazole | 0/+ | 0/+ | 0 | + | 0/+ |
| Chlorpromazine | + | 0/+ | ++ | + | 0 |
| Clozapine | +/++ | ++ | +++ | + | 0 |
| Haloperidol | 0/+ | 0/+ | 0 | ++ | 0 |
| LA Paliperidone | + | 0/+ | + | +++ | 0 |
| LA Risperidone | + | 0/+ | + | +++ | 0 |
| Olanzapine | 0/+ | 0/+ | ++ | +/++ | 0 |
| Paliperidone | + | 0/+ | + | +++ | 0 |
| Quetiapine IR | + | 0/+ | ++ | + | 0 |
| Quetiapine XR | + | 0/+ | ++ | + | 0 |
| Risperidone | + | 0/+ | + | +++ | 0 |
| Ziprasidone | ++ | 0/+ | 0 | + | 0/+ |

| | |
|---|---|
| None | 0 |
| Minimal | 0+ |
| Mild | + |
| Moderate | ++ |
| Severe | +++ |

Tables Summarizing Characteristics of NAVIGATE Medications
Other Side Effects Part 2

| Medication Name | Anticholinergic | Constipation | Dizziness | Dry Mouth |
|---|---|---|---|---|
| Aripiprazole | 0 | 0/+ | 0/+ | 0/+ |
| Chlorpromazine | + | + | ++ | ++ |
| Clozapine | +++ | +++ | ++ | 0 (sialorhea) |
| Haloperidol | 0 | 0/+ | 0/+ | 0/+ |
| LA Paliperidone | 0 | 0/+ | 0/+ | 0/+ |
| LA Risperidone | 0 | 0/+ | 0/+ | 0/+ |
| Olanzapine | ++ | + | ++ | ++ |
| Paliperidone | 0 | 0/+ | 0/+ | 0/+ |
| Quetiapine IR | 0/+ | + | ++ | ++ |
| Quetiapine XR | 0/+ | + | ++ | ++ |
| Risperidone | 0 | 0/+ | 0/+ | 0/+ |
| Ziprasidone | 0 | 0/+ | 0/+ | 0/+ |

| | |
|---|---|
| None | 0 |
| Minimal | 0+ |
| Mild | + |
| Moderate | ++ |
| Severe | +++ |

Tables Summarizing Characteristics of NAVIGATE Medications
Other Side Effects Part 3

| Medication Name | Insomnia | Nausea | Sedation/ somnolence | Seizures |
|---|---|---|---|---|
| Aripiprazole | + | + | 0/+ | 0/+ |
| Chlorpromazine | 0 | 0 | ++ | 0/+ |
| Clozapine | 0 | 0 | +++ | ++ |
| Haloperidol | 0 | 0 | 0/+ | 0/+ |
| LA Paliperidone | 0 | 0 | + | 0/+ |
| LA Risperidone | 0 | 0 | + | 0/+ |
| Olanzapine | 0 | 0 | ++ | 0/+ |
| Paliperidone | 0 | 0 | + | 0/+ |
| Quetiapine IR | 0 | 0 | ++ | 0/+ |
| Quetiapine XR | 0 | 0 | ++ | 0/+ |
| Risperidone | 0 | 0 | + | 0/+ |
| Ziprasidone | + | 0 | 0/+ | 0/+ |

| | |
|---|---|
| None | 0 |
| Minimal | 0+ |
| Mild | + |
| Moderate | ++ |
| Severe | +++ |