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## **Mental Health Disparities Among Individuals with Schizophrenia Prescribed Long-Acting Injectable Antipsychotic Medication in Miami, Florida: A Quality Improvement Project**

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Mental Health Disparities Among Individuals with Schizophrenia Prescribed Long-Acting Injectable Antipsychotic Medication in Miami, Florida: A Quality Improvement Project

A Scholarly Project Presented to the Faculty of the  
Nicole Wertheim College of Nursing and Health Sciences

Florida International University

In partial fulfillment of the requirements  
For the Degree of Doctor of Nursing Practice

By

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### **Abstract**

Schizophrenia is complex to treat, as individuals with the disorder have high hospital readmission rates due to medication noncompliance. According to the American Psychiatric Association (2017), mental health disparities negatively influence access to care and health outcomes in minority and vulnerable populations including people with schizophrenia. Research indicates that long-acting injectable (LAI) antipsychotic medication could increase treatment adherence and reduce hospital readmission rates in individuals with schizophrenia. The purpose of this quality improvement project was to investigate mental health disparities among individuals with schizophrenia at a large hospital in Miami, Florida from June 2020 to December 2020. A quantitative research approach was used with a descriptive, retrospective, cross-sectional design to conduct this project. Data such as gender, age, and LAI antipsychotic medication was collected and examined from a sample of 120 individuals with schizophrenia. Results revealed that males and younger adults, aged 49 years and under, were more frequently prescribed LAI antipsychotic medication than females and older adults at a large hospital in Miami, Florida from June 2020 to December 2020. While Haldol Decanoate and Invega Sustenna were most prescribed to individuals with schizophrenia, Abilify Aristada and Fluphenazine Decanoate were the least prescribed. Nurses and health care providers are called to eliminate health disparities among individuals with schizophrenia globally and nationally.

*Keywords:* schizophrenia, long-acting injectable antipsychotic medication, mental health disparity, advanced practice nursing

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## **DNP PROJECT REPORT**

### **INTRODUCTION**

Schizophrenia is a serious mental illness that affects individuals across the lifespan and throughout the lifetime (Targum et al., 2016). Schizophrenia affects an individual's perception, thought process, emotion, and behavior. Individuals with schizophrenia experience alterations in sensations or perceptions, significantly impacting their biological, psychological, and social domains (American Psychiatric Association [APA], 2020). The hallmarks of schizophrenia include positive symptoms such as hallucinations, delusions, paranoia, and disorganized thoughts or speech, as well as negative symptoms such as social isolation, depression, anhedonia, or flat affect (APA, 2020). Psychotic symptoms of schizophrenia are present for 6 months or greater in individuals with the condition (APA, 2020). The disease also affects an individual's cognitive function that includes gradual decreases in attention, concentration, and memory (APA, 2020). Symptoms of schizophrenia usually appear in late adolescents or young adults in males and 20- to 30-year-old females (Hafner, 2019).

The prevalence of individuals with schizophrenia is 1% worldwide (Magliocco et al., 2020). A cross-sectional study reported that individuals with schizophrenia are three times at higher risk for mortality than those without the condition (Gatov et al., 2017). Suicide and accidental deaths are also high among individuals with schizophrenia (Lomholt et al., 2019). Other causes of death include cancer, cardiovascular disease, somatic symptom, and related disorders (Lomholt et al., 2019). The causes of increased rates of somatic diseases among individuals with schizophrenia include poor lifestyle choices, unhealthy diet, lack of exercise, smoking, and obesity (Lomholt et al., 2019).



Mental illnesses are complex and difficult to treat, especially populations with schizophrenia, as they have high hospital readmission rates due to medication noncompliance (Shameer et al., 2018). Over half of individuals with schizophrenia are not compliant with treatment (Lu et al., 2020; Magliocco et al., 2020). According to the American Psychiatric Association (2017), mental health disparity plays a role in accessibility of care, treatment, and healthcare outcomes. Psychosocial factors related to mental health disparities among racial and ethnic minority populations are often unaddressed in clinical practice (American Psychiatric Association, 2017). Psychiatric providers will continue to face challenges in the care of individuals with schizophrenia without addressing mental health disparities. Stigma related to mental illness could also contribute to medication noncompliance among populations with schizophrenia (Haftman, 2017). In addition, clinical and knowledge gaps among healthcare providers regarding mental illness especially in schizophrenia are countless (Haftman, 2017).

Hospitals in the United States (U.S.) have attempted to reduce readmission rates in this population (Shameer et al., 2018). Unfortunately, individuals with schizophrenia have higher hospital readmission rates compared to individuals without the condition (Shameer et al., 2018). Medication noncompliance among individuals with schizophrenia contributes to high hospital readmission rates in this population. Reducing hospital readmission rates and related health disparities in this population could decrease healthcare costs in the U.S. (Shameer, et al., 2018).

According to the Centers for Disease Control and Prevention (2015), over 300,000 visits to the emergency department (ED) are attributed to this population annually. About 33% of these ED visits required acute care, with 17% being transferred

to a psychiatric hospital from 2009 to 2011 (CDC, 2015). A cross-sectional study indicated that 21% of individuals with schizophrenia had an unplanned hospital readmission in 2018 (Health Services Advisory Group, 2019). Schizophrenia is also an economic burden to individuals, families, communities, and the U.S. healthcare system (Shah et al., 2018). Without addressing hospital readmission rates and related issues in this area, the U.S. economy will continue to be negatively affected. According to Cloutier et al. (2016), costs related to schizophrenia amounted to \$174.3 billion in 2013. The major economic cost of schizophrenia is unemployment, and the major economic impact is the direct and indirect healthcare costs of schizophrenia, which was \$37.7 billion in 2013 (Cloutier et al., 2016).

Several treatment options are available for individuals with schizophrenia. Both oral antipsychotic medications and long-acting injectable antipsychotic medications (LAIs) are available for individuals with schizophrenia to help decrease positive and negative symptoms. Reasons for medication noncompliance with oral antipsychotic medication in this population include poor insight of medications, side effects of medications, complex medication regimen, and lack of medication effectiveness (Lu et al., 2020; Shah et al., 2018). However, LAIs for individuals with schizophrenia help to increase medication compliance and decrease hospital readmissions by eliminating the need for daily dosing (Lin et al., 2020). Long-acting injectable antipsychotic medications prevent decompensation of the disease (Magliocco et al., 2020; Olagunju et al., 2019). Knowing the benefits of LAIs would help clinicians understand if LAIs should be the standard treatment for populations with schizophrenia. New treatment options for this population could increase mental health outcomes; however, if clinicians do not address

health disparities, then individuals, families, and communities affected with schizophrenia will be at a disadvantage (American Psychiatric Association, 2017). The purpose of this quality improvement project was to investigate mental health disparities among individuals with schizophrenia at a large hospital in Miami, Florida from June 2020 to December 2020.

### **Problem Statement**

Reducing hospital readmissions could decrease healthcare costs in the United States (U.S.). However, individuals with schizophrenia have increased hospital readmission rates (Cook et al., 2020; Magliocco et al., 2020; Shameer et al., 2018). Research suggests that medication noncompliance and mental health disparities could negatively contribute to the clinical problem among this population (Das-Munshi et al., 2018; Munday et al., 2019; Lin et al., 2020; Magliocco et al., 2020). If a quality improvement project is not conducted in this area, then individuals with schizophrenia may continue to have high hospital readmission rates, negatively affecting the U.S. healthcare economy.

### **Advanced Literature Review**

The purpose of this quality improvement project was to investigate mental health disparities among individuals with schizophrenia at a large hospital in Miami, Florida from June 2020 to December 2020. Researchers conducted an advanced literature review to identify gaps in the literature related to phenomena of interest. A literature review was conducted by this researcher using the Cumulative Index of Nursing and Allied Health Literature (CINAHL), Medical Literature Analysis and Retrieval System Online (MEDLINE), Psychology Info (PsycINFO), and key terms *long-acting injectable*

*antipsychotic medication* and *schizophrenia* and *hospital readmission*. Search limitations included articles within 5 years (2015 to 2020) and full-text research peer-reviewed articles written in English. Articles with relevant concepts such as schizophrenia, psychotic disorders, long-acting antipsychotic medications, and health disparities were selected. A total number of 12 articles were selected and examined by this researcher. Gaps in the literature and three content areas were identified: (a) Long-acting injectable antipsychotic medication use among individuals with schizophrenia; (b) Long-acting injectable antipsychotic medication use among diverse populations with schizophrenia; and (c) Long-acting injectable antipsychotic medication use and hospital readmission. The three content areas will be explored in the subsequent paragraphs.

### **Long-Acting Injectable Antipsychotic Medication Use Among Individuals with Schizophrenia**

This content area analyzes long-acting injectable antipsychotic medications (LAIs) use among individuals with schizophrenia worldwide including in the U.S. Researchers examined compliance rates, recovery degrees, preferences, and cognitive improvements between oral antipsychotic and LAIs. Four studies were identified under this content area. The studies were placed in chronological order by year.

Shah et al. (2018) analyzed differences in treatment patterns, healthcare utilization, and costs among individuals in the United States who were recently diagnosed with schizophrenia and received oral antipsychotics or LAIs. The researchers used a retrospective design and convenience sampling method to conduct the study. Investigators collected data from 2,302 subjects who were over 18 years old. Researchers reported that individuals with LAI were more likely to remain on medication regimens

compared to individuals with oral antipsychotics. Although there are reductions in inpatient treatment costs, LAI medications are expensive, resulting in similar total healthcare costs for individuals on LAIs versus those treated with oral antipsychotics. Future studies should assess antipsychotic medication compliance and demographic variables.

Olagunju et al. (2019) analyzed the effects of LAIs on psychosocial function in individuals with schizophrenia in Australia. The researchers conducted a systematic review and meta-analyses of the literature using PRISMA. Investigators collected data from 45 studies and 8,616 subjects over the age of 18 years. Researchers reported individuals with LAIs showed higher recovery of psychosocial function compared to placebo. There was no difference between the type of LAI prescribed and the degree of psychosocial function. Future researchers should analyze predictors of long-term psychosocial function among individuals using LAIs.

Blackwood et al. (2020) analyzed factors that determined individual preferences for LAI or oral antipsychotic medication to better understand patient expectations and reduce barriers to LAI use in schizophrenia in multiple countries including the United States. The researchers used patient-reported questionnaires from a double-blind randomized controlled study. Researchers collected data from 1,402 subjects. Researchers reported that patient empowerment and quality-of-life-related goals were important for individuals who preferred LAI antipsychotics over oral antipsychotics. Individuals also chose less-frequent, quarterly LAI over monthly ones and daily oral medications when given options. Future studies should examine patient populations that

closely represent patients in clinical practice and real clinical practice and real-world settings.

Magliocco et al. (2020) analyzed possible modifications of cognitive performance among individuals who were diagnosed with schizophrenia and treated with second-generation LAIs in Italy. The researchers used an observational, non-randomized study design. Investigators collected data from 32 subjects. Researchers reported individuals with second-generation LAIs showed improvement in neurocognitive function after 1 year of treatment. There were not many differences between the type of LAI prescribed and cognitive performance. However, there were social and cognitive improvements in individuals who switched to second-generation LAIs from oral antipsychotic treatment.

### **Long-Acting Injectable Antipsychotic Medication Use among Diverse Populations with Schizophrenia**

This content area explores LAI use among diverse populations with schizophrenia globally and in the U.S. Researchers examined potential moderating factors including age, gender, ethnicity, and LAIs on treatment outcomes for individuals receiving LAIs. Four studies were identified under this content area. The studies were placed in chronological order by year.

Targum et al. (2016) analyzed whether age or gender were potential moderating factors on treatment outcomes for individuals receiving LAIs or placebo in seven countries located in North America, Europe, and Asia. The researchers used a double-blind placebo-controlled study. Researchers collected data from 596 subjects who were aged 18 to 70 years old. Researchers reported that age and gender were not moderating factors on the treatment response. LAI, specifically aripiprazole lauroxil (Aristada),

regardless of the dosages, showed favorable outcomes. Individuals of all age and gender groups with LAIs showed shorter hospitalization and a significant improvement compared to those with placebo. The authors recommended future studies to assess potential moderating factors.

Das-Munshi et al. (2018) analyzed whether there were differences in evidence-based treatments among ethnic minority groups in the United Kingdom. The researchers used a representative cross-sectional study. Investigators collected data from 10,512 individuals diagnosed with schizophrenia or schizoaffective disorder. Researchers reported non-Hispanic Blacks were more likely to be prescribed LAIs and less likely to be offered Clozaril treatment for treatment-resistant psychosis compared to non-Hispanic Whites. All other ethnic minority groups were less likely to be offered cognitive behavioral therapy. Non-Hispanic Blacks were also less likely to be offered family therapy and Asians were less likely to receive copies of care plans. There were ethnic minority disparities in psychotropic medication use and access to psychological treatments and care plans. Future research should assess differences in prescribing Clozaril by ethnicity for those with treatment-resistant psychosis.

Patel et al. (2018) analyzed the effectiveness of paliperidone compared to other LAIs in the United Kingdom. The researchers used a retrospective study and collected data from 1,281 individuals who were aged between 16 and 65 years. Researchers reported Paliperidone palmitate was the most prescribed LAI for individuals who had more frequent and longer hospital admissions before LAI treatment. There were no differences in the effectiveness between Paliperidone palmitate and other LAIs. Therefore, individuals can be treated with any LAIs depending on symptoms and

financial status, since Paliperidone palmitate is the most expensive LAI. The authors suggested future studies to assess the effectiveness of paliperidone compared to other LAIs when given to individuals with severe schizophrenia.

Lin et al. (2020) analyzed the effect of LAIs and oral antipsychotics on time to re-hospitalization within 1 year of discharge in elderly individuals with schizophrenia in Taiwan. The researchers used a cohort retrospective, observational design, as well as convenience sampling method to conduct the study. Investigators collected data from 1,272 subjects who were at least 60 years old and diagnosed with schizophrenia or schizoaffective disorders. Researchers reported elderly individuals with LAIs showed significantly lower re-hospitalization rates and a longer time to re-hospitalization within 1 year of discharge. The shorter hospitalizations were associated with individuals with LAIs. The authors recommended future studies to assess the effectiveness of LAIs in elderly individuals with schizophrenia.

### **Long-Acting Injectable Antipsychotic Medication Use and Hospital Readmission**

This content area explores LAI medication use and hospital readmission globally and in the U.S. Researchers examined potential moderating factors including LAIs or oral antipsychotic medication on treatment outcomes for individuals with schizophrenia and hospital readmission. Four studies were identified under this content area. The studies were placed in chronological order by year.

MacEwan et al. (2016) analyzed hospital readmission rates of individuals who were treated with LAIs or oral antipsychotics for schizophrenia treatment upon hospital discharges. The researchers used a retrospective cohort study and convenience sampling technique. The researchers collected data from 1,450 subjects who were age 18 to 64



years and were hospitalized for schizophrenia symptoms. Researchers reported that individuals with LAIs showed a significantly lower probability of hospital readmissions compared to individuals with oral antipsychotics. The authors recommended future studies to evaluate differences based on the frequency of past hospitalization.

Tiihonen et al. (2017) analyzed the effectiveness of LAIs and oral antipsychotic treatments for the prevention of hospital readmission in Sweden. The researchers used a prospective population-based cohort study. Investigators collected data from 29,823 subjects aged 16 to 64 years old. Researchers reported that individuals with clozapine and LAIs had the lowest rate of relapse in schizophrenia which prevents hospital readmissions as well. The researchers showed approximately 20% to 30% lower risk of re-hospitalization while getting LAIs compared to getting oral antipsychotics.

Munday et al. (2019) analyzed early initiation of long-acting injectable antipsychotic treatment hospitalization rates in the U.S. The researchers used a retrospective cohort. Investigators collected data from 2,366 subjects aged 18 years old and over. Researchers reported that individuals with LAI initiation within 1 year of a diagnosis of schizophrenia episode showed lower hospitalization rates and healthcare costs. On the other hand, the individuals with LAI initiation more than 1 year after a new episode of schizophrenia showed higher hospitalization rates and healthcare costs. Therefore, early use of LAI may benefit and affect better treatment management, adherence, relapse rates, and other outcomes. The authors recommended future studies to evaluate outcomes associated with differential treatment in first-episode schizophrenia versus new episodes that occur farther in life.

Lu et al. (2020), analyzed long-acting injectable antipsychotic treatments regarding the quality of care and outcomes of individuals with schizophrenia in a community-based outpatient clinic in the United States. The researchers used an observational retrospective design to conduct the study. Investigators collected data from 23 subjects aged over 18 years and who have received LAIs for schizophrenia or schizoaffective disorder. Researchers reported the individuals with LAIs exhibit favorable knowledge about LAIs, a positive attitude toward medications, and satisfaction with care. The individuals with LAIs also showed a decrease in hospitalizations/emergency room visits after receiving LAIs. The authors recommended for future studies to evaluate the effects of LAIs compared with oral psychotics.

A synthesis of the literature related to these content areas suggests that individuals on LAIs exhibit favorable outcomes, higher satisfaction rates, and increased medication compliance rates (Blackwood et al., 2020; Lu et al., 2020; Shah et al., 2018). Individuals with schizophrenia who were placed on LAIs show significantly lower hospital readmissions and a shorter hospital stay positively impacting healthcare costs (Lu et al., 2020; MacEwan et al., 2016; Munday et al., 2019; Tiihonen et al., 2017). Also, treatment with LAIs showed preferable improvement in patient status (Magliocco et al., 2020; Olagunju et al., 2019). The treatments with LAIs, especially the second-generation antipsychotics, showed increased patient outcomes. However, the only negative aspect of using LAIs is the cost of the medication, which may negatively impact patient compliance (Shah et al., 2018). Furthermore, although researchers have explored the positive effects of LAI medication use, they neglected to analyze mental health disparities among individuals with schizophrenia in the U.S. Decreasing health disparities

is imperative in the healthcare system. The purpose of this quality improvement project is to investigate mental health disparities among individuals with schizophrenia using long-acting antipsychotic medication at a large hospital in Miami, Florida from June 2020 to December 2020.

### **Significance**

This project was significant in the discipline of nursing. It had implications for nursing practice, research, and health policy.

#### **Significance to Nursing Practice**

This quality improvement project could increase awareness regarding mental health disparity among individuals with schizophrenia in Miami, Florida. The findings of this project could help nurses develop interventions for individuals with schizophrenia. Nurses in practice could use the results of the study to improve healthcare outcomes in this population. It also allowed nurses and clinicians to gain new knowledge to improve the efficacy of patient care. Nurses could decrease health disparities in this population by understanding the significance of the project.

#### **Significance to Nursing Research**

This quality improvement project could encourage nurse researchers to further investigate and address mental health disparity among individuals with schizophrenia using long-acting antipsychotic medication (LAIs). It could increase research in mental health and bridge knowledge gaps in nursing practice. This quality improvement project could also unveil new knowledge and improve psychiatric nursing care as well as healthcare outcomes in individuals with schizophrenia. Results of this project could reduce mental health disparities and improve patient outcomes. Findings of this project

could also be used to support and advance nursing practice in the care of individuals with schizophrenia using long-acting antipsychotic medication.

### **Significance of Health Policy**

This quality improvement project could bridge knowledge gaps by helping nurses develop policies that improve mental health outcomes among individuals with schizophrenia. This quality improvement project may also provide significant data to nurses and healthcare providers and improve healthcare policies at a large hospital in Miami, Florida. Results of this project could improve policies related to psychiatric care for individuals with schizophrenia at a large hospital in Miami, Florida. Changes in healthcare policies are needed to reduce health disparities in this population (American Psychiatric Association, 2017).

### **Purpose**

The purpose of this quality improvement project was to investigate mental health disparities among individuals with schizophrenia at a large hospital in Miami, Florida from June 2020 to December 2020.

### **PICO Clinical Questions**

1. Were males with schizophrenia more frequently prescribed long-acting injectable antipsychotic medication than females at a large hospital in Miami, Florida from June 2020 to December 2020?
2. Were younger individuals with schizophrenia, ages 49 years and below, more frequently prescribed long-acting injectable antipsychotic medication than older individuals, ages 50 years and over, at a large hospital in Miami, Florida from June 2020 to December 2020?

3. Which long-acting injectable antipsychotic medication (Haldol Decanoate; Abilify Maintena; Invega Sustenna, Abilify Aristada, Risperdal Consta, or Fluphenazine Decanoate) was most prescribed at a large hospital in Miami, Florida from June 2020 to December 2020?
4. Which long-acting injectable antipsychotic medication (Haldol Decanoate; Abilify Maintena; Invega Sustenna, Abilify Aristada, Risperdal Consta, or Fluphenazine Decanoate) was least prescribed at a large hospital in Miami, Florida from June 2020 to December 2020?

### **Definition of Terms**

The variables of this study were gender, age, and long-acting injectable antipsychotic medication. These variables were discussed in the subsequent sections.

#### **Gender**

Gender referred to the sex of the individual with schizophrenia using long-acting injectable antipsychotic medication at a large hospital in Miami, Florida from June 2020 to December 2020. Gender also represented demographic data. Gender was categorized for this study as follows: (a) male or (b) female.

#### **Age**

Age referred to the years of the individual with schizophrenia using long-acting injectable antipsychotic medication at a large hospital in Miami, Florida from June 2020 to December 2020. Age was also demographic data. Age was grouped as follows: (a) 18 to 49 years or (b) 50 years and over.

**Long-Acting Injectable Antipsychotic Medication**

This variable referred to the LAI that the individual with schizophrenia was prescribed at a large hospital in Miami, Florida from June 2020 to December 2020. This variable was also demographic data. The variable was categorized as follows: (a) Haldol Decanoate; (b) Abilify Maintena; (c) Invega Sustenna; (d) Abilify Aristada; (e) Risperdal Consta; (f) Fluphenazine Decanoate.

**Conceptual Underpinning of the Project**

Quantitative research was conducted under the positivist paradigm. This quality improvement project was conducted under the worldview of positivism. Positivism was developed in the 1830s by Auguste Comte (1798 to 1857) who held the philosophical and political movement (Pawlikowski et al., 2018). There were four constructs of: determinism, empiricism, parsimony, and generality. First, determinism was the idea that all events are determined by previously existing causes (Williams, 2020). Secondly, empiricism was the idea that all knowledge comes from experiences (Williams, 2020). Third, parsimony was the idea that a theory should be explained in the simplest possible form (Williams, 2020). Lastly, generality was the idea that the abstract and the particular have relationship (Williams, 2020).

The concept of positivism allowed advanced practice nurses to gain an understanding of quantitative research and helped them to apply quantitative concepts to patient care. This research used the paradigm of positivism to conduct this quality improvement project. A descriptive, retrospective, cross-sectional design was used to conduct this study. This researcher assessed mental health disparity among individuals with schizophrenia at a large hospital in Miami, Florida from June 2020 to December

2020. Differences between gender, age, and LAI antipsychotic medication were assessed among individuals with schizophrenia at a large hospital in Miami, Florida from June 2020 to December 2020.

## **DNP PROJECT REPORT**

### **METHODOLOGY**

The purpose of this quality improvement project was to investigate mental health disparities among individuals with schizophrenia at a large hospital in Miami, Florida from June 2020 to December 2020. Reducing mental health disparities is critical to increase health outcomes for populations with schizophrenia and improve psychiatric care in the U.S. The researcher explored the study design, setting, sample, inclusion criteria, exclusion criteria, measures and instruments, data collection procedures, data analysis, and protection of human subjects in the subsequent paragraphs.

#### **Study Design**

A quantitative research approach was used to conduct this quality improvement project. In particular, a descriptive, retrospective, cross-sectional design was used to conduct this quality improvement project. These study designs were described in the proceeding sections.

#### **Descriptive Design**

Descriptive design was used by quantitative researchers to gain more information about a phenomenon of interest (Grove et al., 2015). The purpose of this design was to accurately and systematically describe characteristics of a situation, population, or phenomenon (Grove et al., 2015). It was also used for examining variables, developing conceptual or operational definitions of variables, or describing phenomena (Grove et al., 2015). This researcher used the descriptive design to describe mental health disparities among individual with schizophrenia using long-acting injectable antipsychotic



medication at a large hospital in Miami, Florida from June 2020 to December 2020. The variables to be explored were gender, age, and LAI type.

### **Retrospective Design**

The retrospective design required the collection of existing data from the electronic medical record or other recorded information to investigate a phenomenon of interest (von Lucadou et al., 2019). The outcomes of the topic of interest have already occurred, and researchers collect data from the records (Ranganathan & Aggarwal, 2018). Chart review was a method of this design (Ranganathan & Aggarwal, 2018). Researchers collected existing data to compare and analyze variables. This researcher used a retrospective design to collect de-identified existing data from individuals with schizophrenia using LAI antipsychotic medication at a large hospital in Miami, Florida from June 2020 to December 2020.

### **Cross-Sectional Design**

A cross-sectional design was a type of observational study. Researchers used this design to examine outcomes and exposures in a group of subjects simultaneously (Setia, 2016). This design was widely used to investigate the prevalence of diseases or for population-based surveys. The cross-sectional design was cost effective compared to other quantitative study designs.

### **PICO Clinical Questions**

1. Were males with schizophrenia more frequently prescribed long-acting injectable antipsychotic medication than females at a large hospital in Miami, Florida from June 2020 to December 2020?

2. Were younger individuals with schizophrenia, ages 49 years and below, more frequently prescribed long-acting injectable antipsychotic medication than older individuals, ages 50 years and over, at a large hospital in Miami, Florida from June 2020 to December 2020?
3. Which long-acting injectable antipsychotic medication (Haldol Decanoate; Abilify Maintena; Invega Sustenna, Abilify Aristada, Risperdal Consta, or Fluphenazine Decanoate) was most prescribed at a large hospital in Miami, Florida from June 2020 to December 2020?
4. Which long-acting injectable antipsychotic medication (Haldol Decanoate; Abilify Maintena; Invega Sustenna, Abilify Aristada, Risperdal Consta, or Fluphenazine Decanoate) was least prescribed at a large hospital in Miami, Florida from June 2020 to December 2020?

### **Setting**

This quality improvement project was conducted in Miami, Florida. The researcher collected de-identified data of individuals with schizophrenia using long-acting injectable antipsychotic medication at a large hospital in Miami, Florida from June 2020 to December 2020.

### **Sample**

The estimated sample size for this study was  $N = 175$  subjects. The researcher reached this sample size based on experience working as a psychiatric nurse at a large hospital in Miami, Florida for the past 7 years. About 20 to 25 individuals with schizophrenia on LAI were screened and evaluated per month at a large hospital in Miami, Florida inpatient units.

### **Inclusion Criteria**

Individuals who suffer from schizophrenia and were treated at a large hospital in Miami, Florida from June 2020 to December 2020 were included in this project. Also, individuals with schizophrenia who were placed on LAIs were considered for this project.

### **Exclusion Criteria**

Individuals who suffer from other conditions other than schizophrenia were excluded from this project. Individuals who were not treated with LAI antipsychotic medication at a large hospital in Miami, Florida from June 2020 to December 2020 were excluded from this project. Individuals outside of the time frame (June 2020 to December 2020) were not included in this project.

### **Measures and Instruments**

De-identified data of individuals with schizophrenia using LAIs at a large hospital in Miami, Florida from June 2020 to December 2020 were collected in counts. This researcher collected de-identified data using a researcher-developed demographic instrument. Demographic variables were collected in counts per month from June 2020 to December 2020. The investigator collected the following demographic variables using a researcher-developed instrument: (a) gender (a. male or b. female); (b) age (a. 18 to 49 years or b. 50 years and older); and (c) LAI antipsychotic medication (a. Haldol Decanoate, b. Abilify Maintena, c. Invega Sustenna, d. Abilify Aristada, e. Risperdal Consta, or f. Fluphenazine Decanoate).

### **Data Collection Procedures**

First, this researcher obtained Institutional Review Board (IRB) approval from Florida International University (FIU) and then the hospital before collecting data. The researcher also obtained a support letter from the unit director at the hospital to collect de-identified data of individuals with schizophrenia using long-acting injectable antipsychotic medications from June 2020 to December 2020. Upon permission from the unit director, the researcher collected de-identified data in counts using a researcher-developed demographic instrument. The researcher started collecting data from June 2020 to December 2020. Then the researcher repeated the process and collected data in counts by gender (a. male or b. female); age (a. 18 to 49 years and b. 50 years and over); and LAI antipsychotic medication (a. Haldol Decanoate; b. Abilify Maintena; c. Invega Sustenna; d. Abilify Aristada; e. Risperdal Consta; or f. Fluphenazine Decanoate).

### **Data Analysis**

The data was generated from deidentified data and analyzed by the researcher using Microsoft Excel. Data were examined using descriptive analysis. Descriptive analysis allowed the researcher to organize data and provided an idea of the distribution of data (Grove et al., 2015). This statistical method also provided meaning to data (Grove et al., 2015). Means (*M*), median (*Mdn*), and standard deviation (*SD*) were part of descriptive analysis and this researcher conducted these calculations for the variables of this project. Most variables for this study were nominal (gender, LAI type). However, age was a ratio variable.

### **Protection of Human Subjects**

Institutional Review Board (IRB) approvals from FIU and the hospital were obtained before the researcher conducted the project to ensure research ethics and protection of human subjects. The investigator also completed the Collaborative Institutional Training Initiative (CITI) ethics certification for the protection of human subjects in social and behavioral research. De-identified data was collected in counts; therefore, data collection was anonymous. A letter of support was also obtained from a unit director. Only the investigator had access to the data. There were no hard copies of the data. De-identified demographic data of subjects was stored in a password-protected USB drive. The USB drive was stored and protected in the home-office of researcher in a locked file cabinet where the researcher was the only person who had access to the data. No known risks or benefits were associated with this study; however, the study assessed mental health disparities among individuals with schizophrenia using LAIs to potentially decrease mental health disparities.

## DNP PROJECT REPORT

### RESULTS

The purpose of this quality improvement project was to investigate mental health disparities among individuals with schizophrenia at a large hospital in Miami, Florida from June 2020 to December 2020. Reducing mental health disparities is critical to increase health outcomes for individuals with schizophrenia and improve psychiatric care in the U.S. Data were collected and analyzed by the researcher to answer each PICO clinical question.

A total of 120 individuals with schizophrenia were treated with long-acting injectable antipsychotic medication at a large hospital in Miami, Florida from June 2020 to December 2020 (see Table 1). Psychiatric providers prescribed the most LAI antipsychotic medication in November 2020 and the least in September 2020 ( $M = 17$ ;  $Mdn = 16$ ;  $SD = 3.87$ ). During these 2 months, men were proscribed LAI antipsychotic medication at higher ratios than women.

**Table 1**

*Number of LAI Antipsychotic Medication Prescribed by Gender From June 2020 to December 2020 at a Large Hospital in Miami, Florida (N = 120)*

	June	July	August	September	October	November	December	Total
Female	8	6	5	2	7	8	4	40
Male	13	9	15	10	9	14	9	79
Other	0	0	0	0	0	1	0	1
Total	21	15	20	12	16	23	13	120

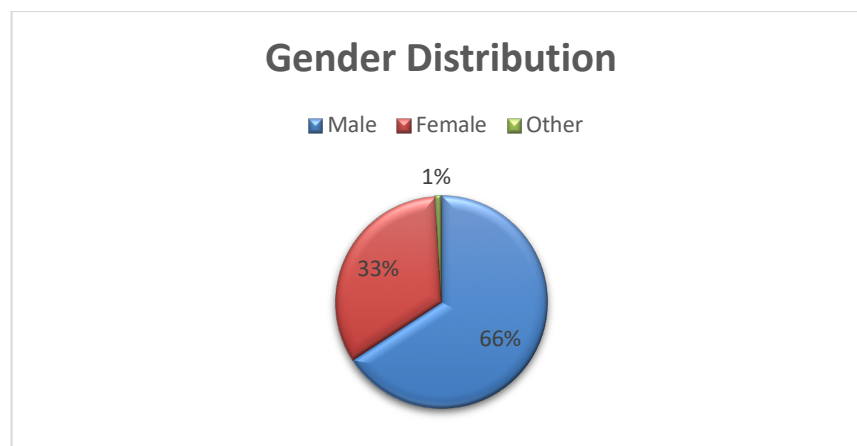
## Restatement of PICO Clinical Questions

### PICO Clinical Question One

PICO clinical question one was: Were males with schizophrenia more frequently prescribed long-acting injectable antipsychotic medication than females at a large hospital in Miami, Florida from June 2020 to December 2020? Results revealed that males with schizophrenia were more frequently prescribed long-acting injectable antipsychotic medication than females at a large hospital in Miami, Florida from June 2020 to December 2020 (see Figure 1). Nearly 80 males were prescribed long-acting injectable antipsychotic medication, while 40 females received LAI antipsychotic medication at a large hospital in Miami, Florida from June 2020 to December 2020. One individual with an unknown gender received a LAI antipsychotic medication during this time period. However, that person was registered as an adult. The number of males who received LAI antipsychotic medication were almost double than that of females during the same time period.

### Figure 1

*Gender Distribution Among Individuals With Schizophrenia Prescribed LAI Between June 2020 and December 2020 at a Large Hospital in Miami, Florida (N = 120)*



**PICO Clinical Question Two**

PICO clinical question two was: Were younger individuals with schizophrenia, ages 49 years and below, more frequently prescribed long-acting injectable antipsychotic medication than older individuals, ages 50 years and over, at a large hospital in Miami, Florida from June 2020 to December 2020? Results revealed that younger individuals with schizophrenia, ages 18 to 49 years, were more frequently prescribed long-acting injectable antipsychotic medication than older individuals, ages 50 years and over, at a large hospital in Miami, Florida from June 2020 to December 2020 (see Figure 2). More than 80 individuals with schizophrenia, ages 49 years and below, received LAI antipsychotic medication while less than 40 individuals with schizophrenia, ages 50 years and older, received LAI antipsychotic medication during this time period. The number of younger individuals who were prescribed LAI antipsychotic medications were more than twice that of older individuals.

Furthermore, people in their 30s were most prescribed LAI antipsychotic medication at a large hospital in Miami Florida from June 2020 to December 2020, (see Table 2). Approximately 1 of 4 individuals prescribed a LAI antipsychotic medication was in their 30s. The second age group that was prescribed LAI antipsychotic medication the most were individuals in their 20s ( $n = 27$ ). No individuals between the ages of 70 and 79 years received LAI antipsychotic medication. Individuals with schizophrenia in their 50s and 60s were prescribed LAI antipsychotic medication at approximately similar frequencies.



**Figure 2**

*Age Group Differences in Individuals With Schizophrenia Using LAI Between June 2020 and December 2020 at a Large Hospital in Miami, Florida (N = 120).*

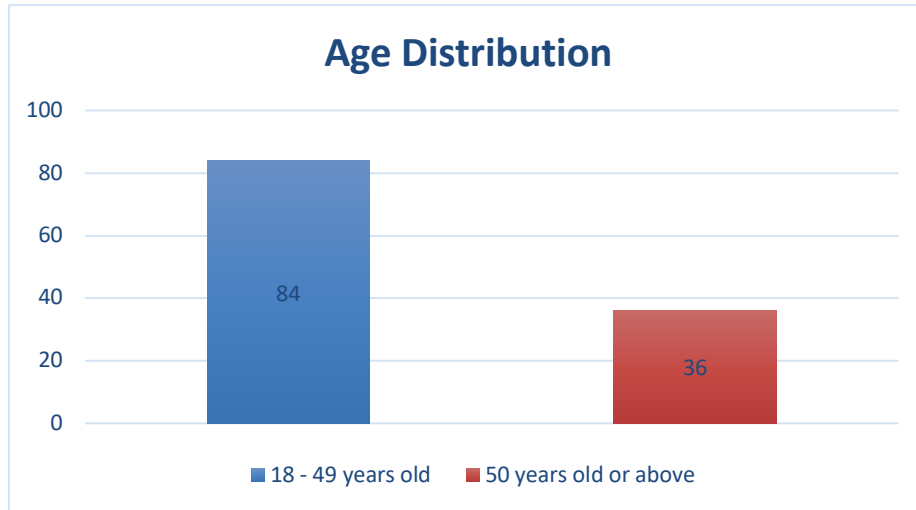


Table 2

*Age Distribution Among Individuals With Schizophrenia Prescribed LAI Antipsychotic Medication From June 2020 to December 2020 at a Large Hospital in Miami, Florida (N=120)*

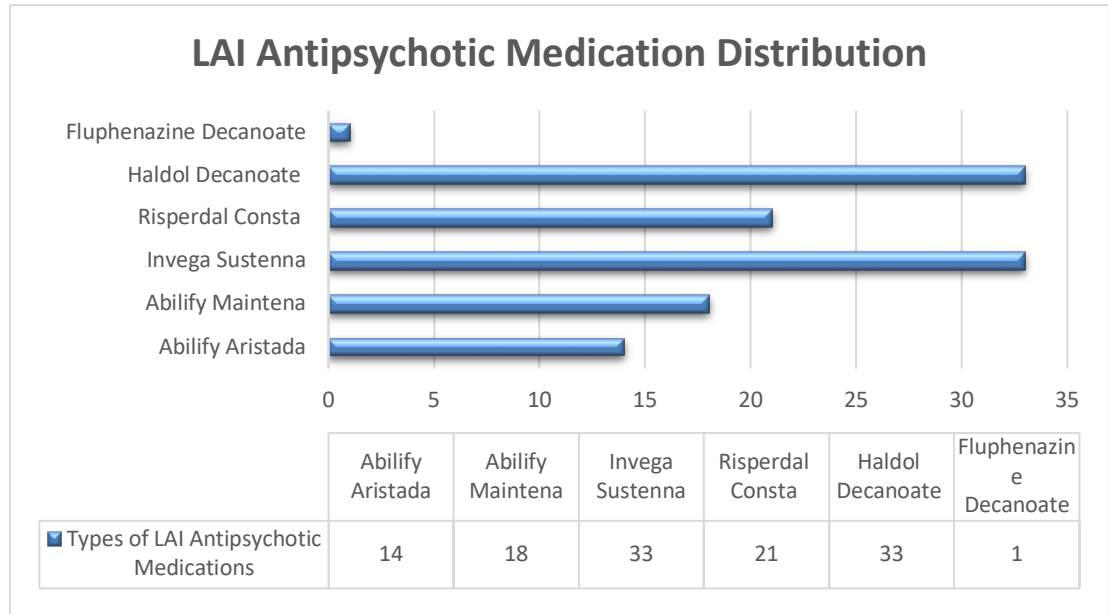
	10s	20s	30s	40s	50s	60s	70s	80s	Total
Haldol	0	3	7	10	6	7	0	0	33
Decanoate									
Abilify	0	5	6	2	2	3	0	0	18
Maintena									
Invega	2	11	10	3	5	2	0	0	33
Sustenna									
Abilify	0	4	5	3	1	1	0	0	14
Aristada									
Risperdal	0	4	6	3	3	5	0	0	21
Consta									
Fluphenazine	0	0	0	0	0	0	0	1	1
Decanoate									
Total	2	27	34	21	18	17	0	1	120

**PICO Clinical Question Three**

PICO clinical question three was: Which long-acting injectable antipsychotic medication (Haldol Decanoate; Abilify Maintena; Invega Sustenna, Abilify Aristada, Risperdal Consta, or Fluphenazine Decanoate) was most prescribed at a large hospital in Miami, Florida from June 2020 to December 2020? Haldol Decanoate and Invega Sustenna were the most prescribed long-acting injectable antipsychotic medications at a large hospital in Miami, Florida from June 2020 to December 2020 (see Figure 3). Each of these LAI antipsychotic medications was prescribed to over 30 individuals (27%). Risperdal Consta was the next most prescribed medication, and nearly 20% of individuals with schizophrenia received this medication. However, both Abilify Maintena and Aristada were prescribed to less than 20 individuals (15%) with schizophrenia. Furthermore, Abilify Maintena and Invega Sustenna were the most prescribed LAI antipsychotic medications for females and Haldol Decanoate for males at a large hospital in Miami, Florida from June 2020 to December 2020 (see Table 3). Haldol Decanoate was three times more prescribed to males than females.

**Figure 3**

*LAI Antipsychotic Medication Distribution Among Individuals With Schizophrenia at a Large Hospital in Miami, Florida From June 2020 To December 2020 (N = 120)*

**Table 3**

*Distribution of LAI Antipsychotic Medication Prescribed by Gender at a Large Hospital in Miami, Florida from June 2020 to December 2020 (N=120)*

	Haldol Decanoate	Abilify Maintena	Invega Sustenna	Abilify Aristada	Risperdal Consta	Fluphenazine Decanoate	Total
Female	7	10	10	7	6	0	40
Male	26	8	22	7	15	1	79
Other	0	0	1	0	0	0	1
Total	33	18	33	14	21	1	120

**PICO Clinical Question Four**

The PICO clinical question four was: Which long-acting injectable antipsychotic medication (Haldol Decanoate; Abilify Maintena; Invega Sustenna, Abilify Aristada, Risperdal Consta, or Fluphenazine Decanoate) was least prescribed at a large hospital in Miami, Florida from June 2020 to December 2020? Abilify Aristada and Fluphenazine Decanoate were least prescribed at 11.7% and 1%, respectively, at a large hospital in Miami, Florida from June 2020 to December 2020. In particular, fewer than 15 individuals with schizophrenia were prescribed Abilify Aristada, which was less than half of all individuals who received Haldol Decanoate or Invega Sustenna during this time frame. However, the second least prescribed LAI antipsychotic medication by gender was Risperdal Consta for females, and Abilify Aristada for males (see Table 3).

## **DNP PROJECT REPORT**

### **SUMMARY AND DISCUSSION**

The purpose of this quality improvement project was to investigate mental health disparities among individuals with schizophrenia at a large hospital in Miami, Florida from June 2020 to December 2020. Data was collected and analyzed among individuals with schizophrenia prescribed long-acting injectable antipsychotic medication at a large hospital in Miami, Florida from June 2020 to December 2020. A descriptive, retrospective, cross-sectional design was used to conduct this research. A researcher-developed demographic instrument was employed to collect data. Convenience sampling technique was used for collecting data and recruiting subjects. Microsoft Excel was used for data analysis.

Results revealed that a total of  $N = 120$  subjects were prescribed LAI antipsychotic medication at a large hospital in Miami, Florida from June 2020 to December 2020. Males and younger adults, ages 49 years and below, were more frequently prescribed LAI antipsychotic medication than females and older adults. Furthermore, Haldol Decanoate and Invega Sustenna were the most prescribed LAI antipsychotic medication. However, Abilify Aristada and Fluphenazine Decanoate were the least prescribed. The researcher will compare and contrast the findings of the project with current literature. This section will additionally discuss implications for advanced practice nursing, limitations of the project, recommendations, and conclusions.

### Summary of the Results and Discussion

This research was conducted in Miami, Florida. Currently, the largest ethnic group in Miami, Florida are Hispanics at 69.4% (U.S. Census Bureau, 2021). Non-Hispanic Blacks currently represent 17.7% of the population in Miami, Florida, followed by non-Hispanic Whites (12.9%), and Asian make up 1.6% of the population in the region (U.S. Census Bureau, 2021). More than 50% of the population in Miami were born in foreign country (U.S. Census Bureau, 2021). Nearly 20% of the population in Miami, Florida lack healthcare insurance and live in poverty (U.S. Census Bureau, 2021). Median household income in Miami, Florida was \$51,347 (U.S. Census Bureau, 2021), although national median household income in 2019 was \$68,703 (Semega et al., 2020). These factors contribute to mental health disparities in Miami, Florida.

Results of this project indicated that more males ( $n = 79$ ) were treated for schizophrenia with long-acting injectable antipsychotic medication than females ( $n = 40$ ) at a large hospital in Miami, Florida from June 2020 to December 2020. However, a cross-sectional study by the Substance Abuse and Mental Health Services Administration (SAMHSA, 2020) consisting of  $N = 40,154$  Americans found that females ( $n = 26,726$ ) were more likely to access mental health treatment than males ( $n = 13,428$ ) in 2019. Results of this project were likely affected by the COVID-19 pandemic, a period of uncertainty that forced medical offices to close or change care delivery methods, as well as people to quarantine due to the coronavirus disease (Zhang, 2021). Other factors that influence access to care include ethnicity among gender groups. Caplan (2019) conducted a cross-sectional study ( $N = 64$ ) with the purpose of investigating beliefs and attitudes toward mental illness in Hispanic faith-based communities and reported that Hispanics ( $n$

= 17 males;  $n = 47$  females) are less frequently treated for mental health conditions compared to non-Hispanic Whites because of denial and stigma of mental illness.

Another cross-sectional study by Henry et al. (2020) assessed attitude toward mental health treatment in the U.S. and reported that non-Hispanic Blacks ( $n = 5160$  males;  $n = 7475$  females) had higher negative attitudes than non-Hispanic Whites ( $n = 12223$  males;  $n = 13513$  females). Henry et al. (2020) also found that non-Hispanic Blacks (5%) were less likely to be treated for mental health disorders than non-Hispanic Whites (9.9%). Furthermore, although Asians consist of a small population in Miami-Dade County, Florida, Wu et al. (2018) conducted a cross-sectional study ( $N = 361,488$ ) with the purpose of investigating mental health diagnosis and treatment among Asian Americans ( $N = 16,418$ ;  $n = 6,457$  males;  $n = 9,961$  females) and non-Hispanic Whites ( $N = 345,070$ ;  $n = 146,992$  males;  $n = 198,078$  females) and revealed that Asian Americans (8.5%) were diagnosed and treated at significantly lower frequencies than that of non-Hispanic Whites (15%).

Furthermore, results of this project revealed that younger adults ( $n = 84$ ), aged 18 to 49 years, were more likely to receive LAI antipsychotic medication than older adults ( $n = 36$ ), aged 49 years and older at a large hospital in Miami, Florida from June 2020 to December 2020. Similarly, a SAMHSA (2020) study of Americans with psychiatric disorders showed that younger adults (18 to 49 years old,  $n = 23,688$ ) received more treatment than older adults (50 years or older,  $n = 16,466$ ). Blumberg et al. (2015) conducted a cross-sectional study ( $N = 21,058$ ) and examined differences between access to mental health care, ethnicity and age groups. The researchers reported that non-

Hispanic Black and Hispanic young adults (aged 18 to 44 years, 26.4%) were less likely to seek treatment than non-Hispanic White young adults (45.4%) (Blumberg et al., 2015). However, older non-Hispanic Blacks and Hispanics, ages 45 years and over, were more likely to access mental health treatment than non-Hispanic Whites of the same age group (Blumberg et al., 2015). Lipson et al. (2018) also conducted a survey ( $N = 43,375$ ) with the purpose of investigating disparities among college students in the U.S. and found that non-Hispanic White young adults (45.5%) accessed mental health treatment at higher ratios compared to non-Hispanic Black (25.5%) and Hispanic young adults (33%). Furthermore, Wu et al. (2018) reported that non-Hispanic Whites were more likely to access to mental treatment than Asian Americans across the lifespan.

Results of this projects showed that Invega Sustenna ( $n = 33$ ) and Haldol Decanoate ( $n = 33$ ) were the most prescribed long-acting injectable antipsychotic medications at a large hospital in Miami, Florida from June 2020 to December 2020. Haldol is a first-generation antipsychotic medication, known to have increased side effects; however, Haldol is commonly used in clinical practice because it is effective and affordable (McEvoy et al., 2014). McEvoy et al. (2014) conducted a multisite, double-blind, randomized clinical trial ( $N = 311$ ) with the purpose of comparing the effectiveness of Paliperidone Palmitate (Invega Sustenna) and Haloperidol (Haldol) Decanoate and found that Haloperidol Decanoate was associated with more serious side effects than Paliperidone Palmitate (Invega Sustenna). However, Rosenheck et al. (2016) reported that Haldol Decanoate was more cost-effective and showed slightly less benefits than Paliperidone Palmitate (Invega Sustenna). Therefore, Haldol Decanoate may benefit people who lack healthcare insurance or face financial issues.



Furthermore, some LAI antipsychotic medications require supplementation with oral antipsychotic medication for few weeks after initiating LAI treatment. However, a randomized controlled trial by Emsley and Kilian (2018) investigated the advantages of Invega Sustenna and showed that the LAI antipsychotic medication is safe, effective, and has a fast onset of action that does not require overlap with oral antipsychotic supplementation. Also, Invega Sustenna is the only LAI antipsychotic medication approved by the Food and Drug Administration for schizoaffective disorder and proved to reduce mood symptoms (Mayo Clinic, 2019). Overall, Invega Sustenna has favorable outcomes and less adverse reactions compared to Haldol Decanoate although it requires two loading doses initially and the price of the medication may not be affordable for people without healthcare insurance or financial issues.

Lastly, the results of this project indicated that Abilify Aristada ( $n = 14$ ) and Fluphenazine Decanoate ( $n = 1$ ) were the least prescribed LAI at a large hospital in Miami, Florida from June 2020 to December 2020. Fluphenazine is a typical antipsychotic medication that is associated with increased adverse effects but affordable compared to other atypical antipsychotic medications. Olfson et al. (2007) conducted a study consisting of  $N = 461$  subjects to compare administrative data for 3 LAI antipsychotic medications (Haldol, Fluphenazine, and Risperdal) before, during, and after consumption and found that older non-Hispanic Whites are more likely to be prescribed this LAI antipsychotic medication than other ethnic or age groups. Furthermore, Abilify Aristada is an expensive LAI antipsychotic medication; therefore, psychiatric professionals may be reluctant to prescribe this medication for populations that face financial issues (Karas et al., 2019). Prescribers may also lean toward other LAI

antipsychotic medications since Abilify Aristada requires two doses initially and is known for increased risks of akathisia (Raedler, 2016). Also, prescribers may think Abilify Aristada is not useful since there is no available dosage equivalent to maximum oral dosage of 30mg.

### **Implications for Advanced Practice Nursing**

Advanced practice nurses (APNs) should reduce health disparities in schizophrenia by focusing on minority populations and individualizing antipsychotic medication regimen based on sociodemographic characteristics and affordability for continuous care. It is imperative for APNs to increase awareness regarding mental health disparities in this population in the U.S. Such awareness and education could improve health outcomes in individuals with schizophrenia. Furthermore, APNs could use the results of this project to develop strategies for minority populations with schizophrenia. Nurse leaders and administrators could advocate for policies that improve healthcare delivery and ultimately health outcomes in this population. Moreover, APNs should collaborate with politicians to eliminate health disparities in individuals with schizophrenia by supporting social movements and political parties that advocate for the needs of this population and address social determinants of health in the U.S.

### **Limitations of the Project**

Projects have limitations; therefore, limitations of this project were:

1. Convenience sampling method was utilized to access data and recruit subjects; however, convenience sampling does not involve randomization.
2. A descriptive, retrospective, cross-sectional study design cannot be used to describe causality between the variables.

3. The researcher was limited with variables; therefore, future researchers should collect essential data such as race or ethnicity of subjects and hospital readmission rates among individuals with schizophrenia to comprehensively explore health disparities in this group.

### **Recommendations**

Future researchers should employ longitudinal study designs to discover causation between the variables such as types of LAI antipsychotic medications, ethnicity and hospital readmission rates. Researchers should also use qualitative designs to access in-depth subjective data among individuals with schizophrenia prescribed LAI antipsychotic medication. Researchers should explore other locations in the U.S. with large ethnic minority populations such as Asians and Native Americans with schizophrenia to reduce health disparities nationally. In addition, researchers should assess healthcare providers' knowledge awareness of health disparities among minority populations with schizophrenia.

### **Conclusions**

Results of this quality improvement project revealed that males were more frequently prescribed LAI antipsychotic medication than females at a large hospital in Miami, Florida from June 2020 to December 2020. Younger adults, ages 49 years and under, were more frequently prescribed LAI antipsychotic medication than older adults, ages 50 years and above, at a large hospital in Miami, Florida during the same time frame. Furthermore, Haldol Decanoate and Invega Sustenna were the most prescribed LAI antipsychotic medication, while Abilify Aristada and Fluphenazine Decanoate were the least prescribed at a large hospital in Miami, Florida from June 2020 to December

2020. Nurses and healthcare providers are called to assess and eliminate health disparities among individuals with schizophrenia globally and nationally.

### References

- American Psychiatric Association. (2017). *Mental health disparities: Diverse populations*.  
<https://www.psychiatry.org/File%20Library/Psychiatrists/Cultural-Competency/Mental-Health-Disparities/Mental-Health-Facts-for-Diverse-Populations.pdf>
- American Psychiatric Association. (2020). *Schizophrenia*. <https://www.psychiatry.org/patients-families/schizophrenia/what-is-schizophrenia>
- Blackwood, C., Sanga, P., Nuamah, I., Keenan, A., Singh, A., Mathews, M., & Gopal, S. (2020). Comparison of medication preference for long-acting injectable versus oral antipsychotics in patients with schizophrenia: Analysis of a patient-reported questionnaire from a double-blind randomized controlled study. *Schizophrenia Bulletin*, 46, S117–S118. doi:10.2147/PPA.S251812
- Blumberg, S. J., Clarke, T. C., & Blackwell, D. L. (2015). *Racial and ethnic disparities in men's use of mental health treatments*.  
<https://www.cdc.gov/nchs/products/databriefs/db206.htm>
- Caplan, S. (2019). Intersection of cultural and religious beliefs about mental health: Latinos in the faith-based setting. *Hispanic Health Care International*, 17(1), 4–10.  
<https://doi.org/10.1177/1540415319828265>
- Centers for Disease Control and Prevention. (2015). *Emergency Department visits related to schizophrenia among adults aged 18–64: United States, 2009–2011*.  
<https://www.cdc.gov/nchs/products/databriefs/db215.htm#:~:text=The%20distribution%20of%20the%20primary,for%20men%20as%20for%20women.>
- Centers for Disease Control and Prevention. (2020). *Mental health treatment among adult: United States, 2019*. <https://www.cdc.gov/nchs/products/databriefs/db380.htm>

- Cloutier, M., Aigbogun, M. S., Guerin, A., Nitulescu, R., Ramanakumar, A. V., Kamat, S. A., DeLucia, M., Duffy, R., Legacy, S. N., Henderson, C., Francois, C., & Wu, E. (2016). The economic burden of schizophrenia in the United States in 2013. *The Journal of Clinical Psychiatry, 77*(6), 764–771. doi:10.4088/JCP.15m10278
- Cook, J. A., Burke-Miller, J. K., Jonikas, J. A., Aranda, F., & Santos, A. (2020). Factors associated with 30-day readmissions following medical hospitalizations among Medicaid beneficiaries with schizophrenia, bipolar disorder, and major depressive disorder. *Psychiatry Research, 291*. <https://doi.org/10.1016/j.psychres.2020.113168>
- Das-Munshi, J., Bhugra, D., & Crawford, M. J. (2018). Ethnic minority inequalities in access to treatments for Schizophrenia and Schizoaffective disorders: Findings from a nationally representative cross-sectional study. *BMC Medicine, 16*(1). <https://doi.org/10.1186/s12916-018-1035-5>
- Emsley, R., & Kilian, S. (2018). Efficacy and safety profile of paliperidone palmitate injections in the management of patients with schizophrenia: An evidence-based review. *Neuropsychiatric Disease and Treatment, 14*, 205–223. <https://doi.org/10.2147/NDT.S139633>
- Gatov, E., Rosella, L., Chiu, M., & Kurdyak, P. A. (2017). Trends in standardized mortality among individuals with schizophrenia, 1993-2012: A population-based, repeated cross-sectional study. *CMAJ: Canadian Medical Association journal journal de l'Association Medical Canadienne, 189*(37), E1177–E1187. <https://doi.org/10.1503/cmaj.161351>
- Grove, S. K., Gray, J. R., & Burns, N. (2015). *Understanding nursing research: Building an evidence-based practice* (6<sup>th</sup> ed.). Elsevier.

- Hafner, H. (2019). From onset and prodromal stage to a life-long course of schizophrenia and its symptom dimensions: How sex, age, and other risk factors influence incidence and course of illness. *Psychiatry Journal*, 2019. <https://doi.org/10.1155/2019/9804836>
- Haftman, G. D. (2017). The burden of mental illness beyond clinical symptoms: Impact of stigma on the onset and course of schizophrenia spectrum disorders. *American Journal of Psychiatry Residents' Journal*, 11(4). <https://doi.org/10.1176/appi.ajp-rj.2016.110404>
- Health Services Advisory Group. (2019). *Draft methodology report: Follow-up after psychiatric hospitalization Version 1.0*. <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/MMS/Downloads/Inpatient-Psychiatric-Facility-Outcome-and-Process-Measure-Development-and-Maintenance-Methodology-Report.pdf>
- Henry, T. L., Jetty, A., Petterson, S., Jaffree, H., Ramsay, A., Heiman, E., & Bazemore, A. (2020). Taking a closer look at mental health treatment differences: Effectiveness of mental health treatment by provider type in racial and ethnic minorities. *Journal of primary care & community health*, 11, 2150132720966403. <https://doi.org/10.1177/2150132720966403>
- Karas, A., Burdge, G., & Rey, J. A. (2019). Perseris: A New and Long-Acting, Atypical Antipsychotic Drug-Delivery System. *P & T: A Peer-Reviewed Journal for Formulary Management*, 44(8), 460–466.
- Lin, C.-H., Chen, F.-C., Chan, H.-Y., & Hsu, C.-C. (2020). A comparison of long-acting injectable antipsychotics with oral antipsychotics on time to rehospitalization within 1 year of discharge in elderly patients with Schizophrenia. *American Journal of Geriatric Psychiatry*, 28(1), 23–30. doi:10.1016/j.jagp.2019.08.005

- Lipson, S. K., Kern, A., Eisenberg, D., & Breland-Noble, A. M. (2018). Mental health disparities among college students of color. *Journal of Adolescent Health, 63*(3), 348-356. doi:10.1016/j.jadohealth.2018.04.014. PMID: 30237000.
- Lomholt, L. H., Andersen, D. V., Sejrsgaard-Jacobsen, C., Øzdemir, C. M., Graff, C., Schjerning, O., Jensen, S. E., Straszek, S., Licht, R. W., Grøntved, S., & Nielsen, R. E. (2019). Mortality rate trends in patients diagnosed with schizophrenia or bipolar disorder: a nationwide study with 20 years of follow-up. *International Journal of Bipolar Disorders, 7*(1), 6. <https://doi.org/10.1186/s40345-018-0140-x>
- Lu, L., Ren, D., Mullick, P., & Lee, H. (2020). Examining patient outcomes of receiving long-acting injectable antipsychotics. *Perspectives in Psychiatric Care, 56*(1), 14–19. doi:10.1111/ppc.12364
- MacEwan, J. P., Kamat, S. A., Duffy, R. A., Seabury, S., Chou, J. W., Legacy, S. N., Hartry, A., Eramo, A., & Karson, C. (2016). Hospital readmission rates among patients with Schizophrenia treated with long-acting injectables or oral antipsychotics. *Psychiatric Services, 67*(11), 1183–1188. doi: 10.1176/appi.ps.201500455
- Magliocco, F., de Filippis, R., Aloï, M., Staltari, F. A., Gaetano, R., Segura-Garcia, C., & De Fazio, P. (2020). Second-generation long-acting injections anti-psychotics improve executive functions in patients with Schizophrenia: A 12-month real-world study. *International Journal of Psychiatry in Clinical Practice, 24*(2), 201–207. doi:10.1080/13651501.2020.1737134
- Mayo Clinic. (2019). *Schizoaffective Disorder*. <https://www.mayoclinic.org/diseases-conditions/schizoaffective-disorder/diagnosis-treatment/drc-20354509>



McEvoy, J. P., Byerly, M., Hamer, R. M., Dominik, R., Swartz, M. S., Rosenheck, R. A., Ray, N., Lambert, J. S., Buckley, P. F., Wilkins, T. M., & Stroup, T. S. (2014). Effectiveness of paliperidone palmitate vs haloperidol decanoate for maintenance treatment of schizophrenia: a randomized clinical trial. *JAMA*, *311*(19), 1978–1987.

<https://doi.org/10.1001/jama.2014.4310>

Munday, J., Chang, E., Yan, T., Broder, M. S., Greene, M., & Hartry, A. (2019). Early initiation of long-acting injectable antipsychotic treatment is associated with lower hospitalization rates and healthcare costs in patients with Schizophrenia: Real-world evidence from U.S. claims data. *Current Medical Research & Opinion*, *35*(7), 1231–1239.

doi:10.1080/03007995.2019.1571295

Olagunju, A. T., Clark, S. R., & Baune, B. T. (2019). Long-acting atypical antipsychotics in schizophrenia: A systematic review and meta-analyses of effects on functional outcome. *Australian & New Zealand Journal of Psychiatry*, *53*(6), 509–527.

doi:10.1177/0004867419837358

Olfson, M., Marcus, S. C., & Ascher-Svanum, H. (2007). Treatment of schizophrenia with long-acting Fluphenazine, Haloperidol, or Risperidone. *Schizophrenia Bulletin*, *33*(6), 1379–1387. <https://doi.org/10.1093/schbul/sbm033>

Patel, R., Chesney, E., Taylor, M., Taylor, D., & McGuire, P. (2018). Is paliperidone palmitate more effective than other long-acting injectable antipsychotics? *Psychological Medicine*, *48*(10), 1616–1623. doi: 10.1017/S0033291717003051

Pawlikowski, P., Rico, N., & Van Sell, S. L. (2018) Positivism: A concept analysis. *International Journal of Nursing and Clinical Practice*, *5*, 284. <https://doi.org/10.15344/2394-4978/2018/284>

- Raedler, L. A. (2016). Aripiprazole Lauroxil (Aristada): Long-acting antipsychotic injection approved for the treatment of patients with schizophrenia. *American Health & Drug Benefits*, 9(Spec Feature), 40–43.
- Ranganathan, P., & Aggarwal, R. (2018). Study designs: Part 1: An overview and classification. *Perspectives in Clinical Research*, 9(4), 184–186.  
[https://doi.org/10.4103/picr.PICR\\_124\\_18](https://doi.org/10.4103/picr.PICR_124_18)
- Rosenheck, R. A., Leslie, D. L., Sint, K. J., Lin, H., Li, Y., McEvoy, J. P., Byerly, M. J., Hamer, R. M., Swartz, M. S., & Stroup, T. S. (2016). Cost-effectiveness of long-acting injectable Paliperidone Palmitate versus Haloperidol Decanoate in maintenance treatment of schizophrenia. *Psychiatric Services (Washington, D.C.)*, 67(10), 1124–1130.  
<https://doi.org/10.1176/appi.ps.201500447>
- Semega, J., Kollar, M., Shrider, E. A., & Creamer, J. (2020). *Income and poverty in the United States: 2019*. <https://www.census.gov/library/publications/2020/demo/p60-270.html>
- Setia, M. S. (2016). Methodology Series Module 3: Cross-sectional studies. *Indian Journal of Dermatology*, 61(3), 261–264. <https://doi.org/10.4103/0019-5154.182410>
- Shah, A., Xie, L., Kariburyo, F., Zhang, Q., & Gore, M. (2018). Treatment patterns, healthcare resource utilization and costs among Schizophrenia patients treated with long-acting injectable versus oral antipsychotics. *Advances in Therapy*, 35(11), 1994–2014.  
[doi:10.1007/s12325-018-0786-x](https://doi.org/10.1007/s12325-018-0786-x)
- Shameer, K., Perez-Rodriguez, M. M., Bachar, R., Li, L., Johnson, A., Johnson, K. W., Glicksberg, B. S., Smith, M. R., Readhead, B., Scarpa, J., Jebakaran, J., Kovatch, P., Lim, S., Goodman, W., Reich, D. L., Kasarskis, A., Tatonetti, N. P., & Dudley, J. T. (2018). Pharmacological risk factors associated with hospital readmission rates in a

- psychiatric cohort identified using prescriptome data mining. *BMC Medical Informatics and Decision Making*, 18(3), 1–11. <https://doi.org/10.1186/s12911-018-0653-3>
- Substance Abuse and Mental Health Services Administration. (2020). *Table of contents for the 2019 NSDUH detailed tables*. <https://www.samhsa.gov/data/report/2019-nsduh-detailed-tables>
- Targum, S. D., Risinger, R., Du, Y., Pendergrass, J. C., Jamal, H. H., & Silverman, B. L. (2016). Effect of patient age on treatment response in a study of the acute exacerbation of psychosis in Schizophrenia. *Schizophrenia Research*, 176(2/3). <https://doi.org/10.1016/j.schres.2016.09.034>
- Tiihonen, J., Mittendorfer-Rutz, E., Majak, M., Mehtälä, J., Hoti, F., Jedenius, E., Enksson, D., Leval, A., Sermon, J., Tanskanen, A., & Taipale, H. (2017). Real-world effectiveness of antipsychotic treatments in a nationwide cohort of 29 823 patients with Schizophrenia. *JAMA Psychiatry*, 74(7), 686–693. <https://jamanetwork.com/journals/jamapsychiatry/fullarticle/2629295>
- U.S. Census Bureau. (2021). *Quick facts: Miami-Dade County, Florida*. <https://www.census.gov/quickfacts/fact/table/miamidadecountyflorida/POP060210>
- von Lucadou, M., Ganslandt, T., Prokosch, H. U., & Toddenroth, D. (2019). Feasibility analysis of conducting observational studies with the electronic health record. *BMC Medical Informatics and Decision Making*, 19, 202. <https://doi.org/10.1186/s12911-019-0939-0>
- Williams, R. T. (2020). The paradigm wars: Is MMR really a solution? *American Journal of Trade and Policy*, 7(3), 79-84. <https://doi.org/10.18034/ajtp.v7i3.507>
- Wu, C., Chiang, M., Harrington, A., Kim, S., Ziedonis, D., & Fan, X. (2018). Racial disparity in mental disorder diagnosis and treatment between non-Hispanic White and Asian

American patients in a general hospital. *Asian Journal of Psychiatry*, 34, 78–83.

<https://doi.org/10.1016/j.ajp.2018.04.019>


Zhang, J. (2021). People's responses to the COVID-19 pandemic during its early stages and factors affecting those responses. *Humanities and Social Science Communication*, 8, 37.

<https://doi.org/10.1057/s41599-021-00720-1>

**APPENDIX A: FIU IRB APPROVAL LETTER**

**Office of Research Integrity  
Research Compliance, MARC 414**

**MEMORANDUM**

**To:** Dr. Francisco Brenes  
**CC:** Kana Wright  
**From:** Maria Melendez-Vargas, MIBA, IRB Coordinator   
**Date:** September 2, 2021  
**Protocol Title:** “Long-Acting Injectable Antipsychotic Medication Use and Hospital Readmission among Individuals with Schizophrenia in Miami, Florida: A Quality Improvement Project”

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The Florida International University Office of Research Integrity has reviewed your research study for the use of human subjects and deemed it Exempt via the **Exempt Review** process.

**IRB Protocol Exemption #:** IRB-21-0393      **IRB Exemption Date:** 09/02/21  
**TOPAZ Reference #:** 110644

As a requirement of IRB Exemption you are required to:

- 1) Submit an IRB Exempt Amendment Form for all proposed additions or changes in the procedures involving human subjects. All additions and changes must be reviewed and approved prior to implementation.
- 2) Promptly submit an IRB Exempt Event Report Form for every serious or unusual or unanticipated adverse event, problems with the rights or welfare of the human subjects, and/or deviations from the approved protocol.
- 3) Submit an IRB Exempt Project Completion Report Form when the study is finished or discontinued.

**Special Conditions:** N/A

For further information, you may visit the IRB website at <http://research.fiu.edu/irb>.

MMV/em

APPENDIX B: MSMC IRB APPROVAL LETTER

Mount Sinai
MEDICAL CENTER

September 17, 2021

Roberto Marticorena Martinez, M.D.
Behavioral Health
Mount Sinai Medical Center

RE: Protocol: "Long Acting Injectable Antipsychotic Medication Use and Hospital Readmission among Individuals with Schizophrenia in Miami, FL: A Quality Improvement Project" Co-Investigator: Kana Wright

Dear Dr. Martinez:

The above referenced protocol has been reviewed by a representative of the Institutional Review Board on September 16, 2021 and it has been determined that it is exempt from IRB review as indicated in 45 CFR 46.101(b)(2). [Research involving the use of educational tests (cognitive, diagnostic aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (a) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (b) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.]. This protocol will be maintained in our files and you will be required to provide a final report at the conclusion of your study. If a manuscript is submitted for publication, please submit a copy to the IRB. You are now authorized to proceed with your research study.

Thank you for your cooperation.

Sincerely,

[Handwritten signature of Yvonne Ortiz]

Yvonne Ortiz, Coordinator
Institutional Review Board

Mount Sinai Medical Center
4300 Alton Road
Miami Beach, FL 33140
Phone: 305.674.2121
msmc.com

Mount Sinai Primary & Specialty Care

- Aventura, Coral Gables, Hialeah, Hialeah-Miami Lakes, Key Biscayne, Miami Shores, Midtown, Skyline, Sunny Isles Beach, Mount Sinai Cardiology of the Florida Keys

Mount Sinai Free-Standing Emergency Departments

- Aventura, Hialeah

Mount Sinai Comprehensive Cancer Center

4306 Alton Road
Miami Beach, FL 33140
Phone: 305.674.9100
mscc.com

**APPENDIX C: SUPPORT LETTER FROM FACILITY**

Mount Sinai Medical Center  
4300 Alton Rd.,  
Miami Beach FL 33140

Date: June 23, 2021

Francisco Brenes, PhD, APRN-BC, FNP, PMHNP

Clinical Associate Professor

Nicole Wertheim College of Nursing & Health Sciences

Florida International University

Dear Professor Brenes:

Thank you for inviting Mount Sinai Medical Center to participate in the DNP Project of Kana Wright. I understand that this student will be conducting this project as part of the requirements for the Doctor in Nursing Practice program at Florida International University. After reviewing the proposal of the doctor in Nursing Practice titled: "Long Acting Injectable Antipsychotic Medication Use and Hospital Readmission among Individuals with Schizophrenia in Miami, Florida: A Quality Improvement Project". I have warranted her permission to conduct the project in this facility.

We understand that the project will be developed in our setting and collect de-identified data in counts. We are also aware of no contact and intervention to subjects and no staff participation required.

This project intends to evaluate data to determine if there are any mental health disparities among individuals with schizophrenia at Mount Sinai Medical Center from June 2020 to December 2020. The project will be conducted after Florida International University Institutional Review Board and Mount Sinai Medical Center Institutional Review Board approve the procedures to conduct the project. Reducing mental health disparities is critical to increase health outcomes for those with schizophrenia and quality of care to the communities. Furthermore, the research will evaluate how the hospital readmission rate differs among age, gender, ethnicity, and types of long-acting injectable antipsychotic medication.

Any de-identified data collected by Kana Wright will be used in this project only, kept confidential and will be stored in a password-locked USB and in a locked filing cabinet at her home office. We expect that Kana Wright will not interfere with normal unit performance, behaving in a professional manner and following the office standards of care. As a member of our behavioral health team, I look forward to work with you.

Sincerely,

Jessica Stein



**APPENDIX E: DEMOGRAPHIC INSTRUMENT****RESEARCHER-DEVELOPED DEMOGRAPHIC INSTRUMENT**

De-identified data will be collected and received in counts from a large hospital in Miami, Florida. It will consist of demographics from subjects who were treated at M a large hospital in Miami, Florida from June 2020 to December 2020.

1. Age: Age refers to the years of the individual with schizophrenia using long-acting injectable antipsychotic medication at a large hospital in Miami, Florida from June 2020 to December 2020. Age is also demographic data. Age will be grouped as follows: 1) 18 to 49 years; 2) 50 years and over.
  - 18 to 49 years: \_\_\_\_
  - 50 years or older: \_\_\_\_
2. Gender: Gender refers to the sex of the individual with schizophrenia using long-acting injectable antipsychotic medication at a large hospital in Miami, Florida from June 2020 to December 2020. Gender is also demographic data. Gender will be categorized for this study as follows: a) male; or b) female.
  - Male: \_\_\_\_
  - Female: \_\_\_\_
  - Other: \_\_\_\_
3. Type of Long-Acting Injectable antipsychotic medication: This variable refers to the LAI that the individual with schizophrenia was prescribed at a large hospital in Miami, Florida from June 2020 to December 2020. This variable is also demographic data. The variable will be categorized as follows: a) Haldol Decanoate; b) Abilify Maintena; and c) Invega Sustenna; d) Abilify Aristada; e) Risperdal Consta; or f) Fluphenazine Decanoate



- Haldol Decanoate: \_\_\_\_
- Abilify Maintena: \_\_\_\_
- Invega Sustenna: \_\_\_\_
- Abilify Aristada: \_\_\_\_
- Risperdal Consta: \_\_\_\_
- Fluphenazine Decanoate: \_\_\_\_

APPENDIX F: FIU CITI ETHICS CERTIFICATION



Completion Date 19-Jun-2021  
 Expiration Date 18-Jun-2024  
 Record ID 43108751

This is to certify that:

**Kana Wright**

Has completed the following CITI Program course:

**Basic/Refresher Course - Human Subjects Research**  
(Curriculum Group)  
**Social/Behavioral Human Research Course**  
(Course Learner Group)  
**1 - Basic Course**  
(Stage)

Under requirements set by:

**Florida International University**

Not valid for renewal of certification through CME.

**CITI**  
 Collaborative Institutional Training Initiative

Verify at [www.citiprogram.org/verify/?we7f8c1eb-bcee-40df-b0da-d588e17f56c3-43108751](http://www.citiprogram.org/verify/?we7f8c1eb-bcee-40df-b0da-d588e17f56c3-43108751)



Completion Date 19-Jun-2021  
 Expiration Date N/A  
 Record ID 43108752

This is to certify that:

**Kana Wright**

Has completed the following CITI Program course:

**CITI Health Information Privacy and Security (HIPS)**  
(Curriculum Group)  
**CITI Health Information Privacy and Security (HIPS) for Clinical Investigators**  
(Course Learner Group)  
**1 - HIPS**  
(Stage)

Under requirements set by:

**Florida International University**

Not valid for renewal of certification through CME.

**CITI**  
 Collaborative Institutional Training Initiative

Verify at [www.citiprogram.org/verify/?w7144c10b-4f07-4fbc-84d1-be8ea85b0837-43108752](http://www.citiprogram.org/verify/?w7144c10b-4f07-4fbc-84d1-be8ea85b0837-43108752)

**APPENDIX G: CV****KANA WRIGHT CV**

2011	ASN, City College, Fort Lauderdale, FL
2012-2014	Charge Nurse at Crisis Stabilization Unit, Fort Lauderdale Hospital, Fort Lauderdale, FL
2014-	Psych Intake Nurse, Mount Sinai Medical Center, Miami Beach, FL
2017-2018	BSN, Broward College, Davie, FL
2018-2020	MSN, Florida International University, Miami, FL
2020-2021	DNP, Florida International University, Miami, FL