PETITION FOR THE RECOGNITION OF A
SPECIALTY IN PROFESSIONAL PSYCHOLOGY

THIS PETITION gives guidance to the types and amounts of information necessary for a formal
decision to be reached. Petitioning organizations may use additional pages where necessary. The
petitioning organization is free to provide any additional material deemed relevant.

NOTE: Complete responses to all questions posed in each of the criteria are required. Appendix
materials should not be considered as substitutes for the completion of responses to questions in
the criteria.

AMERICAN PSYCHOLOGICAL ASSOCIATION
750 First Street, NE
Washington, D.C. 20002-4242
(202) 336-5500

PETITION PACKAGE
Preamble

Knowledge and practice skills in psychology have expanded and become increasingly differentiated over the past 50 years. Historically, the American Psychological Association (APA) acknowledged four professional specialties in psychology: clinical, counseling, school, and industrial/organizational psychology. It is important to note that these specialties first gained de facto recognition through a process of historical evolution. The APA accreditation guidelines also reference clinical, counseling, and school psychology as specialties.

A shared core of scientific and professional knowledge, skills, and attitudes is common to professional specialties. This shared core has been recognized in several conference reports on the future of professional psychology including the reports of groups and conferences of the National Council of Schools and Programs of Professional Psychology, the Joint Council on Professional Education in Psychology, and the National Conference on Scientist-Practitioner Education and Training for the Professional Practice of Psychology. Nothing in this document precludes a provider of psychological services from using the methods or dealing with the populations of any specialty, except insofar as they do so “within the boundaries of their competence, based on their education, training, supervised experience, consultation, study, or professional experience” (APA Ethical Principles of Psychologists and Code of Conduct, 2002).

The public will continue to need the services of general practice specialists, such as those offered by clinical, counseling, school and industrial/organizational psychologists. However, the emergence of new specialties to provide needed psychological services must also be recognized and validated. There must be a mechanism within the field to provide for the recognition of specialties.

Recent decades have produced what amounts to an explosion in professional knowledge and areas of application. As a result, new areas of application of psychology's scientific and applied knowledge have been organized around particular emphases in professional practice. The training to acquire this knowledge and skill may occur at the doctoral and/or postdoctoral levels. Such a proliferation of knowledge and an expansion of practice domains have resulted in a need to establish a process for recognizing specialties in professional practice that are differentiated from core scientific and applied professional foundations in psychology. At various times in past years, groups within and outside APA have worked to articulate such an identification and recognition process. Acknowledgement is given to the work of APA's Task Force on Specialty Criteria, the Board of Professional Affairs Subcommittee on Specialization, and the Board of Educational Affairs Task Force on Scope and Criteria of Accreditation, as well as the American Board of Professional Psychology for important contributions to this process. Their efforts have been a part of the continuing evolution of a process to identify specialties in psychology. It is now time for APA to exercise leadership in the design and implementation of a de jure process for the recognition of specialties in psychology.

For purposes of this endeavor the following definition of a specialty is adopted:

A specialty is a defined area of professional psychology practice characterized by a distinctive configuration of competent services for specified problems and populations. Practice in a specialty requires advanced knowledge and skills acquired through an organized sequence of education and training in addition to the broad and general education and core scientific and professional foundations acquired through an APA or CPA accredited doctoral program.* Specialty training may be acquired either at the doctoral or postdoctoral level as defined by the specialty.

*Except where APA or CPA program accreditation does not exist for that area of professional psychology.
Although the specific dimensions of specialty programs may vary in their emphases and in available resources, every defined specialty in professional psychology will contain: (a) core scientific foundations in psychology; (b) a basic professional foundation; (c) advanced scientific and theoretical knowledge germane to the specialty; and (d) advanced professional applications of this knowledge to selected problems and populations in particular settings, through use of procedures and techniques validated on the same.

The relationship between a body of knowledge and a set of skills in reference to each of the parameters of practice specified in Criterion VI below represents the most critical aspect of the basic definition of a specialty.

A specialty is distinguished from a proficiency, which is a circumscribed activity in the general practice of professional psychology or one or more of its specialties that is represented by a distinct procedure, technique, or applied skill set used in psychological assessment, treatment and/or intervention within which one develops competence.

The American Psychological Association and its Commission for the Recognition of Specialties and Proficiencies in Professional Psychology (CRSPPP) will consider petitions for formal recognition of specialties. Petitions that are received by CRSPPP will be reviewed and acted upon by the APA Council of Representatives. CRSPPP will review the status of each specialty at least every seven years and recommend whether the specialty should continue to be recognized.
Name of Proposed Specialty: Clinical Psychopharmacology

Please check one:

☐  
☒ Petition for Initial Recognition
☐  
☐ Petition for Renewal of Recognition
Criterion I. Administrative Organizations. The proposed specialty is represented by a specialty council or one or more organizations that provide systems and structures sufficient to assure the organized development of the specialty. **Commentary:** The evolution of a specialty generally proceeds from networks of psychologists interested in the area to the eventual establishment of organized administrative bodies which carry out specific responsibilities for the specialty and its practitioners. These responsibilities include governance structures which meet regularly to review and further describe the specialty and appropriate policies for education and training in the specialty.

1. Please provide the following information for the organization or specialty council submitting the petition:

   Name of organization or specialty council: The American Society for the Advancement of Pharmacotherapy (ASAP): Division 55/ American Psychological Association

   Address: 750 First Street, NE
   City/State/Zip: Washington, D.C. 20002-4242
   Phone: (202) 336-6013
   E-mail address: http://www.apadivisions.org/email-this.aspx

2. Please provide the following information for the President, Chair, or representative of the organization or specialty council submitting the petition:

   Name: Sean R. Evers, Ph.D.  
   APA membership status: Member
   Address: 2421 Atlantic Ave., Suite 102
   City/State/Zip: Manasquan, NJ 08736
   Phone: (732) 528-5334  
   FAX: (732) 528-5279
   E-mail address: sean.evers@everspsych.com

3. Please provide the following information for the organization or specialty council submitting the petition:

   Year founded 2000  
   Incorporated? Yes____ No ___X___
   State incorporated __________

   Describe the purpose and objectives of the administrative organization or specialty council submitting the petition.

   The American Society for the Advancement of Pharmacotherapy (ASAP), Division 55 of the American Psychological Association, was created to enhance psychological
treatments combined with psychopharmacological medications. The division promotes the public interest by working for the establishment of high quality statutory and regulatory standards for psychological care. Division 55 encourages the collaborative practice of psychological and pharmacological treatments with other health professions. The division seeks funding for training in psychopharmacology and pharmacotherapy from private and public sources such as the federal Graduate Medical Education programs. Division 55 also facilitates supports the expansion of the scope of practice for psychologists trained in pharmacotherapy.

Please append the bylaws for the petitioning organization or specialty council if bylaws are not provided on the website.

Bylaws are provided on the website.

Outline the structure and functions of the administrative organization or specialty council (frequency of meetings, number of meetings per year, membership size, functions performed, how decisions are made, types of committees, dues structure, publications, etc.) using the table below. Provide samples of newsletters, journals, and other publications, etc.

<table>
<thead>
<tr>
<th>Name of Organization</th>
<th>The American Society for the Advancement of Pharmacotherapy (ASAP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency of Meetings</td>
<td>Annual</td>
</tr>
<tr>
<td>Number of Meetings per year</td>
<td>One</td>
</tr>
<tr>
<td>Membership size</td>
<td>550</td>
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<tr>
<td>Functions Performed</td>
<td>ASAP promotes the public interest by working for the establishment of high quality statutory and regulatory standards for psychological care, supports the expansion of psychological practice to include prescriptive authority, encourages the collaborative practice of psychological and pharmacological treatments with other health professions, seeks funding for training in psychopharmacology and pharmacotherapy from private and public sources, supports research into the efficacy of psychologists prescribing, supports and aids in the implementation psychopharmacological training for psychologists, acts as a central resource and database for psychologists seeking prescriptive authority, and supports increased access to mental health services specifically in underserved populations and locales.</td>
</tr>
<tr>
<td>How are decisions made</td>
<td>By vote of membership.</td>
</tr>
<tr>
<td>Types of committees</td>
<td>ASAP has one standing established by the bylaws, the budget committee. In addition, by the time of final meeting of the Board of Directors for the calendar year, the President-Elect shall announce to the Board his/her roster of proposed committees for his/her Presidential year and his/her nominees for the committee chair and membership</td>
</tr>
</tbody>
</table>
Present a rationale that describes how your organization or specialty council provides systems and structures which make a significant contribution to the organized development of the specialty.

The American Society for the Advancement of Pharmacotherapy (ASAP) provides the structure for the development of the specialty of Clinical Psychopharmacology by creating and maintaining a Training Counsel that includes representatives from the major Clinical Psychopharmacology training programs around the country. This Training Counsel works shaping the training of psychologists in pharmacotherapy and through a constant monitoring of developments in the field modifying training to keep abreast of new developments. The Board of ASAP also monitors and offers coordination between psychological organizations working to expand the scope of practice of psychology and to pass enabling legislation that would allow pharmacologically trained psychologists to prescribe.

4. Signatures of official representing the organization or specialty council submitting the petition:

<table>
<thead>
<tr>
<th>name</th>
<th>title</th>
<th>date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sean R. Evers, Ph.D.</td>
<td>President</td>
<td>December 28, 2017</td>
</tr>
</tbody>
</table>

Criterion II. Public Need for Specialty Practice. The services of the specialty are responsive to identifiable public needs

Commentary: Specialties may evolve from the professions’ recognition that there is a particular public need for applications of psychology. Specialties may also develop from advances in scientific psychology from which applications to serve the public may be derived.

1. Describe the public needs that this specialty fulfills with relevant references. Under each need specify the populations served and relevant references.

Clinical psychopharmacology and the psychobiosocial (also referred to previously as biopsychosocial) approach it supports offers the public increased access integrated mental health care. Primary training in psychological interventions coupled with advanced training in psychopharmacology makes the psychologist specially trained in Clinical psychopharmacology uniquely positioned to address different psychological disorders and populations with interventions that are both psychological and pharmacological. Inherent in the training and principles of Clinical psychopharmacology is training in the critical reading and evaluation of pharmacological research necessary for the appropriate use and understanding of the benefits and limitations of pharmacotherapy. The combination of psychological treatment and conceptualization of mental health, coupled with the rational use of pharmacological agents offers expanded treatment options for populations experiencing
the critical shortages of trained mental health prescribers. Psychologists trained in Clinical psychopharmacology offer prescribing services in states and agencies where they have been allowed by law, and offer consultation and enhanced opportunities for collaborative care in those areas where prescribing legislation has yet to be enabled. Below is a selected listing of recent relevant references highlighting conditions that can be treated using Clinical psychopharmacology and the populations served, organized by diagnoses.

Attention Deficit disorders impact children, adolescents and adults. Psychological treatment and often the combination of psychological treatment and cautious psychopharmacological intervention are an effective treatment for attentional disorders.

References


Clinical psychopharmacology also addresses the needs of children and adolescents with a variety of Autism Spectrum and other Neurodevelopmental Disorders.


Depression in its various forms impacts people of all ages. Clinical psychopharmacology with its psychobiosocial approach can address these conditions.


Individuals with bipolar disorders more often than other mental health conditions require treatment that combines psychological and pharmacological aspects of care.


The psychobiosocial approach of Clinical psychopharmacology offers integrated treatment for individuals with schizophrenia and other psychotic related disorders either through treatment by a Prescribing Psychologist applying the tools of Clinical psychopharmacology or by a Psychologist trained in Clinical psychopharmacology working collaboratively with the patient and their medical provider.


Addiction is a problem that impacts all demographics of our society. Psychologists applying the skills of Clinical psychopharmacology are trained in techniques, both psychological and pharmacological to address addiction, substance abuse, and recovery.


Anxiety and related disorders impact all aspects of the population. Psychologists trained as Clinical Psychopharmacologists address these disorders - either as a singular condition to be treated on its own or as a complication of another medical condition - with the combined knowledge of psychological interventions, and when appropriate, with pharmacological treatments.


The recognition of Posttraumatic Stress Disorder (PTSD) has grown continuously since its inclusion in the official diagnostic hierarchy with the DSM III. PTSD treatment often requires the integration of psychological and pharmacological treatments.


Clinical Psychopharmacology also plays a role in the treatment of Dementia and Alzheimer's disease, especially in the areas of medication reconciliation and reduction.


Psychobiosocial interventions are being used in the treatment of pain management. Clinical Psychopharmacologists do not have the ability to prescribe schedule I substances in all jurisdictions; nevertheless, they play an important role in managing patients who receive opioids for chronic pain management. Clinical Psychopharmacologists are trained to understand the interaction between mental health issues and pain management and are equipped to offer effective options to opioid treatment in pain management. Clinical Psychopharmacologists also are uniquely trained to recognize drug-drug interactions in patients taking medications for pain management.


2. Describe what procedures this petitioning organization and/or other associations associated with this specialty utilize to assess changes public needs.

Clinical psychopharmacology is constantly examining and refining its assessment and intervention techniques in the light of emergent needs and special populations. Clinical psychopharmacology is made up of both practicing clinicians and academicians with each group accessing the changes in the public need from their different perspectives. Clinicians work with the needs of their patients, addressing the public need directly with their daily work. Academically, our Training Counsel monitors the growing body of literature on Clinical psychopharmacology, assessing the changing public needs. Finally, more than other specialties Clinical psychopharmacology is actively involved in public policy support the efforts of individual states to pass legislation to enable specially trained Psychologists to become prescribers. Extensive involvement in the legislative process allows for the members of ASAP to be personally immersed with the needs of their individual states and assist in shaping the legislation impacting health care to address those needs.

3. Describe how the specialty attends to public need

Clinical psychopharmacology is a body of specialized knowledge that addresses the interface between psychology and pharmacology. It is a field that is constantly evolving both with the growing knowledge of new pharmacological agents and treatment, but also as the result of enhanced collaboration between psychological and medical providers. The de-emphasis of the medication first, and/or medication only approach to treating mental health problems is consistent with the popular understanding to the treatment of mental health problems. An example of the benefit of this is the treatment approach is in the treatment of pain management. Psychologists with advanced training in clinical psychopharmacology understanding the pharmacology of addiction and the limitations of the traditional medical approach to pain management and offer a more complete set of therapeutic tools that does not depend upon opiates addresses one of the most pressing of today medical concerns.

Clinical psychopharmacology employs a psychobiosocial approach to mental health treatment asserting the primacy of psychological theory and interventions before turning the pharmacological intervention. The field of Clinical psychopharmacology responds to the public’s needs by working to address the shortage of trained mental health prescribers, monitoring the growing body of literature on collaborative care and educating both the public and other professionals to the benefit of care that integrated both psychological and pharmacological treatment.


**Criterion III. Diversity. The specialty demonstrates recognition of the importance of cultural and**
individual differences and diversity.

Commentary: The specialty provides trainees with relevant knowledge and experiences about the role of cultural and individual differences and diversity in psychological phenomena as it relates to the science and practice of the specialty in each of the following areas: i) development of specialty-specific scientific and theoretical knowledge; ii) preparation for practice; iii) education and training; iv) continuing education and professional development; and v) evaluation of effectiveness

Because the population is diverse:

1. Describe the specialty-specific scientific and theoretical knowledge required for culturally competent practice in the specialty, how it is acquired and what processes are in place for assessment and continued development of such knowledge.

Diversity factors such as gender, cultural, ethnic and genetics are woven throughout MSCP training and practice. In fact, it is difficult to envision clinical psychopharmacology practice without an emphasis on the pharmacokinetic and pharmacodynamic aspects of drug-gene interactions.

An entire field of study – ethnopsychopharmacology – is dedicated to the study of how race and ethnicity affect medication response. Ethnopharmacology incorporates the emerging field of pharmacogenomics, which predicts drug response based on liver enzyme testing or other biologic markers as to how an individual might respond and tolerate particular medication. This field of study informs prescribers regarding a particular medication that might be best suited for a specific patient versus the common-place trial-and-error switching from one drug to another, as needed based on that individual’s response.

The field of ethnopharmacology began with a focus on medicinal plants such as Chinese herbal traditional medications for treatment of various disorders. It is clear that ethnicity significantly affects drug responses (Munoz & Hilgenberg, 2006). Studies utilize broad categories such as Latino, Asian, etc.

One of the challenges of associating ethnicity with pharmacological response lies with the extensive diversity within broad classes. The study of Asians, for example includes people from Korea, China, Japan, India, Pakistan, and Vietnam; each of these subsets carry a specific set of genomic factors that may influence a response to a particular ligand.

An understanding of compliance and adherence to both medication and behavioral therapeutic efforts is influenced heavily by the impact of culture.

All of the students in the Postdoctoral Master of Science in Clinical Psychopharmacology (MSCP) specialty training programs are Licensed Psychologists and have graduated from accredited university programs where the 2002 APA Guidelines for Multicultural Education, Training, Research, Practice and Organizational Change for Psychologists are incorporated into the doctoral training curriculum.

At the August 2017 Council meeting, CoR adopted an update of these 2002 Guidelines as new policy - Multicultural Guidelines: An Ecological Approach to Context, Identity and Intersectionality (http://www.apa.org/about/policy/multiculturalguidelines.aspx). This update relies on the Layered Ecological Model based on the pioneering research approach of the
legendary developmental psychologist Urie Bronfenbrenner. This is a more complex
approach comprising dynamic and nested systems that transact over time. It is an approach
that is attuned to the individual’s self-definition.

In addition, each of the APA designated programs in Clinical Psychopharmacology offers
additional course work in ethnopharmacology. This course work emphasizes the genetic
differences, lifestyle factors associated with cultures that impact health, drug use, metabolism
of drugs, attitudes about mental health services and the taking of drugs within cultural and
sub-cultural groups. Clinical psychopharmacology students also learn about the new
developments in genetic or DNA testing which promise to assist prescribers in identifying
particular genetic variations such as polymorphisms that may impact the effect of
psychotropic medications. Clinical psychopharmacology students also gain hands-on
experience evaluating and prescribing medications with various patient culture groups. It is
essential for students to learn about and gain experience in using translators for managing
linguistic barriers in conducting thorough assessment, diagnosis, psychotherapy, and
medication management.

The programs in clinical psychopharmacology draw upon the extant research literature
regarding the emerging needs and changing demographics among the United States cultural
and sub-cultural groups. Clinical psychopharmacology students are trained and expected to
integrate research in ethno-psychology with their previously acquired clinical practice skills
day-to-day. Additionally, students gain experiences from using online resources for analyzing
medications, tracking lab results, and potential impacts on diversity of cultural groups and
sub-groups.

There is more stigma toward mental illness for certain minority groups than in Western
cultures and this cultural disparity has a direct impact on successful pharmacotherapeutic
care. The Chamorro culture, for example, relies on religious and family practices more than
Western mental health care or pharmacotherapy. Traditional Chamorro families depend on
spiritual practitioners called Suruhånu yan Amot, who may provide natural remedies from the
land or perform other procedures to rid the person of bad spirits. For example, someone
suffering from psychosis may be advised by Suruhånu to return to the jungle and remove
trash that they had dropped there in order to appease spirits rather than seek behavioral or
pharmaceutical therapy. The impact of these cultural influences is compounded with
genomic patterns in Chamorro patients, who have a predilection to neurodegenerative
disorders. (See Chen, Purdey).

MSCP training programs designated by APA are required to cover Diversity Factors. APA’s
Test Content Outline from 2010 included Content Knowledge Area 11, defined originally as
follows:

Considers the impact of diversity factors (e.g., ethnicity, age, sex, gender role, culture,
disability, and socioeconomic factors) on research, assessment, diagnosis, and treatment

1101 Diversity-related variations in the incidence/prevalence of disorders
1102 Variations in help-seeking patterns as a function of diversity factors
1103 Genetic differences in drug metabolism and clearance
1104 Differences in adverse reactions to medications as a function of ethnicity and other
diversity factors
1105 Psychosocial factors in drug effects/response
1106 Cultural and diversity relevant assessments and treatments
1107 Variations in trauma exposure and response
1108 Variations in environmental stressors

Content areas 1, 5, 7, 8 also address specific aspects of gender, ethnic, racial and cultural diversity in addition to Content Knowledge Area 11. Diversity factors usually are defined under sections that address psychosocial or biopsychosocial topics. Those content areas relevant to diversity are identified here:

01 Integrating clinical psychopharmacology with the practice of psychology
Refers to the implementation of clinical practices of biopsychosocial assessment, multiaxial diagnosis, and treatment including pharmacotherapy, in the context of a complex of factors influencing functioning. These factors include biological (e.g., genetic, sex, age, disease, disability), psychological (e.g. cognitive, emotional, dynamic, motivational, behavioral), psychosocial (e.g., gender, cultural/ethnic, interpersonal), and ecological/environmental factors.

0101 Biopsychosocial variables as determinants of medication effects (e.g., age, gender, family history, patient belief systems, economics, social support, current environmental circumstances)
0102 Limitations and benefits, patient perceptions, and treatment expectations regarding psychopharmacological and psychological interventions as sole, additive, or interactive treatments for given disorders and functional impairments
0106 Case and medication management issues and strategies to enhance adherence to and effectiveness of the treatment plan (e.g., communication skills, patient education techniques, cultural competence)

05 Biopsychosocial and pharmacological assessment and monitoring
Refers to a range of biopsychosocial, genetic, and pharmacologic assessment techniques and procedures for baseline and ongoing evaluation of the individual's physical and psychological health status, as well as the assessment of therapeutic efficacy, adverse effects, contraindications, drug interactions, and appropriateness for medication usage, continuation, modification, or discontinuation.

0501 Individual and family history taking procedures and psychological assessments that provide information relevant to prescribing (e.g., review of systems, dietary habits, mental status, behavioral observations)
0502 Basic physical and neurological examination procedures and variations in these procedures for special populations
0503 Appropriate utilization of laboratory tests and assessment procedures before prescribing particular medications (e.g., the implication of disease states, gender, sample timing, and effects of medications on those values)
0506 Indications for referral to other health care providers based on identification by abnormal biopsychosocial or pharmacological evaluation measures
0507 Intellectual and neuropsychological assessment as it pertains to aiding diagnosis (e.g., depression versus dementia, TBI versus PTSD), indications for medication regimens, and ability to provide informed consent
06 Differential diagnosis
Refers to the use of comprehensive diagnostic information about a patient to establish an accurate diagnosis from possible medical and psychological diagnoses in order to select appropriate treatment modalities and determine appropriateness for referral to other health care providers.

0610 The implications of culture specific syndromes (e.g., koro, amok, ataque de nervios, evil eye/mal ojo) for the assessment and treatment of various ethnic and cultural groups

07 Pharmacology
Refers to the interactions of drugs with biological systems. Encompasses pharmacokinetics, pharmacodynamics, pharmacogenetics, and the use of various medications: psychotropics, adjunctive agents, and other medications; substances of abuse, over the counter (OTC) products, herbal, and other food and dietary supplements. The influence of ethnic and cultural factors, environmental factors, and responses of special populations are considered.

0702 Biological factors affecting pharmacokinetics and pharmacodynamics (e.g. sex, pregnancy, obesity)
0703 Absorption (e.g., delayed-release preparations, rates of absorption after oral dosing or parenteral injection, area under the curve, timing with food intake)
0704 Distribution (e.g., plasma protein binding, influence of lipophilicity)
0706 Metabolism (e.g., understanding of the substrate, inhibitors and inducers of the “family” of P450 enzymes, other enzymes outside the liver)
0708 Excretion (e.g., renal filtration rate, clearance of drugs)
0713 Drug effects on genetic expression (e.g., down-regulation)
0720 Genetic polymorphisms (e.g., ethnic and gender differences, genomic testing, differences in cytochrome P450 isoenzymes in drug metabolism)
0721 Familial patterns of drug response and toxicity
0722 Pharmacoepidemiology (e.g., epidemiology of psychotropic drug use)

08 Clinical psychopharmacology
Refers to the application of pharmacology to the management of psychological/behavioral disorders. This includes indications, contraindications, dosing, risk management, adverse effects and toxicities of psychotropic and adjunctive medications, interactions with other medications (including other drugs used in medicine, prescription and/or illicit drugs used for recreational purposes, and drugs available for OTC purchase) as well as the management of adverse reactions, overdoses, and toxicities.

0803 Dosing, time course of therapeutic action and adverse effects, and patient factors (e.g., weight, gender, ethnicity, culture, age, concurrent disease)
0809 Drug effects in special populations (e.g., developmentally disabled, elderly, children, pregnant or lactating women, ethnic and cultural groups, substance abusing individuals)
Pharmacological implications for comorbidity of age-related and disability-related disorders (e.g., overanxious disorder comorbid with ADHD, avoiding using a tertiary tricyclic in an elderly patient using antihypertensives)

Potential psychological and physiological manifestations of medications (including OTC drugs, herbal substances, and dietary and exercise supplements) used for non-psychological purposes (e.g., beta blockers, steroids)

In addition to these specific content areas identified for taking the PEP exam, MSCP programs identify diversity factors throughout training, i.e., when genetic factors for health conditions might have an impact on patient outcome. African Americans, for example, demonstrate genetic predisposition for cardiovascular disease and hypertension (Carnethon, et al., 2017; Hardy, et al., 2017).

Knowledge of diversity factors are assessed in the ten main content areas for the PEP exam (see http://www.apapracticecentral.org/ce/courses/pep-application.pdf).

2. Describe how the specialty prepares psychologists for practice with people from diverse cultural and individual backgrounds (e.g., through coursework, supervised practice, continued professional development, etc.) and how competence is demonstrated.

All of the Designated programs in clinical psychopharmacology draw upon the research literature with regard to emerging needs and changing demographics among the cultural and ethnic groups and subgroups in the U.S. For example, developments that are published in the APA journal, Cultural Diversity and Ethnic Minority Psychology are of importance and relevance to this goal. Fouad (2017), looking at the empirical influence on multicultural guidelines, offers a review of ethno-centric treatments and interventions, all of which may have some value in terms of the psychotherapy aspect as well as implications for the pharmacotherapy aspect of a prescribing psychologist’s practice. On the solely ethno-pharmaceutical side, which studies the effect of ethnicity and the responses to prescribed medication, particularly the characteristics of pharmacokinetics (drug absorption, metabolism, distribution, and excretion).

3. Describe how the specialty is monitoring developments and has moved to meet identified emergent needs and changing demographics in training, research, and practice (e.g., through research, needs assessment, or market surveys).

Emerging trends in pharmacogenomics have been integrated into MSCP training through coursework and presentations at APA conventions. The pharmacology literature specific to diversity has increased dramatically over the last ten years, resulting in increased awareness in clinical psychopharmacology practice.

Questions have been raised about the accuracy of general data in terms of predicting response to the agent that are based primarily on white males and do not include categories of subjects of varying race and ethnicity. This is equally true of gender as it has only been since the mid-1990s that gender has been required to be represented in sampling in drug studies. Obviously, generalizing drug responsiveness or expected drug responsiveness from solely white male subjects is a precarious position to take. Over the past fifteen years ethno-pharmacologic research has documented significant differences in how people of diverse ethnic groupings metabolize certain drug (Burroughs, 2002) These differences include
variations in pharmacodynamics (that is, the drug mechanism of action, and its particular affect at a target site) as well as pharmacokinetics (the movement of drugs, referring to drug absorption, metabolism, distribution, and elimination) (Lin & Smith, 2000).

There are significant cultural factors such as diet, tobacco use, other herbal and medicinal agents that may influence gene expression and can thus affect a pharmaceutical agent’s impact. Most of the ethnopharmacological research that is currently being conducted is focused on drugs in two general classes. One is psychotropic agents and the other hypertensive agents. The reason for the focus on hypertensive agents is the relatively high incidences of hypertension and cardiovascular disease in some minority populations which is very well documented (American Heart Association, 2004; Carnethon, 2017). Reports of the prevalence of high blood pressure among non-Hispanic blacks is almost 39% compared with 27% of non-Hispanic whites.

Most psychotropic agents are metabolized in the liver in two phases, an oxidation phase (Phase-1), and a conjugation phase (Phase-2). Some of the most diverse drug reactions are the result of polymorphisms of liver enzymes known as Cytochrome P-450 (CYP), which are responsible for Phase-1 metabolism. CYP enzymes metabolize most anti-psychotics and anti-depressant medications (Altar et al., 2015; Lin & Smith, 2000; Solus, Irietta & Harris, 2004). It is widely accepted now that genetic variation in CYP enzyme variation is linked to race or ethnic group (Preissner et al., 2017).

Research has demonstrated that genetic variations in certain CYP enzymes may cause differing drug responses although the precise mechanism remains yet to be fully characterized. Certain ethnic groups have more of these variations than do others. Variations in CYP enzymes 2B6*6, 2C8*2, 2D6*3, 2D6*17, 2D6*29, 3A5*6, and 3A5*7 occur more in African populations than in other continental populations and may explain ethnic variations in pharmacotherapy (Luo et al., 2004, Preissner et al., 2017; Rajman et al., 2017).

Variations in CYP2D6 have been shown to affect the rate of drug metabolism which in turn affects the drug plasma level for a given dosage. Thus if a prescriber believes that he or she is offering a patient a particular dose and the 2D6 operates such that the serum level is higher, you may have an impact or effect that is unexpected and perhaps detrimental to the patient’s welfare. It is known, for example, that individuals with more than two functional copies of the 2D6 have a faster than normal enzyme activity and are known as hyper or ultra-rapid metabolizers, where as those with two non-functional copies of the gene have slower than normal enzyme activity and are known as poor or slow metabolizers.

Ultra-rapid metabolizers burn up the drug more quickly resulting in lower serum concentration than anticipated at a particular dose; where as poor metabolizers will utilize the drug more slowly thus resulting in higher blood serum levels at the same dosage. (Luo, 2004) reported genetic differences occur among four ethnic groups: 18% of Ethiopian Jews and 13% of Sephardic Jews had more than two functional CPY2D6 genes and were predicted to be ultra-rapid metabolizers, however, only 6 % of the Yemenite Jews and 4 % of Bedouin Arabs share this mutation. Thus, depending on which genes have repeats a person can be an ultra-rapid metabolizer to some drugs and a normal or poor metabolizer of others. Clearly, getting a baseline of ethnic background is helpful in terms of predicting how to prescribe and at what dose. Lin & colleagues (1998) examined the effects of haloperidol in three groups of healthy volunteers identified as Caucasians, American born Asian Americans and foreign-born Asians
(the more globalized categories make for some obvious initial concerns). When Lin and associates administered specific doses of the Haloperidol both the Asian groups, the American born Asians and the foreign-born Asians had significantly higher serum concentrations of the agent than did the white Caucasians. Obviously, the dosing and variation of blood serum levels has implications in terms therapeutic affects as well as extrapyramidal symptoms which are known to be associated with haloperidol.

Hispanics may require a lower dose of anti-psychotic medications than do Caucasians, especially because of extrapyramidal symptoms (Tamayo et al., 2007). Tobacco use in patients with psychosis also may be linked to pharmacogenomics although environmental factors may contribute to some racial differences for Hispanics and Asians (Oh et al., 2016).

It has long been known that there is evidence that patients of African American decent may require lower doses of lithium than do Caucasians. This information is taught at both the graduate and the post-doctoral level as this line of research has been known since the early to mid-1990s.

Given Lithium’s narrow therapeutic range and the severity of some side effects of lithium toxicity, caution is needed to examine the risk of toxicity in populations that demonstrate some lithium sensitivity; prescribing psychologists need to be fully aware of these differences when working with such populations.

Certainly, culture and sub-cultural standards for social exchange and general lifestyle factors may affect drug effectiveness such tobacco and alcohol use. Such psychosocial factors may affect adherence to treatment including the general beliefs, preconceptions, and linguistic barriers to fully understanding or a general lack of trust in health care systems. The implications for prescribing psychologists are wide and deep, understanding the cultural set; being culturally competent is necessary to do appropriate prescribing. These concerns may also be relevant to geropsychology in the context of the variety of medications that are given to the elderly particularly those with dementia. Poly-prescribing for the elderly is a known approach among health care systems, but may be highly problematic. This may be true even for relatively straightforward pharmacologic agents like antihistamines and Tricyclic anti-depression medications intended to help soothe and calm elderly patients (Pardo-Cabello et al., 2018).

In summary, prescribing psychologists keep current through reading the research, being exposed to clinic/hospital rounds and by completing mandated continuing education programs. In addition, these topics are covered in the capstone examinations as part of the graduation process in MSCP programs, as well as integrated into the PEP-2 examination.

4. Describe how the education and training and practice guidelines for the specialty reflect the specialty’s recognition of the importance of cultural and individual differences and diversity.

The APA Practice Guidelines for Pharmacological Issues are quite specific in offering guidance on ethical and appropriate practice skills, and particularly in dealing with cultural and ethnic diversity. These practice guidelines are useful to all practicing psychologists who are trained in clinical psychopharmacology. In a survey in 2002 (VandenBos & Williams) reported that practicing psychologists on average estimate that 43% of their current patients were using psychotropic medications. Inevitably there will be an increase in psychologists'
involvement in medication management matters with their individual psychotherapy patients whether or not they are also clinical psychopharmacologists/prescribing psychologists. Other relevant documents include the practice guidelines developed by other healthcare professionals for the practice of pharmacology: nursing, medicine and pharmacy as well as documents from pharmaceutical companies. Division 55 had a leading role in developing these practice guidelines for psychologists involved in pharmacological issues in keeping with the APA 2002 Ethics Code.

In the VandenBos & Williams survey (2002), it was reported that 87% of their sample of practicing psychologists reported that they have been involved in some way in the decision to prescribe for at least one of the patients in their caseloads. Only 7% of survey respondents indicated that they participated in the decision to prescribe for more than half of their patients, suggesting that they were consistently and perhaps formally involved in the decision process. Thus, for most practicing psychologists it appears that this participation in selecting the medication is an infrequent role. These guidelines provide direction for ethical practice. Specific knowledge and experience with various cultures and subcultures helps to inform practicing psychologists regarding different attitudes and responses to individual medications and medication combinations with psychotherapy. These guidelines like all guideline statements are intended to be aspirational in intent, as opposed to standard or mandatory requirements for practice. Again, these guidelines offer clear direction to all psychologists who are participating in medication decisions for their patients. Additionally, these guidelines offer clear direction for those who are prescribing psychologists in terms of the expectations though not exhausted for ethical and appropriate practice. While it may be judicious at some future point to establish standards with regard to the conduct of pharmacotherapy, these standards will be established by regulatory jurisdictions where prescribing psychologists are licensed and function.

The first guideline is general and indicates that, “psychologists are encouraged to consider objectively the scope of their competence in pharmacotherapy and to seek consultation as appropriate before offering recommendations about psychotropic medications.” The Ethical Standard 2.01 of the APA Ethics Code (2002a), indicates a psychologist provides services within the boundaries of their competence. Competence may be defined as the integrated and habitual use of knowledge skills, attitudes and values in psychology (ASPPB, 2016). Psychologists with prescriptive authority face a statutory obligation to maintain competency by being current. However, within clinical psychopharmacology their level of expertise can vary across treatment populations and different classes of medications. This includes understanding the ethno-psychology factors race, gender, genetics, etc. Prescribing psychologists may feel some pressure from prescribing providers who are less familiar with the individual patients to discuss treatment plans and medication strategies beyond their level of expertise.

**Guideline 3** Psychologists involved in prescribing are collaborating and are sensitive to developmental, educational, gender, health status and cultural/ethnicity factors that can moderate the interpersonal and biologic aspects of pharmacotherapy relevant to the populations they serve. Principal E of the APA Ethics Code (2002) focuses on the importance of considering culture and personal variables in the populations being served by that particular psychologist. This standard takes on additional implications in the context of pharmacotherapy because individual differences can affect each personal aspect of
pharmacotherapy management. The effectiveness of a particular treatment, its side-effect profile, other issues including metabolism, absorption and utilization of the drug can vary depending on ethnic, genetic, and cultural backgrounds.

There can be differences in presentation with psychologic dysfunctions that are, “ethno-specific”. For example, Nicolas and colleagues (2007) reported that the manifestation of depression among immigrant Haitian women patients in the United States takes-on at least three unique types of presentation: 1.) Pain in the body, 2.) Relief only through God and 3.) Fighting a winless-battle. These three types of depression suggest 1.) a presentation of just somatic outlets of depression, or an expectation that only through utilization of God or spiritual resources will an issue be improved or the expectation that is the burden or role of women to fight a, “winless battle”. The author, Nicolas (2007), suggests that all of these are in fact ordinary cultural variants of depression and should be approached with interventions designed for treatment of depression, namely psychotherapy and pharmacotherapy. Many other authors have noted culturally unique manifestations of psychologic disturbances arrive via somatic and psychologic-driven medical co-morbidities, physical dysfunctions and differing levels of distress related to cultural and sub-cultural backgrounds. The desire of Haitian women to be seen as, “strong” causes them to discount ordinary symptom patterns of depression and to place emphasis on these other factors, but in fact they are manifestations of depression.

Certainly, there could be differences in participation of treatment related to ethno-psychologic factors. Psychosocial and cultural factors such as differences in seeking help, they receive help from - providers such as doctors, other prescribers, as well as general beliefs about healing and the influence of interpersonal relationships that are the center of the therapeutic and pharmacotherapeutic alliance. Additionally, cultural backgrounds suggest that certain beliefs or attitudes encourage the use of alternative healing processes such as herbal or other non-allopathic remedies. Some of these medicinal remedies are psychoactive and need to be accounted for but may not be referenced by the individual as they consider the remedy as unrelated to health seeking behaviors. For all practitioners, psychopharmacological assessment means an understanding of how factors can be manifested is essential for adequate practice patterns. Unique concerns such as the following: spirits, yin/yang imbalances, the, “evil eye”, black magic, the meaning of and breaking of taboos, etc. All of these attitudes and beliefs in the cultural setting may play a component role in appropriate treatment for particular individuals.

Guideline 9 Psychologists are encouraged to explore issues surrounding patient adherence and feelings about medications. Adherence rates in pharmacotherapy in general are rather poor. Olfson, Marcus and Tedeschin and Wan (2006) report that 42% of patients discontinued the usage of antidepressants in less than 30 days, 72% stopped within three months. Patients may have failed to adhere with the treatment for a whole range of reasons including general ambivalence, fears about the medication, distressing side-effects, misinformation about the latency to effective treatment response, shame or self-consciousness about not taking psychoactive compounds, concerns about medication changing their behaviors or ways of thinking, etc. As a result, many patients receive less than optimal benefits from their pharmacotherapy interventions. Understanding the racial ethnic, cultural and sub-cultural backgrounds can help mitigate many of these factors and is essential to good practice. These skills and a willingness on the part of prescribing psychologists to reach out and try to discover how these factors effect medication management is helpful.
Tracking precisely in a collaborative manner with the patient, to delve into their reactions and concerns and beliefs about medication is much more likely when cultural relevance is valued and cultural competency of that particular prescribing psychologist is adequate. Prescribing psychologists are more likely to be seeing their patients with greater frequency than other health care providers. Their role in dealing with and forming a culturally effective therapeutic alliance is emphasized in training programs. The importance of this therapeutic alliance becomes even greater in considering tight-knit sub-cultural and family groups.

**Guideline 10** urges psychologists with prescriptive authority to develop a relationship that will allow the populations they serve to feel more comfortable in exploring issues surrounding medication use. This guideline is aimed at keeping the lines of communication open by having an open style and a willingness to value and learn the culturally relevant context which is emphasized in curricular course work and practical experiences to stay willing and open to better understand every patient from every cultural standpoint.

**Guideline 11** More effective communication about pharmacotherapy rests on effective psychobiosocial case formulation that considers psychosocial as well as biomedical factors. The prescribing psychologist must conduct a full evaluation, the assessment of the current condition in the domains of psychological, social and biologic health issues in order to effectively formulate a case intervention for treatment that is comprehensive and culturally congruent. Increasing hopefulness, reducing demoralization and providing support represent elements of good patient care that require cultural competence in order to connect with each patient. A psychobiosocial approach is likely to take a little more time for pharmacotherapy management than is often associated with the so-called “15-minute med check”. Even in emergency circumstances when the patient has some ongoing relationship with a different mental health provider a prescribing psychologist is encouraged to consider the full range of psychobiosocial interpersonal issues. This comprehensive tool for assessment can help reduce the over-reliance on medications.

**Guideline 12** Informed consent is an essential ingredient for initiating effective treatment. Prescribing psychologists follow guideline twelve that secures informed consented to treatment with the additional matters related to prescribing of psychotropics. Any decision to prescribe medication for a patient relies on a collaborative exchange between that patient and the prescribing psychologist. Such a collaborative decision process depends upon an appropriate and thorough education of the patient about alternative treatments and full understanding via the patient’s informed consent.

The following is an example of the types of topics that a prescribing psychologist may elect to discuss with a patient when developing a collaborative intervention strategy:

1. Describing a pharmacologic agent to be used

2. Describing symptoms that the medication is intended to address

3. Providing a rationale for the treatment recommended relative to other treatment options; a thorough description and discussion of each of the treatment options

4. Describing how the proposed treatment was chosen over other options, in other words, how did the prescriber decide that this was the most adventitious option?
5. Describing the benefits and potential risks of the proposed treatment intervention both therapeutic and potential adverse reactions to medications,

6. Estimating the duration, cost, inconvenience and time to therapeutic benefit that is desired as well as how long to remain on an agent in order to reduce potential for premature termination of the medication trial

7. Providing information about relative or absolute contraindications for treatment and other possible drug interactions

8. Reviewing risks associated with unilateral discontinuation on the medication

9. Outlining alternatives to the recommended treatment option including review of other medications that could be substituted or considered that are less or more costly as well as non-pharmacological treatment options

10. Providing an explanation of any indicated laboratory examinations or requirements such as EKG or ongoing therapeutic monitoring of blood serum levels 11.) Offering appropriate references for further patient education resources, both online and in text form

11. Describe the ongoing prescribing psychologist patient-partnership/collaboration in deciding on medication changes including titration or criteria for termination or augmentation such as increasing the dosage or by adding in other medications. This can involve orienting patients to the prescribing psychologist’s combined role as both prescriber and psychotherapist

12. Noting that the prescribing psychologist needs to remain openly responsive to patients’ questions and concerns including, at the patient’s request and with appropriate consent, providing information and resources to family members or other significant individuals such as friends, neighbors, or clergy

13. Underscoring how psychopharmacologic interventions can be a key component but often not the exclusive component in a successful treatment plan. In other words, educating the patient by informing the patient about their own direct contributions to the treatment plan

14. Explaining why the combination of psychotherapy and pharmacotherapy is recommended over one or the other intervention styles alone and how the treatment sessions might be structured in which the two types of interventions are combined as well as estimating the number and/or course of time for treatment to attain an effective outcome

15. Soliciting, inviting, and expecting to hear questions and the expression of concerns from the patient or family members. It is important for prescribing psychologists to remember that patient concerns can be practical, financial as well as physical. Thus, explicitly encouraging questions about the full range of obstacles to adherence by the patient for pharmacotherapy interventions is highly recommended

16. Finally, determining the mechanism by which tracking of both adherence and treatment effects (and any side-effects) of the selected intervention is going to be accomplished. It is
also important to remember that patient acceptance of a recommendation does not necessarily mean there is an agreement with a recommendation.

Allowing sufficient time for a full discussion of all of these issues will obviate the potential problematic situation where patients accept the prescription with little or no intention for complying with (adhering to) or experiencing mixed-feelings about the recommended treatment approach. The prescribing psychologist guidelines on informed consent and treatment interventions suggest that the prescribing psychologist needs to go, “the extra mile” to really truly get an understanding of their patient and their patients view not just of the pharmacotherapy but the psychotherapy interventions as well. It is appropriate to collect ongoing assessment and tracking of symptoms and issues as needed. Such a collaborative agreement that can immerge from the full informed consent process can be a very significant benefit in tailoring and enhancing the effectiveness of the interventions. Informed consent is a dynamic process and this agreement about intervention strategies between the patient and the prescribing psychologist should be open to revisiting intermittently just for general review, but also for updating or alteration as appropriate.

In order to provide the best treatment possible prescribing psychologists are encouraged to keep current within their pharmacotherapy range of agents and particularly with cultural, racial, ethnic, and genetic variations that may impact those choices. In all therapeutic circumstances the patient is the ultimate decision-maker regarding the choice of therapy and thus their preferences, expectation, cultural values and attitudes must be continuously accessed throughout the course of treatment. A confounding recent factor that may be involved in decision making about selecting a treatment intervention is the impact of marketing through television and other marketing media on the understanding and expectations of patients and indeed the prescribing psychologists themselves. It is worth noting that the pharmaceutical industry that remains a primary source of support for continuing education in pharmacotherapy. Direct-to-consumer advertising has a demonstrated substantial capacity to alter patient perceptions particularly in the form of a patient asking for a specific compound or agent. It is well known that pharmaceutical marketing may also influence prescribers.

**Guideline 17 encourages prescribing psychologists to maintain appropriate relationships with providers of biomedical interventions.** Ethical Standard 3.09 of APA Code of Ethics (2002) highlights the importance of cooperation with other professionals in the service of one’s patients. Collaborating is essential as prescribing psychologists often treat with patients who have co-occurring medical conditions. Increased interest in integrated or collaborative practice among health care providers allows for a more complete and thorough exchange in collaboration among health care practitioners. Prescribing psychologists are encouraged to interact on a regularized basis with other providers in behalf of their patients. This would also include circumstances in which the prescribing psychologist is providing treatment for an individual who has other mental health/psychotherapy providers.

The mandated CE requirements in each of the respective jurisdictions require ongoing professional education and development. The practice guidelines as well as mandated continuing education demonstrates that many of the factors important to cultural sensitivity are thoroughly reviewed and focused on as a matter of general expectation for good practice as a prescribing psychologist.
References


Criterion IV. Distinctiveness. A specialty differs from other recognized specialties in its body of specialized scientific knowledge and professional application.

Commentary: While it is recognized that there will be overlap in the knowledge and skill among various specialties in psychology, the petitioning organizations must describe the specialty in detail to demonstrate that it is distinct from other recognized specialties in the knowledge and skills required or the need or population served, problems addressed and procedures and techniques used.

1. Identify how the following parameters differentiate and where they might overlap with other specialties. Describe how these parameters define professional practice in the specialty.
   a. populations

Clinical psychopharmacology has been integrated successfully with the practice of psychology, psychiatry and medicine for decades with a wide variety of populations across age, gender, ethnicity and socioeconomic backgrounds. Clinical psychopharmacologists practice in rural and urban settings, on Indian reservations and on military installations and during deployment. There is strong evidence that clinical psychopharmacologists are effective health care providers within private practice, hospital and primary care settings and treat individuals with a wide range of developmental, intellectual, and physical disabilities.

   b. problems (psychological, biological, and/or social that are specific to this specialty):

Clinical psychopharmacologists diagnose and prescribe both behavioral and pharmacological therapy for patients with a full range of mood, anxiety, substance abuse and interpersonal problems in outpatient populations.

In general, the problems addressed by prescribing psychologists can be broadly summarized: Patients with mental distress who are deemed to be in need of psychotropic intervention are the target population for prescribing psychologists. Since, however, prescribing psychologists are not, as noted above, trained in traditional medical models, we can apply the following additional qualifier: Patients with mental distress who are deemed to be responsive to both psychological and pharmacological interventions are those most appropriate for the services of a prescribing psychologist. While in general true, the exact intervention will, of course, depend on patient preference. Some patients deemed to require both psychological and pharmacological intervention may choose one or the other. The ethical prescribing psychologist will work with these patient choices, while encouraging patients to take advantage of optimum treatment regimens. Thus, not all patients seen by prescribing psychologists will receive both medication and psychological interventions; some may receive only psychotherapy, others only medication. The latter is particularly true in the continuation and maintenance phases of treatment, where benefit from psychotherapy may have been optimized, yet the patient is judged to require long term pharmacotherapy, as may be the case in chronically relapsing depressive or psychotic spectrum disorders.
c. procedures and techniques

The exact mechanism of action of many psychopharmacological agents still remains elusive. Most biological theories of mental disorder lack power to explain the complexities of mental distress. Prevalent theories, such as the serotonergic model of depression, lack solid neurochemical foundations. Indeed, aside from noting that some perturbation in serotonergic function is in some way etiologically linked to depression, our understanding of the role of this neurotransmitter remains, despite decades of research, relatively unsophisticated. Thus, while we recognize that abnormalities in monoaminergic neurotransmission play some role in the genesis and maintenance of certain disorders, no unified neurochemical explanation exists for even the best-studied form of mental distress. Similarly, the hallmark of almost all psychotherapeutic interventions for mental distress is non-specificity. The axiom that one credible, active form of psychotherapy is as effective as any other (i.e., the famous Dodo-bird hypothesis; Wampold, 2000) is still largely true, with the caveat that specific procedures exist for some disorders (e.g., aggressiveness in the context of intellectual impairment). Such procedures, however, tend to be behavioral, rather than purely psychotherapeutic (e.g., response inhibition), so it is therefore inappropriate to attempt to divide the disorders under discussion here into biological and non-biological domains. The boundaries of each domain are overlapping and exceedingly indistinct. We can with greater precision demarcate our interventions into those that are predominantly biological, psychological, or social, but even here it must be understood that no intervention is pure, and all are to a greater or lesser extent an admixture of all domains. Nor are the results of any particular intervention domain-specific. A psychological intervention has biological manifestations, just as a biological intervention may be more measurable in social terms.

As in any other area of psychological intervention, the prescribing psychologist commences with an evidence base that is incomplete. Aside from some relatively facile guidance (i.e., when prescribing antidepressants, begin with a low dose of a generic SRI) and proscriptions (e.g., avoiding benzodiazepines in patients with substance abuse or impulse control problems; not prescribing monoamine oxidase inhibitors with serotonergic antidepressants) that are well covered in the training curriculum, there is no science that matches the best treatment with any individual patient’s presenting problem as long as one is working within the boundaries of a specific range of disorders (e.g., depression, anxiety, psychosis, cycling mood disorders, attentional disorders, and other broad diagnostic rubrics). Some patients may prefer psychological to pharmacological interventions; some may prefer the opposite. It is up to the prescribing psychologist to best match the patient’s characteristics and preferences with the optimum treatment and to carefully document the patient’s progress under the treatment that has been mutually agreed upon. As in any other area of psychological practice, carefully delineated, mutually agreed upon informed consent is a cornerstone of effective practice.

2. In addition to the professional practice domains described above, describe the theoretical and scientific knowledge required for the specialty and provide references for each domain as described below. For each of the following core professional practice domains, provide a brief description of the specialized knowledge that is required and provide the most current available published references in each area (e.g., books, chapters, articles in refereed journals, etc.) While reliance on some classic references is acceptable, the majority of
references provided should be from last five years and should provide scientific evidence for the theoretical and psychological knowledge required for the specialty.

a. assessment:
b. intervention:
c. consultation:
d. supervision
e. research and inquiry:
f. public interest:
g. continuing professional development
h. any relevant additional core professional practice domains.

The practice of clinical psychopharmacology involves distinct knowledge bases and decision-making structures; these clearly differentiate this field from the general practice of psychology. Not only are mechanical issues radically different (obtaining special authority to prescribe, the issuance of prescriptions), but the fundamentals of practice diverge from standard psychological intervention essentially at the time the initial interview is undertaken. In broad terms, the following algorithmic steps must be taken in five phases spanning the history of intervention from initial presentation to sustained resolution of the disorder. These phases are preliminary assessment, acute intervention, maintenance intervention, continuation intervention, and treatment discontinuation. The prescribing psychologist must address each of these components of treatment, as opposed to the work of a general psychologist or even a consultant in clinical psychopharmacology. Consultants, while needing familiarity with basic laboratory examinations, will not order such tests, enter orders for medications, or routinely order laboratory measures.

a. assessment:

Prescribing psychologists are trained in a range of assessment techniques. They are expected to have mastered psychological testing and interviewing, as required in APA-accredited doctoral training programs. During their post-doctoral coursework in psychopharmacology, they develop expertise in identifying the need for, ordering and interpreting laboratory results, as well as skills in discussing these results with appropriate medical personnel. While some prescribing psychologists may practice in clinics where there is considerable medical support, each prescribing psychologist is expected to be competent in measuring all vital signs that must be monitored for safe prescribing.

References

1 The terms acute, maintenance, and continuation, referring to specific stages of the treatment process, are borrowed from the pharmacological literature with the understanding that they lack heuristic power in describing the complexities of combined pharmacologic and nonpharmacologic treatment of mental distress. A number of problems complicate use of these terms in combined treatment interventions. This is largely because these are temporal terms, and do not provide behavioral benchmarks marking transitions from one treatment phase to the next. Thus, movement between stages is a somewhat arbitrary determination by the clinician. The second issue is that these terms presume that treatment has an orderly and linear course, progressing from a stage of greater acuity of symptoms to lesser severity. The model does not account for relapses or temporary recrudescence of target symptoms that may occur at any point in the treatment course. The third problem is that use of the term “continuation” presumes that pharmacological treatment will continue indefinitely. There is not, however, a great deal of evidence to suggest that such long term drug use is necessary for many individuals, and, in the limited number of long term studies extant, the effects of psychological treatment strategies are unaccounted for.
b. intervention:

Among the components of specialty, postdoctoral education in clinical psychopharmacology that additionally speak to the distinctiveness of the specialty is the necessity for the prescribing psychologist to both order and interpret laboratory examinations and to have intimate familiarity with the results of physical examinations. A psychologist with postdoctoral training (or, in Illinois, with predoctoral training) in clinical psychopharmacology and a license to prescribe will need to be very familiar with laboratory measures and diligent in ordering laboratory tests for monitoring effects and side effects of specific medications. For example, it is well-established that both first- and second-generation antipsychotics can cause weight gain, affect the lipid profile (irrespective of weight gain), and result in a condition called metabolic syndrome (e.g., Allison et al., 1999; Hartling et al., 2012; Henderson et al., 2005).

The American Diabetes Association provides recommendations for the frequency that glucose, lipid level, weight, and body mass index should be evaluated among individuals with, or at risk for, diabetes. Other medications can exacerbate blood pressure and should be monitored closely by a prescribing psychologist. Management and intervention with patients on opioids also require specific attention (Tampli et al., 2017). Some medications may affect heart rhythms so that baseline and ongoing electrocardiograms should be obtained both prior to initiating a course of medication and periodically throughout the treatment course. These cautions apply to numerous classes of medications, including frank sympathomimetics, like stimulants used in the treatment of ADHD, but many commonly-used antidepressants with pressor effects (e.g., bupropion, venlafaxine) and even antidepressants (e.g., citalopram) previously not considered to be arrhythmogenic (Tseng, Lee, Lin, & Lin, 2012). While the non-prescribing psychologist consultant should be familiar with the monitoring mechanisms typically used in conjunction with certain classes of medications and verify with the prescribing professional that appropriate monitoring is occurring, the responsibility for carrying out such investigations resides with the prescribing psychologist.

To summarize, the knowledge base of the prescribing psychologist differs substantially from generalist psychologists as well as those psychologists who consult regarding psychopharmacology (Level II providers in the Smyer et al., 1992 taxonomy). Postdoctoral education consists not only of a fount of knowledge regarding drugs, but technical knowledge regarding laboratory and physical examination and their interpretation. Prescribing psychologists are uniquely qualified to both prescribe drugs to humans and independently order ancillary evaluations, making their practice a distinct specialty area in the field.
The specialty of prescribing psychology can meet two separate, but equally essential elements of need. The first recognizes the need for combined treatments for mental disorders and is based on the well-documented argument that, although the use of psychotropic agents for mental disorders has increased substantially, most patients do not exhibit a lasting positive response to pharmacological interventions alone. By extension, then, the combined treatments offered by prescribing psychologists fill a need for more effective mental health interventions. The second component of the need argument is based on extant shortages of mental health services in general, including the services of pediatric and adult psychiatrists, the other major professional groups utilizing the treatments employed by prescribing psychologists.

Prescribing psychologists’ skills in assessment and diagnosis results in improved utilization of psychotropics, and may result in reduced reliance on drug treatment alone. While there is insufficient evidence to date to provide definitive support for this argument (no well-controlled studies of drug use patterns for prescribing psychologists exist), prescribing psychologists may be more abstemious in their use of drugs than purely medically-trained colleagues (Sammons, 2016). Psychologists have the advantage of being trained in non-medical models, thereby potentially lessening their reliance on unimodal pharmacological interventions. Additionally, psychologists are trained to conceptualize patient problems from a biopsychosocial, not medical, point of view, increasing the salience of non-pharmacological interventions (McGrath, 2011). In many settings where unimodal drug treatment is endemic, such as the treatment of depression in primary care (Olfson & Marcus, 2009), prescribing psychologists may have a disproportionate influence on reducing overreliance on drug treatment (McGrath & Sammons, 2011).

References


c. consultation:
Clinical Psychologists are trained extensively in the importance of inter- and intra-professional consultation. Consultation and collaboration define the success of a patient, whether because of the need to reconcile medications used for more than one health condition (i.e., hypertension and anxiety) or to ensure that patients with substance abuse disorders are not receiving multiple prescriptions for addictive medications.

d. supervision

A major component of licensure to prescribe is experiential or practicum training. The number of hours of training and number of patients required vary by state law.

For New Mexico:

- 80-hour practicum in clinical assessment and pathophysiology
- 400 hours supervised practicum treating no fewer than 100 patients

For Louisiana:

- Three years of experience practicing as a medical psychologist. For those individuals licensed under R.S.37:1360.55(A), such experience shall be deemed to have commenced with the issuance of the original certificate of prescriptive authority issued by the Louisiana State Board of Examiners of Psychologists.
- Treatment of a minimum of one hundred patients including twenty-five or more involving the use of major psychotropics and twenty-five or more involving the use of major antidepressants which demonstrate the competence of the medical psychologist.

For Illinois:

- A full-time practicum of 14 months supervised clinical training of at least 36 credit hours, including a research project; during the clinical rotation phase, students complete rotations in Emergency Medicine, Family Medicine, Geriatrics, Internal Medicine, Obstetrics and Gynecology, Pediatrics, Psychiatrics, Surgery, and one elective of the students' choice

For the military and Indian Reservations:

- Clinical psychologists need to participate in a psychopharmacology practicum for eight (8) hours per week for at least one-year. The total amount of hours per year is at least 400 hours.
- A minimum of 100 separate patients.

e. research and inquiry:

The core of this petition for specialty recognition of psychopharmacology as a specialty area of practice lies with the fact that any psychologist who actively prescribes psychopharmacological agents does so only as a result of knowledge and training acquired by no other component of the profession. This is an absolutely unique aspect of psychological practice that is reproduced in no other specialty area in the field. Prescribing psychologists typically are neither researchers in psychopharmacology nor are they clinicians with a fount of general knowledge regarding psychotropic medications that is presumed to be a component of doctoral education in the field and which has been addressed in previous recognition of psychopharmacology as a proficiency area for psychology. The key distinction is that psychologists proficient in psychopharmacology possess sufficient knowledge up to the
consultation level (previously called Level II training under the original APA taxonomy for psychopharmacology; Smyer et al., 1993) but those who incorporate the prescription of psychopharmacological agents into psychological service provision practice at the specialty level, which is defined by a unique curriculum and training sequence (described elsewhere in this document) possessed by no other psychologist.

f. public interest:

The profession of prescribing psychology was borne of a need to provide better and more complete pharmacotherapeutic care to patients in a variety of underserved areas. At the time that the petition for recognition of psychopharmacology as a proficiency area in psychology was initially approved in 1998, eleven psychologists had recently completed or were in the process of completing the Department of Defense’s Psychopharmacology Demonstration Project because the need for prescribers in the military. When the petition was renewed in 2008, the ability of psychologists to prescribe psychotropic medication had been specifically delineated in the credentialing instructions of the U.S. Navy, U.S. Army, and U.S. Air Force. Psychologists had been granted legislative authority to prescribe in the states of Louisiana and New Mexico.

As of 2017, three more states have enacted legislation allowing appropriately-trained psychologists to prescribe and 18 states are somewhere in the process of seeking legislative authority. Today, psychologists also actively prescribe under federal jurisdiction in the United States Public Health Service and the Federal Indian Health Service and all three military medical departments. Four training programs have been designated by APA, an additional one begins training on January 8, 2018 and at least two others are being created to begin training in 2019 to provide specialty education to psychologists wishing to prescribe.

g. continuing professional development

A variety of resources to maintain skills and stay updated to deliver high quality psychopharmacological and integrated services is readily available. Every state’s licensing requirements include continuing education for renewal of licensure. Those states with enabling statutes authorizing qualified psychologists to prescribe have additional continuing education requirements that are particular to the psychopharmacology realm.

h. any relevant additional core professional practice domains.

3. Identify professional practice activities associated with the specialty in each of the following domains and how they differentiate and where they might overlap with other specialties.
   a. assessment:

   In the preliminary assessment, it is necessary to determine if a psychopharmacological intervention is appropriate to the problem at hand. Then, an assessment of the physiological status of the patient is required to determine if drug treatment can be safely undertaken. An assessment of physiological status may be cursory in the case of many patients, inasmuch as these patients will also be receiving services from a primary care medical provider. In other instances, however, it will remain incumbent upon the consultant to determine that due
diligence is observed in recommending the assessment of particular variables that may not be in the knowledge base of many primary care providers. For example, has a complete ophthalmologic consultation been obtained prior to starting certain antipsychotic or antidepressant drugs to rule out angle closure glaucoma? Has a baseline electrocardiogram been obtained? Assessment of other factors placing patients at risk for various pharmacological interventions must be accomplished (for example, eliciting a history of eating disorder in a patient for whom bupropion may be prescribed or substance abuse in a patient to be treated with benzodiazepines).

b. intervention:

Prescribing psychologists’ skills in assessment and diagnosis results in improved utilization of psychotropics, and may result in reduced reliance on drug treatment alone. While there is insufficient evidence to date to provide definitive support for this argument (i.e., no well-controlled studies of drug use patterns for prescribing psychologists exist), prescribing psychologists may be more abstemious in their use of drugs than purely medically-trained colleagues (Sammons, 2016). Psychologists have the advantage of being trained in non-medical models, thereby potentially lessening their reliance on unimodal pharmacological interventions. Additionally, psychologists are trained to conceptualize patient problems from a biopsychosocial, not medical, point of view, increasing the salience of non-pharmacological interventions (McGrath, 2011). In many settings where unimodal drug treatment is endemic, such as the treatment of depression in primary care (Olfson & Marcus, 2009), prescribing psychologists may have a disproportionate influence on reducing overreliance on drug treatment (McGrath & Sammons, 2011).

Psychologists who utilize pharmacotherapy in conjunction with psychotherapy rely on a body of literature that suggests that combination treatment of drugs and psychotherapy or behavioral treatment results in improved short- and long-term outcome. There are, however, significant methodological challenges involved in determining the outcome of both psychotherapy-versus-medication and combined-versus-unimodal treatment. Such challenges have been succinctly detailed in a meta-analysis by Huhn et al. (2014). In spite of their caution that funding disparities, sample size differences, placebo comparators, and other methodological and procedural issues made direct comparisons difficult, these authors concluded, inter alia, that (a) the effect sizes of both pharmacological and psychological therapies were generally modest, (b) that psychotherapy had a larger acute effect size than pharmacotherapy, and that maintenance drug treatment yielded larger effect sizes than acute treatment. Importantly, their review of 12 meta-analyses of combined treatments for most major disorders, including schizophrenia, depression, dysthymia, panic disorder, and bipolar disorder trended in favor of combined treatments, which were deemed superior in 7 of the studies reviewed.

Other meta-analyses confirm not only the effectiveness of combined interventions for a variety of conditions, but that they are often preferred over unimodal treatments by patients and that their long-term efficacy is improved over unimodal interventions. Cuijpers et al. (2010) concluded on the basis of a 16-study meta-analysis that combined treatments for depression were superior to unimodal treatment or placebo for depression, and other large meta-analyses demonstrate that the addition of psychological interventions to pharmacology or treatment as usual is effective in preventing recurrence of depression (Biesheivel-Leliefield et al., 2015). A smaller meta-analysis of 9 studies comparing combined interventions against pharmacotherapy alone found a non-statistically significant superiority of combined
Having made the decision to use drugs, it is then necessary to determine if a drug treatment should be used alone or in combination with other behavioral or psychological interventions. At that point (the acute stage of pharmacologic treatment), the clinician must decide how pharmacologic treatment is to be incorporated into the overall treatment plan. At what point is it initiated? How are doses calculated to avoid initiation side effects and conversely, how are discontinuation side effects managed? How is the patient’s progress through the various stages of drug treatment gauged, and doses adjusted accordingly? Informed consent, including detailed explanations of the limitations of pharmacological treatment, as well as potential risks, benefits, side effects, duration of pharmacologic treatment, and expected goals of treatment must be provided to the patient. If laboratory monitoring of therapeutic drug levels is indicated, it must commence at this stage.

In the continuation stage of treatment, after initial presenting symptoms have resolved, remaining symptoms of the disorder should be behaviorally assessed. The effects of pharmacologic treatment must be assessed, including desired as well as undesired medication effects, the suitability of selected psychosocial strategies evaluated. Decisions regarding continued drug treatment, not only selection of appropriate pharmacological agent at the appropriate dose, must be periodically revisited. Such decisions include detection of concomitant medical issues that affect use of drugs, ordering and interpretation of laboratory tests, and assessment of treatment response throughout the continuation phase.

In the maintenance phase of treatment, a primary task is to monitor the strength of recovery and be vigilant for signs of relapse. The burden upon the psychopharmacology consultant here is to recommend dose titrations, and, when symptoms warrant, the appropriateness of discontinuing drug treatment. When this decision is made, evidence of discontinuation syndromes (e.g., withdrawal, rebound, or recurrence of the original disorder) must be noted and appropriate pharmacological and psychosocial strategies for managing discontinuation syndromes implemented.

In the final analysis, it is important to recall that much of the practice of clinical psychopharmacology is conducted without clear scientific guidance. Major controversies continue to exist over fundamental issues, such as efficacy of antidepressants versus psychotherapy. Other practice issues, such as the recognized existence of a large placebo effect in the pharmacological treatment of essentially all mental disorders, or the absence of any specific understanding of the mechanism of action of pharmacological agents (Moncrieff, 2016), will continue to impede a closer connection of science and practice in this field. It is thus incumbent upon consultants in clinical psychopharmacology to keep abreast of developments in the science in all spheres of clinical practice: pharmacological, psychological, and social.

c. consultation:

1. Common Prerequisites: In all disorders and developmental groups addressed, the following basic knowledge is presumed: In addition to prerequisite credentials, such as the completion of a doctoral degree in psychology and licensure to practice as a psychologist, Smyer and his colleagues (Smyer et al., 1992) set forth the basic parameters for specialized training in consultancy as follows:

   [This] training includes in-depth knowledge of the pharmacology of psychoactive medication and drugs of abuse, but it also includes knowledge of psycho-diagnosis, physical assessment, physical function
tests, drug interactions, and drug side effects. Training for [this level of] ... competence includes practical training beginning with psychopharmacology practica in the doctoral program, a psychopharmacology focus in the internship, and extensive on-the-job training coupled with ongoing continuing education... (page 58).

Training in each of the content areas mentioned below should, as advised by Kilbey et al. (1997) include advanced understanding of the nature of collaborative relationships between prescribers and consultants, and the particular legal and ethical issues which attend such relationships. When the patient population is below the age of legal consent, or when custodial issues are involved, issues of assent, third party consent, and developmentally appropriate competency assessments must be addressed in training. Such instances include, in addition to those below the legal age of consent, patients with mental retardation or neurocognitive deficits. Finally, Brown et al. (2008) note that in-depth multicultural competence training should be mandated in all pre-service and in-service settings. Sensitivity to cultural expectations in prescribing is required (e.g. Chaudry, Neelam, Duddu, & Husain, 2010) and the potential for ethnically mediated metabolic differences (Malik, Lake, Lawson & Joshi, 2008) should be kept in mind.

2. Consultancy in Child and Adolescent Psychopharmacology: Psychosocial and psychopharmacological evidence-based treatments for childhood disorders must be a part of all curricula for practicing psychologists working with children and families. Regardless of the discipline, a working knowledge of both current psychopharmacology and psychosocial therapies is of paramount importance for all professionals involved in the treatment of child and adolescent disorders (Brown et al., 2008). Training at both the pre- and post-doctoral level should include principles of clinical psychopharmacology and a working knowledge of current literature on pharmacological treatment efficacy. Brown et al. (2008) also have recommended that coursework, training practica, and internships should include skill development in the procedures and instruments that are evidenced-based for monitoring client and patient outcomes in both clinical practice and clinical trials, including symptom change, functional outcomes (both positive and negative), and adverse side effects.

Training at the post-doctoral level must be organized to further the development of skills in the implementation of evidence-based psychopharmacological treatments, consistent with current training guidelines for post-doctoral fellowships for child and adolescent psychology (Brown et al., 2008). Continuing education for child and adolescent practitioners and training faculty must emphasize contemporary evidence-based strategies in the treatment and management of childhood disorders. Practitioners must be taught systematic methods for monitoring medication efficacy, and especially the evaluation of potential adverse side effects and functional outcomes. It is essential that continuing education include training emphasizing the collaboration with other treatment team members, including physicians, school personnel, caregivers, and others involved in the comprehensive care of children and adolescents. Finally, psychologists also must be taught to develop treatment plans and discuss risk-benefit analyses collaboratively with parents, adolescents, and sometimes children for the purpose of facilitating informed-decision making for treatment plans.

Proficiency in this area will be demonstrated by adequate academic preparation in basic and clinical psychopharmacology and the completion of an approved practical experience that involves extensive exposure to the target population (children with mental retardation, or
pervasive developmental disorders, for example). Prerequisite experience will include appropriate doctoral and postdoctoral training in child psychology.

3. Consultancy in Mental Retardation and Developmental Disabilities Across the Life Span:
Since most, but not all, competencies required of practitioners in this area are developmentally sensitive, this practice area is appropriate to address both in pediatric and adult populations. In children and adolescents, psychopharmacological adjuncts are often utilized in the management of mental retardation and the treatment of pervasive developmental disorder, and variants such as autism, Asperger's syndrome, and others. In particular, antipsychotic agents have been employed to reduce self-destructive behavior. Randomized controlled studies strongly support the efficacy of antipsychotics and stimulants in decreasing symptoms of disruptive behavior in children (ages 5 and older) and adolescents. The effect sizes of antipsychotics are large and that of stimulants are more modest. The specific effect of psychotropics on these children's functional outcomes is less clear (McDougle et al., 2005). Psychosocial and psychopharmacological interventions are often used in combination, although little is known about the interactions between these two treatment modalities. For example, whether medications enhance the efficacy of psychosocial treatment or whether psychosocial treatment allows medication to be discontinued eventually without concurrence of symptoms is unclear. Consultants will be required to demonstrate knowledge of the use of specific pharmacological agents in this population, including such variables as age appropriate serum drug levels. There is a greater chance that patients in this category will also experience some inborn metabolic abnormalities, or have other congenital abnormalities that may affect drug disposition and metabolism. Therefore, focus on variations in physical functioning and accurate assessment of such variables will be an important component of training, as will be the ability to design developmentally appropriate behavioral regimens that can complement pharmacotherapy.

Separate skills and competencies are required when working with developmental disabilities across the lifespan. Issues pertaining to children and adolescents are described above. Expertise in the development of life stage appropriate biobehavioral interventions for adults with mental retardation or other developmental disabilities is necessary. Acquisition of a distinct knowledge base is required when working with adults and elderly populations suffering from dementing disorders or trauma victims with resultant neurocognitive sequelae. These skills include the physical and psychosocial assessment of elderly patients and the use of all drug classes used in the treatment of dementing disorders. Intimate knowledge of common metabolic derangements and predicted pharmacokinetic and pharmacodynamic changes in older age groups is a core skill in working with such populations.

d. supervision:
e. research and inquiry:
f. public interest:
g. continuing professional development:
h. any relevant additional core professional practice domains.

A specialty differs from other recognized specialties in its body of specialized scientific knowledge and professional application.
Initial Commentary

While it is recognized that there will be overlap in the knowledge and skill among various specialties in psychology, the petitioning organizations must describe the specialty in detail to demonstrate that it is distinct from other recognized specialties in the knowledge and skills required, the need or population served, problems addressed, and procedures and techniques used. Note: The specialty of prescribing psychology was first delineated in documents emanating from various APA work groups (Smyer et al., 1992; Kilbey et al., 1997). That taxonomy has become accepted and formed the basis for the granting of a proficiency area in psychology. A proficiency and a specialty in psychology perforce share common characteristics. In acknowledgement, some material in this section reflects that contained in the previous petition on which the proficiency was granted.

Distinction

The specialty of prescribing psychology, which entails completion of a post-doctoral educational sequence (generally resulting in the conferral of a post-doctoral master’s degree in clinical psychopharmacology), plus a supervised training sequence, is limited to those psychologists who engage in such by virtue of specialized post-doctoral education and training and unique provisions in psychology practice acts or regulations that allow them to prescribe medications. Recognition in statute or credentialing instruction (in the case of those prescribing psychologists practicing under federal authority) is, to our knowledge, unique in the profession. Other psychologists who practice in a specialty area do so under a general license to practice psychology, and are not governed by specialty education and training requirements enshrined in law or federal regulation. The American Psychological Association (APA) has developed criteria for official designation of post-doctoral education in clinical psychopharmacology, of which four are currently designated (Fairleigh Dickinson University, California School of Professional Psychology/Alliant International University, New Mexico State University, and University of Hawai’i School of Pharmacy at Hilo (APA, 2012). This process regulates applicants, curricula, and outcomes for post-doctoral programs so designated, and includes, inter alia, the following criteria:

Participants. Participants include graduates of doctoral programs in psychology, those holding a current license to practice as a psychologist, and those who practice as a "health service provider" as defined by the APA.

Curriculum. Components of the curriculum include 400 contact hours in the following domains: Basic Science (anatomy, physiology, biochemistry); Neurosciences (neuroanatomy, neurophysiology, neurochemistry); Physical Assessment and Laboratory Exams (physical assessment, laboratory and radiological assessment, medical terminology and documentation); Clinical medicine and pathophysiology with emphasis on cardiac, renal, hepatic, neurologic, gastrointestinal, hematologic, dermatologic, and endocrine systems; Clinical medicine (emphasis on signs, symptoms, and treatment of disease states with behavioral, cognitive, and emotional manifestations or comorbidities); Differential diagnosis; Clinical correlations; Substance abuse and co-occurring disorders; Chronic pain management; Clinical and research pharmacology and psychopharmacology (pharmacology, clinical pharmacology, pharmacogenetics, psychopharmacology, developmental psychopharmacology, diversity in pharmacological practice); Clinical pharmacotherapeutics (combined therapies, computer-based practice aids, pharmacoepidemiology); Research (method and design of psychopharmacologic research, research interpretation and evaluation, FDA drug development and other processes); and Professional, ethical, and legal issues (applications of existing law and standards, relationships with pharmaceutical industry,
conflict of interest, evaluation, marketing practices, critical consumer).

An estimated 500 students have completed the postdoctoral master’s degree in clinical psychopharmacology, which most enabling jurisdictions require. Illinois requires the completion of the APA-approved curriculum in clinical psychopharmacology (CP); however, according to state law, Illinoians can complete their CP curriculum while they are completing their doctoral program rather than waiting for their postdoctoral years. Psychologists must also pass the Psychopharmacology Examination for Psychologists (PEP), which was previously housed and administered by the APA Practice Organization’s College of Professional Psychology. A updated and revised examination, named the PEP-2, has been developed by the Association of State and Provincial Psychology Boards (ASPPB) and will be available for administration beginning in 2018. Four APA-designated training programs exist to train such psychologists with a fifth starting its first cohort in January 2018 and two others plan to start fall 2019.

In the proficiency petition that forms the basis of this specialty document, it was noted that an early APA task force (Kilbey et al., 1997) had elected to frame the proficiency in terms of a population-based approach encompassing children and adolescents, the seriously mentally ill, older adults, and individuals with compromised intellectual ability or developmental disabilities. It was argued at the time that a disorder-based approach would be too restrictive and not adequately describe the practice of most psychologists.

As psychologists have expanded their ability to prescribe, however, it becomes clear that a disorder-based approach is required in order to more precisely describe the activities of those psychologists who are engaged in the prescription of psychotropic medication. While population-based approaches are always necessary, such a vantage point is of greater utility in describing the broad set of knowledge that all practicing psychologists should acquire regarding psychotropics; in other words, the fund of knowledge expected by those psychologists with a proficiency, rather than a specialty, in prescribing psychology. A more specific, disorder-based approach is therefore required to adequately describe the activities of prescribing psychologists.

The mental health workforce, including practicing doctoral-level psychologists, has long been deemed inadequate to meet demand. According to data provided by the U.S. Health Resources and Services Administration (HRSA, 2016) there are approximately 4,581 mental health provider shortage areas in the United States, with low population and geographically-remote areas being differentially affected. The number of practicing psychiatrists in the United States declined by 4% between 2008 and 2014, from 38,857 to 37,296 (American Association of Medical Colleges, 2014). In terms of access, this number represents a functional decline of over 10% (Bishop, Seirus, Pincus, & Ross, 2016). This means that, variations in geographic accessibility aside, there is approximately 1 psychiatrist per 8,900 U.S. citizens. The shortage for child and adolescent psychiatrists is even more acute. There are approximately 8,000 child and adolescent psychiatrists in the United States, with projections suggesting that between two and three times this number is needed to provide an adequate workforce. As with adult psychiatrists, geographic maldistribution is significant and further complicates access by a significant number of citizens (American Academy of Child and Adolescent Psychiatry, 2014). The only other healthcare profession with prescriptive authority is that of mental health advanced nurse practitioner. There are approximately 11,900 who claim a specialty in mental health (American Association of Nurse Practitioners, 2016).
The need for a specialty designation in psychopharmacology can be summarized by the following (from Sammons, 2016): (a) The needs of patients with mental health problems continue to be unmet, particularly in rural or impoverished areas or among traditionally underserved groups; (b) As noted above, the number of psychiatrists, both adult and child/adolescent, and other mental health specialists with prescriptive authority needed to treat these patients has not risen to meet demand; (c) Most mental health services are now provided in primary care settings by non-mental health providers, whose sole intervention is generally pharmacological, although data are clear that treatment of mental disorders with medication alone (in instances where a prescription is warranted) provides suboptimal relief and yields poorer long term outcomes; (d) In contrast to practitioners trained in the medical model, prescribing psychologists are trained to provide a range of both pharmacological and non-pharmacological interventions in cases where combined treatments are warranted.

Problems and Procedures

Specific populations. In 1997, the APA Board of Educational Affairs (BEA) Working Group on Psychopharmacology Education and Training published its final report (Kilbey et al., 1997). This group identified four specific populations as foci of work for psychologists consulting in clinical psychopharmacology: Children and adolescents, the seriously mentally ill, older adults, and individuals with mental retardation or developmental disabilities. It is worth noting that the Working Group eventually agreed that a lifespan or developmental approach to disorders and populations would be most appropriate for consulting psychopharmacologists. The Working Group, however, also debated at length the merits of a disorder-specific approach to classifying skills and knowledge domains of psychologists engaged in this endeavor. After considerable discussion, it was eventually decided that a disorder-specific approach would be too restrictive and would not adequately describe the practice of most psychologists. While such an approach was arguably suitable for a discussion of a proficiency, which does not presume the direct clinical application of psychopharmacological agents, it is clear that in describing a specialty, it is essential to adopt a disorder-specific approach. In this major respect, a petition for a specialty differs fundamentally from that for a proficiency.

With this prologue, we will now address some of the more common presenting problems likely to be encountered by the prescribing psychologist. This list cannot presume to be exhaustive; however, a brief synopsis of evidence and interventions rendered by prescribing psychologists will be detailed for three major categories of mental distress: depression, anxiety, and psychosis. Special areas of practice within each of these will be summarized (childhood depression, depression or psychosis in pregnancy or bipolar disorder, anxiety in children). Although there are other areas that the prescribing psychologist will routinely address (e.g., pharmacological management of the patient with dementia), such considerations are beyond the scope of an introductory review of the practice range of prescribing psychologists.

Somewhat paradoxically, the list of special problems and populations addressed in a petition for a specialty in prescribing psychology is more circumscribed than that in a petition for a proficiency in psychopharmacology. The latter presumes, as earlier discussed, a broad range

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2 Consultancy in clinical psychopharmacology begs definition of the consultee, here and elsewhere, the psychologist is presumed to be acting as consultant to any health care provider authorized as an independent prescriber of medication.
of knowledge enabling the psychologist to consult with a duly-authorized prescriber regarding optimum treatment regimens. Thus, a consultant might recommend a long-acting opioid for a patient with injectable opioid dependence, or a biguanide for a patient with diabetes and obesity. Since, however, the prescribing psychologist is limited to a defined formulary that does not include opioids or non-psychotropic substances, the prescriber’s activities within the specialty are more limited.

**Disorder-Specific Description of a Specialty in Prescribing Psychology**

_Psychosis_. Three main questions that currently lack definitive answers face the psychologist tasked with pharmacological management of psychosis. The first is whether pharmacotherapy alone is a sufficient intervention for most forms of psychosis. The second involves the choice of agent; the third, and perhaps the most challenging, regards the type of psychosocial intervention that is likely to be most effective for such patients. Here, patient reports are informative, and there are few better patient self-reports than that of Dr. Elyn Saks, whose narrative *The Center Cannot Hold* (2008) illustrates how long-term stability, if not recovery, can be accomplished via the judicious use of pharmacological interventions in the context of a deeply-supportive psychotherapeutic relationship.

Due to cognitive disorganization and other factors, however, many patients with psychotic spectrum disorders may not be amenable to traditional psychotherapy. Most studies of psychotherapeutic interventions to improve cognitive processes, often via the use of Cognitive Behavioral Therapy for Psychosis (CBTp) have not been demonstrated to be terribly effective, although the data are mixed and single trials tend to be more optimistic than meta-analyses (e.g. computer-assisted cognitive therapy; Chan, Hirai, & Tsoi, 2015 and metacognitive training in schizophrenia; Moritz et al., 2014). A recent Cochrane review of short term CBTp found a paucity of studies for any form of cognitive intervention (Naeeem, Farooq, & Kingdon, 2015) and could not recommend an established protocol. Indeed, achieving even more basic goals, such as reductions in violent behaviors via the use of psychotherapeutic techniques has been challenging (Rampling et al., 2016). Studies of other variants of nonpharmacological interventions are also not encouraging (van Oosterhout, Smit, Krabbendam, Castelein, Staringet & van der Gaag, 2015). It is equally true, however, that pharmacological interventions for cognitive dysfunction in psychosis have not proven to be terribly beneficial (Vreeker, van Bergen, & Kahn, 2015).

Some hopeful data have begun to emerge. A group-delivered cognitive and socially-based intervention was demonstrated to reduce hospitalization and improve medication adherence (Multi-Family Group Intervention; Kopelowicz et al., 2015). Other studies using cognitive behavioral approaches to components of psychotic spectrum disorders (e.g., delusions; Mehl, Werner, & Lincoln, 2016) have shown some efficacy for such approaches, but no more than for other psychological interventions. This being said, at present there remains little evidence that specific treatments like CBT prevent relapse or change overall mental status (Jones, Hacker, Crmac, Meaden, & Irving, 2012).

In sum, the best evidence to date suggests that both psychotherapeutic and pharmacological interventions for some of the core difficulties in psychosis, including amotivation, cognitive dysfunction, and similar challenges, have yet to develop a substantial evidence base. This is not to say they should not be attempted, as such interventions may prove to be highly effective in individuals and, as some have argued, their efficacy may approach that of more established pharmacological treatments while being devoid of the negative side effects of
antipsychotics (Muller, Laier, & Bechdolf, 2014; Rampling et al., 2016). Prescribing psychologists should, then, perhaps set goals that while modest do have an evidence base, such as interventions to improve medication adherence or reduce risk of rehospitalization.

As the brief synopsis of nonpharmacological interventions in psychosis presented above attests, studies of combined treatments in psychotic spectrum disorders are less common and plagued by small sample sizes and methodological challenges. When considering a choice of medication, the clinician must determine whether a patient will respond well in terms of both clinical improvement and absence of debilitating side effects to either a first- or second-generation antipsychotic agent. Answering the second question is made complex by the fact that second-generation antipsychotics now dominate the marketplace, although this domination has not been achieved by their improved outcome or side effect performance (Sammons, 2016; Gallini et al., 2013; Hermes, Sernyak, & Rosenheck, 2012). In spite of this dominance, most comparative studies fail to demonstrate a significant clinical advantage for second-generation agents.

Additionally, challenges with antipsychotic treatment that lead to patient non-adherence and relapse complicate our understanding of the effectiveness of such agents. As the well-known CATIE (Clinical Antipsychotic Trials of Intervention Effectiveness; Lieberman, Stroup, McEvoy, Swartz and Rosenheck 2005, et seq.) have demonstrated, most patients prescribed antipsychotics do not tolerate such medications well, and overall evidence of effectiveness is limited. The CATIE trials evaluated effectiveness of first and second generation antipsychotic drugs in a very large multisite trial where patients were randomly assigned one of 5 antipsychotic agents, but received no other form of treatment. Three-quarters of patients assigned to any drug discontinued prematurely due to lack of efficacy or side-effects. Weight gain and metabolic dysregulation were the predominant side effects (Lieberman, Stroup, McEvoy, Swartz, & Rosenheck, 2005). Evidence supporting the incorporation of psychosocial or psychological treatments in the management of chronic psychotic disorders is less robust than in depression, in part due to disappointing high rates of relapse and recurrence in these often relapsing conditions. In must be remembered, however, that the same observations apply for pharmacological indications. The findings of the landmark review by Hegarty et al. (1994), demonstrating that the addition of specific antipsychotics had done little to improve overall improvements rates in schizophrenia, was extended by the results of the CATIE trials which provided empirical support for the observation that response rates to any class of antipsychotics remained low. Nevertheless, a clinical and research bias in favor of psychotropic medications as the only effective intervention for psychosis persisted in treatment circles, and this bias is in part responsible for the paucity of good studies examining efficacy of non-pharmacological interventions in psychosis.

The question of the relative safety and efficacy of the first and second-generation antipsychotics has perplexed clinicians for some years. Although second-generation agents have essentially completely supplanted first generation agents, there is little clinical data to indicate that their use is superior to earlier agents either in terms of effectiveness or side effect profile. In the CATIE trials cited above, for example, response to the first generation agent perphenazine was not significantly different than to most second-generation agents (McEvoy et al., 2006). The central question, then, is whether the addition of non-pharmacological interventions will improve the record achieved with pharmacological management alone. This question must be subdivided to accommodate the various psychotic and pre-psychotic clinical presentations, ranging from prodromal or first-episode psychosis to chronic schizophrenia, from fixed delusional disorders to acute schizophrenic and manic
episodes, including maintenance or preventive treatment for each disorder. The data, while incomplete, are sufficiently robust that the National Institute for Clinical Excellence (NICE) has promulgated guidelines for management in each phase. For example, individual cognitive behavioral therapy, with or without family intervention, is recommended for prodromal psychosis; an antipsychotic medication plus additional interventions to deal with the psychic trauma of experiencing psychosis for first psychotic episodes, and CBT plus family intervention plus medication for subsequent acute psychotic episodes (clozapine is specifically recommended for those who have not responded adequately to at least two prior antipsychotics; NICE, 2014).

Special populations with psychotic spectrum disorders

**Pregnancy.** As in the case of antidepressant use in pregnancy, the risk-benefit calculus for drug treatment during pregnancy must be weighed carefully. Potential maternal and fetal risk associated with antipsychotic use must be balanced with the need to provide maternal stability throughout the pregnancy. Surprisingly little information exists to guide clinicians in this area, however, associations between antipsychotic use and low birth weight or fetal withdrawal syndromes have been demonstrated (Gentile, 2010). A recent analysis of use of second generation agents were associated with an increased tendency towards events such as gestational diabetes and preterm delivery, but in general a larger adverse impact on mothers or neonates was not observed (Vigod, Gomes, Wilton, Taylor, & Ray, 2015), providing some reassurance regarding their judicious use in pregnancy. There is no evidence to suggest that the second-generation agents are any safer in pregnancy than earlier, and such agents may be more likely to cause metabolic difficulties that can complicate pregnancy. Thus, while most psychotropics have been deemed to be relatively safe in pregnancy, psychopharmacological management of the pregnant patient with psychosis requires special skill, balancing the needs for effective symptom control with maternal and fetal health (Chisolm & Payne, 2015; Wichman, 2016). Such skills are addressed in the designation criteria for post-doctoral psychopharmacology training.

**Children and Adolescents.** Recent data suggest an alarming increase in the rate of prescription of antipsychotics in youth. Olfson, King, and Schoenbaum (2015) reported a significant increase in overall prescriptions in antipsychotics in children, adolescents, and young adults since the 1990s, albeit reporting some evidence that this trend was abating in the period from 2006-2010 in those younger than age 12. Despite this decline (which the authors speculated was due to increased awareness of the physiological and developmental risks associated with antipsychotic prescription in young children), significant numbers in each of these groups were prescribed antipsychotics. In general, such prescriptions were not for psychotic spectrum disorders, but age-limited behavioral problems. The majority of prescribed children neither had a mental health disorder diagnosis nor were their prescriptions written by psychiatrists. Childhood-onset psychosis is rare, and consequently the treatment literature is not particularly well-represented with controlled studies (Lachtman, 2014). Misdiagnosis is common, and few accurate rubrics exist for assessing childhood-onset schizophrenia (Greenstein, Kataria, Gochman, Dasgupta, & Malley et al., 2014).

The evidence for the efficacy of antipsychotics in youth, particularly for non-psychotic spectrum disorders, is in general limited (Sikich et al., 2008; Loy, Merry, Hetrick, & Stasiak, 2012), so any increase in their use should be viewed with some concern. Additionally, specific developmental issues must be addressed in the prescription of antipsychotics to children and
youth. In addition to significant weight gain observed in the analyses by Sikich (2008) and others, the well-described effect of dopaminergic antipsychotics on the neurohormone prolactin, which may result in gynecomastia in males and other undesirable effects, should be considered (e.g., Druyts, Soratti, Toor, Wu, Kanji, et al. 2016). Other developmental considerations include the effects of sedating drugs on school performance (van der Schans, Vardar, Cicek, Bos, Hoekstra, de Vries et al., 2016).

In addition, there also are anecdotal reports of cognitive side effects, including problems with word retrieval, working memory, and cognitive dulling (Kowatch et al., 2005). Neuroleptics may also be associated with a shortened life span (Joukamaa et al., 2006). Other less frequent but problematic adverse effects associated with various antipsychotics that require careful monitoring include abnormal involuntary movements and prolactin elevation, cardiac conduction effects, and hematological and neurological adverse effects and neuroleptic malignant syndrome (e.g., Gogtay, Sporn, Alfaro, Mulqueen, & Rapoport, 2002; Wudarsky et al., 1999).

Pediatric prescribing psychologists who manage children with antipsychotic agents need to be aware not only of these medications, their indications, risks and benefits, but issues surrounding the use of adjuvant medications that often are required to manage unwanted side effects. The risk of tardive dyskinesia is particularly troubling. Exposure to antipsychotics in childhood has been associated with tardive dyskinesia (Garcia-Amador, Merchan-Naranjo, Tapia, Moreno, & Castro-Fornieles, et al., 2015) and by definition childhood exposure increases lifetime cumulative risk of developing this and other long-term side effects. Knowledge of legal and ethical issues involved in the administration of drugs with potentially disabling long-term side effects is therefore requisite. In this, as in all areas of specialty practice in prescribing psychology, the ability to integrate pharmacological management into a comprehensive behavioral regimen, that may include individual and family psychosocial intervention, is essential. Again, while definitive evidence is lacking, incorporation of psychosocial elements into the treatment plan apparently does lead to greater patient adherence, and although effect sizes are small to modest, use of cognitive behavioral therapies may improve outcome, although specific forms of CBT, such as CBTp, do not have an evidence base. Nevertheless, the evidence is of sufficient strength that CBT and other psychosocial treatments have been incorporated into standardized guidelines (NICE, 2014). In using such interventions, the NICE guidelines wisely stress the centrality of addressing the trauma experienced by patients with the life-changing nature of a psychotic episode.

**Depression**

Psychologists working with antidepressants must demonstrate mastery of three knowledge bases. The pharmacologic knowledge base requires expert knowledge of the pharmacology of antidepressants: their pharmacokinetic and pharmacodynamic properties, their interactions with other drugs, and, to the extent it is known, their mechanisms of action. The pharmacobiologic domain requires expert knowledge of the effects of antidepressants on multiple organ systems, clinical knowledge of their use in various states of health and disease, and gender, ethnocultural and lifespan considerations. The applied domain requires the ability to appropriately select the optimum form of treatment, including, when known, the optimum agent when a choice between antidepressants is required. This domain will also require that psychologists understand how to best assess patient characteristics, symptom presentation, and preference for a particular form of therapy in selecting the appropriate intervention.
There is little evidence in the literature to support the superiority of either cognitive, pharmacological, or a combination of the two approaches in treating unipolar depression, a finding that has persisted for over 20 years (e.g., Rush & Hollon, 1991). Therefore, clinicians must often rely on patient choice in selecting the appropriate treatment. Thus, the ability to educate patients about the most appropriate form of therapy is essential. In doing so, psychologists must consider a number of factors. Severity of depression is not a reliable gauge in choosing between psychological and pharmacological treatments (Antonuccio, Danton, Greenberg, & Gordon, 1999; Mynors-Wallis, Gath, Lloyd-Thomas, & Tomlinson, 1995; Schulberg, Pilkonis, & Houck, 1998).

The current pharmacopoeia for depression is primarily comprised of the serotonin reuptake inhibitors (SRIs), the serotonin and norepinephrine reuptake inhibitors (SNRIs), the aminoketone agent bupropion, the noradrenergic and specific serotonin agent (NASSA) mirtazapine, and several others. Of these, the SRIs and SNRIs dominate the marketplace. These drugs have the advantage of sharing the same efficacy profile as any other class of antidepressant (a recurrent theme in psychopharmacology is that with few exceptions, all drugs in any class of medication, while differing in terms of dose, side effect profile, and toxicity, are of equal efficacy). Older agents, such as the monoamine oxidase inhibitors and tricyclic antidepressants maintain their Food and Drug Administration (FDA) indication for treatment of depression, and, although they possess in general the same degree of efficacy as newer antidepressants, these drugs have largely fallen out of clinical usage due to their side effect profiles, drug-food interactions, and toxicity. Almost all antidepressants are indicated for adult use only, although off-label use in childhood is common, with as many as 40% of prescriptions for antidepressants and antipsychotics on this population being considered off-label (Larkin, Ang, Avorn, & Kesselheim, 2014).

Considerable controversy surrounds the issue of antidepressant efficacy. Beginning with work in the late 1980s, particularly that of Greenberg and Fisher (1989) that demonstrated little difference in outcome between prescribed antidepressants and placebo agents, the question of not only how antidepressants work but if they exert an independent effect has been repeatedly discussed. Kirsch and Sapirstein’s (1998) meta-analysis suggesting that active drugs contributed only around 25% of total medication response, with the remainder being ascribable to a placebo or non-specific drug effect has had considerable influence in subsequent research and practice. While a high rate of placebo response to antidepressants and other classes of mental health drugs is demonstrable and their relative efficacy vis-à-vis placebo is not as great as once presumed (Gaudiano & Herbert, 2005; Linde et al., 2015), they still produce intended, measurable, and beneficial effects in most patients (Naudet et al., 2013). In patients with mild to moderate depression, however, the benefit of antidepressants versus placebo may be small (Fournier et al., 2010).

Further complicating the placebo debate (truncated here due to space considerations), is the issue of the specificity of mechanism of action of antidepressants and other psychotropics. This issue can be summarized succinctly: Since all antidepressants (and, by extension, many other psychotropics), regardless of class or mechanism of action, are of relatively equal efficacy, their efficacy must be due to some global effect rather than a specific mechanism of action involving individual neurotransmitter systems (Middleton & Moncrieff, 2011). If this hypothesis is indeed true, it has fairly significant implications for the prescription of such agents, particularly when combined with well-supported evidence of a high rate of placebo response. Indeed, most published algorithms for use of antidepressants recommend a
generic agent, generally an SRI, for almost all depression presentations (e.g., NICE, 2016). It must also be clarified that antidepressants of a variety of classes have FDA indications for disorders other than major depression, with many being indicated for anxiety spectrum disorders, including obsessive-compulsive disorder, PTSD, social and generalized anxiety disorders, peri-menstrual or menopausal depression, and related conditions. Finally, the issue of the overestimation of the effect size of psychotropic medication in clinical trials has long been a staple of the literature. Trials sponsored by pharmaceutical firms have long used methodological and statistical manipulations to overestimate efficacy of antidepressant drugs. While this finding has also been documented for studies of psychotherapy, such findings do not invalidate ongoing concerns regarding true estimates of antidepressant efficacy (Driessen et al., 2015).

While this debate is ongoing, the practice of prescribing psychologists can be informed by both evidence of robust placebo response and the issue of nonspecificity. For example, patients with mild to moderate depression can be offered non-pharmacological intervention first, with careful monitoring to determine when and if pharmacological interventions are required. Less-costly generic drugs can be used as first-line interventions, in keeping with the guidance published by NICE and other evidence-based sources. Finally, the work of prescribing psychologists can be informed by data presented by Olfson and Marcus (2009) demonstrating not only a continued rise in the number of Americans receiving prescriptions for antidepressants, but a concomitant fall in the number of patients who receive psychotherapy for the same condition. Because most patients show a suboptimal response to antidepressants alone, and since failure of a first trial of antidepressant predicts future poor response (Trivedi et al., 2006), these epidemiological data may provide direction for prescribing psychologists capable of combining pharmacological and non-pharmacological interventions.

Several specific forms of psychotherapy (e.g. Cognitive Behavioral Therapy (CBT); (Beck et al., 1987), variations on CBT such as Behavioral Activation Therapy (Dimidjian et al., 2006; Martell et al., 2001), and Interpersonal Therapy (Klerman et al., 1995; Weissman et al., 2000) have been found to be effective for treatment of depression. However, there is still little evidence to guide clinicians in choosing the form of therapy or medication that is most likely to benefit a given patient, with what treatment to begin, and what to try if the first treatment does not succeed. Perhaps the most useful information consists of what treatment a patient has tried in the past, and which of those was most successful. Depression is a chronic, relapsing disorder, and patients have often had one or more past treatment attempts. A treatment that has succeeded or failed in the past is likely to perform similarly during a new presenting episode. Hence, clinicians should always take a history of past trials of medications or psychotherapies, recommending resuming treatments that helped in the past, and avoiding those that did not.

Another important principle of treatment of depression is to measure depressive symptoms regularly over time and to systematically augment or change treatments until a satisfying clinical response has been achieved. Regular measurement should involve a list of the patient’s main symptoms that are queried and documented at each visit; standard scales such as the Beck Depression Inventory, Hamilton Depression Scale, or Inventory of Depressive Symptoms can also be very useful in this regard. A large, multi-center clinical trial concluded a decade ago remains the standard reference regarding antidepressant efficacy. The STAR*D s studied a variety of treatment strategies, medication or CBT, for outpatients with major depression, which had failed to respond to an initial trial of the standard SSRI
antidepressant medication citalopram (Systematic Treatment Alternatives to Relieve Depression; Rush et al., 2007). All strategies tried, including switching to CBT, adding an augmenting medication, or switching to a different antidepressant medication, were about equally effective, producing small increments in the proportion of patients achieving a satisfying clinical response. This large study reinforces the value of systematically switching treatments until something is found that works. The choice of treatments for a given patient will depend on history of past treatments, patient preference, and clinical judgment, as well as considerations of safety and the patient’s overall medical status.

Two broad strategies for a patient who has failed to respond to an initial medication trial are: 1) switch to a different treatment; or 2) continue the current treatment and augment it by adding a second treatment. When switching to a different medication, clinicians will often switch to a medication with a different mechanism of action (for example switch from an SRI to bupropion, which works through norepinephrine and dopamine rather than serotonin, or to an SNRI such as venlafaxine or duloxetine, which work through both serotonin and norepinephrine. When adding a second medication to an antidepressant (termed “augmentation”), common strategies that have evidence of efficacy include adding lithium carbonate, thyroid hormone, another antidepressant (again, usually one that works by a different mechanism), or a medication to target residual symptoms, such as a sleep medication, or medication for anxiety.

A thorough diagnostic history and mental status examination is particularly important in choosing treatments for a patient with depression. The history should be carefully evaluated for evidence of past evidence of mania, hypomania, or mixed affective states that would be indicative of bipolar illness. Lithium, various anticonvulsants, or neuroleptics are indicated for bipolar illness, including for patients in a current depressive episode, and antidepressant medications, given alone, may either be ineffective, or may precipitate manic or mixed states.

Anxiety disorders frequently co-occur with depression. Anxiety disorders, including panic disorder, agoraphobia, social phobia, generalized anxiety disorder, obsessive-compulsive disorder, and posttraumatic stress disorder respond to antidepressant medications, and antidepressants are often the first line treatment. However, specific cognitive behavioral therapy techniques have been developed for each of these anxiety disorders with considerable evidence of efficacy. Buspirone, a well-tolerated, non-sedating medication working through the serotonin system, is effective for generalized anxiety disorder. Depressed patients should be assessed for signs of psychosis. Psychotic depression responds to combinations of antidepressant medication with neuroleptics, or to electroconvulsive therapy (ECT). Finally, depressed patients must be assessed for suicide risk. Significant suicide risk is an indication for hospitalization. ECT is a treatment option for severe (e.g. psychotic or suicidal) or treatment-resistant depression. Its use, however, is not within the purview of the prescribing psychologist, so the evidence (often contradictory) surrounding the use of ECT is beyond the scope of this petition.

Treatment of depression always involves a clinician-patient relationship with basic psychotherapeutic elements of emotional support and treatment alliance. Opinions on when to add medication to a psychotherapeutic regimen for depression (e.g., CBT), or vice versa, vary, with some averring that psychotherapy should not be added “until there has been a reasonable opportunity to assess response to drug therapy plus education and supportive counseling” (Janicak, Davis, Preskorn, & Ayd, 1997, p. 321). Others recommend that, for a majority of patients, 8-16 weeks of effective psychotherapy be undertaken before a trial of medication (Antonuccio et al., 1999). Patient preference is likely to play a role, as many
patients present with strong opinions as to what treatment they would like to pursue initially. Contraindications to pharmacological treatment, unavailability of competently-rendered and specific psychological interventions are other determinants of the modality to be offered to the patient suffering from unipolar depression. If combined treatments are used, there is little data supporting how they are to be deployed. Two strategies are possible: A sequential model, wherein a second modality is offered after an incomplete response is elicited by the first treatment, or a matching strategy, wherein combination treatments are offered simultaneously if assessment of the patient’s biopsychosocial status so indicates. No firm data exist supporting the preferential use of either approach. Evidence does suggest that patients who fail to improve with medication are likely to improve with psychotherapy, and vice versa (Schatzberg et al., 2005).

In spite of these uncertainties, there is evidence that the addition of cognitive behavioral treatment or another non-pharmacological intervention has a positive effect on patient outcome, although it must be said that no review has provided definitive evidence of this. A recent meta-analysis of 23 trials involving 2,184 participants is perhaps the most positive finding, concluding that combined treatments results not only in better long-term outcomes compared to medication alone, but also that psychotherapy alone may provide equivalent benefits to medication in both short and long-term outcomes (Karyotaki, Smit, Holdt-Henningsen, Huibers, & Robays et al., 2016). Other recent meta-analyses have provided confirmatory evidence supporting the integration of psychotherapy in aspects such as relapse prevention (Guidi, Tomba, & Fava, 2016). Maintenance therapy for depression is another area where psychological interventions have efficacy that approximates pharmacological intervention. Here, one well-done meta-analysis demonstrated that at least in the short- to intermediate-term (6-12 months) antidepressants are superior to placebo, but in the longer term (36 months) there appears to be little difference between drugs and placebo. At the same time, no difference in relapse was found between antidepressants alone, psychotherapies alone, or combined interventions (Wilkinson & Izmeth, 2012).

*Antidepressants in pregnancy.* Despite myriad concerns regarding maternal and fetal safety, the use of psychotropics during pregnancy is surprisingly common, although patient discontinuation during pregnancy is also common (Peterson et al., 2011). A recent analysis of insurance claims data indicated that approximately 10% of American women filled a prescription for a psychotropic during pregnancy, most often an SRI type antidepressant or an anxiolytic (e.g., zopiclone, alprazolam; Hanley & Mintzes, 2014). Depression in pregnancy or in postpartum women represents a special challenge for the prescribing psychologist. On the one hand, the risk of relapse during pregnancy is real, and some studies suggest lower relapse rates for depression, mania, or schizophrenia; on the other, while in general benign, there are clearly identified risks associated with certain drugs (Chisolm & Payne, 2015). The effects of antidepressants on fetal development are in general thought to be relatively benign, although the SRI’s fluoxetine and paroxetine, particularly when used in the first trimester do show a potential association with cardiovascular, gastrointestinal, and cranial defects (Reefhuis, Devine, Friedman, Louik, & Honein, 2015) and withdrawal syndrome in neonates (ACOG, 2012). In the postpartum period, breast feeding is not recommended, as most antidepressants are expressed in breast milk (ACOG, 2012). Further, as in depression in general, only around one-third of women treated with medication during pregnancy show demonstrable improvement. Interpersonal therapy and cognitive behavioral therapy have been demonstrated to have promise in treating depression during pregnancy, but these interventions have not been definitively studied (Epstein, Moore, & Bobo, 2014).
Nevertheless, when the risk of fetal abnormality or withdrawal syndromes is present, the risk-benefit ratio associated with antidepressant treatment is altered. Although some support exists for use of nonpharmacological treatments, including psychotherapies, in the management of depressive episodes in pregnancy, data are in general lacking (Richards & Payne, 2013). But given the general equivalence of pharmacological and nonpharmacological treatments for depression, the prescribing psychologist should ensure that the option that is least invasive and that most effectively maintains maternal well-being is offered. Similarly, for postpartum depression, both pharmacological and psychological interventions (CBT, psychodynamic treatment, or community-based interventions) have been found to be of relatively equal efficacy (DeCrescenzo, Perelli, Armando, & Vicari, 2014). Though combined interventions again remain relatively unstudied, the prescribing psychologist should be aware of the relative potency of drug and non-drug treatments when discussing patient options.

The prescribing psychologist should also note recent changes to the FDA’s safety classifications for drug use in pregnancy. In the past, categories of relative risk based largely on animal data were included as guidance in drug labeling. These categories (A, B, C, D, X; with Category A deemed safest and Category X contraindicated in pregnancy) have been replaced with a new system, the Pregnancy and Lactation Labeling Final Rule of 2015 (21 CFR Part 201: Pregnancy and Lactation labeling final rule of 2015). Drug labels now include sections on use with specific populations, including pregnancy and lactation, are based on human studies, if such data are sufficient, and contain a fetal risk summary.

**Childhood Depression.** The relative efficacy of antidepressants in children apparently differs from than in adults. The reasons for this persistent finding are unclear, but it has been widely reported over the years (Hetrick, McKenzie, Cox, Simmons, & Merry, 2012; Soutullo & Figueroa-Quintana, 2013; Varigonda, Jakubovski, Taylor, Freemantle, & Coughlin et al., 2015). The antidepressant paroxetine, earlier associated with increased aggressiveness and suicidal ideation in children, has in a recent analysis not been demonstrated to be more efficacious than placebo (Noury et al., 2015). Given that the risk of suicidal and aggressive behavior in response to antidepressants also appears higher in children and adolescents (Sharma, Guski, Freund & Gotzsche, 2016), there may be both neurobiological and psychosocial factors that account for this difference in responding. While there are few documented risks of antidepressant use on human neuronal development, insufficient data exist to completely rule out such effects (Cousins & Goodyer, 2015). An association between infants or children exposed in utero to antidepressants has been judged to carry neurodevelopmental risks that may or may not outweigh the risks imposed by untreated maternal depression (Suri, Lin, Cohen, & Altshuler, 2014). Also, while off-label prescription is common, only a few antidepressants have been indicated for use in children and adolescents. These include fluoxetine, sertraline, luvoxamine, and escitalopram.

The Food and Drug Administration (FDA) has identified several controlled studies of antidepressants in children, but only 3 resulted in an advantage of the antidepressant over inert placebo. The FDA did not count the Treatment of Affective Disorders Study (TADS) as a positive study for SRIs as a singular treatment because of the negative findings for the Children’s Depression Rating Scale-Revised (Kovacs, 2003), which was the primary depression outcome measure, though improvement was demonstrated on some secondary measures. While the methodology of these studies appears to be sound, the evidence base in support of antidepressants in children is relatively weak. The placebo-related effects account for the majority of variance in children’s outcomes.
Concerns also have been raised about the safety of the SRIs as a treatment for children and adolescents. The FDA conducted a meta-analysis of 24 placebo-controlled trials that included more than 4,400 youth participants (Hammad, Laughren, & Racoosin, 2006). Their data revealed that antidepressant medications were associated with a doubling of the risk for suicidal behavior or suicidal ideation relative to placebo, although the absolute risk was small (4% vs. 2%) and no suicides were reported. A more recent meta-analysis reported that the absolute rates of suicidal ideation and attempts were 3% in participants receiving antidepressants and 2% in those receiving placebo (Bridge et al., 2007). These findings are consistent, albeit slightly different, as this meta-analysis included additional studies and employed a different data analytic strategy than that used by the FDA. Olfson, Marcus, and Shaffer (2006) employed a matched case-control design to estimate the relative risk of suicide attempt and suicide in severely depressed children and adults with treatment with versus without antidepressant medication. Data revealed small significant associations between antidepressant treatment and both suicide attempts and deaths in children and adolescents. Finally, in 2004, the FDA issued a black box warning label requirement for antidepressant medications, indicating that the antidepressants increased the risk of suicidal ideation and behavior in some children and adolescents. In 2007, this black box warning was extended to include young adults. Earlier observations of elevated risk of suicidal ideation and behavior in children prescribed antidepressants have been confirmed by more recent meta-analyses. A recent review of 70 trials and drug company databases (Sharma, Guski, Freund, & Gotzsche, 2016) confirmed a doubling of the risks of suicidality and aggression; findings not replicated in adults taking antidepressants.

As with adults, evidence for the role of combined pharmacological and psychological treatments in depression is promising but not definitive. Cox and colleagues (2014) performed a systematic review of each form of treatment alone or in combination and were able to evaluate 11 studies involving over 1300 pediatric subjects. While combined treatment did seem to reduce rates of suicidal ideation in medicated children in one study, causality could not be determined (Cox, Callahan, Churchill, Hunot, & Merry et al., 2014).

There is a clear role for the pediatric prescribing psychologist in the management of childhood and adolescent depression, despite the limited evidence base in this population. In many instances, this role will involve more accurate assessment of presumed childhood depression, developing appropriate behavioral and psychological interventions for childhood depression, educating prescribers on the efficacy of antidepressants and behavioral interventions in childhood depression, and developing appropriate collaborative treatment plans based on the above considerations. In many instances, the prescribing psychologist’s role will involve recommendations to either stop an inappropriately prescribed medication or supplement pharmacotherapy with an appropriate behavioral or psychosocial regimen.

Other pediatric diagnoses of concern. **Attention Deficit Hyperactivity Disorder (ADHD).** The stimulants have been the primary psychotropic agent used to manage the symptoms associated with ADHD. For the stimulants (primarily methylphenidate), effect sizes for ADHD symptoms based on ratings and observations of caregivers (e.g., parents) and teachers in the child’s life are in the moderate-to-large range (Connor, 2006). Effect sizes for stimulants over placebo on measures of academic productivity are low to moderate, and for academic achievement they are around zero. The overall effect size for stimulant treatment relative to placebo is in the moderate range, with larger effects associated with teacher and parent ratings than for direct observations and laboratory measures. Effect sizes for atomoxetine are in the moderate-to-large range on parent and clinician symptom ratings, and the magnitude of
effects for other medications (e.g., antidepressants) typically are lower than for stimulants and in the low-to-moderate range overall (Weiss et al., 2005).

Potential adverse side effects of stimulants include insomnia, appetite reduction, and irritability (Connor, 2002). In addition, growth suppression also has occurred with continued use over several years (MTA Cooperative Group, 2004; Swanson et al., 2007). Other medications that have been more recently indicated for ADHD (e.g., guanfacine), have been demonstrated to improve behavioral and academic outcome in some children (Goorman, Gardner, Murphy, Feldman, Belanger, & Steele et al., 2015), but these are not without side effects such as hypotension and sedation. Other nonstimulant compounds, often alpha-1 agonists like guanfacine, are also associated with such side effects. Atomoxetine, the noradrenergic antidepressant type medication has gained some currency in treatment of ADHD, but in general stimulants possess the greatest evidence of efficacy (Pringsheim, Hirsch, Gardner & Gorman, 2015). Finally, many studies have shown that beneficial stimulant effects are maximized at much lower doses when used in combination with behavioral treatments (Pelham et al., 2007) with a resultant benefit of combined treatments of lowered risk for such common and dose-related side effects as growth suppression. Nonpharmacological behavioral interventions are also of demonstrated efficacy across multiple age ranges and subtypes of ADHD (Mulqueen, Bartley, & Bloch, 2015); however, evidence is less supportive of certain specific nonpharmacological disorders, such as cognitive therapy (Cortese, Ferrin, Brandeis, Buitelaar, Daley & Dittman et al., 2015). Combined pharmacological and nonpharmacological interventions have demonstrable effects, albeit small, and definitive conclusions regarding their efficacy based on meta-analytic studies is still lacking (Chan, Fogler, & Hammerness, 2016). In general, the literature for nonpharmacological treatments for ADHD is not as robust as that for pharmacological treatments (Hodgson, Hutchinson, & Denson, 2014), although this area is the subject of considerable current debate (Sibley, Kurivan, Evans, Waxmonsky, & Smith, 2014) and certain behavioral treatments (behavioral parent training, behavioral classroom management and behavioral peer interventions) are judged to be well-established treatments (Evans, Owen & Bunford, 2014). In spite of clear guidance on optimum combinations of behavioral and pharmacological approaches, it seems clear that the behavioral treatment of children with ADHD is a staple of practice for pediatric prescribing psychologists, in addition to use of stimulant and nonstimulant compounds as justified by current literature.

### Bipolar Disorder
Bipolar disorder is distinct from unipolar depression. Not only do the mood fluctuations between depression and mania require individual pharmacological targeting, but polypharmaceutical treatment, not demonstrated to be of universal benefit in unipolar depression, may be requisite in bipolar depression. Bipolar disorder, of course, has numerous variants; for the sake of this document we will presume classic Bipolar I Disorder, with its characteristic swings between major depressive episodes and mania. The prescribing psychologist must attend not only to the pharmaceutical evidence base in this debilitating, often life-long disorder, but must also attend to the psychosocial needs of the patient and family, as these may be essential in maintaining long term mood stability.

The Systematic Treatment Enhancement Program for Bipolar Disorder (STEP-BD; Perlis et al., 2006, et seq.) studies are the most informative data to date regarding effective treatment of bipolar disorder. Miklowitz’s analysis of adjuvant therapies for bipolar disorder (2008) noted
that adjunctive therapy enhances symptomatic and functional outcomes. Either family-focused therapy, social rhythm therapy (based on the notion that adherence to a set schedule prevents mood instability), or CBT were all deemed superior to a treatment-as-usual intervention; however, researchers were unable to determine if one specific form of therapy provided differential in one-year recovery, and recurrence at one year was high. Nierenberg (2010) also summarized the extant literature on treatment of bipolar disorder, and helpfully characterized pharmacological treatments into two categories – those used to treat mania (mood stabilizers) and those used to stabilize mood from below baseline (antidepressants). Both are recommended depending on the phase of the disorder. Lithium therapy was recommended for all patients with suicidal thinking, and indeed, the evidence base for lithium as both an effective antimanic and anti-suicidal agent appears to be slowly accumulating. Its problematic short and long-term side effects (e.g., weight gain, blurred vision, diarrhea and other short-term side effects, renal and thyroid dysfunction in the long term) continue to make its use one of the greater challenges for the prescribing psychologist.

Mood stabilizers too seem to present special teratogenic risks in pregnancy. For many years, the use of lithium was thought to be associated with a major cardiac malformation called Ebstein’s anomaly (malformation of the tricuspid valve). More recent data do not bear this out (Chisolm & Payne, 2015); nevertheless, it should be used with great caution. Of all common mood stabilizers, the greatest evidence of teratogenicity has accumulated with valproic acid, particularly in the first trimester. Its use is not recommended (ACOG, 2012).

**Anxiety**

The prescribing psychologist confronted with anxiety spectrum disorders such as generalized anxiety disorder, social anxiety, various phobic disorders, posttraumatic stress disorder, and any number of associated conditions has a wide variety of well-documented pharmacological and non-pharmacological interventions from which to select. Well-developed, evidence-based pharmacological treatment guidelines exist for a number of anxiety spectrum disorders. In general, common antidepressants have equal efficacy in treating most common anxiety spectrum disorders. Psychological interventions, generally CBT or exposure-based therapies, tend to show equal efficacy with pharmacological interventions, so patient choice is a key determinant of treatment. Unfortunately, while combined treatments appear sensible, there is as yet indecisive evidence that such treatments are superior to unimodal interventions. (Baldwin, Anderson, Nutt, Allgutander, Bandelow, den Boer et al., 2014). Nevertheless, a number of psychological interventions have proven efficacy for anxiety spectrum disorders, including post-traumatic stress disorder (Bisson, Roberts, Andrew, Cooper & Lewis, 2013).

Specific phobias, such as anxiety associated with air travel, are amenable to focused behavioral interventions and brief pharmacotherapy with benzodiazepines. More persistent anxiety spectrum disorders may also be both behaviorally and pharmacologically managed. Since many antidepressants are effective anxiolytics and carry an FDA indication for anxiety spectrum disorders, the psychologist may choose to prescribe an antidepressant to avoid the risks of disinhibition and dependence that benzodiazepine use may carry. A class of medication that is closely related to the benzodiazepines in mechanism of action if not chemical structure is GABA receptor agonists (GRAs) used for sleep. Of these, zolpidem is the prototypical agent, and many patients experience restorative sleep or relief from jet lag with their short term use. Numerous benzodiazepines are also indicated for sleep, particularly those with a relatively short duration of action. Hypnotic drugs (zolpidem) when combined with
CBT for sleep have been demonstrated to yield more rapid sleep optimization (Morin, Beaulieu-Bonneau, Ivers, Vallieres, Guay et al., 2014). For longer-term management of insomnia, however, pharmacological interventions tend to perform less well than cognitive behavioral interventions. Therefore, a combination of behavioral and pharmacological interventions may yield optimal results where sleep hygiene and cognitive interventions fail. Nevertheless, prescribing psychologists should take care to avoid unwanted side effects of such drugs, as they have been associated with anterograde amnesia, and are often detected in post-motor vehicle accident toxicology screens (Gunja, 2013).

Childhood anxiety disorders. Both pharmacological and psychotherapeutic interventions have demonstrated efficacy in childhood anxiety spectrum disorders, the combined clinical incidence of which may approach 20%; if generalized, social and separation anxiety disorders are grouped together (Wehry, Beeso-Baum, Hennelly, Connolly, & Strawn, 2015; Mohatt, Bennett, & Walkup, 2014). CBT has been shown to be of equal efficacy with other active treatments including pharmacotherapy and combined pharmacological and non-pharmacological treatments, but superiority for any specific intervention is difficult to glean from published trials (James, Cowdrey, Soler, & Choke, 2013). In the case of child PTSD, both psychotherapy and pharmacotherapy appear to have efficacy. Interventions using either modality that are targeted at specific symptoms, are recommended (Keeshin & Strawn, 2014). As in the case with depression, bipolar disorder and psychosis, the results of a large multi-center trial (CAMS) conducted a decade ago remain informative in choosing treatment options for childhood anxiety and, as with disorders of adulthood, provide some evidence supporting the use of combined modalities (Child and Adolescent Multimodal Studies; Walkup, Albano, Piancentini, Birmaher, & Compton et al., 2008).

The CAMS study revealed positive efficacy for antidepressant medication (sertraline), psychotherapy, or their combination, with results for all three interventions proving durable over time. The combined intervention of medication and psychotherapy yielded particularly high improvement rates at several predefined treatment measurement points. The well-conducted review by Wehry and colleagues (2015) revealed evidence of efficacy for both psychotherapeutic and pharmacological interventions for childhood anxiety, with SRI and SNRI medications being efficacious and generally well-tolerated. Evidence did not support the use of benzodiazepines or buspirone. Studies, however, were few, and often with small sample sizes, limiting generalizability, and the observations of those authors that data regarding predictors for drug, non-drug, or combined treatment were “brutally lacking” (Wehry et al., 2015, p. 11) can sadly be applied to much of what we know in other areas of psychopharmacology. In general, while studies of pharmacological interventions in general show some efficacy for drug treatment, children and adolescents appear to be differentially susceptible to the adverse side effects of medication and with perhaps less robust, and at least less linear, outcomes (Correll, Kratochvil, & March, 2011).

These somewhat pessimistic conclusions are tempered somewhat by a sweeping review of childhood mental health disorders and their treatment (Costello & Masters, 2015). This review addressed a panoply of childhood disorders and concluded that where longitudinal follow-up data were available, over 50% of adults who had been diagnosed in childhood were symptom free. Best treatment outcome was difficult to predict on the basis of scant available data;
however, pharmacological and psychosocial interventions had at least some efficacy, save perhaps in the area of substance abuse, where the efficacy of pharmacological interventions was particularly difficult to judge (Costello & Maugham, 2015).

Substance Abuse Disorders

In the previous petition for recognition of psychopharmacology as a proficiency area, clinical conditions of obesity and various aspects of substance abuse or dependence (e.g., nicotine, cannabis, cocaine) were enumerated along with the role of the consultant in recommending pharmacological regimens. While such recommendations continue to be within the purview of the consultant, a limitation on the role of prescribing psychologists renders their discussion somewhat difficult in the context of a specialty petition, as the pharmacopoeia of the prescribing psychologist is limited by law or regulation. Prescribing psychologists are generally limited to prescription of classes of drugs used to treat mental disorders. Generally, such limitations encompass a “by class” formulary that is limited to antidepressants, anxiolytics, mood stabilizers, antipsychotics, psychostimulants, and a small number of adjunctive drugs used to treat the unwanted side effects of psychotropics. Thus, a drug for weight loss would not fit into the formulary of a prescribing psychologist, nor would many drugs used to treat substance dependence, since these are in many respects replacement compounds (e.g., nicotine replacement, partial opiate receptor agonists) that are not likely to be included in the formulary. The prescribing psychologist could continue to consult regarding these agents, but could not actively prescribe them.

References


1. **Pharmacological Treatments for Chronic Pain.**
Twenty percent of Americans suffer from chronic non-cancer pain, with 50 million disabled (Turk, 1996). Although non-medical use of opioid analgesics has increased dramatically during the past decade, abuse rates remain higher among pain patients compared to the general public (Zacny et al., 2003). In pain populations, rates of opioid analgesic abuse vary between 18-60% (Reid et al., 2002; Manchikanti et al., 2005). Not surprisingly, opioid therapy for chronic pain is controversial due to concerns about abuse, dependence, and the failure of some patients to evidence functional improvements (Katz, 2002; Pappagallo & Heinberg, 1997). For these reasons, some providers oppose using opioids, instead emphasizing procedures (e.g., nerve blocks), physical therapy, and behavioral approaches such as biofeedback and hypnosis training. While it is true that some pain problems do not respond to opioids and that some patients engage in aberrant medication-taking behaviors (AMTBs), recent placebo-controlled and open label trials support the efficacy of opioid therapy for many patients with chronic pain (Arkinstall et al., 1995; Moulin et al., 1996; Zenz et al., 1992). In addition, many specialists argue that it is unethical to deny pain patients (even those with a history of addiction) access to opioids if they decrease suffering and improve quality of life. Advocates stress that opioids rarely present a problem for individuals without a substance abuse history, that many patients achieve analgesia without developing problems with medication adherence, and that a significant proportion of treatment failure is actually due to pharmacologic under-treatment as opposed to addiction (Portenoy & Foley, 1986; Portenoy, 1996).

The opioid controversy is greatly magnified when patients have a history of substance abuse, although experts who treat patients with this comorbidity feel opioids can be safely used so long as appropriate clinical management procedures are in place (Sees & Clark, 1993; Miotto et al., 1997; Weaver & Schnoll, 2002; Wesson, Ling, & Smith, 1993). Of major concern are aberrant medication-taking behaviors (AMTBs) including: (1) over-taking pain medication; (2) taking it for reasons other than pain (e.g., anxiety); (3) mixing pain medication with alcohol/drugs; and (4) illegal activities (e.g., script forgery and diversion). Unfortunately, medical providers often minimize addicts’ pain complaints and many fail to assess pain adequately (Merrill et al., 2002; Scimeca et al., 2000; Kouyanou et al., 1997). Several studies have shown that drug abusers with pain are likely to be treated in a manner that is contrary to published guidelines due to negative physician attitudes, fears, and strained doctor-patient relations (Breitbart et al., 1996; Cleeland et al., 1994). Legitimate pain complaints may be misattributed to addiction, resulting in poor pain management (Scimeca et al., 2000). Under-treatment may contribute to drug-seeking, unsanctioned alcohol/drug use, and increased risk for relapse (Savage, 1996).

Although screening tools can help clinicians identify patients “at risk” for opioid analgesic abuse prior to initiating opioid therapy (Adams et al., 2004; Butler et al., 2004), they are rarely used in clinical practice. In addition, there currently are no practice standards or protocols to guide clinicians who decide to treat patients who are “non-adherent” with their opioid regimens. Borrowing from the medication adherence literature, the following elements should be considered: (1) psychoeducation about opioids and opioid analgesic abuse; (2) medication contracts; (3) short prescriptions; (4) pill counts; (5) self-monitoring techniques (diaries); and (6) drug screens to detect unauthorized opioids. An additional concern is the inability of standard drug testing procedures to reliably detect synthetic opioids like hydrocodone, oxycondone, and fentanyl; rather, sensitive and costly GCMS procedures are needed. Once
a provider decides to treat a patient who abuses opioids prescribed for pain, the question becomes how to provide adequate analgesia, while also minimizing the risk for opioid abuse. Good pain management principles dictate the use of longer-acting agents (e.g., MS Contin or methadone) that have slower onset and offset that help keep pain at lower levels for longer periods of time; shorter acting agents (e.g., Percocet®) are used only for “breakthrough” pain. Opioid abusers, however, prefer drugs with a rapid onset as these produce greater euphoria. Another consideration is dose. Because patients require highly variable opioid doses to achieve pain relief, standard dosing regimens are nearly impossible. This means that providers must be willing to treat pain aggressively, to avoid under-treatment and drug-seeking behavior (Savage, 1996). In addition, for patients requiring high doses of opioids to control pain, careful monitoring of adjuvant drugs (especially TCAs and benzodiazepines) and medical monitoring for cardiac problems is indicated (Krantz et al., 2002; Goldschlager, 2003). In summary, opioid analgesics are an important therapeutic tool to aid persons who suffer from chronic, non-cancer pain. However, careful assessment of both illicit and prescribed substance use as well as certain behavioral interventions and medical monitoring often are indicated to prevent problems from developing.

5. Consultancy In Working with Older Adults: Geriatric psychopharmacology is perhaps the most specialized of all areas of consultancy in clinical psychopharmacology. The consultant in geriatric psychopharmacology must be able to demonstrate a keen and profound understanding of all aspects of the aging process that influence the disposition and effectiveness of drugs. Examples run the gamut across all organ systems, from decreased renal and hepatic clearance to changes in lean muscle mass to body fat ratios, to cardiovascular changes. Older adults have increased sensitivity to the side effects of many pharmacological agents. Of special concern is the increased vulnerability of elder patients to long-term untoward effects of antipsychotic agents (Woerner, Alvir, Saltz, Lieberman, & Kane, 1998). Psychologists must be particularly attuned to the clinical challenges presented by older adults with dementias, with varied pharmacological and psychosocial strategies that must be considered when working with this challenging group. (APA Presidential Task Force, 1998).

Polypharmacy presents serious risks to older adults and plays a major role in avoidable morbidity and mortality (e.g., Doan et al., 2013; Ebbesen et al., 2001; Espino et al., 2006; Goulding, 2004; Monane, Monane, & Semla, 1997; Rollason & Vogt, 2003; Westin & Heath, 2005; Williams, 2002). Instituting psychologically based interventions can reduce the need to add another medicine, permit reductions in doses or avoid increases in the dose of necessary albeit, risky medications (Zhan et al., 2005). Psychological interventions (including dynamic, cognitive and/or behavioral approaches) can prevent or modify many chronic conditions and are “…rooted in physical and neurochemical processes” (Buelow and Chafetz, 1996, p. 54). There are non-drug methods for coping with, for example, insomnia, pain, anxiety, heart disease, certain types of cancer, stroke, Type II diabetes, obesity, high blood pressure, high blood cholesterol, irritable bowel syndrome (Federal Interagency Forum on Aging Related Statistics, 2006; Ginsberg et al., 2005; Jasniewski, 2006). In addition, pharmacological interventions are most effective when delivered in combination with psychotherapy (World Health Organization, 2001 as cited in Loftis & Salinsky, 2006). However, for nearly half of all patients taking psychotropic drugs, medication is the only form of treatment received (Donohue, 2006 as cited in Loftis & Salinsky, 2006). "It would do well for psychologists working with older adults to know about the special issues and concerns facing them. Older adults are a diverse group with common factors that put our nation’s seniors at greater risk for
harm. “Psychologists can help detect even subtle changes in a person’s presentation and can work to initiate a change in approach when warranted” (Arnold, 2008).

4. **Consultancy in Working with Adults with Serious Mental Illness** (schizophrenia as an example): There can be no question that with the discovery of chlorpromazine for reduction of psychotic symptomatology in the 1950s, the quality of life for many seriously mentally ill patients and their families improved dramatically (Drake, Green, Mueser & Goldman, 2003). However, alongside of increased quality of life and possibilities of living more self-sufficiently, the use of the antipsychotic medications brought several new challenges.

Psychopharmacologists have long been aware of the serious side effects associated with the traditional antipsychotics such as tardive dyskinesia and seizures. Within the last five years, initial enthusiasm about the newer atypical antipsychotics has been tempered by recognition that they can also cause serious side effects, including obesity, metabolic syndrome, heart arrhythmias and diabetes (e.g., Allison et al., 1999; Henderson et al., 2005). Despite receiving FDA approval, many of these drugs are associated with black box warnings, necessitating great caution in their use, particularly in populations for which separate clinical trials have not been completed, such as for individuals of different ages (children and the elderly) or with certain underlying conditions (e.g., dementia in the elderly). It is increasingly incumbent upon the consultant in psychopharmacology and/or the prescriber to keep extensive records about patients’ physiological state—including weight, height, BMI, cholesterol level, heart functioning, comprehensive metabolic blood testing—in order to avert debilitating long-term side effects and liability issues (Green, Drake, Brunette & Noordsy, 2007). With this increased knowledge about the side effects of these medications, there is increasing emphasis upon informed consent by either the patient or a guardian (Salzman, 2005).

A second factor that must be considered by those prescribing psychotropics or consulting about psychopharmacology with the seriously mentally ill is the high frequency of dual diagnosis. Over 50% of the mentally ill also are diagnosed with substance abuse disorders (Buckley, 1998). Many others have anxiety, obsessive-compulsive disorder and personality disorders (Placentino et al., 2007). Accordingly, the psychopharmacologist may find polypharmacological treatment regimens are mandated by the complexity of the clinical presentation. In addition, many of the patients may profit from medications that help reduce cravings. Thus, the treating persons must be very knowledgeable about drug interactions. Moreover, those seriously mentally ill persons with severe substance abuse disorders may also suffer constitutional vulnerabilities such as liver damage due to substance abuse. Psychotropic medications must be carefully selected that do not exacerbate such medical conditions.

While the advent of antipsychotic medications has allowed many seriously mentally ill patients to function outside of institutional settings, it has also created new challenges for those treating these individuals with psychotropic medications. Lieberman et al. (2005) found 74% of patients with schizophrenia discontinue the use of antipsychotic medications within 18 months. Debate has arisen surrounding mandatory treatment for seriously mentally ill patients deemed dangerous, such as Kendra’s Law in New York State. While the US Supreme Court has rules that non-dangerous institutionalized patients cannot be medicated against their will, involuntary use of psychotropics in the inpatient environment is an area of continued controversy (e.g., Dlugacz & Wimmer, 2013; Sheehan, 2009). The prescribing/medical
psychologist must be knowledgeable. **Consultancy in Working with Adults with Serious Mental Illness** (schizophrenia as an example): There can be no question that with the discovery of chlorpromazine for reduction of psychotic symptomatology in the 1950s, the quality of life for many seriously mentally ill patients and their families improved dramatically (Drake, Green, Mueser & Goldman, 2003). However, alongside of increased quality of life and possibilities of living more self-sufficiently, the use of the antipsychotic medications brought several new challenges.

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a) **Nicotine Dependence as an Example**: Psychologists have been identified as effective providers of treatments for clients who want to quit smoking (Mojica et al., 2004; Wetter et al., 1998). Psychologists are ideal providers of brief interventions (Fiore et al., 2000) to their clients who use tobacco for several reasons: 1) they are likely to encounter many tobacco users because nicotine dependence is highly comorbid with many Axis I and II disorders, 2) the expert interpersonal skills required for psychotherapy may enhance a client’s motivation to make a quit attempt, 3) their expertise in behavior change make psychologists effective resources for clients trying to quit smoking, and 4) psychologists typically have more frequent contact with clients than other health care professionals allowing more time for discussion of intervention techniques and ease of follow-up (Leffingwell & Babitzke, 2006). Further, Wetter et al. (1998) noted that psychologists could play a major role as consultants to both individual providers and institutions in designing and assessing treatment interventions.

In a meta-analysis of types of health care professionals providing treatment for nicotine dependence, psychologists were ranked as the most effective both with and without the use of nicotine replacement therapy (Mojica et al., 2004). There are a number of medications that have been documented to increase significantly rates of long-term tobacco abstinence, including nicotine replacement therapy (gum, patch, nasal spray, inhaler, and lozenge) and non-nicotine medications (bupropion [Zyban®] and varenicline [Chantix]) (Fiore et al., 2000; George, 2007). Only nicotine gum, patch, and lozenge are available over-the-counter. Psychologists’ ability to intervene with clients who wish to
quit smoking will be enhanced by their ability to prescribe the medications shown to be efficacious as treatments for nicotine dependence.

2. Pharmacological Treatments for Substance Abuse.
   b) Cocaine as an Example: Although a cocaine withdrawal syndrome does not appear to be a major feature of cocaine dependence (Foltin & Fischman, 1997), some clinical investigators have documented symptoms of depression, nervousness, dysphoria, anhedonia, fatigue, irritability, sleep and activity disturbances, and craving following abrupt discontinuation of repeated larger doses of the drug (Gawin & Kleber, 1986). Behavioral and mood changes that accompany cocaine withdrawal are thought to be related to a decrease in the activity of monoamine neurotransmitters, which play an important role in movement and mood regulation. Accordingly, it has been reasoned that medications that increase monoaminergic activity may be useful in treating withdrawal symptoms and thereby prevent relapse. A plethora of medications, ranging from selective agonists of monoamine neurotransmitters to agents that simultaneously enhance the activity of multiple neurotransmitters, have been evaluated according to this theory. Unfortunately, to date, the vast majority of medications assessed have not been shown to be uniquely effective at treating cocaine withdrawal symptoms or dependence (for review, see Hart & Lynch, 2005). The situation is not completely bleak, however, as recent data from human laboratory and clinical investigations of modafinil as a potential cocaine abuse pharmacotherapy suggest that the medication has clinical utility (Dackis et al., 2005; Hart et al., 2007). In these studies, cocaine use and cocaine-related subjective effects (e.g., euphoria and craving) were markedly reduced when study participants were maintained on modafinil compared with placebo. While the neuronal mechanisms underlying modafinil’s therapeutic actions have yet to be elucidated, the drug appears to augment the activity of several neurotransmitters, including dopamine, norepinephrine, and glutamate, while decreasing the release of y-aminobutyric acid (GABA) (Ferraro et al., 1999). Despite encouraging findings with modafinil, currently there are no FDA-approved pharmacotherapies for cocaine dependence.

c) Cannabis as an Example: A growing body of evidence demonstrates that heavy, daily cannabis use is associated with an abstinence syndrome upon cessation of drug use (Haney et al., 1999; Hart et al., 2002; Budney et al., 2004). Indeed, worldwide rates of cannabis dependence have increased substantially over the past decade (e.g., Bhana et al., 2002; SAMHSA, 2003). Correspondingly, the number of individuals seeking treatment for cannabis-associated problems has risen and many treatment seekers reported experiencing withdrawal symptoms, which are reported to increase the difficulty in maintaining abstinence (Stephens et al., 2002). Although not life threatening, cannabis withdrawal is characterized by symptoms of irritability, anxiety, sleep disruptions, and aches (Budney et al., 2004).

As a result, medications development efforts for cannabis dependence have primarily focused on relieving withdrawal symptoms. A growing number of medications have been tested for efficacy in relieving these symptoms (for review see, Hart, 2005), but only one has been demonstrated to be effective - oral ∆9-THC (dronabinol) in controlled laboratory studies; results from randomized clinical trials are not yet available. The rationale for evaluating the effects of dronabinol on cannabis withdrawal was based on the idea of substituting a longer-acting pharmacologically equivalent drug for the abused substance, stabilize the individual on that drug, and then gradually withdraw the
substituted drug. In this way, the likelihood of precipitating abstinence symptoms is decreased. Indeed, it was recently demonstrated that dronabinol substantially reduced cannabis withdrawal symptoms including self-reported ratings of cannabis craving, anxiety, misery, and sleep disturbance (Haney et al., 2004; Budney et al., 2007). These results indicate that moderate doses of dronabinol might be beneficial in the treatment of cannabis dependence, although, to date, no medications are approved for the treatment of cannabis dependence.

d) Alcohol Dependence as an Example: Alcoholism is a prevalent disorder for which psychologists have pioneered behavioral and pharmacological interventions for relapse prevention (e.g., Miller & Rollnick, 1991; Monti et al., 1989, O'Malley, 1998). While there are medications that are used for alcohol detoxification, the area where psychologists may be particularly well suited is in the use of medications for relapse prevention. Disulfiram (Antabuse) can promote abstinence if combined with observed administration, family interventions or contingencies. Oral naltrexone has been shown to modestly improve outcomes of patients in combination with a variety of therapeutic approaches, including behavioral treatments often used by psychologists such as Cognitive Behavior Therapy. Acamprosate was recently approved for the maintenance of abstinence based on European studies. Controlled trials in the United States have been negative; however, the excellent safety profile of this medication suggests that it may be worth considering as a treatment option for patients.

e) Opioids as an Example: Naltrexone, an opiate antagonist, is also approved in conjunction with therapy to help patients previously addicted to opioids to remain in opiate-free following opioid detoxification. With the exception of naltrexone, other medications approved for the treatment of opioid dependence are scheduled drugs that require a DEA number. Buprenorphine (a partial agonist at the mu receptor and an antagonist at the kappa receptor) can be used in office-based practices with special training; however, methadone (a mu receptor opiate agonist) maintenance can only be offered through methadone maintenance programs. Because of adherence problems, naltrexone is used much less frequently than methadone or buprenorphine.

Criterion V. Advanced Scientific and Theoretical Preparation. In addition to a shared core of knowledge, skills and attitudes required of all practitioners, a specialty requires advanced, specialty-specific scientific knowledge.

Commentary: Petitions demonstrate how advanced scientific and theoretical knowledge is acquired and how the basic preparation is extended.

1. Specialty education and training may occur at the doctoral (including internship), postdoctoral or post-licensure levels. State the level of training of the proposed specialty.

Specialty training in clinical psychopharmacology was established in 1996 when the Council of the American Psychological Association ratified the document, “Recommended Postdoctoral Education and Training Program in Psychopharmacology for Prescriptive Authority.” This document was created by a committee of scholars from relevant domains of expertise determined to be necessary for training successful and safe prescribers. A new committee was enacted in 2009, and a revised document of recommended training was accepted by the Council of the American Psychological Association. It was proposed that the recommendations for training would occur at the postdoctoral level, in order to assure that the
student is well-grounded in all aspects of psychological theory before undertaking the study of psychopharmacology. It was postulated that, in this way, psychologists would maintain a psychological orientation to treatment (vs. a strictly medical model) when prescribing psychotropics.

The prescriptive authority law passed in Illinois in 2014 allows for training to begin at the pre-doctoral level, a model now under consideration by the APA designation committee. In this way, students can receive broad and general training that is thoroughly grounded in all fields of science, upon which psychopharmacology is based. It should be noted that the Illinois strategy parallels that of other professions in which practitioners have received prescriptive authority. For example, among optometrists and nurse practitioners, authority was first obtained after obtaining the appropriate degree. Gradually, coursework was integrated into the degree programs.

2. Training at the doctoral level is assumed to be primarily broad and general. If specialty training occurs in whole or in part at the doctoral level, describe that training. If there is specialty specific scientific knowledge that is typically integrated with aspects of the broad and general psych curriculum (e.g., biological bases of behavior, cognitive-affective bases of behavior, individual bases of behavior, ethics (science and practice) rather than taught as a freestanding course or clinical experience, specify how this integration occurs.

The pre-doctoral training prescribed in the Illinois law is in-depth coursework in Anatomy, Physiology, Biochemistry and Neurochemistry. This law expands upon the typical doctoral level curriculum in psychology by requiring extensive coursework in the biological bases of behavior.

3. If specialty training occurs in full or in part during a formal postdoctoral program describe the required education and training and other experiences during the postdoctoral residency. Are there any doctoral level prerequisites beyond an APA-accredited degree in professional psychology required for postdoctoral training?

All of the psychopharmacology programs identified in this Specialty Application document have received designation from the American Psychological Association, thereby indicating that the programs are consistent with the 2009 recommended postdoctoral education and training document. In each of the training programs, the bases of biological behavior are reviewed at a very sophisticated level during the initial coursework, including advanced understanding of anatomy, physiology, neurochemistry, biochemistry, and pathophysiology. This coursework is followed by expanded study of pharmacology, pharmacotherapeutics and psychopharmacology, the use of medications with varied disorders, training in diagnostic methods (e.g., advanced physical assessment and laboratory testing), research principles, ethics related to prescribing, and a range of diversity issues, among other required subject matter.

In addition to the four programs that have attained designation by APA, two other post-doctoral programs (The Chicago School of Professional Psychology and Idaho Allied Health School) are being modeled on the current APA designation model. Iowa also plans to base their program on the current APA designation model with the understanding that designation criteria are being updated in 2018. Idaho and Iowa plan to accept students for the fall 2019 semester and Chicago is beginning its inaugural class in January 2018.
Prescriptive authority laws are implemented at the state level. To the present, each state has added clinical supervision in a manner best suited for that state. In every case, in these state laws, the academic training recommended by the APA is supplanted with extensive internship in order to obtain a license for prescriptive authority in each state.

The specialty training in psychopharmacology is built upon a solid understanding of the biological bases of behavior. Students interested in obtaining prescriptive authority are expected to achieve a strong foundation in the biological sciences. Within four of the States that hold prescriptive authority for psychologists (New Mexico, Louisiana, Iowa and Idaho), students enter the psychopharmacology program at the post-doctoral level. The students must hold a valid license in psychology. As explained above, the biological bases of behavior are reviewed at an advanced level, and students must evidence competence in that material. In the state of Illinois, students are allowed to begin some coursework in their doctoral program. However, they will complete the coursework recommended by the APA and provided by the existing training programs, upon completion of their Ph.D. or Psy.D.

4. If specialty training occurs in full or in part post-licensure, describe the required education and training during this training. Are there any doctoral level prerequisites beyond an APA-accredited degree in professional psychology required for post-licensure training?

The postdoctoral programs include coursework for the successful integration of psychotherapy and psychopharmacology for the range of populations served by psychologists. Thus, coursework addresses the diagnosis and treatment of children, adolescents, adults, geriatrics, and patients of varied ethnicities and gender orientations. In order to accomplish this task, evidence-based treatments for each group are studied, as well as the science about physiological dynamics and genetic variations that impact metabolism and effectiveness of psychotropics in each group.

It is important to note that a number of prescribing psychologists have written about the unique way that prescribing psychologists address the application of clinical psychopharmacology. LeVine and Foster (2004) have termed this approach as the "psychobiosocial model of care." In this model, the needs, beliefs, and goals of the patient are always central. The least intrusive means for assisting patients is preferred. Medication is employed when other psychological supports have been implemented and further assistance is needed, but only with the patient’s extensive informed consent. For example, attitudes within a culture or religion about medication, as well as the patient’s desires and concerns about effects and side effects, play a central role in determining if medication is prescribed.

While the psychologists are taught and expected to master psychopharmacology regarding varied populations, each psychologist must practice within his or her area of expertise. Further, each psychologist is required to gain extensive experience in prescribing psychotropics, within their internship with populations for which they are qualified to serve. Thus, if a psychologist were to prescribe for children, it would be expected that the psychologist already possessed competence and experience working with children and families in therapy. The psychologist, then, would complete extensive experience diagnosing and prescribing psychotropics with children and explaining such, to the family.

Prescribing psychologists work with patients with a range of emotional disabilities. In every case, prescribing psychologists strive to use medication as needed, to help their patients
achieve a reduction of symptomology.

Prescribing psychologists may be particularly helpful in their work with the severely disturbed population. In the prodromal phase, these patients often seek psychological help because of their subjective discomfort, but are unaware of the possibilities of an onset of a very serious emotional disorder. Research consistently indicates that early intervention with these populations can forestall or minimize the progression of the disease. Prescribing psychologists work in milieu in which they are likely to encounter these patients and provide the early needed care.

It is, also, well established that many individuals with severe emotional disorders struggle with more than a singular diagnosis. For example, many psychotic patients are obese, struggle with the metabolic syndrome, smoke cigarettes, and have poor nutrition. Therefore, the prescribing psychologist is trained to understand about the whole person, to have a clear understanding of the causes and treatments of various medical disorders, and is able to implement behavioral guidelines that improve the patient's overall functioning. In addition, prescribing psychologists are trained to work closely with medical personnel. This includes training in medical terminology and report writing, as well as how best to communicate about a patient's disorder with medical personnel.

In order to be a full member of the Council of Training Directors, a program must be designated by the American Psychological Association. At the present time, there are four programs that meet the designation criteria: Alliant University, Fairleigh Dickenson University, University of Hawai‘i Hilo and New Mexico State University.

Faculty in these programs hold Ph.D., Psy.D., Pharm.D., APRN, or M.D. degrees with various specializations as needed in order to offer high-level coursework in each required area. Thus, for example, a Ph.D. pharmacist or researcher in psychopharmacology is selected to be the instructor for a course in basic pharmacy. Physicians, Scientists and Nurse Practitioners are the instructors for courses in anatomy, pathophysiology and pharmacotherapeutics.

A license in psychology is required to be accepted as a student in the postdoctoral programs in psychopharmacology. In Appendix A, please find links to the application for admissions to each of the designated programs in psychopharmacology and an example of the form used for application.

Criterion VI. Advanced Preparation in the Parameters of Practice. A specialty requires the advanced didactic and experiential preparation that provides the basis for services with respect to the essential parameters of practice. The parameters to considered include: a) populations, b) psychological, biological, and/or social problems, and c) procedures and techniques. These parameters should be described in the context of the range of settings or organizational arrangements in which practice occurs. If the specialty training occurs at more than one level (e.g., doctoral, postdoctoral, post-licensure) please list the levels of preparation separately.

Commentary:

A) Populations. This parameter focuses on the populations served by the specialty, encompassing both individuals and groups. Examples include but are not limited to the following: children, youth and families; older adults; workforce participants and those who seek employment; men and women; racial, ethnic, and language minorities; gay, lesbian, bisexual and transgender individuals; persons of various socioeconomic status.
groups; religion; and those with physical and/or mental disabilities.

**B) Psychological, Biological, and/or Social Problems.** This parameter focuses on symptoms, problem behaviors, rehabilitation, prevention, health promotion and enhancement of psychological well-being addressed by the specialty. It also includes attention to physical and mental health, organizational, educational, vocational, and developmental problems.

**C) Procedures and Techniques.** This parameter consists of the procedures and techniques utilized in the specialty. This includes assessment techniques, intervention strategies, consultative methods, diagnostic procedures, ecological strategies, and applications from the psychological laboratory to serve a public need for psychological assistance.

1. Describe the advanced didactic and experiential preparation for specialty practice in each of the following parameters of practice:
   a. populations (target groups, other specifications):

Clinical Psychologists are trained to address the mental and behavioral health needs of both the general population and those of underserved populations [http://www.apa.org/about/gr/issues/gpe/populations.aspx](http://www.apa.org/about/gr/issues/gpe/populations.aspx). Prescribing psychologists already have expanded the traditional scope of practice by psychologists to include psychopharmacological treatments for over 20 years. While prescribing psychologists have primarily treated adults needing psychotropic medications in the military, on Guam and Indian healthcare, they have also successfully prescribed in Louisiana and New Mexico. Psychologist have significant increased the availability of non-physician prescribers in these two states. Illinois and Iowa recently approved prescriptive authority for psychologists and consequently it is expected that provider availability for adults with mental health needs will expand accordingly. In 2006 the Centers for Disease Control and Prevention (CDC) estimates that one in 20 Americans 12 years and older are depressed.

Figure 1. Percentage of persons 12 years of age and older with depression by demographic characteristics: United States, 2005-2006

![Graph showing percentage of persons with depression by age, sex, and race](image-url)
and more than one in seven low-income Americans ages 18-59 are depressed. Of those depressed, 80% report some level of difficulty in functioning because of their depressive symptoms.

Prevalence of current depression among adults aged ≥18 years, by state quartile — Behavioral Risk Factor Surveillance System, United States, 2006

The expansion of scope of practice for specially trained psychologists should also improve treatment availability to special populations such as children, older adults, minorities and rural residents. While current restrictions in the formularies permitted for prescriptive authority in Illinois may limit the role of prescribing psychologists in treating children, adolescents and older adults, it is not clear whether similar restrictions will be mandated in future state laws permitting specialty trained psychologists to prescribe. Despite this limitation in Illinois, there is little doubt that minority persons and those living in rural areas will benefit from the additional prescribing practitioners that would result from the expansion of scope of practice.

Children. "Mental health and substance use disorders among children, youth and young adults are major threats to the health and well-being of younger populations which often carry over into adulthood." The percentage of young people with mental, emotional and behavioral disorders is estimated to between 14% and 20 (National Academy of Sciences, 2009). High rates of isolation and socioeconomic disadvantage of minority children can have significant adverse effects on children's mental health (Locke, Kang-Yi, Pellecchia, Marcus, Hadley, & Mandell (2017), including depression and behavior problems, anxiety disorders such as posttraumatic stress disorder, and a range of other adjustment difficulties. Many ethnic and racial minority children and adolescents also experience "compounded community trauma"
which has been defined as the experience of children when they witness violence in both their homes and their neighborhoods. Compound community trauma has been linked to high rates of mental illness, including post-traumatic stress disorder, depression and externalizing behaviors. Thus, effective service delivery systems that engage in early prevention and intervention are essential to reduce the burden of mental disorders for ethnic and racial minorities.

**Older Adults.** Older adults are at increased risk for mental health disorders, including depression and suicide. It is estimated that 20% of older adults experience some type of mental health concern (American Association of Geriatric Psychiatry, 2008). Unfortunately, these disorders often co-occur with physical illnesses, such as heart disease or diabetes, and are often undetected and untreated (NIMH, 2006). Moreover, 7% of people ages 50 and older experience serious psychological distress—of these, 56% do not receive treatment (Substance Abuse and Mental Health Services Administration, 2008).

**Minority Persons.** Studies show that minority persons are at just as much risk for mental illness as their white counterparts but receive substantially less treatment (Psychiatric Services, 2008). For people diagnosed with depression, 69% of Asians, 64% of Latinos, and 59% of African Americans do not access mental health treatment—compared with 40% of non-Latino whites. These minority populations cite difficulty accessing care and anticipation of low quality care as reasons for not getting the care they need. Further, compared with whites, African Americans are twice as likely to have diabetes, and are substantially more likely to have heart disease and/or die of stroke (DHHS, 2005).

**Rural Residents.** When compared with their urban counterparts, rural communities have higher rates of preventable conditions, and higher rates of related high-risk health behaviors. Special Populations include several groups living in rural areas: 1) ethnic minorities within rural populations, 2) migrant workers, 3) immigrants, 4) American Indian/Alaska Natives, 5) Hawaiian and Pacific Islanders, 6) veterans, National Guard and reserve troops and their families, 7) HIV/AIDS, 8) incarcerated, parolees, and re-entry, 9) LGBT populations, 10) boys and men, 11) homeless, 12) victims of sexual assault and interpersonal violence, 13) rural incarcerated or recently released, and 14) the disabled. Special topic areas include suicide, substance abuse and co-morbidity with mental health diagnoses. Data obtained by the National Health Interview Survey found that the prevalence of major depression was significantly higher among rural (6.11%) than among urban (5.16%) populations (South Carolina Rural Health Research Center, 2005). According to the National Rural Health Association (2009), rural residents have higher rates of chronic illnesses than people in other geographic areas, including hypertension, high cholesterol, diabetes, chronic bronchitis, stroke and arthritis—all of which require lifestyle changes.

b. problems (psychological, biological, and/or social (including symptoms, problems behaviors, prevention, etc.)):

Psychological conditions that would be included within the scope of a prescribing psychologist may be determined by specific state or federal law. Pharmacological interventions may also be limited by state or federal law that would define eligible patients based on age (such is the case with the Illinois law) or the type of medications that can be prescribed. For example, Illinois would not allow psychologists to prescribe Type 2 medications such as Ritalin (methylphenidate) and consequently prescribing psychologists might not be able to treat
children or adults with Attention Deficit Disorder. However, most state and federal laws that permit prescriptive authority for psychologists include the ability of psychologists to treat most mental disorders defined in DSM-5.

c. procedures and techniques (for assessment, diagnosis, intervention, prevention, etc.):

The particular mechanism envisioned in this specialty designation would be the expansion of scope of practice to include the administration of specified medications and other prescribed. This expansion of scope of practice also includes the ability to order a range of specific examinations and laboratory test used to help diagnose and evaluate the body’s response to medications. These assessments include standard blood and urine assays as well as more specialized laboratory tests that can be used to assess plasma levels of specific medications such as lithium carbonate or carbamazepine.


**Criterion VII. Structures and Models of Education and Training in the Specialty.** The specialty has structures and models to implement the education and training sequence of the specialty. The structures are stable, sufficient in number, and geographically distributed. Specialty education and training may occur at the doctoral, postdoctoral, or both.

**Commentary:**

A) **Sequence of Training.** A petition describes a typical sequence of training, including curriculum, research, and supervision.
B) History and Geographic Distribution. A specialty has at least four identifiable psychology programs providing education and training in the specialty in more than one region of the country that are geographically distributed and which have produced an identifiable body of graduates over a period of years.

C) Psychology Faculty. Specialty programs have an identifiable psychology faculty responsible for the education and training of students and their socialization into the specialty. The faculty has expertise relevant to the education and training offered. Faculty may include individuals from other disciplines as appropriate. Specialty programs also have a designated psychologist who is clearly responsible for the integrity and quality of the program and who has administrative authority commensurate with those responsibilities. This psychologist has credentials of excellence (e.g., the diplomate from one of the specialty boards affiliated with the American Board of Professional Psychology, or status as a fellow of the American Psychological Association or the Canadian Psychological Association, or other evidence of equivalent professional recognition) and a record of scholarly productivity as well as other clear evidence of professional competence and leadership.

D) Procedures for Evaluation. Specialty programs regularly monitor the progress of trainees to ensure the relevance and adequacy of the curriculum and integration of the various training components. Attention focuses on the continuing development of the trainee’s knowledge, skills, attitudes, and values. Formal performance based feedback is provided to trainees in the program.

E) Admission to the Program. Program descriptions specify the nature and content of the program and whether they are designed to satisfy current licensing and certification requirements for psychologists as well as whether or not graduates can satisfy the education and training requirements for advanced recognition in the specialty. Postdoctoral programs have procedures that take into account the trainees’ prior academic and professional record. These programs design an education and training experience that builds upon the doctoral program and internship and the professional experiences of the postdoctoral residents as they prepare for meeting the guidelines of preparation for the specialty.

1. How are education and training programs in the specialty recognized? How many programs exist in the specialty?

   There are currently four APA-designated programs that award the Post-Doctoral Master’s in Clinical Psychopharmacology Degree (MSCP). They follow the APA Designation Model for the post-doctoral training in clinical psychopharmacology. There is a fifth post-doctoral program beginning in January 2018 and two additional post-doctoral programs being created; all three are based on the APA Designation Model.

2. Describe the qualifications necessary for faculty who teach in these programs. Describe the qualifications required for the director of such programs.

   Faculty must be experts in their courses; Directors must be psychologists or medical professionals trained in clinical psychopharmacology and it is recommended that they have completed the training (although this is not a requirement).

3. If programs are doctoral level, what are the requirements for admission? Provide sample evaluation forms.

   Each of the APA designated programs are post-doctoral in their training.

4. If programs are postdoctoral, what are the requirements for admission? Provide sample
Each program requires that their students hold a license in order to complete the program as set out by the APA Designation Model. Examples of admissions forms are provided (See Appendix B). The admissions requirements for admission to the UH Hilo MSCP program state:

Each applicant must hold a baccalaureate degree and a graduate (PhD or PsyD) degree in psychology from a regionally accredited U.S. college or university, or its equivalent from a recognized non-U.S. institution of higher learning. The standards of the degree in question must be equivalent in scholarship requirements to those maintained in the undergraduate program at the University of Hawai‘i at Hilo.

The applicant must have a Grade Point Average (GPA) of 3.0 or the equivalent from the last 60 semester credits (or equivalent) in the undergraduate degree completed, or must hold a graduate degree with a GPA of 3.0 or better in his/her graduate program.

Applicants must hold a current state license as a psychologist and maintain state licensure. Applicants must also practice as a health services provider psychologist as defined by state law, where applicable, or as defined by the APA (See https://www.apa.org/education/grad/rxp-designation-criteria.pdf).

5. Include or attach education and training guidelines, for this specialty as appropriate for doctoral training, postdoctoral training, or both. (In this context, education and training guidelines may be found in documents or websites including, but not limited to, those bearing such a title or as described in a variety of published textbooks, chapters, and/or articles focused on such contents.)

The APA Designation Criteria for training in clinical psychopharmacology are provided here. http://www.apa.org/education/grad/rxp-designation-criteria.pdf (See Appendix C)

6. Provide sample curriculum expected of model programs.

See Criterion V grids for all of the curricula in Appendix B.

Here is the sample curriculum for Fairleigh Dickenson University’s MSCP program:

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**Fairleigh Dickinson University**

**MSCP Curriculum**

**The Didactic Sequence**

The didactic sequence consists of 10 courses delivered in five 15-week semesters over two years. Courses run consecutively rather than concurrently, so within a semester each course is completed in 7.5 weeks, with two 7.5-week courses per semester. Each course is approved for 45 continuing professional education credits for psychologists, and 3 graduate academic credits. The School of Psychology is approved by the American Psychological Association (APA) to offer continuing education for psychologists. Fairleigh Dickinson University School of Psychology maintains responsibility for the program.
The courses were specifically designed for psychologists seeking to expand their knowledge of psychopharmacology. A sequence of core courses provides the basic science foundation and knowledge base in pathophysiology, neuroscience, and pharmacology for clinical applications. A professional issues course addresses the legal and ethical considerations and related standard of care topics. The didactic program concludes with a series of treatment courses addressing specific categories of mental disorders and the related pharmacological issues. These courses provide psychologists with important knowledge of the treatment of mental disorders with medication. A detailed description of each course is provided in the next section, Curriculum Plan.

During your last semester of the program, you should submit a Declaration to Graduate Form, which informs the University you anticipate completion of the program in the near future. This initiates a records review so that once you have completed all remaining program requirements you can be cleared to graduate. A link to the Declaration to Graduate Form is available through the Program Documents page on our website, www.rxpsychology.com/Documents/Program_Documents.htm

CURRICULUM PLAN

Courses 1 and 2 (PSYC7910/7915): Biological Foundations of Clinical Psychopharmacology I and II (7.5 Weeks Each)

These courses present an integrated approach to the study of primary body systems (respiratory, cardiovascular, renal, hematologic/immunologic, gastrointestinal, hepatic, endocrine, reproductive, musculoskeletal, and dermatologic) that correlates fundamental knowledge of the anatomy, physiology and pathophysiology of a specific body system with the clinical applications (health assessment, physical examination, laboratory assessment, and differential diagnosis) pertaining to that system. Exploration of clinical medicine concepts will utilize a problem-solving approach. The goals of these two courses are to enhance the student’s recognition of signs and symptoms of medical conditions requiring collaboration with and referral to other health professionals and to provide knowledge about the psychological, biological and medical correlates of disease. Medical sequelae of psychotropic agents and familiarity with standard medical treatment of common disease states are addressed. Each course is approved for 45 CE Credits for Psychologists and 3 graduate academic credits.

Course 3 (PSYC7920): Neuroscience (7.5 Weeks)

This course focuses on the anatomy and physiology of the nervous system, beginning at the cellular level. Knowledge of principles of neurochemistry, neuroendocrinology and neuropathology will serve as a foundation for the understanding of neurotransmitter systems and their role in the etiology and treatment of mental disorders. This course is approved for 45 CE Credits for Psychologists and 3 graduate academic credits.

Course 4 (PSYC7925): Neuropharmacology (7.5 weeks)

This course introduces the knowledge base pertaining to pharmacology and psychopharmacology. It includes continued study of neurotransmitter systems and other factors in the psychopharmacological
treatment of mental disorders, as well as an introduction to classes of psychotropic medications. This course is approved for 45 CE Credits for Psychologists and 3 graduate academic credits.

Course 5 (PSYC7930): Clinical Pharmacology (7.5 weeks)

This course presents major classes of drugs (excluding psychotropics) and their uses in clinical settings. It includes an examination of the social, cultural and behavioral aspects of prescribing medications. Issues of epidemiology, the drug approval process, and pharmacogenomics are also addressed. This course is approved for 45 CE Credits for Psychologists and 3 graduate academic credits.

Course 6 (PSYC7935): Professional Issues and Practice Management (7.5 weeks)

This course reviews issues in prescribing from the perspective of a professional healthcare provider. Legal and ethical issues, as well as standards of care ranging from informed consent to documentation, are addressed. Interprofessional relationships and aspects of collaborative practice, as well as practice enhancement strategies such as computer-based aids, will provide learners with a solid foundation for the continued integration of psychopharmacology into their practices. An introduction to the critical evaluation of pharmacological research is also provided. This course is approved for 45 CE Credits for Psychologists and 3 graduate academic credits.

Courses 7-10: Treatment Issues in Clinical Psychopharmacology (7.5 weeks each)

This treatment-focused series of sessions provides students with access to virtual practicum experiences through didactic information and case studies addressing specific categories of mental disorders. Each case addresses the following: diagnosis/differential diagnosis; etiology/biological basis of disorder; psychopharmacological treatment options, including mechanism of action, side effects, adverse reactions, polypharmacy, drug interaction, and patient education. The integration of treatment strategies as well as the empirical basis for treatments is presented. Disorders covered will include the mood disorders, psychotic disorders, anxiety disorders, cognitive disorders, substance abuse and chemical dependency, chronic pain, disorders of childhood/adolescence, as well as others. Each course is approved for 45 CE Credits for Psychologists and 3 graduate academic credits.

Course 7 (PSYC7940): Affective Disorders
Course 8 (PSYC7945): Psychotic Disorders
Course 9 (PSYC7950): Anxiety Disorders
Course 10 (PSYC7955): Other Disorders

OVERVIEW OF THE PROGRAM

The Postdoctoral M.S. Program in Clinical Psychopharmacology is designed to provide psychologists and other health care professionals the knowledge required to prepare them for the clinical application of psychopharmacology as it relates to collaborative practice and the potential prescription of psychotropic medications. This program provides the educational foundation and elective clinical experiences as outlined in the American Psychological Association’s model curriculum for postdoctoral training psychologists in psychopharmacology, available at
The FDU program has been Designated by the APA as consistent with that model curriculum, one of only three programs in the country that has achieved this distinction.

The program consists of up to five components. The first two are mandatory, the final three are optional. They are:

1. The 10-course didactic sequence (required for the master’s degree)
2. The qualifying examination (required for the master’s degree)
3. The clinical laboratory/PEP prep (optional; completed near the end of the didactic program)
4. The clinical practicum (optional; begun near the end of the didactic program)
5. The capstone experience (optional; occurs at the end of the clinical practicum)

The Qualifying Examination

After completing the didactic sequence, students must complete a qualifying examination before they are eligible to graduate. There are two options for this exit requirement. Twice each year we offer a qualifying examination online. This exam consists of 100 questions and you must complete it within 2.5 hours. Second, you can complete the APA Psychopharmacology Examination for Psychologists (PEP). The PEP has a cost associated with it, but passage of the PEP is expected to represent a requirement for licensure as a prescribing psychologist in most states. The PEP is offered by the APA College of Professional Psychology. You can find more information about the PEP at www.apapracticecentral.org/ce/courses/application.aspx

There is also a link to this page from the Program Documents page on our website, www.rxpsychology.com/Documents/Program_Documents.htm

The Program Documents page also has more information about the qualifying exam.

Once the qualifying exam is passed, either our online exam or the PEP, you have completed all requirements for the degree Postdoctoral Master of Science (M.S.) in Clinical Psychopharmacology. At this point, you are eligible to participate in the optional components of the program (though the clinical laboratory/PEP prep and practicum can overlap with your final semester in the program).

The Clinical Laboratory/PEP Prep

This is the only component of the program that involves a face-to-face meeting. It is scheduled for a location that is fair for the class as a whole. Each year, we schedule a five-day clinical laboratory, followed by a two-day PEP prep session (which is also appropriate to the in-house qualifying exam). The clinical laboratory is a necessary part of the practicum, discussed next. Each year, you will receive an announcement of the clinical laboratory, but it is only expected that students in the final year of the program will participate, and it is only required for students who want to complete the optional practicum. More details about the clinical laboratory may be found in our Supervised Clinical Experience manual, which can be accessed at the Program Documents page on our website, www.rxpsychology.com/Documents/Program_Documents.htm

The Practicum

The APA model curriculum, the military, and most bills that have been submitted at the state level...
authorizing psychologists to prescribe all call for the completion of a supervised clinical experience as part of the training. Students seeking prescriptive authority in Louisiana do not have this requirement.

The supervised clinical experience includes supervised evaluation of cases for medication. If you want us to monitor your involvement in this supervised experience, you will enroll in the course PSYC7960 Practicum. Because our role in this course is just monitoring of progress, it is a pass/fail course worth 0 credits, and you pay a fee (approximately $500) rather than tuition. Participants must identify and make arrangements for a clinical supervisor with independent prescriptive authority (M.D., D.O., or prescribing psychologist) to be approved by Fairleigh Dickinson University. In some cases we can assist in the identifying a supervisor, but we cannot guarantee a supervisor.

As defined by the APA model curriculum, the practicum must include at least 100 supervised patients and span at least two semesters. If an authorizing entity such as a state legislature has established its own conditions for the practicum, those conditions will supersede the APA guidelines. Even after the 100-patient criterion is met, participants may elect to continue participating in the practicum. More details about the practicum are available in our Supervised Clinical Experience manual, which can be accessed at the Program Documents page on our website, www.rxpsychology.com/Documents/Program_Documents.htm

**The Capstone Experience**

The APA model curriculum calls for a capstone experience at the end of the supervised clinical experience. We cannot provide a certificate of completion of the APA model curriculum without completion of the capstone experience, but we can confirm completion of the practicum for legal reasons (e.g., pursuit of licensure as a prescriber) without the capstone.

The capstone is a two-hour oral examination covering case formulation, treatment planning, and other elements of the supervised clinical experience. More details may be found in our Supervised Clinical Experience manual, which can be accessed at the Program Documents page on our website, www.rxpsychology.com/Documents/Program_Documents.htm
7. Select four exemplary doctoral and/or postdoctoral level geographically distributed, and publicly identified programs in psychology in this specialty and provide the requested contact information. If no example programs that are APA accredited are available, please complete the appropriate Attachment (A or B) for the level of the program. If the specialty education and training occurs at both the doctoral and postdoctoral level, provide examples of both and not from the same institution.

APA offers program designation, not accreditation for MSCP training, so the four programs that have received designation are listed here:

Program One  
Postdoctoral X

Name of University, School, or Institution offering program: Alliant International University

Name of Program: Post-Doctoral Masters in Clinical Psychopharmacology

Address: 10065 Old Grove Rd. Suite 103

City/State/Zip: San Diego, CA 92131

Contact Person: Alan Lincoln, Ph.D., MSCP, BCBA-D

Telephone No: (858)-635-4767

E-mail address: alincoln@alliant.edu

Website: https://www.alliant.edu/cspp/admissions/apply/rxp-app-req/

APA Accreditation: Yes

Program Two  
Postdoctoral X

Name of University, School, or Institution offering program: Fairleigh Dickinson University

Name of Program: Post-Doctoral Masters in Clinical Psychopharmacology

Fairleigh Dickinson University

Address: 1000 River Road

City/State/Zip: Teaneck, NJ 07666

Contact Person: Anne Farrar-Anton, Ph.D., MSCP  
Telephone No. 201-315-7652

E-mail address: Farraran@fdu.edu

Website: http://view2.fdu.edu/academics/university-college/school-of-psychology/masters-level-programs/ms-in-clinical-psychopharmacology/

APA Accreditation: Yes
Program Three

Name of University, School, or Institution offering program: University of Hawai‘i Hilo

Name of Program: Post-Doctoral Masters in Clinical Psychopharmacology

Address: Daniel K. Inouye College of Pharmacy, 34 Rainbow Drive Annex

City/State/Zip: Hilo, HI 96720

Contact Person: Judi Steinman, Ph.D.

Telephone No. 808-987-8752

E-mail address: steinman@hawaii.edu

Website: http://pharmacy.uhh.hawaii.edu/academics/MSCP/

APA Accreditation: Yes

Program Four

Name of University, School, or Institution offering program: New Mexico State University

Name of Program: Post-Doctoral Masters in Clinical Psychopharmacology

Address: MSC 3CEP, P.O. Box 30001

City/State/Zip: Las Cruces, New Mexico 88003-8001

Contact Person: Casey McDougall

Telephone No. 218-679-0187

E-mail address: clm-rxp@nmsu.edu

Website: https://cep.nmsu.edu/academic-programs/clinical-psychopharmacology/

APA Accreditation: Yes

Criterion VIII. Continuing Professional Development and Continuing Education. A specialty provides its practitioners a broad range of regularly scheduled opportunities for continuing professional development in the specialty practice and assesses the acquisition of knowledge and skills.

Commentary: With rapidly developing knowledge and professional applications in psychology, it is increasingly difficult for professionals to deliver high quality services unless they update themselves regularly throughout their professional lives through continuing education mechanisms. A variety of mechanisms may be used to achieve these goals.
1. Describe the opportunities for continuing professional development and education in the specialty practice. Provide detailed examples, such as CE offerings that are available.

A variety of resources to maintain skills and stay updated to deliver high quality psychopharmacological and integrated services is readily available. Every state’s licensing requirements include continuing education for renewal of licensure. Those states with enabling statutes authorizing qualified psychologists to prescribe have additional continuing education requirements that are particular to the psychopharmacology realm. A number of states accept continuing medical education (CME), as well as CEs offered by other organizations such as APA so that those offerings sponsored by medical or nursing programs in psychopharmacology offered within their states and at the national level are acceptable for continuing professional development as a prescribing psychologist. Indeed, the numbers of possible opportunities are many and would produce an extensive list of available resources. Below is a sampling of these opportunities in the continuing education realm such as those offered at APA conventions, workshops offered by other professional societies, and commercial continuing education providers, as well as other institutions of higher learning, such as the Foundation for Advanced Education and Sciences located at the National Institutes of Health. Many prescribing/medical psychologists and others attend case conference rounds at local hospitals and teaching universities where psychopharmacology is frequently discussed. There are a number of online programs and home study courses available in clinical psychopharmacology. A sample of those programs is included. American Psychological Association’s CE Office has two videos on demand that deal with psychopharmacology training. One is a three-unit presentation on the concept of pharmacodynamics and pharmacokinetics and the second is a two-unit presentation on treatment of depression. Additionally, there are a vast number of offerings available on YouTube; for example, John Preston’s workshop. Additionally, ASAP-Division 55 has sponsored or co-sponsored a number of continuing education programs, such as one offered in 2011 in Washington, D.C. contemporaneously with APAPO’s State Leadership Conference. ASAP/Division 55’s annual Mid-Winter Workshop was last held in San Francisco and co-sponsored with the California Psychological Association’s Division V — an announcement flyer is attached. A similar two-day training workshop as held in San Diego in 2016.

There are numerous opportunities for training and updating the psychopharmacologist’s skills and competency in continuing professional development in clinical psychopharmacology. See the sampling list below.

http://www.cpapsych.org/events/event list.asp
Fourth Annual Psychopharmacology Mid-Winter Conference Essentials for Non-Opioid Pain Management

February 25th and 26th

ACCME, AMA PRA CME, APA CE's Available

Location: Alliant International University San Francisco

1 Beach Street, San Francisco, CA 94133
Next to PIER 39 Located along the historic San Francisco Waterfront, PIER 39 is two blocks east of Fisherman's Wharf at Beach Street and The Embarcadero.

Registration and conference details available at:

http://www.cpapsych.org/events/event list.asp

Educational Program:

- Functional Biomarkers of Pain. Anastasia Jandes, M.D., Pharm.D. (Ethos)
- Empirically Supported Psychosocial Treatments for Pain. Ravi Prasad, Ph.D. (Stanford)
- Treating Refractory Depression and Pain. Drew Sturgeon, Ph.D. (Stanford)
- Medical Marijuana: Does it Have a Role in Pain Management? Maria Mangini, Ph.D., FNP (Holy Names)
- Recent Advances in the Neurobiology of Pain. Allen Basbaum, Ph.D. (UCSF)
- When Pain Treatment Becomes Addiction Treatment. Anna Lembke, M.D. (Stanford)

Networking Opportunities:

Attendees represent a professional and multispecialty group of clinicians treating
patients in pain.
CE_psychopharmacology_petition_application

A Sampling of the offerings listed on the 5 pages that come up with a simple Google search of Psychopharmacology Continuing Education Training — Fall 2018

*Audio Digest — Home Study

*Nurse.com — Online Study: fulfills ANCC psychopharmacology for NPs

http://www.aacap.org/AACAP/CME and Meetings/2017 Psychopharmacology Update Institute/AACA P/CME and Meetings/Psychopharm/2017 Psychopharmacology Update Institute/2017 PUI Home.asp?hkey=2fddf2c8-a3c2-4190-80bb-9ad87cefa9ea

*Massachusetts General Hospital, Psychiatry Academy: Child-Adolescent Psychopharmacology 2018, March 2-4, 2018 Boston, MA — Training Institution Course mghcme.org/courses/course-detail/psychopharmacology_2018

*Psychopharmacology Institute, Online Study: 2017-2018 Online Update, 32 CMEs for iPad or Android devices
https://cme.psychopharmacologyinstitute.com/premium-membership/?gclid=CjwKCAiApJnRBRBlIEiwAPTgmx892hE_N6U4QxiFL2wE05BDkFcyuuJoOQyhdYPwN t-zsu98h9eBxoCCrUQAvD BwE

*https://sma.org/education-sma/events/medical-dilemmas-conference/ - Professional Society Conference

*Metacrawler.com — A Locator to find National, regional, local & Online Psychopharmacology CMEs from 1 CME up to 40 CMES
2. Describe the formal requirements, if any, for continuing professional development and education to maintain competence in the specialty

The 2007 APA Model Curriculum for Psychopharmacology requires that psychologists become proficient in psychopharmacology and notes that psychologists are responsible for maintaining practice competency in terms of both general core scientific knowledge as well through updating as appropriate in clinical practice application skills. This can be accomplished through additional formal coursework such as taking university courses at a training institution either physically nearby or online or through continuing professional education opportunities. The number of CE credits mandated for maintenance of skill as prescribing/medical psychologists depends on the jurisdiction in which the psychologist is practicing. For example, prescribing psychologists in New Mexico must complete sixty hours in each two-year renewal cycle of which forty must be specific in the domain of psychopharmacology with either clinical application or science-based core material. In Louisiana, the requirement is thirty hours for the medical psychology license based on topics identifiable as clinical psychopharmacology that are core science or applied practice. Illinois has just completed their regulations. The Illinois CE requirements include a minimum of twenty hours of clinical psychopharmacology, again core science-based knowledge or applied practice skills, in addition to the twenty-four hours of regular CE continuing education required for the general licensure per year in order to maintain their level of skill in psychopharmacology and to foster professional development as a psychopharmacologist. In Iowa, the regulations governing prescribing psychologists are not yet completed, but will likely
To mirror the standards being used in New Mexico.

Most of the legislative bills that have been submitted for potential authorization of qualified psychologists to prescribe have mandated twenty to thirty hours per year within the psychopharmacology domain. The Psychopharmacology Examination for Psychologists (PEP) has recently been revised by the Association of State and Provincial Psychology Boards (ASPPB). The PEP was originally designed, validated, and administered by the APA Practice Organization’s College of Psychology until it was transferred to ASPPB in 2016. ASPPB has updated, re-validated, and is now administering the PEP-2. The PEP-2 is primarily designed to access knowledge associated with safe and effective practice of psychology involving psychotropic medications. It is clearly a knowledge examination; however, there are quite a few questions on the newly revised exam that are practiced-based and could be viewed as practice, skill-type competency questions. Nevertheless, the purpose of the PEP-2 is to be a knowledge-based examination. In all authorized states, candidates to become licensed to prescribe medications must pass the PEP-2 examination in addition to the educational and training standards articulated in their respective state law and regulations. Keeping current with the science-based knowledge related to clinical psychopharmacology includes thorough knowledge and ability to perform and interpret physical examinations and laboratory findings as articulated in the APA 2007 Model Curriculum.

3. Describe the minimum expectations, if any, for continuing professional development and education to maintain competence in the specialty.

Continuing professional developmental and educational requirements are clearly specified in the respective state statutes in Louisiana, New Mexico, Illinois, and Iowa. All licensed practitioners are responsible for maintaining competency in a manner consistent with the ethical conduct of practice in clinical psychopharmacology. Both science-based, core knowledge as well as clinical application, practice-skills are to be maintained through the continuing education process across the lifespan of their career in the practice of psychology. This is the gold standard for practicing psychologists, as well as prescribing/medical psychologists. In day to day practice, the majority of prescribing/medical psychologists acquire a much greater number of hours in self-study, home study, participation in rounds at local institutions and rehab centers, as well as formal educational endeavors, including CE workshops, large-scale courses and university offerings. The regulatory authority within each of the respective states - Louisiana, New Mexico, Illinois, and Iowa - are routinely verifying the CE credits that are claimed by individual prescribing/medical psychologists through periodic licensee audits.

Criterion IX. Effectiveness. Petitions demonstrate the effectiveness of the services provided by its specialist practitioners with research evidence that is consistent with the APA 2005 Policy on Evidence-based Practice.

Commentary: A body of evidence is be presented that demonstrates the effectiveness of the specialty in serving specific populations, addressing certain types of psychological, biological and social behaviors, or in the types of settings where the specialty is practiced. PLEASE NOTE: If the same article illustrates more than one of these items, it may be referenced under each applicable category. Evidence should include the most current available published references in each area (e.g., books, chapters, articles in refereed journals, etc.)
While reliance on some on classic references is acceptable, the majority of references provided should be from last five years.

Clinical psychopharmacology is a specialty that includes both prescribing psychologists in the states and areas where psychologists can prescribe, and psychologists who act as consultants in psychopharmacology in states where prescribing laws have yet to be enacted. In keeping with that understanding, the articles below cover issues where the clinical psychopharmacologist works as a prescribing psychologist and/or consultant to the non-mental health prescribing provider. Due to the unique nature and developing field of clinical psychopharmacology, specific research on the efficacy of prescribing psychologists is ongoing, while research into the psychologist/psychopharmacologist is embedded in other research addressing treatments that include both psychotherapy and pharmacotherapy.

1. Provide at least five psychological manuscripts published in refereed journals (or equivalent) that demonstrate the efficacy of the specialty's services for dealing with the types of clients or populations (including groups with a diverse range of characteristics and human endeavors) usually served by this specialty. Summarize and discuss the relevance of the findings of the studies, specify populations, interventions, and outcomes in relation to the specialty practice.

Clinical Psychopharmacologists work with many different populations. Below are samples of different populations.

In either their role as prescribers or consultants, clinical psychopharmacologists work with the issues surrounding postpartum depression. The combination of psychotherapy and pharmacotherapy plays a significant role with this population. Collaborative work in this area is more critical by the structure of the medical delivery system when it is more likely that the psychologist in either the prescribing or consulting role will spend more time with the patient than their obstetrician/gynecologist.


Prescribing psychology began in the military and continues in all branches of the military at this time. Posttraumatic Stress Disorder (PTSD) is a frequent diagnosis in the post-combat military population. The combination of psychotherapy and pharmacotherapy has shown to be an effective means of treatment for this specialty population.


Pediatric care is another area in which trained psychologist/clinical psychopharmacologists serve a significant role in treatment and treatment planning either as prescribers or consultants to pediatricians.


2. Provide at least five psychological manuscripts published in refereed journals (or equivalent) that demonstrate the efficacy of the specialty's services for dealing with the types of psychological, biological, and/or social problems usually confronted and addressed by this specialty. Summarize and discuss the relevance of the findings of these studies, particularly their measures and outcome results.

The meta-analysis of combined treatment offered by prescribing psychologists reaffirms the efficacy of combined therapy, psychotherapy and pharmacotherapy, in the treatment of major depression, panic disorder, and obsessive-compulsive disorder.


Substance abuse is an ongoing national epidemic. Psychopharmacologically-trained psychologists offer a unique understanding of the problem and by addressing both the biological and psychological aspects of the issue, offer a significant benefit to the patient. Withdrawal from dependency is not only the goal, but rather restoration of psychological function should be the primary goal.


Attention-deficit hyperactivity disorder, oppositional defiant disorder, and conduct disorder present a significant social problem in developing adolescents and young adults. Understanding and applying the principles of the psychobiosocial approach of clinical psychopharmacology offers an integrated approach.


Bipolar disorder offers a challenge to the mental health providers due to its combination of biological and psychological issues. Psychologists trained in clinical psychopharmacology are trained to address both aspects of the condition.
Posttraumatic Stress Disorder is a significant problem in the veteran population. This condition can lead to long-term social dysfunction and there is disproportional representation of veterans with PTSD in the homeless population. Complications of PTSD are both physical and emotional and they require collaborative care, or a provider trained in both psychological and pharmacological interventions to address their needs.


3. Provide at least five psychological manuscripts published in refereed journals (or equivalent) that demonstrate the efficacy of the specialty's procedures and techniques when compared with services rendered by other specialties or practice modalities. Summarize and discuss the relevance of the findings of these studies, particularly their measures and outcome results and the comparisons to other specialties or modalities.

Psychologists with advanced training in clinical psychopharmacology bridge a gap in mental health treatment. The procedures and techniques they use already exist in other mental health specialties. Psychiatrists prescribe medications, but have, for the most part, left behind psychotherapy and other behavioral techniques. General practitioners who prescribe the majority of psychotropic medications have little training in the nuance of psychopharmacological prescribing nor do they typically have the time to give the mental health patient who needs more than medication alone. Finally, most psychologists not trained in psychopharmacology are adept in psychological techniques, but may not be aware of the details of clinical psychopharmacology. As stated by McCormick “having come into being outside of traditional medicine, the prescribing psychologist does not ask what medicines should be used; rather, which of the many tools of behavioral change are appropriate for a given situation and if medicine is one of those tools, how can its use be maximized by the concurrent application of psychotherapy and other relevant behavioral principles.” In assessing the efficacy of pharmacologically-trained psychologists, we must evaluate the overlap between traditional psychiatry and psychology.


4. Provide at least five psychological manuscripts published in refereed journals (or equivalent) that demonstrate the efficacy of the specialty's services for dealing with the types of settings or organizational arrangements where this specialty is practiced. Summarize and discuss the relevance of the findings of these studies in relation to the specialty practice.

Psychologists trained in clinical psychopharmacology practice in a variety of different settings and roles. Each setting offers different challenges and opportunities. Pioneering prescribing psychologist, Elaine LeVine, commented that the ability to prescribe and not to prescribe provides an avenue for psychologists to be viewed as a full-fledged, primary care provider. In the primary care setting, Alan Gruber concluded that “psychologists can play an important role in addressing issues of compliance, motivation for recovery, behavioral and personality changes secondary to medications or disease process and so forth, that are an essential part of integrated primary care.”

Clinical psychopharmacologists in collaborative practice with the pediatric population offer a different outlook on their patients. Psychologists with training in psychopharmacology “having come into being outside of traditional medicine the prescribing psychologist does not ask what medicines should be used; rather, which of the many tools of behavioral change are appropriate for a given situation and if medicine is one of those tools, how can its use be maximized by the concurrent application of psychotherapy and other relevant behavioral principles” (McCormick, 2010).

Prescribing psychologists offer their services in the public health system to populations that may be traditionally severely underserved. In the years that they have been working in those settings, their roles have grown and their services more accepted and respected.


Criterion X. Quality Improvement. A specialty promotes ongoing investigations and procedures to develop further the quality and utility of its knowledge, skills, and services.

Commentary: The public interest requires that a specialty provides the best services possible to consumers. A specialty, therefore, continues to seek ways to improve the quality and usefulness of its practitioners' services beyond its original determination of effectiveness. Such investigations may take many forms. Specialties promote and participate in the process of accreditation in order to enhance the quality of specialty education and training. Petitions describe how research and practice literatures are regularly reviewed for developments which are relevant to the specialty's skills and services, and how this information is publicly disseminated.

1. Provide a description of the types of investigations that are designed to evaluate and increase the usefulness of the skills and services in this specialty. Estimate the number of researchers conducting these types of studies, the scope of their efforts, and how your organization and/or other organizations associated with the specialty will act to foster and communicate these developments to specialty providers. Provide evidence of current efforts in these areas including examples of needs assessed and changed that resulted.

2. Describe how the specialty seeks ways to improve the quality and usefulness of its practitioners' services beyond its original determinations of effectiveness.

3. Describe how the research and practice literature are regularly reviewed for developments which are relevant to the specialty's skills and services, and how this information is publicly disseminated. Give examples of recent changes in specialty practice and/or training based upon this literature review.

4. This criterion includes two components: one focusing on past activities around accreditation (X.4.a), and the other on future activities around accreditation (X.4.b).

For X.4.a, describe how the specialty has promoted and participated in the process of accreditation in order to enhance the quality of specialty education and training. Also, indicate how many programs in this specialty have been accredited at the doctoral and/or postdoctoral level.

For X.4.b, describe how the specialty will promote and participate in the process of accreditation in the future in order to enhance the quality and sustainability of specialty education and training. Also, explain how the future accreditation support activities will be consistent with the Education and Training Guidelines: A Taxonomy for Education and Training in Professional Psychology Health Service Specialties (see: http://www.apa.org/ed/graduate/specialize/taxonomy.pdf) and will be sustained (e.g., training CoA site reviewers with specialty expertise, sponsoring CoA self-study workshops, fostering the development or ongoing operation of a specialty training council, administrative agreements and protections, financial support, etc.). Explain how these activities will result in an increase in the number of specialty programs that are accredited at the doctoral and/or postdoctoral level.

Criterion XI. Guidelines for Specialty Service Delivery. The specialty has developed and disseminated guidelines for practice in the specialty that expand on the profession's general practice guidelines and ethical principles.

Commentary: Such guidelines are readily available to specialty practitioners and to members of the public and describe the characteristic ways in which specialty practitioners make decisions about specialty services and about how such services are delivered to the public.

Criterion XI
Criterion XI. Guidelines for Specialty Service Delivery. The specialty has developed and disseminated guidelines for practice in the specialty that expand on the profession's general practice guidelines and ethical principles.

Commentary: Such guidelines are readily available to specialty practitioners and to members of the public and describe the characteristic ways in which specialty practitioners make decisions about specialty services and about how such services are delivered to the public.

1. Describe the specialty-specific practice guidelines for this specialty. Please attach. How do such guidelines differ from general practice guidelines and ethics guidelines? (In this context, professional specialty guidelines refer to modes of conceptualization, identification and assessment of issues, and intervention planning and execution common to those trained and experienced in the practice of the specialty. Such professional guidelines may be found in documents or websites including, but not limited to, those bearing such a title or as described in a variety of published textbooks, chapters, and/or articles focused on such contents.)

In response to a series of articles describing the professional challenges faced by psychologists as they become prescribers (e.g., Antonuccio, Danton, & McClanahan, 2003; Buelow & Chafetz, 1996; DeLeon, Robinson Kurpius, & Sexton, 2001; McGrath et al., 2004), it was recognized in discussions among members of the American Psychological Association (APA) Division 55, the American Society for the Advancement of Pharmacotherapy, that the implications of the APA (2002b) Ethical Principles of Psychologists and Code of Conduct (the Ethics Code) specifically for psychologists’ involvement in pharmacotherapy merited clarification. Beth Rom-Rymer, president of the division at that time, convened a task force to explore the issue. Three of seven task force members were psychologists with prescriptive authority in the civilian or military sector. The task force also included representation from Division 18 (Psychologists in Public Service). The Practice Guidelines Regarding Psychologists’ Involvement in Pharmacological Issues were published in 2011 (See Appendix B; http://www.apa.org/pubs/journals/features/pharmacological-issues.pdf).

Members of the task force reviewed relevant literature and participated in formulating the content of the guidelines. The literature review began with a document titled Policies of Other Organizations and Background Materials: Pharmaceutical Marketing, Gifts, and Financial Support (APA, 2002c), which provided primary sources addressing the relationship between prescribing professionals and the pharmaceutical industry. This document was updated with more recent publications on the topic. Medicine, nursing, pharmacy, and the pharmaceutical industry have all generated guidelines relevant to the objective practice of pharmacology. These were reviewed as well. Finally, the task force considered specific implications of the APA’s (2002b) Ethics Code for psychologists’ involvement in the practice of pharmacotherapy.

The guidelines presented in this document are intended to provide a resource to psychologists interested in the issue of what represents optimal practice in relation to pharmacotherapy. They are not intended to apply to those psychologists who may choose not to become directly or indirectly involved in medication management regardless of their...
level of competency. As background to these guidelines, it may be noted that psychologists’ activities reflect three different levels of involvement in pharmacotherapy. The first level occurs when the psychologist serves as the prescriber. As indicated above, psychologists currently can only prescribe in the U.S. military and in two states. The population of psychologists with prescriptive authority is therefore small, but is one that is sure to increase in size in the coming years. It should be noted that some psychologists prescribe only through a second license, for example, as a nurse practitioner or physician. Such individuals determine for themselves the degree to which the guidelines presented here for prescribing are relevant to their activities.

The second level occurs when psychologists actively collaborate in medication decision-making. The psychologist is not ultimately responsible for the decision that is made in these circumstances, but does play a substantive role in the decision-making process. VandenBos and Williams (2000) found that 87% of their sample of practicing psychologists reported they had been involved in the decision to prescribe medication for at least one of the patients on their caseloads. However, it is unclear what role they played in the decision, especially since over 80% also indicated this was not a frequent occurrence. On the other hand, 7% of respondents indicated they participated in the decision to prescribe for more than half their patients, suggesting that they were consistently and perhaps formally involved in decisions about the appropriateness of medications for their patients. This might for example include making recommendations concerning specific classes of medications to be used or even specific medications, dosing, or other aspects of the treatment regimen, though the prescribing professional maintains ultimate responsibility for the decision.

The third, and probably most common, level of involvement occurs when psychologists provide information that may be relevant to pharmacotherapy decision-makers. The information-providing psychologist may offer opinions relevant to the pharmacotherapy, but does not play a formal role in the decision-making process. Examples of providing information include reporting concerns about the treatment to the prescribing professional, referring patients for a medication consult, pointing patients to vetted referral or information sources, or discussing with patients how to address their concerns about the medication with the prescriber. It is likely that many of those psychologists who indicated to VandenBos and Williams (2000) that they were infrequently involved in the decision to prescribe did so in an information-providing role. Table 1 summarizes the characteristics of the three roles.

Some of the guidelines presented in this document are targeted specifically at the population of psychologists with prescriptive authority. Others are considered relevant in any case where the psychologist is actively involved in decision-making, whether as a prescriber or collaborator. Still others are considered applicable any time a psychologist is involved in the practice of pharmacotherapy whether as a prescriber, collaborator, or information provider. Given the unique elements of the population of psychologists who can prescribe on the one hand, and the frequency with which psychologists participate in collaborative and information-providing activities on the other, it was considered important to provide guidelines appropriate to each set of activities. However, it is important to recognize that a principle of optimal practice may have different implications in the context of active participation versus providing information.
Technology-based alternatives to face-to-face contact with patients are proving particularly useful in the conduct of pharmacotherapy (Hyler, Gangure, & Batchelder, 2005). The telephone and internet have dramatically affected the nature of interactions with patients; videoconferencing can expand these options even further, particularly in rural areas. E-prescribing and e-mail correspondence between patients and providers regarding medication will be used more and more as a mechanism for service delivery. For example, prescription renewal can often be safely and efficiently accomplished without face-to-face contact between the prescribing professional and the patient. These guidelines can be considered relevant across all modalities of contact.

The Practice Guidelines regarding psychologists’ involvement in pharmacological issues differs from general practice guidelines and ethics guidelines in that they have to do with general professional conduct in a professional domain of psychological practice. Practice guidelines refer to statements that suggest or recommend general principles of optimal behavior or conduct for psychologists. Guidelines differ from general practice guidelines and ethics guidelines because they are specifically designed for a particular psychological specialization. Given the degree to which involvement in pharmacotherapy represents a new activity for psychologists, and the level of controversy that has surrounded the use of psychotropic medications in general and the prescriptive authority movement for psychologists in particular, it is tempting to proscribe or mandate certain behaviors or professional practices associated with pharmacotherapy. This is not the intention of these specialty guidelines. Nothing in these guidelines is intended to contravene any limitations set on psychologists’ activities based on ethical standards, federal or local statutes or regulations, or – for those psychologists who work in agency and public settings – the policies of those agencies in which they provide services.

As in all other circumstances, psychologists must be aware of the standards of practice for the jurisdiction or setting in which they function and comply with those standards. In particular, psychologists who participate in collaboration and providing information should be aware of local statutory and regulatory language or opinions by the state board of psychology concerning their involvement in pharmacotherapy and the use and interpretation of laboratory tests. Fourteen jurisdictions have explicitly identified certain activities related to medication management as within the scope of practice of psychology—California, District of Columbia, Florida, Louisiana (for psychologists without prescriptive authority), Maine, Massachusetts, Missouri, New Hampshire, New Jersey, New York, Ohio, Oklahoma, Tennessee, and Texas—though the description of permitted activities and circumstances under which they are permitted varies. In contrast, several states have passed legislation prohibiting discussion of medication by school personnel (including psychologists employed by schools). Even so, the legal status of involvement in pharmacotherapy for psychologists who cannot prescribe remains an open question in other jurisdictions.

Guidelines for the clinical psychopharmacology specialty differ from those created for other APA-governed organizations in that prescribing medications is unique to this practice. For this reason, the specialty looks to practice guidelines used by other professions that prescribe including psychiatry (See https://www.psychiatry.org/psychiatrists/practice/clinical-practice-guidelines) and nursing (See https://www.ncsbn.org/campaign-for-consensus.htm). Nurse practitioners are in the process of seeking a consensus amongst different states to create uniformity in prescribing practices; as prescribing psychology expands to different states, the national
guidelines will be expanded for clinical psychopharmacology specialists as well.

2. How does the specialty encourage the continued development and review of practice guidelines?

The specialty encourages the continued development and review of practice guidelines by hosting workshops at State and APA annual Conventions. In Illinois, for example, Dr. Beth Rom-Rymer speaks, on a weekly basis, on the 2014 law, that gives prescriptive authority to licensed clinical psychologists with specialized training in Clinical Psychopharmacology and Medicine. In these talks, Dr. Rom-Rymer discusses the practice guidelines and encourages further development. In 2018, the Practice Guidelines will be formally reviewed by Division 55 and submitted for APA approval.

3. Describe how the specialty's practitioners assure effective and ongoing communication to members of the discipline and the public as to the specialty's practices, practice enhancements, and/or new applications.

The specialty’s practitioners assure effective and ongoing communication to members of the discipline and the public as to the specialty’s practices, practice enhancements, and/or new applications, through books and articles and monthly and annual workshops and symposia.

4. How does the specialty communicate its identity and services to the public?

The specialty communicates its identity and services to the public by lobbying for prescriptive authority legislation in various states. There are approximately 180 prescribing psychologists in the United States and at least that many who have taken and passed the Psychopharmacological Exam for Psychologists (PEP). Currently, there are five states that have achieved prescriptive authority: New Mexico (2002), Louisiana (2004), Illinois (2014), Iowa (2016), and Idaho (2017). Many additional states are currently lobbying their state legislatures for prescriptive authority legislation and/or are organizing their state’s psychologists in preparation for a major lobbying effort. These states include: Hawai‘i, California, Oklahoma, Texas, Nebraska, Ohio, Florida, Connecticut, and Vermont. In those states in which psychologists have gained prescriptive authority, the prescribing psychologist network, with the support of its interested community partners, are steadfastly working to provide comprehensive mental health services to the most underserved citizens in our country.

The specialty also is served by upwards of five hundred non-prescribing, licensed clinical psychologists who specialize in clinical psychopharmacology in their consulting work. These pharmacological consultants live and work in every state around our nation and communicate their specialty status with marketing materials and a presence in social media.

References


**Criterion XII. Provider Identification and Evaluation.** A specialty recognizes the public benefits of developing sound methods for permitting individual practitioners to secure an evaluation of their knowledge and skill and to be identified as meeting the qualifications for competent practice in the specialty.

**Commentary:** Identifying psychologists who are competent to practice the specialty provides a significant service to the public. Assessing the knowledge and skill levels of these professionals helps increase the ability to improve the quality of the services provided. Initially practitioners competent to practice in the specialty may simply be identified by their successful completion of an organized sequence of education and training. As the specialty matures it is expected that the specialty will develop more formal structures for the recognition of competency in practitioners.

1. Describe the formal peer review-based examination process of board certification including its use of a review and verification of the individual's training, licensure, ethical conduct status, and a peer assessment of specialty competence.
*If this is a new petition for recognition describe a) current methods by which individual practitioners can secure an evaluation of their knowledge and skill and be identified as meeting the qualifications for competent practice in the specialty and b) efforts to establish a formal peer review-based examination process of board certification including a detailed plan and timeline.

A. Current methods used to become licensed prescribing psychologists include:

1. A doctoral level degree in Psychology.
2. Successful attainment of a license to practice Psychology in a state or territory.
3. The completion of a post-doctoral Master’s Degree in Clinical Psychopharmacology.
4. Successful passage of the Psychopharmacology Examination for Psychologists.
5. Sufficient experiential/practicum training according to individual state licensure requirements.

The follow requirements are necessary to qualify for the Specialty of Clinical Psychopharmacologist as proposed in this application:

1. A doctoral level degree in Psychology.
2. Successful attainment of a license to practice Psychology in a state or territory.
3. The completion of a post-doctoral Master’s Degree in Clinical Psychopharmacology.

In addition to these requirements for the specialty, as approved by the Division 55 Board of Directors, licensure in all states requires successful passage of the Psychopharmacology Examination for Psychologists (PEP). The PEP is a formally recognized professional examination in advanced psychopharmacology. The examination was initially developed by the American Psychological Association and administered by them until 2017 when the responsibility for the examination was transferred to The Association for State and Provincial Psychological Boards. The ASPPB is a nationally accepted association that provides the Examination for the Professional Practice of Psychology. The new updated PEP will be available in early 2018. The following ASPPB applicant requirements have been established for admission to the PEP:

1. Applicant must hold an active license for independent practice as a psychologist at the doctoral level with demonstrated training and experience as a health services provider as defined in the ASPPB Model Act.

2. Applicant must submit an attestation that the psychologist's licensure is in good standing with no current or pending disciplinary actions.

3. Applicant must present a transcript demonstrating successful completion of a post-doctoral psychopharmacology training program from a regionally accredited institution in the U. S. or a provincially or territorially chartered institution in Canada. The psychopharmacology program must be APA designated or demonstrate coursework that meets the criteria outline for designation.

4. Applicant must submit an attestation verifying that the applicant has been a health service provider for a period of at least two years.

A final component of licensure to prescribe is experiential or practicum training. The number of hours of training and number of patients required vary by state law.
For New Mexico:

- 80-hour practicum in clinical assessment and pathophysiology
- 400 hours supervised practicum treating no fewer than 100 patients

For Louisiana:

- Three years of experience practicing as a medical psychologist. For those individuals licensed under R.S.37:1360.55(A), such experience shall be deemed to have commenced with the issuance of the original certificate of prescriptive authority issued by the Louisiana State Board of Examiners of Psychologists.
- Treatment of a minimum of one hundred patients including twenty-five or more involving the use of major psychotropics and twenty-five or more involving the use of major antidepressants which demonstrate the competence of the medical psychologist.

For Illinois:

- A full-time practicum of 14 months supervised clinical training of at least 36 credit hours, including a research project; during the clinical rotation phase, students complete rotations in Emergency Medicine, Family Medicine, Geriatrics, Internal Medicine, Obstetrics and Gynecology, Pediatrics, Psychiatry, Surgery, and one elective of the students' choice.

For the military and Indian Reservations:

- Clinical psychologists need to participate in a psychopharmacology practicum for eight (8) hours per week for at least one-year. The total amount of hours per year is at least 400 hours.
- A minimum of 100 separate patients.

2. Describe how the specialty educates the public and the profession concerning those who are identified as a practitioner of this specialty. How does the public identify practitioners of this specialty?

Currently, Division 55: American Society for the Advancement of Pharmacotherapy (ASAP) maintains a website that provides public information about the field of clinical psychopharmacology and prescribing psychology. [http://www.apa.org/about/division/div55.aspx](http://www.apa.org/about/division/div55.aspx). Information about the profession is disseminated primarily by the American Psychological Association (APA). Information about the PEP exam currently is made available publicly by the Association of State and Provincial Psychology Boards (ASPPB) at their website: [http://www.asppb.net/?page=PEPExam](http://www.asppb.net/?page=PEPExam)

Fact Sheets about prescriptive authority and Division 55 Resources include the following topics (with links):

- Articles by Div. 55 Members
Clinical Psychopharmacologists are identified in the same ways as other psychological specialties. For the purpose of this application, identification will include the title of Clinical Psychopharmacologist under their name indicating the specialty. This identification may be limited by individual state licensing law if that law places limits on how a psychologist can identify their specialty. Incumbent on the individual psychologist is a familiarity with their individual state licensing statute to insure their identification does not violate their license. Additionally, in states where psychologists can prescribe they must use the title granted to them by their licensing law. In states were psychologists cannot prescribe or should an appropriately trained psychologist with a specialty in clinical psychopharmacology in a state where psychologists can prescribe chooses not to seek prescribing privileges they can include their post-doctoral degree in clinical psychopharmacology after their highest degree; e.g., Jane Doe, Ph.D., M.S.C.P.

3. Estimate how many practitioners there are in this specialty (e.g., spend 25% or more of their time in services characteristic of this specialty and provide whatever demographic information is available) and how many are board certified through the process decried in item 1

The specialty of Clinical psychopharmacology has yet to be established it is therefore not possible to identify how many individuals practice in this specialty on a consulting basis. There currently are approximately 180 licensed prescribing psychologists. There are more than 700 graduates with a post-doctoral master's degree in Clinical Psychopharmacology at this time and there are an estimated 140 psychologists enrolled in post-doctoral master’s degree programs in clinical psychopharmacology. An estimated 200 psychologists have passed the PEP.
Public Description:

An important component of the recognition process is to develop a public description of the specialty that can be used to inform the public about the specialty area. Please develop a brief description of the specialty by responding to the questions below (total combined word limit for all five questions must not exceed 400 words). This provides the foundation for what will appear on the APA website upon recognition of the specialty and should be understandable to the general public (wording should not exceed an eighth-grade level). Descriptions will be edited for consistency to conform to the CRSPPP website standards.

1. Provide a brief (2-3 sentences) definition of the specialty.

Clinical psychopharmacology is the study by psychologists of pharmacotherapy. The specialty focuses on the psychobiosocial approach to treatment of mental health problems. This approach, while asserting the primacy of psychological treatments, incorporates the rational use of pharmacological agents when indicated to achieve the maximum benefit to the patient.

2. What specialized knowledge is key to the specialty?

The knowledge necessary for clinical psychopharmacology includes the full set of psychological skills currently recognized in the practice of psychology and, in addition, the practical knowledge of clinical pharmacotherapy. This knowledge of pharmacotherapy includes the understanding of the physical, emotional, and sociological impact of the prescription of psychotropic medications, and the added responsibility that imparts on the prescriber.

3. What problems does this specialty specifically address?

The specialty of Clinical Psychopharmacology addresses several problems. On a practical level, it addresses the critical shortage of trained, mental health providers. On a more general level it allows a clinician, trained first in non-medicinal treatments, to address and conceptualize a mental health issue from the psychobiosocial perspective.

4. What populations does this specialty specifically serve?

The specialty serves a broad spectrum of populations, specifically those populations where pharmacotherapy is currently employed either as a monotherapy or as part of a coordinated treatment approach using both psychological and pharmacological interventions.

5. What are the essential skills and procedures associated with the specialty?

The essential skills necessary in Clinical Psychopharmacology are first and foremost the psychological skills necessary to practice psychology. Then, in addition to those skills, the clinical psychopharmacologist must possess the knowledge and understanding necessary for the responsible use of pharmacological interventions. The procedures necessary include clinical evaluation, treatment planning to include both psychological and pharmacological interventions, and the ongoing reevaluation of the plan as treatment progresses, modifying the plan as needed while working to integrate psychological/pharmacological treatment into the patient’s overall health care.
Attachment A

Structures and Models of Education and Training in (name of specialty) Psychology

Doctoral Program

COMPLETE THE FOLLOWING FOR ANY EXAMPLE DOCTORAL PROGRAMS SUBMITTED IN CRITERION VII THAT ARE NOT APA ACCREDITED

Program One
Name of University, School, or institution offering program:

Name of Program:

Address:

City/State/Zip:

Contact Person: Telephone No.

E-mail address:

Website:

1. Provide evidence that your program, regardless of setting, (a) maintains a psychology faculty; (b) provides opportunities for scholarly inquiry and practice by the faculty; and (c) provides support for trainees to encourage and expand learning opportunities beyond course work.

2. Provide evidence from your program that published descriptions of the program specify whether or not graduates can satisfy the education and training requirements for advanced recognition in the specialty.

3. Indicate by document and page number where your program is clearly identified as a psychology program whose intent is to educate and train psychologists.

4. Enclose an organizational chart describing the administrative relationship of the program with other units within the organization (e.g., College/Division/Department/Program/Specialty). Indicate lines of authority for both academic decision making and resource allocation. Indicate names, titles, addresses, phone numbers, and authority.

5. Using examples of typical trainee schedules, show the sequence of courses recommended for each year level of trainees enrolled in the program.

6. Do you require at least three full-time years of graduate study (or the equivalent thereof) at your institution? (enclose documenting policy statement)

   Yes  No

7. Are two academic years of study at a single institution required for award of the degree? (enclose documenting policy statement):
8. Do you require at least one academic year of full-time residency (or the equivalent thereof) at the same institution for the award of the degree? (enclose documenting policy statement):

Yes  No

9. Using the following format, indicate the courses that your program requires. Please list didactic courses only here. Information about practicum experience will be requested elsewhere.

<table>
<thead>
<tr>
<th>Title</th>
<th>Number</th>
<th>Required of Elective</th>
<th>Catalog Page#</th>
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<tbody>
<tr>
<td>a. Scientific &amp; Professional Ethics and Guidelines</td>
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<tr>
<td>b. Research Design &amp; Methodology</td>
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<td>c. Statistics</td>
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<tr>
<td>d. Psychological Measurement</td>
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<td>e. History &amp; Systems</td>
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<tr>
<td>f. Biological Bases of Behavior</td>
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<td>i. Individual Behavior</td>
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<tr>
<td>j. Specialty course taught in department</td>
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<tr>
<td>k. Specialty course taught in other departments</td>
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10. Using this format, show how laboratory, practicum, and internship requirements are met. NOTE: For practicum: names and agencies used, nature of agency, its mission, financial support, administrative structure, types of clients seen, services offered. For internship: name of agency, how they are selected, communication between psychology program and internship agency, name of chief psychologist and director of training, and nature of agency, its mission, financial support, administrative structure, types of clients seen, services offered.

Types of agency and experience:

<table>
<thead>
<tr>
<th>First Year</th>
<th>Laboratory, Practicum, Internship (please specify)</th>
<th>Name and Qualifications of Agency and Institutional Supervisor</th>
<th>Number of Trainees Placed in the Last Two Years</th>
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<tr>
<td>Second Year</td>
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<td>Third Year</td>
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<td></td>
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<tr>
<td>Fourth Year</td>
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<td></td>
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<tr>
<td>Fifth Year</td>
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</table>
11. Competencies in *(name of specialty)* psychology (please list all of the specific competencies which graduates of this program have mastered as a requirement for completion of the doctoral degree).

<table>
<thead>
<tr>
<th>Competency</th>
<th>Description of Competency</th>
<th>Description of how the Competency is Acquired</th>
<th>Criterion for Establishing Competence</th>
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Attachment B

Structures and Models of Education and Training in (name of specialty) Psychology

Postdoctoral Program

COMPLETE THE FOLLOWING FOR ANY EXAMPLE POSTDOCTORAL PROGRAMS SUBMITTED IN CRITERION VII THAT ARE NOT APA ACCREDITED

Program One

Name of University, School, or institution offering program:

Name of Program:

Address:

City/State/Zip:

Contact Person: Telephone No.

E-mail address:

Website:

1. Provide evidence that your program, regardless of setting, (a) maintains a psychology faculty; (b) provides opportunities for scholarly inquiry and practice by the faculty; and (c) provides support for trainees to encourage and expand learning opportunities beyond course work.

2. Provide evidence from your program that published descriptions of the program’s specify whether or not graduates can satisfy the education and training requirements for advanced recognition in the specialty.

3. Indicate by document and page number where your program is clearly identified as a specialty psychology program whose intent is to educate and train psychologists in the specialty.

4. Enclose an organizational chart describing the administrative relationship of the program with other units within the organization (e.g., College/Division/Department/Program/Specialty) Indicate lines of authority for both academic decision making and resource allocation. Indicate names, titles, addresses, phone numbers, and authority.

5. Using examples of typical trainee schedules, show the sequence of courses recommended for each year level of trainees enrolled in the program.

6. Do you require at least one year of full-time training (or the equivalent thereof) at your institution? (enclose documenting policy statement):

   Yes  No
7. Describe the education and training provided to the postdoctoral candidates in the program.
8. Competencies in (name of specialty) psychology (please list all of the specific competencies which graduates of this program have mastered as a requirement for completion of the postdoctoral program).

<table>
<thead>
<tr>
<th>Competency</th>
<th>Description of Competency</th>
<th>Description of how the Competency is Acquired</th>
<th>Criterion for Establishing Competence</th>
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END OF PETITION FORM
Appendix A

Application Requirements for Different MSCP Programs

Alliant International University

https://www.alliant.edu/cspp/programs-degrees/psychopharmacology/

Fairleigh Dickenson University


New Mexico State University

https://cep.nmsu.edu/academic-programs/clinical-psychopharmacology/admission/

University of Hawai`i at Hilo

See attached
UNIVERSITY OF HAWAI'I AT HILO
The Daniel K. Inouye College of Pharmacy
M.S. in Clinical Psychopharmacology Application Form

Please type or print clearly in ink. Complete this form and submit it to:
University of Hawaii at Hilo The Daniel K. Inouye College of Pharmacy, MSCP Program Admissions, 200 W. Kawili Street, Hilo, HI 96720

Academic Year ( )

Gender ( ) Male ( ) Female

Birthdate (MM/DD/YY) / / Non-US Citizenship-Visa Type (Attach copy of green card)

Social Security # Legal Name: First/Last First/Given Middle Any Other Names Used

Citizenship

Current Mailing Address: Street City/Province State/Country Zip/Postal Code

Permanent Address: Street City/Province State/Country Zip/Postal Code

Email Address(es): Were any of your祖先 Hawaiian?

Yes

No

Ethnicity (Select One) Race (Select One or more)

Hispanic or Latino

Not Hispanic or Latino

American Indian (AI)

Asian Indian (IN)

Black or African American (AA)

Chinese (CH)

Filipino (FI)

Hispanic, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race

Asian Indian (IN)

Black or African American (AA)

Chinese (CH)

Filipino (FI)

Hispanic, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race

Japanese (JP)

Korean (KO)

Latino (LA)

Native Hawaiian / Part Hawaiian / Mixed Hawaiian (HW)

Pacific Islander (PI)

Samoan (SA)

Tongan (TO)

Okinawan / Chamorro (OLU)

Mongolian (MC)

Vietnamese (VI)

Other Asian (OA)

Other Pacific Islander (OPI)

List your graduate field of study and degree:

Program:

Name of Institution (include initials and abbreviations, if possible) City/State or City/Country From

Name of Degree, Diploma or Certificate Additional (non-credit) courses if any:

License Number:

State:

Please submit a copy of your active state license to practice psychology.

APPLICANT'S CERTIFICATION

I certify that the answers and responses provided for all of the items on the University of Hawai'i at Hilo Application Form are complete and true to the best of my knowledge and belief. I understand that providing incomplete, incorrect, or false information may result in the rejection of my application and subject me to the requirements and/or disciplinary measures as provided under the University's Student Conduct Code. Furthermore, I understand that I may be required to produce certified documents relative to the determination of my residency status and that the provision of accurate information regarding my residency declaration will also subject me to the requirements and/or disciplinary measures provided for in the University's rules and regulations governing the determination of residency for admission and tuition purposes.

Date

Signature

RESIDENCY: Do you wish to claim residency in the State of Hawaii?

Yes (submit Residency Declaration) No
APPENDIX B

APA Designated Programs
Criterion C – Curriculum Mapping
Alliant International University

Criterion C: Curriculum (C)

The training program stands as a recognizable, organized, sequence of study and experience. There is an identifiable, integrated program organization and specified faculty responsible for it. The intent of this criterion is that the education and training of psychologists for prescriptive authority occur within a program with an identifiable organization, curriculum and faculty. Program resources provide for stability of funding and continuity of faculty allowing for sufficient opportunity to teach, supervise, and evaluate each student.

The program must offer an integrated, organized, and sequential program of instruction as evidenced through the following:

- An organized sequence of courses with relevant syllabi;
- Frequent evaluation of students’ knowledge and application of that knowledge and feedback to students of outcomes;
- Periodic program evaluation;
- Certification of program completion upon demonstration of appropriate level of competence

C1. Didactic Curriculum

The didactic curriculum must consist of at least 400 contact hours covering the following content domains:

**Basic Science**
- Anatomy & Physiology
- Biochemistry

**Neurosciences**
- Neuroanatomy
- Neurophysiology
- Neurochemistry

**Physical Assessment and Laboratory Exams**
- Physical Assessment
- Laboratory and Radiological Assessment
- Medical Terminology and Documentation

**Clinical Medicine and Pathophysiology**
- Pathophysiology with particular emphasis on cardiac, renal, hepatic, neurologic, gastrointestinal, hematologic, dermatologic and endocrine systems.
- Clinical Medicine, with particular emphasis on signs, symptoms and treatment of disease states with behavioral, cognitive and emotional manifestations or comorbidities
  - Differential Diagnosis
  - Clinical correlations-the illustration of the content of this domain through case study
- Substance-Related and Co-Occuring Disorders
- Chronic Pain Management

**Clinical and Research Pharmacology and Psychopharmacology**
Pharmacology
Clinical Pharmacology
Pharmacogenetics
Psychopharmacology
Developmental Psychopharmacology
Issues of diversity in pharmacological practice

Clinical Pharmacotherapeutics
Combined therapies - Psychotherapy/pharmacotherapy interactions
Computer-based aids to practice
Pharmacoepidemiology

Research
Methodology and Design of psychopharmacological research
Interpretation and Evaluation of research
FDA drug development and other regulatory processes

Professional, Ethical, and Legal Issues
Application of existing law, standards and guidelines to pharmacological practice
Relationships with pharmaceutical industry
Conflict of interest
Evaluation of pharmaceutical marketing practices
Critical consumer

Documentation

• Provide a current syllabus for each course or course module. This syllabus should, at a minimum, include a description of expected student learning outcomes for each course or course module and how student performance is assessed. See Appendix Q, Course Syllabus

• Provide the curriculum vitae of each instructor for each course or course module. Previously provided see appendix J.

• Create a grid that indicates the number of hours in each course dedicated to each of the content domains required for the program. A template for the grid is attached.

Courses: (Course number, Course Name, Course instructor, Number of hours),
1 = PPH6905 Clinical Biochemistry (Philpott) 24
2 = PPH 6921 Neuroanatomy/Neuropathology (Alhassoon) 18a 18b
3 = PPH6930 Neurophysiology & Clinical Medicine/Pathology (Alhassoon)24a
4 = PPH 6930 Neurophysiology and Clinical Medicine / Pathology (Tackett) 14a 24b 5c 5d 12e
5 = PPH6935 Pharmacology/Clinical Pharmacology (Tackett) 60
6 = PPH6925, Neurochemistry 24
7 = PPH7918 Adv. RxP: Depression (Preston) 12a
8 = PPH7918 Adv. RxP: Schizophrenia (Tackett) 12b
9 = PPH7918 Adv. RxP: Drug / Drug Bipolar (Tackett)12c
10 = PPH7918 Adv. RxP: Anxiety (Tackett)12d
11= PPH7900 Spec Pop 1: Diversity Tackett and P.T.S.D. and Borderline Disorders (Preston) 18
12= PPH7925 Physical Assessment (Tackett) 12a and 12b and 12c
13= PPH7905 Chemical Dependency (Norton) 12a
14= PPH 7900 Special Population 1: Chronic Med Condition/Geriatric; Chronic Pain RxP (Strada-Russo) 9a
15= PPH7900 Special Population 2: Child and Adolescent RxP (Brady) 9b
16= PPH7920 Pharm Tx: Ethics and Legal (Brady) 3a 3b 3c 1.5d 1.5e
17= PPH7920: Research (Steinmann) 4a 4b 4c
18= PPH7920 Psychotherapy Pharmacology (Sammons)10a 2b
19= PPH7918 Molecular Nutrition (Galle) 12

Note: a, b, c, d, e denotes the hours across different courses fulfilling the requirements.

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C2. Supervised Clinical Experience

The supervised clinical experience encompasses mastery of the following clinical competencies:

- **PHYSICAL EXAM AND MENTAL STATUS**
  Knowledge and execution of elements and sequence of both comprehensive and focused physical examination and mental status evaluation, proper use of instruments used in physical examination (e.g., stethoscope, blood pressure measurement devices, etc.), and scope of
knowledge gained from physical examination and mental status examination recognizing variation associated with developmental stage and diversity

• REVIEW OF SYSTEMS
  Knowledge and ability to systematically describe the process of integrating information learned from patient reports, signs, symptoms, and a review of each of the major body systems recognizing normal developmental variations

• MEDICAL HISTORY INTERVIEW AND DOCUMENTATION
  Ability to systematically conduct a patient or parent/caregiver clinical interview producing a patient’s medical, surgical, and psychiatric (if any) history and medication history in cultural context as well as a family medical and psychiatric history, and to communicate the findings in written and verbal form

• ASSESSMENT: INDICATIONS AND INTERPRETATION
  Ability to order and interpret appropriate tests (e.g., psychometric, laboratory and radiological) for the purpose of making a differential diagnosis and for monitoring therapeutic and adverse effects of treatment

• DIFFERENTIAL DIAGNOSIS
  Use of appropriate processes, including established diagnostic criteria (e.g., ICD-9, DSM-IV), to determine primary and alternate diagnoses

• INTEGRATED TREATMENT PLANNING
  Ability to identify and select, using all available data, the most appropriate treatment alternatives, including medication, psychosocial and combined treatments and to sequence treatment within the larger biopsychosocial context

• CONSULTATION AND COLLABORATION
  Understanding of the parameters of the role of the prescribing psychologist or medical psychologist and working with other professionals in an advisory or collaborative manner to effect treatment of a patient

• TREATMENT MANAGEMENT
  Application, monitoring and modificat
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The Didactic Sequence

The didactic sequence consists of 10 courses delivered in five 15-week semesters over two years. Courses run consecutively rather than concurrently, so within a semester each course is completed in 7.5 weeks, with two 7.5-week courses per semester. Each course is approved for 45 continuing professional education credits for psychologists, and 3 graduate academic credits. The School of Psychology is approved by the American Psychological Association (APA) to offer continuing education for psychologists. Fairleigh Dickinson University School of Psychology maintains responsibility for the program.

The courses were specifically designed for psychologists seeking to expand their knowledge of psychopharmacology. A sequence of core courses provides the basic science foundation and knowledge base in pathophysiology, neuroscience, and pharmacology for clinical applications. A professional issues course addresses the legal and ethical considerations and related standard of care topics. The didactic program concludes with a series of treatment courses addressing specific categories of mental disorders and the related pharmacological issues. These courses provide psychologists with important knowledge of the treatment of mental disorders with medication. A detailed description of each course is provided in the next section, Curriculum Plan.

During your last semester of the program, you should submit a Declaration to Graduate Form, which informs the University you anticipate completion of the program in the near future. This initiates a records review so that once you have completed all remaining program requirements you can be cleared to graduate. A link to the Declaration to Graduate Form is available through the Program Documents page on our website, www.rxpsychology.com/Documents/Program_Documents.htm

CURRICULUM PLAN

Courses 1 and 2 (PSYC7910/7915): Biological Foundations of Clinical Psychopharmacology I and II (7.5 Weeks Each)

These courses present an integrated approach to the study of primary body systems (respiratory, cardiovascular, renal, hematologic/immunologic, gastrointestinal, hepatic, endocrine, reproductive, musculoskeletal, and dermatologic) that correlates fundamental knowledge of the anatomy, physiology and pathophysiology of a specific body system with the clinical applications (health assessment, physical examination, laboratory assessment, and differential diagnosis) pertaining to that system. Exploration of clinical medicine concepts will utilize a problem-solving approach. The goals of these two courses are to enhance the student’s recognition of signs and symptoms of medical conditions requiring collaboration with and referral to other health professionals and to provide knowledge about the psychological, biological and medical correlates of disease. Medical sequelae of psychotropic agents and
familiarity with standard medical treatment of common disease states are addressed. Each course is approved for 45 CE Credits for Psychologists and 3 graduate academic credits.

**Course 3 (PSYC7920): Neuroscience (7.5 Weeks)**

This course focuses on the anatomy and physiology of the nervous system, beginning at the cellular level. Knowledge of principles of neurochemistry, neuroendocrinology and neuropathology will serve as a foundation for the understanding of neurotransmitter systems and their role in the etiology and treatment of mental disorders. This course is approved for 45 CE Credits for Psychologists and 3 graduate academic credits.

**Course 4 (PSYC7925): Neuropharmacology (7.5 weeks)**

This course introduces the knowledge base pertaining to pharmacology and psychopharmacology. It includes continued study of neurotransmitter systems and other factors in the psychopharmacological treatment of mental disorders, as well as an introduction to classes of psychotropic medications. This course is approved for 45 CE Credits for Psychologists and 3 graduate academic credits.

**Course 5 (PSYC7930): Clinical Pharmacology (7.5 weeks)**

This course presents major classes of drugs (excluding psychotropics) and their uses in clinical settings. It includes an examination of the social, cultural and behavioral aspects of prescribing medications. Issues of epidemiology, the drug approval process, and pharmacogenomics are also addressed. This course is approved for 45 CE Credits for Psychologists and 3 graduate academic credits.

**Course 6 (PSYC7935): Professional Issues and Practice Management (7.5 weeks)**

This course reviews issues in prescribing from the perspective of a professional healthcare provider. Legal and ethical issues, as well as standards of care ranging from informed consent to documentation, are addressed. Interprofessional relationships and aspects of collaborative practice, as well as practice enhancement strategies such as computer-based aids, will provide learners with a solid foundation for the continued integration of psychopharmacology into their practices. An introduction to the critical evaluation of pharmacological research is also provided. This course is approved for 45 CE Credits for Psychologists and 3 graduate academic credits.

**Courses 7-10: Treatment Issues in Clinical Psychopharmacology (7.5 weeks each)**

This treatment-focused series of sessions provides students with access to virtual practicum experiences through didactic information and case studies addressing specific categories of mental disorders. Each case addresses the following: diagnosis/differential diagnosis; etiology/biological basis of disorder; psychopharmacological treatment options, including mechanism of action, side effects, adverse reactions, polypharmacy, drug interaction, and patient education. The integration of treatment strategies as well as the empirical basis for treatments is presented. Disorders covered will include the mood disorders, psychotic disorders, anxiety
disorders, cognitive disorders, substance abuse and chemical dependency, chronic pain, disorders of childhood/adolescence, as well as others. Each course is approved for 45 CE Credits for Psychologists and 3 graduate academic credits.

Course 7 (PSYC7940): Affective Disorders
Course 8 (PSYC7945): Psychotic Disorders
Course 9 (PSYC7950): Anxiety Disorders
Course 10 (PSYC7955): Other Disorders

OVERVIEW OF THE PROGRAM

The Postdoctoral M.S. Program in Clinical Psychopharmacology is designed to provide psychologists and other health care professionals the knowledge required to prepare them for the clinical application of psychopharmacology as it relates to collaborative practice and the potential prescription of psychotropic medications. This program provides the educational foundation and elective clinical experiences as outlined in the American Psychological Association’s model curriculum for postdoctoral training psychologists in psychopharmacology, available at www.apa.org/about/policy/rxp-model-curriculum.pdf

The FDU program has been Designated by the APA as consistent with that model curriculum, one of only three programs in the country that has achieved this distinction.

The program consists of up to five components. The first two are mandatory, the final three are optional. They are:

1. The 10-course didactic sequence (required for the master’s degree)
2. The qualifying examination (required for the master’s degree)
3. The clinical laboratory/PEP prep (optional; completed near the end of the didactic program)
4. The clinical practicum (optional; begun near the end of the didactic program)
5. The capstone experience (optional; occurs at the end of the clinical practicum)

The Qualifying Examination

After completing the didactic sequence, students must complete a qualifying examination before they are eligible to graduate. There are two options for this exit requirement. Twice each year we offer a qualifying examination online. This exam consists of 100 questions and you must complete it within 2.5 hours. Second, you can complete the APA Psychopharmacology Examination for Psychologists (PEP). The PEP has a cost associated with it, but passage of the PEP is expected to represent a requirement for licensure as a prescribing psychologist in most states. The PEP is offered by the APA College of Professional Psychology. You can find more information about the PEP at www.apapracticecentral.org/cc/courses/application.aspx

There is also a link to this page from the Program Documents page on our website, www.rxpsychology.com/Documents/Program_Documents.htm
The Program Documents page also has more information about the qualifying exam.

Once the qualifying exam is passed, either our online exam or the PEP, you have completed all requirements for the degree Postdoctoral Master of Science (M.S.) in Clinical Psychopharmacology. At this point, you are eligible to participate in the optional components of the program (though the clinical laboratory/PEP prep and practicum can overlap with your final semester in the program).

The Clinical Laboratory/PEP Prep

This is the only component of the program that involves a face-to-face meeting. It is scheduled for a location that is fair for the class as a whole. Each year, we schedule a five-day clinical laboratory, followed by a two-day PEP prep session (which is also appropriate to the in-house qualifying exam). The clinical laboratory is a necessary part of the practicum, discussed next. Each year, you will receive an announcement of the clinical laboratory, but it is only expected that students in the final year of the program will participate, and it is only required for students who want to complete the optional practicum. More details about the clinical laboratory may be found in our Supervised Clinical Experience manual, which can be accessed at the Program Documents page on our website,

www.rxpsychology.com/Documents/Program_Documents.htm

The Practicum

The APA model curriculum, the military, and most bills that have been submitted at the state level authorizing psychologists to prescribe all call for the completion of a supervised clinical experience as part of the training. Students seeking prescriptive authority in Louisiana do not have this requirement.

The supervised clinical experience includes supervised evaluation of cases for medication. If you want us to monitor your involvement in this supervised experience, you will enroll in the course PSYC7960 Practicum. Because our role in this course is just monitoring of progress, it is a pass/fail course worth 0 credits, and you pay a fee (approximately $500) rather than tuition. Participants must identify and make arrangements for a clinical supervisor with independent prescriptive authority (M.D., D.O., or prescribing psychologist) to be approved by Fairleigh Dickinson University. In some cases we can assist in the identifying a supervisor, but we cannot guarantee a supervisor.

As defined by the APA model curriculum, the practicum must include at least 100 supervised patients and span at least two semesters. If an authorizing entity such as a state legislature has established its own conditions for the practicum, those conditions will supersede the APA guidelines. Even after the 100-patient criterion is met, participants may elect to continue participating in the practicum. More details about the practicum are available in our Supervised Clinical Experience manual, which can be accessed at the Program Documents page on our website,

www.rxpsychology.com/Documents/Program_Documents.htm
The Capstone Experience

The APA model curriculum calls for a capstone experience at the end of the supervised clinical experience. We cannot provide a certificate of completion of the APA model curriculum without completion of the capstone experience, but we can confirm completion of the practicum for legal reasons (e.g., pursuit of licensure as a prescriber) without the capstone.

The capstone is a two-hour oral examination covering case formulation, treatment planning, and other elements of the supervised clinical experience. More details may be found in our Supervised Clinical Experience manual, which can be accessed at the Program Documents page on our website,

www.rxpsychology.com/Documents/Program_Documents.htm
## NMSU COURSE MAPPING WITH APA RECOMMENDED CURRICULUM FOR PSYCHOPHARMACOLOGY TRAINING

<table>
<thead>
<tr>
<th>Content Mapping Chart</th>
<th>Course Module:</th>
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<td>RXPP 601</td>
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<tr>
<td>B. Biochemistry</td>
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<td>B. Neurophysiology</td>
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<tr>
<td>C. Neurochemistry</td>
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<tr>
<td>B. Lab and Radiological Assessment</td>
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<td>RXPP 609</td>
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<tr>
<td>C. Medical Terminology</td>
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<td>A. Pathophysiology</td>
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<td>C. Differential Diagnosis</td>
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<td>E. Substance-Related Disorders</td>
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<td>F. Chronic Pain Management</td>
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<td>V. Pharmacology and Psychopharmacology</td>
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<td>VI. Clinical Pharmacotherapeutic</td>
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<td>2. Marketing Practices</td>
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<td>3. Critical Consumer</td>
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## DESCRIPTION OF THE PROGRAM REQUIREMENTS

<table>
<thead>
<tr>
<th>RXPP Course</th>
<th>Course Contents</th>
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<tbody>
<tr>
<td>RXPP 601 - Introduction to Psychopharmacology for Psychologists I</td>
<td>Introduction to physiology and an overview of gross and microanatomy, with a focus on gross, micro, and chemical anatomy of the nervous system. By the end of the course, psychologists will have an up-to-date understanding of human psychology, anatomy, and neuroanatomy.</td>
</tr>
<tr>
<td>RXPP 602 - Introduction to Psychopharmacology for Psychologists II</td>
<td>Principles of organic chemistry and human biochemistry necessary for the understanding of psychopharmacology are discussed and related to the major transmitter systems and dynamics of transmission. By the end of the course, students will have an up-to-date understanding of biochemistry on which to base further didactic study in psychopharmacology.</td>
</tr>
<tr>
<td>RXPP 603 - Clinical Psychopharmacology I</td>
<td>This course begins with an introduction to the scope of pharmacology, pharmacoepidemiology, ethical, and legal issues (informed consent, State and Federal regulation of drugs and prescribing, sources of drug information and computer aids) and continues with the principles of pharmacokinetics and pharmacodynamics as they relate to the use of psychotropic medications. It concludes with an introduction to the treatment of anxiety disorders from a biopsychosocial model of care with special emphasis on psychopharmacology for anxiety disorders.</td>
</tr>
<tr>
<td>RXPP 604 - Clinical Psychopharmacology II</td>
<td>Investigation of the diagnosis and treatment of affective disorders from a biopsychosocial model of care. Particular emphasis is given to psychopharmacological treatment of depressive disorders and bipolar disorders.</td>
</tr>
<tr>
<td>RXPP 605 - Clinical Psychopharmacology III</td>
<td>This course is an intensive study of the treatment of psychosis from a biopsychosocial model of care. Special consideration is given to: first, second and third generation antipsychotic drugs and their pharmacology and clinical uses; neurological and metabolic disorders associated with antipsychotic use; and appropriate use of antipsychotics in children and the elderly. Special attention is then given to child and adolescent psychopharmacology, including drugs used in pregnancy and lactation, teratogenicity, embryotoxicity, developmental disorders, conduct disorders, ADHD, and special considerations in use of approved drugs in children.</td>
</tr>
<tr>
<td>RXPP 606 - Pathophysiology for Psychologists I</td>
<td>An introduction to human clinical physical assessment, history taking, charting, and laboratory testing and neuroimaging. An important emphasis is in functional neuroanatomy and diagnosis and assessment of neurological disorders; role of different components of human nervous system in health and disease; stroke, seizures, and movement</td>
</tr>
<tr>
<td><strong>RXPP 607 - Pathophysiology for Psychologists II</strong></td>
<td>Physical assessment and pathophysiology of the cardiovascular system is studied in depth: structure and function of the heart and major blood vessels; innervation of the heart and vessels; electrocardiogram; components of blood; lymphatics; and physical assessment of cardiac function. The physical assessment and pathophysiology of eyes, ears, nose, and the immune system are studied in depth; anatomy and physiology of special senses; assessment of cranial nerves and sensory function; immune function and psychoimmunology. The physical examination and pathophysiology of the chest and pulmonary system and its relationship to the cardiac system is also studied.</td>
</tr>
<tr>
<td><strong>RXPP 608 - Pathophysiology for Psychologists III</strong></td>
<td>This course continues with an in-depth study of the chest and pulmonary system: pulmonary function and assessment; respiratory exchange and respiratory involvement in acid: base regulation, disorders of respiratory function. The physical assessment of pathophysiology of the gastrointestinal system is discussed in depth: digestion, absorption and excretion of drugs and nutrients from the GI system; disorders of GI function; hepatic function; innervation of GI tract; endocrine and exocrine functions of GI system; physical assessment of GI function. The functions and pathophysiology of the male and female reproductive system, endocrine system, and renal system are discussed as they relate to psychopharmacology.</td>
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<tr>
<td><strong>RXPP 609 - Psychopharmacological Treatment in Special Populations I</strong></td>
<td>The psychopharmacology of several special populations are discussed in detail in this course. Geriatric psychopharmacology includes: geriatric physiology; cardiac, renal, hepatic changes with aging; pharmacokinetics/dynamics in the elderly; cognition enhancers in Alzheimer’s and other dementias. Special treatment of personality disorders, eating disorders, the importance of racial, ethnic, and gender differences and culturally sensitive practice is presented with applications. Pain management psychopharmacology is over-viewed, including: pharmacology of opioid and non-opioid analgesics; pain syndromes; acute and chronic pain; headache; pharmacological and non-pharmacological approaches to pain management; pharmacology and actions of abused substances: acute effects, withdrawal, biochemistry of tolerance and dependence, brain central reward pathways.</td>
</tr>
<tr>
<td><strong>RXPP 610 - Psychopharmacological Treatment in Special Populations II</strong></td>
<td>The pathophysiology and treatment of substance use disorders from a biopsychosocial model is presented. Issues of medical comorbidity are studied: psychopharmacological treatment in the medically compromised patient, including case studies and review of comprehensive treatment models; mental disorders due to a general disorders (chorea, athetosis, dystonias, dyskinesias, Parkinsonism, akathesia, iatrogenic neurological disorders).</td>
</tr>
</tbody>
</table>
Different programs share content but organize the curriculum in different ways and use different course titles. For each course in your program, indicate the number of contact hours associated with each content domain reflected in the model curriculum.

<table>
<thead>
<tr>
<th>Content Mapping Chart</th>
<th>Course or Course Module: Identify courses below the grid (e.g., “1 = Clinical Medicine”)</th>
<th>1</th>
<th>2</th>
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<td>I. Basic Science</td>
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<td>A. Anatomy &amp; Physiology</td>
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<td>II. Neurosciences</td>
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<td>C. Medical Terminology</td>
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Index for Table showing number of hours in each course dedicated to each of the content domains:

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<tr>
<th>Course #</th>
<th>Course Title</th>
<th>Number of Credits (&amp; Total Credit Hours)</th>
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<td>2</td>
<td>Biochemical Basis I</td>
<td>3 (45)</td>
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<tr>
<td>3</td>
<td>Biochemical Basis II</td>
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<td>Week</td>
<td>Course</td>
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<td>5</td>
<td>Pharmacotherapy I</td>
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<tr>
<td>6</td>
<td>Integrated Pharmacotherapy II</td>
<td>5 (75)</td>
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<tr>
<td>7</td>
<td>Integrated Pharmacotherapy III</td>
<td>4 (60)</td>
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<tr>
<td>8</td>
<td>Advanced Psychopharmacology I</td>
<td>2 (30)</td>
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<td>9</td>
<td>Advanced Psychopharmacology I</td>
<td>2 (30)</td>
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<td>10</td>
<td>Law and Psychopharmacology</td>
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<td></td>
<td>Practicum</td>
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</table>
PHPS 450 The Biochemical Basis of Therapeutics I - Biomolecules (3 credits)

This course is designed to provide a basic foundation for the understanding of medical biochemistry, pharmacology, and the structure and function of various biomolecules. Basics of organic chemistry are included in this course. Topics will include structural and physical properties of proteins, nucleic acids (DNA and RNA), carbohydrates, lipids and their relationship to their biological function, fundamentals of signal transduction, and DNA replication and repair. Basic biochemical principles pertaining to neuroscience and neurochemistry are included in this course. These principles will provide the basic concepts for understanding the biochemical basis for disease states and drug action that are central to therapeutics.

PHPS 451 The Biochemical Basis of Therapeutics II - Metabolism (3 credits)

This course will delve into metabolism and the interrelationships of metabolic processes. The biochemistry of metabolism focuses on glycolysis, the tricarboxylic acid cycle, gluconeogenesis, and the synthesis and breakdown of biomolecules (carbohydrates, lipids, and amino acids). Metabolism of neurotransmitters, hormones and peptides are included in this course. Metabolic control and regulation of pathways will be emphasized. Clinical correlates and metabolic diseases will be discussed.

PHPS 606 Human Physiology (3 credits)

This course is designed to provide an in-depth overview of topics in human physiology that provide a basis for understanding of pharmacology. The course will begin with a review of basic physiological topics including the autonomic nervous, central nervous, and the cardiovascular systems. Following this will be an introduction to the discipline of pathology with an emphasis on diseases of the nervous system including basic neuroscience principles. This course will be comprised of recorded lectures, live workshops, and synchronous video chat sessions. There is also a requirement of a research paper on a topic of physiology chosen by the student with approval of the Course Coordinator.
**PHPS 601 Integrated Pharmacotherapy I (7 credits)**

In this first of a series of three courses, pathophysiology, pharmacology, toxicology, and therapeutics will be integrated into one discipline that will examine pharmacotherapy based on organ systems of the body. The course will begin with a discussion of SOAP notes and an introduction to pharmaceutical principles. Students will learn to blend their factual knowledge of the basic sciences and apply this knowledge to drug treatment of specific disorders in disparate patients. Synchronous video chats will tie in the pharmacotherapy discussed in lecture with the treatment of CNS disorders. On-site workshops will occur at various times during the semester. During the semester, students will submit six SOAP notes on disease states discussed in class, and a research paper covering the current and future pharmacotherapy of a disease state selected by the student and approved by the Course Coordinator. The course will culminate with each student presenting their research paper. Topics include Information Resources, Dosage Form, Cardiac and Vascular disorders.

**PHPS 602 Integrated Pharmacotherapy II (5 credits)**

This course is the second of a series of three courses. This course will begin with a discussion of pharmacoepidemiology and resources to obtain drug information. The major focus of this course will be a detailed coverage of the pathophysiology, pharmacology, toxicology, and therapeutics of CNS disorders that require pharmacotherapy. Students will learn to blend their factual knowledge of the basic sciences and apply this knowledge to drug treatment in disparate patients. On-site workshops will be provided at various times during the semester. During the semester students will submit five SOAP notes covering patients with both somatic and CNS related disorders. Students develop and reinforce their skills in differential diagnosis of CNS disorders. Synchronous video chats will be employed to relate the pharmacotherapy of somatic disorders with treatment of CNS disorders. A research paper covering the current and future pharmacotherapy of a CNS related disease state selected by the student and approved by the Course Coordinator. The course will culminate with each student presenting their research paper. Topics include Pharmacoepidemiology of mental and neurological disorders.

**PHPS 603 Integrated Pharmacotherapy III (4 credits)**

In this third of a series of three courses, pathophysiology, pharmacology, toxicology, and therapeutics will be integrated into one discipline that will examine pharmacotherapy based on organ systems of the body. The course will include a discussion of SOAP notes and an introduction to pharmaceutical principles. Students will learn to blend their factual knowledge of the basic sciences and apply this knowledge to drug treatment of specific disorders in disparate patients. Synchronous video chats will tie in the pharmacotherapy discussed in lecture with the treatment of CNS disorders. On-site workshops will occur at various times during the semester. During the semester, students will submit four SOAP notes on disease states discussed in class, and a research paper covering the current and future pharmacotherapy of a disease state...
selected by the student and approved by the Course Coordinator. The course will culminate with each student presenting their research paper. Topics include endocrine (e.g., thyroid, diabetes), thromboembolic and cerebrovascular disorders.

**PHPS 604 Advanced Psychopharmacology I (2 credits)**

This course serves as the first of two capstone courses that will provide an in-depth coverage of psychopharmacology associated with the treatment of mental disorders. Students learn to integrate biopsychosocial and medical models to patient care in addition to applying pharmacologic assessment and monitoring concepts to their clinical practice. Students will present patient cases in weekly seminars that are based on patients seen in clinical settings from the Psychopharmacology Practicum courses taught concurrently. This course will require students to demonstrate competence in medication therapy management specific to psychopathology. In addition recent literature will be discussed that covers synergistic interactions between psychotherapy and pharmacotherapy and will examine the single practitioner vs. the split-treatment model.

**PHPS 605 Advanced Psychopharmacology II (2 credits)**

This course serves as the second of two capstone courses that will provide an in-depth coverage of psychopharmacology associated with the treatment of mental disorders. Students continue to hone their skills in integrating biopsychosocial and medical models to patient care and applying pharmacologic assessment and monitoring concepts to their clinical practice. Students will present patient cases in weekly seminars that are based on patients seen in clinical settings from the Psychopharmacology Practicum courses taught concurrently. This course will require students to demonstrate competence in medication therapy management specific to psychopathology. In addition current and future pharmacotherapy of CNS disorders will be discussed: including methodology, standards and conduct of research of psychoactive substances. Drugs classes to be covered include: antipsychotics, antidepressants, mood stabilizers, anti-anxiety agents, sedative/hypnotic agents, narcotic analgesics, drugs used to treat the cognitive and behavioral effects of Alzheimer’s disease, and drugs used to treat ADHD.

**PHPS 607 Psychopharmacology Practicum (2 credits total)**

Students will participate in a psychopharmacology practicum for eight hours per week for at least one-year. The total amount of hours per year is at least 400 hours. They will be supervised by a qualified clinical practitioner with demonstrated skills and experience in clinical psychopharmacology in accordance with the prevailing jurisdictional law. Clinical supervision will be for one hour per week or one hour per eight hours of patient contact. Students will be actively involved in consultation with physicians and/or appropriately credentialed psychologists regarding the prescribing of psychoactive medications. The Clinical Psychopharmacology Practicum components
will be consistent with APA Recommendations. The Psycho-pharmacology Practicum courses will require students to demonstrate competence in medication therapy management specific to psychopathology. Students will present cases from this practicum in the Advanced Psychopharmacology I and II courses taught concurrently. At the end of the training program, a capstone competency evaluation will be completed. Students will need to arrange their own practicum according to the guidelines listed in the course syllabus.

**PHPS 608 Law & Psychopharmacology (2 credits)**

In this course, pathophysiology, pharmacology, toxicology, therapeutics will be integrated into one discipline that will examine pharmacotherapy based on infectious diseases and the respiratory system. This course also will focus on the parameters by which prescribing psychology is practiced lawfully. This course provides background in professional, legal, standards of care, regulatory and ethical issues. Students will learn to blend their factual knowledge of the basic sciences and apply this knowledge to drug treatment of specific disorders in disparate patients. Synchronous video chats will tie in the pharmacotherapy discussed in lecture with the treatment of CNS disorders. Students will submit one SOAP note on a disease state discussed in class, and a written assignment on a regulatory or legal issue pertaining to psychotropic medications. The course will culminate with each student presenting the results of their assignment.

**PHPS 609 Clinical Psychopharmacology Practicum (1 credit):**

Students will participate in a psychopharmacology practicum for four to eight hours per week for at least one-year. PHPS 609 constitutes the final semester of practicum training. Students will be supervised by a qualified clinical practitioner with demonstrated skills and experience in clinical psychopharmacology in accordance with the prevailing jurisdictional law. Clinical supervision will be for one hour per week or one hour per eight hours of patient contact. Students will be actively involved in consultation with physicians and/or appropriately credentialed psychologists regarding the prescribing of psychoactive medications. The Psychopharmacology Practicum course will require students to demonstrate competence in medication therapy management specific to psychopathology. Students will present cases from this practicum in the Advanced Psychopharmacology I and II courses taught concurrently. At the end of the training program, a capstone competency evaluation will be completed. Students will need to arrange their own practicum according to the guidelines listed in the course syllabus.
Appendix C

American Psychological Association
Designation Criteria for Education and Training Programs
in Preparation for Prescriptive Authority
Approved by APA Council of Representatives, 2009

Criterion P: Program (P) Characteristics

The training program stands as a recognizable, organized, sequence of study and experience. There is an identifiable, integrated program organization and specified faculty responsible for it. The intent of this criterion is that the education and training of psychologists for prescriptive authority occur within a program with an identifiable organization, curriculum and faculty. Program resources provide for stability of funding and continuity of faculty allowing for sufficient opportunity to teach, supervise, and evaluate each student.

P1. Admissions

To participate in postdoctoral education and training in psychopharmacology, programs must require that students meet the following prerequisites:
1. be a graduate of a doctoral program in psychology;
2. hold a current state license as a psychologist; and
3. practice as a “health services provider” psychologist as defined by state law, where applicable, or as defined by APA.

In 1995, the APA Council of Representatives approved the following definition of “health service provider” psychologists: Psychologists are recognized as Health Service Providers if they are duly trained and experienced in the delivery of preventive, assessment, diagnostic and therapeutic intervention services relative to the psychological and physical health of consumers based on: 1) having completed scientific and professional training resulting in a doctoral degree in psychology; 2) having completed an internship and supervised experience in health care settings; and 3) having been licensed as psychologists at the independent practice level.

These admission standards must be disseminated to potential applicants of the program.

Documentation

1. Submit a copy of any documents and other materials (e.g., program website content, program brochures, catalogs) that demonstrate how you inform potential applicants of these requirements for participation in and completion of the program.

2. Submit a copy of the student application form and any other forms that you use to gather information about current licensure, completion of a doctoral program in psychology, and practice as a health service provider.

   • Does your program accept applicants who do not meet the above requirements?
   • If yes, please explain
• Over the last three years, what percent of your admissions were exceptions?

P2. Transfer of Credit

The program can develop policies for allowing credit from a previous graduate or postdoctoral education and training program(s), not to exceed twenty percent (20%) of the postdoctoral curriculum and limited to the basic science and neuroscience domains (Domains I & II). This does not preclude the development of program policies that would permit, on an individual case basis, the meeting of program requirements through a current demonstration of competence obtained through prior postdoctoral education and training. In such unusual cases, program policies should explicitly state the criteria for such decisions, and there should be an accompanying record of the specific competencies demonstrated by the psychologist and those yet to be acquired through the program.

Documentation

1. Does your program accept transfer credit? Any coursework completed at the graduate level is automatically considered transfer credit for purposes of this question.

   • If yes, describe your policies for accepting transfer credit. This should include courses in your curriculum for which you accept transfer credit and the maximum percent of your curriculum for which you allow transfer credit.

2. If you allow advanced placement based on prior postdoctoral education and training, provide us with your program policy for establishing competency and currency of knowledge base.

P3. Ethical Standards

Program administrators and faculty who are psychologists abide by the current Ethical Principles of Psychologists and Code of Conduct of the American Psychological Association.

Documentation

1. Describe how the current Ethical Principles of Psychologists and Code of Conduct of the American Psychological Association is made available to faculty members and administrators who are psychologists.

2. Provide a copy of program policies indicating that students will be treated in a fair and ethical manner consistent with the current Ethical Principles of Psychologists and Code of Conduct of the American Psychological Association.
P4. Public Representation of the Program

The program must have a clear and comprehensive mission statement that guides it, is approved by the governing body, and is publicly communicated. The program is clearly identified and labeled as a postdoctoral education and training program for psychologists in psychopharmacology for prescriptive authority.

Documentation

1. Attach a copy of your current mission statement.

2. Indicate how this mission statement is communicated to the public.

3. Provide copies of materials for public dissemination indicating the program is a postdoctoral program for psychologists in psychopharmacology for prescriptive authority.

P5. Program Resources

The program must have sufficient financial resources and access to appropriate physical resources to support its mission. The program provides access to facilities, services, and learning/information resources that are appropriate to support its didactic and experiential teaching, research, and service mission.

Documentation

1. For those components of the program that are conducted in a classroom setting, describe the physical resources available to the program. For those components of the program that are provided via computer or other electronic media, describe the systems used to support those program components.

2. Describe all additional resources available to students. These can include laboratory space, clinical settings, library materials (electronic and/or physical), pedagogical resources, access to relevant websites, or any other resources that may enhance the student’s learning experience.

3. Provide evidence to suggest that sufficient financial resources exist to ensure the program will be sustainable at least for the duration of the current student body. This can, for example, include description of the current financial status of the sponsoring organization if such an organization exists, or demonstration that the materials and resources needed for the completion of the current cohort are already in place. This description should address maintenance of those resources described in response to #1.
P6. Governance

The program must have qualified and competent administrators, including a director, with appropriate administrative authority.

The legal authority and operating control of the program must be clearly described.

The program must have due process and grievance procedures for faculty.

Documentation

1. Describe the governance structure for the program and qualifications of the administrators. Please attach an organizational chart for the program, and job description and curriculum vitae for the program director and other program administrators.

2. Provide materials or otherwise describe the mechanism(s) by which faculty is informed of their rights and program policies.

3. Describe grievance and due process procedures available for faculty in the program.

P7. Faculty

Faculty and clinical supervisors must be qualified and sufficient in number to accomplish the program’s education and training goals. In addition to psychology, the program faculty and clinical supervisors may come from a variety of appropriate disciplines.

There is an identifiable key or essential faculty and clinical supervisors with appropriate credentials to teach curriculum courses and/or provide supervision for the supervised clinical experience.

Documentation

1. For each course or course module or supervised clinical experience, as appropriate to your curriculum, provide the name and current curriculum vitae of the primary instructor currently teaching that content area.

2. Provide evidence of licensure in good standing (if applicable) for each faculty member and clinical supervisor.

P8. Quality Assurance

The program must ensure the quality of education and training, including any consortial relationships or contractual agreements.
**Documentation**

1. Describe any consortial arrangements or contractual agreements used in the didactic or supervised clinical experience of students. This includes supervisors involved in the experiential component of the training.

2. Describe mechanisms used to ensure the quality of education training offered through those agreements, including methods for the evaluation of supervisor competence in the experiential component of the training.

3. Provide evidence of licensure in good standing (if applicable) for each faculty member and clinical supervisor.

**P9. Program Self-Evaluation**

The program must regularly engage in a process of self-evaluation. Faculty members will participate in the program’s planning, implementation and evaluation.

**Documentation**

1. Describe procedures for program self-evaluation, including how often formal self-evaluation takes place and how this information is used.

2. Describe how the program maintains currency of course materials given the rapid evolution of knowledge.

3. Provide evidence of licensure in good standing (if applicable) for each faculty member and clinical supervisor.
Criterion S: Students (S)

S1. Student Body

There is an identifiable body of postdoctoral, licensed psychologists who are matriculating in the training program for prescriptive authority. The training program must also demonstrate that its admissions policy does not systematically exclude candidates from consideration on the basis of elements of human diversity.

Documentation

1. How do you define an active student in your program?

2. Please fill in the following information:

<table>
<thead>
<tr>
<th>Program Training Model</th>
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<tbody>
<tr>
<td>Didactic combined with supervised clinical experience</td>
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<tr>
<td>Didactic followed by summative clinical experience</td>
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<tr>
<td>Didactic</td>
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<tr>
<td>Supervised Clinical Experience</td>
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<table>
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<tr>
<th>Number of Students Currently Enrolled</th>
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<tr>
<th>Number of Students who Completed in the past 3 years</th>
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3. Please describe the diversity of your student body.

S2. Maintenance of Licensure

The program must ensure that students maintain licensure throughout the program.

Documentation

1. Provide materials or otherwise indicate how students are informed that they are expected to remain licensed for the course of the program and indicate that they are expected to inform the program director at any time the status of their license changes.

2. Are students required to provide evidence of continued licensure?

   - If yes, how is this evidence collected?
S3. Student Records

The program must protect the security, confidentiality, integrity, and availability of student records.

The training program awards a degree or certificate upon satisfactory completion of all program requirements. Satisfactory completion of the program is reflected upon a transcript or other official documentation reflecting the sequence of education and training, grades or scores earned in didactic instruction and satisfactory completion of supervised clinical experiences.

Programs will keep records regarding the number of psychologists matriculating in the program and graduating from the program. Transcripts or other official documentation will be made available at all times to psychologists matriculating in and psychologists graduated from the training programs. The program will comply with federal and state regulations regarding confidentiality as appropriate (e.g., FERPA, HIPAA, etc.). Such transcripts or other official documentation will be maintained in a secure environment to ensure confidentiality.

Documentation

1. Describe methods used to ensure the security and maintenance of student records stored in either paper or electronic form.

2. Describe the mechanisms used to assure the long-term maintenance of student records.

3. Provide a sample of a transcript or official documentation that confirms successful completion of program requirements.

4. Provide a sample of the certificate of completion of all program components (didactic, supervised clinical experience, and capstone competency evaluation).

S4. Due Process

The program must have due process and grievance procedures.

Documentation

1. Provide materials or otherwise describe the mechanism(s) by which students are informed of their rights and program policies.

2. Describe grievance and due process procedures available for students in the program.
Criterion C: Curriculum (C)

The training program stands as a recognizable, organized, sequence of study and experience. There is an identifiable, integrated program organization and specified faculty responsible for it. The intent of this criterion is that the education and training of psychologists for prescriptive authority occur within a program with an identifiable organization, curriculum and faculty. Program resources provide for stability of funding and continuity of faculty allowing for sufficient opportunity to teach, supervise, and evaluate each student.

The program must offer an integrated, organized, and sequential program of instruction as evidenced through the following:
1. An organized sequence of courses with relevant syllabi;
2. Frequent evaluation of students’ knowledge and application of that knowledge and feedback to students of outcomes;
3. Periodic program evaluation;
4. Certification of program completion upon demonstration of appropriate level of competence

C1. Didactic Curriculum

The didactic curriculum must consist of at least 400 contact hours covering the following content domains:
I. Basic Science
   A. Anatomy & Physiology
   B. Biochemistry
II. Neurosciences
   A. Neuroanatomy
   B. Neurophysiology
   C. Neurochemistry
III. Physical Assessment and Laboratory Exams
   A. Physical Assessment
   B. Laboratory and Radiological Assessment
   C. Medical Terminology and Documentation
IV. Clinical Medicine and Pathophysiology
   A. Pathophysiology with particular emphasis on cardiac, renal, hepatic, neurologic, gastrointestinal, hematologic, dermatologic and endocrine systems.
   B. Clinical Medicine, with particular emphasis on signs, symptoms and treatment of disease states with behavioral, cognitive and emotional manifestations or comorbidities
   C. Differential Diagnosis
   D. Clinical correlations-the illustration of the content of this domain through case study
   E. Substance-Related and Co-Occurring Disorders
   F. Chronic Pain Management
V. Clinical and Research Pharmacology and Psychopharmacology
   A. Pharmacology
   B. Clinical Pharmacology
   C. Pharmacogenetics
D. Psychopharmacology
E. Developmental Psychopharmacology
F. Issues of diversity in pharmacological practice

VI. Clinical Pharmacotherapeutics
   A. Combined therapies - Psychotherapy/pharmacotherapy interactions
   B. Computer-based aids to practice
   C. Pharmacoepidemiology

VII. Research
   A. Methodology and Design of psychopharmacological research
   B. Interpretation and Evaluation of research
   C. FDA drug development and other regulatory processes

VIII. Professional, Ethical, and Legal Issues
   A. Application of existing law, standards and guidelines to pharmacological practice
   B. Relationships with pharmaceutical industry
      1. Conflict of interest
      2. Evaluation of pharmaceutical marketing practices
      3. Critical consumer

Documentation

1. Provide a current syllabus for each course or course module. This syllabus should, at a minimum, include a description of expected student learning outcomes for each course or course module and how student performance is assessed.

2. Provide the curriculum vitae of each instructor for each course or course module.

3. Create a grid that indicates the number of hours in each course dedicated to each of the content domains required for the program. A template for the grid is attached.
Different programs share content but organize the curriculum in different ways and use different course titles. For each course in your program, indicate the number of contact hours associated with each content domain reflected in the model curriculum.

<table>
<thead>
<tr>
<th>Content Mapping Chart</th>
<th>Course or Course Module: Identify courses below the grid (e.g., “1 = Clinical Medicine”). Add more columns if you have more than 10 courses or modules.</th>
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<tr>
<td>I. Basic Science</td>
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<td>A. Anatomy &amp; Physiology</td>
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<td>B. Biochemistry</td>
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<td>II. Neurosciences</td>
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<td>A. Neuroanatomy</td>
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<td>B. Neurophysiology</td>
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<td>C. Neurochemistry</td>
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<td>III. Physical Assessment/Labs</td>
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<td>A. Physical Assessment</td>
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<td>B. Lab and Radiological Assessment</td>
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<td>C. Medical Terminology</td>
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<td>IV. Clinical Medicine/Pathophysiology</td>
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<td>A. Pathophysiology</td>
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<td>B. Clinical Medicine</td>
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<td>C. Differential Diagnosis</td>
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<td>D. Clinical Correlations</td>
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<td>E. Substance-Related Disorders</td>
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<td>F. Chronic Pain Management</td>
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<td>V. Pharmacology and Psychopharmacology</td>
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<td>A. Pharmacology</td>
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<td>B. Clinical Pharmacology</td>
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<td>C. Pharmacogenetics</td>
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<td>D. Psychopharmacology</td>
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<td>E. Developmental Psychopharmacology</td>
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<td>VI. Clinical Pharmacotherapeutics</td>
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<td>A. Combined Therapies</td>
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<td>B. Computer Aids</td>
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<td>C. Pharmacoepidemiology</td>
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<td>A. Methodology and Design</td>
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<td>B. Interpretation of Research</td>
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<td>VIII. Professional, Ethical, and Legal Issues</td>
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<td>B. Pharmaceutical Industry</td>
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<td>3. Critical Consumer</td>
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Courses:
1 = Clinical Medicine
Etc.
C2. Supervised Clinical Experience

The supervised clinical experience encompasses mastery of the following clinical competencies:

1. PHYSICAL EXAM AND MENTAL STATUS
Knowledge and execution of elements and sequence of both comprehensive and focused physical examination and mental status evaluation, proper use of instruments used in physical examination (e.g., stethoscope, blood pressure measurement devices, etc.), and scope of knowledge gained from physical examination and mental status examination recognizing variation associated with developmental stage and diversity

2. REVIEW OF SYSTEMS
Knowledge and ability to systematically describe the process of integrating information learned from patient reports, signs, symptoms, and a review of each of the major body systems recognizing normal developmental variations

3. MEDICAL HISTORY INTERVIEW AND DOCUMENTATION
Ability to systematically conduct a patient or parent/caregiver clinical interview producing a patient’s medical, surgical, and psychiatric (if any) history and medication history in cultural context as well as a family medical and psychiatric history, and to communicate the findings in written and verbal form

4. ASSESSMENT: INDICATIONS AND INTERPRETATION
Ability to order and interpret appropriate tests (e.g., psychometric, laboratory and radiological) for the purpose of making a differential diagnosis and for monitoring therapeutic and adverse effects of treatment

5. DIFFERENTIAL DIAGNOSIS
Use of appropriate processes, including established diagnostic criteria (e.g., ICD-9, DSM-IV), to determine primary and alternate diagnoses

6. INTEGRATED TREATMENT PLANNING
Ability to identify and select, using all available data, the most appropriate treatment alternatives, including medication, psychosocial and combined treatments and to sequence treatment within the larger biopsychosocial context

7. CONSULTATION AND COLLABORATION
Understanding of the parameters of the role of the prescribing psychologist or medical psychologist and working with other professionals in an advisory or collaborative manner to effect treatment of a patient

8. TREATMENT MANAGEMENT
Application, monitoring and modification, as needed, of treatments and the writing of valid and complete prescriptions
1. Please complete the following grid if your program integrates supervised clinical experiences with didactic experiences:

<table>
<thead>
<tr>
<th>Please note with an (X) which of the 8 clinical competencies are integrated within each of the didactic courses listed below. Your list of courses should match your content mapping</th>
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<tbody>
<tr>
<td>Course 1</td>
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<td>Course 10</td>
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2. Describe how your program implements the supervised clinical component of the training. Describe in detail:
   i) how supervisors and settings are identified, approved, and overseen by the program;
   ii) mechanisms for ensuring that the range of supervised clinical experience balances diversity, developmental considerations, and appropriateness to the student’s practice;
   iii) the skill sets considered critical for each of the eight competency domains and how developmental and diversity issues are addressed; and
   iv) how progress toward attainment and mastery of competence is evaluated for each of the eight competency domains listed.

3. Provide copies of all materials used by the program to evaluate student performance in the completion of the supervised clinical experience.

4. Provide copies of forms used by the student and the supervisor to document students’ face-to-face patient contact hours and other clinical experiences.
C3. Capstone Competency Evaluation

Training programs developed under these standards provide a capstone competency evaluation that requires integration of the knowledge, skills, and attitudes the psychologist is expected to master during their matriculation in the program.

Competencies are conceived as holistic and represent:

- **knowledge** of subject matter concepts and procedures
- **performance** of behaviors that demonstrate specific skills and abilities
- **problem solving** strategies and capabilities that involve elements of critical thinking and ethical responsibility
- **self reflection** that focuses on knowing the limits of one’s knowledge; clarification of attitudes, beliefs, and values; and identification of self perceptions and motivations in the context of prescriptive authority.

Documentation

1. Describe in detail your program’s capstone evaluation process, including how outcome is determined.

2. In each of the last three years, how many students have participated in the capstone competency evaluation? How many in each year have passed?

C4. Certification of Completion

In order to be certified as having fulfilled the APA Recommended Postdoctoral Education and Training Program in Psychopharmacology for Prescriptive Authority, the student must complete the didactic, experiential, and capstone components of the program within five years of the initiation of postdoctoral training.

Documentation

1. Some programs elect to provide some form of recognition upon completion of didactic coursework even if the supervised clinical experience is not yet completed. Does your program offer this option?

   - If yes, indicate what form this recognition takes (certificate, master’s degree, etc.)

2. What form of recognition do you give for completion of all program components? Please submit a sample copy.

3. Your program may not represent students as having completed the *APA Recommended Postdoctoral Education and Training Program in Psychopharmacology for Prescriptive Authority* until such time as they have completed the didactic, supervised clinical experience, and capstone components of the program.

   We are compliant with this:
C5. Lifelong Learning

Programs developed under these standards place a special emphasis on preparing psychologists to evaluate future advances in psychopharmacological knowledge and on the critical importance of lifelong learning in psychopharmacological practice.

Documentation:

1. Please describe how your program prepares students for lifelong learning. This could include exposure to software systems, electronic journals, medication alerts (e.g., Epocrates, Carlat Psychiatry Report, Cochrane Reviews, guidelines.gov).