

# Prescriptive Authority for Psychologists: A Looming Health Hazard?

William N. Robiner, Diane L. Bearman, and Margit Berman, University of Minnesota Medical School  
William M. Grove, University of Minnesota  
Eduardo Colón, Hennepin County Medical Center  
Joann Armstrong and Susan Mareck, University of Minnesota Medical School

**Although many psychologists support prescription privileges, the historical training paradigm in psychology includes limited scientific education directly relevant to prescribing medications. Issues related to prescriptive authority for psychologists, including training gaps, attitudes, accreditation, and regulation, are discussed. Current proposals for training psychologists to prescribe deleted the prerequisite coursework in the biological and physical sciences that had been identified by the American Psychological Association's Ad Hoc Task Force on Psychopharmacology. Current proposals do not delineate clear requirements for several key aspects of supervised practical training. Such training limitations raise basic questions about how much additional scientific and medical training would be necessary to ensure that psychologists could provide an acceptable quality of clinical pharmacologic care.**

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Advances in neuroscience, the development of safer, efficacious drugs such as the SSRIs, and changing realities in health care economics are transforming the delivery of mental health services. As these unfold, and as the use of psychotropics increases (Pincus et al., 1998), psychologists' interest in obtaining prescriptive authority for psychotropic medication has also increased (Ax, Forbes, &

Thompson, 1997; Brentar & McNamara, 1991a, 1991b; Burns, DeLeon, Chemtob, Welch, & Samuels, 1988; Cullen & Newman, 1997; DeLeon, Folen, Jennings, Wilkis, & Wright, 1991; DeLeon, Fox, & Graham, 1991; DeLeon & Wiggins, 1996; Fox, 1988; Sammons, 1994). In this article we address a range of issues related to prescriptive authority for psychologists, including training, accreditation, regulation, and other topics raised by proponents of the prescriptive agenda, and discuss our concerns about it.

The American Psychological Association (APA, 1992b) established the ad hoc Task Force on Psychopharmacology to explore the desirability and feasibility of psychopharmacology prescription privileges for psychologists. The task force concluded that greater understanding of psychopharmacology would enhance the care that psychologists provide (Smyer et al., 1993). The APA task force proposed three levels of preparation in psychopharmacology: Level 1: basic psychopharmacology education; Level 2: collaborative practice; and Level 3: prescription privileges. Whereas the task force considered that all psychologists providing mental health services should be prepared at Level 1, it did not take that position for training at Level 3 (Lorion, 1996). Instead, it considered that "retraining of practicing psychologists for prescription privileges would need to carefully consider selection criteria, focusing on those psychologists *with the necessary science background*" (italics added for emphasis; APA, 1992b, p. 66). This included undergraduate coursework in biology, chemistry, and other areas typifying the premedical curriculum.

Ultimately, the American Psychological Association (Council of Representatives [CoR], 1996) devoted greatest attention to the most controversial option, Level 3, promoting prescription privileges through a hybrid of con-

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Address correspondence to William N. Robiner, Health Psychology, University of Minnesota Medical School, Mayo Mail Code 295, 420 Delaware Street, Southeast, Minneapolis, MN 55455-0392. E-mail: robin005@umn.edu.

tinuing education and a modular executive training (DeLeon & Wiggins, 1996) in psychopharmacology for doctoral-level psychologists. Several programs have been developed, including some that emphasize distance learning. Thus far, because no specific selection criteria for the scientific background to which the task force alluded have been delineated, there are no physical or biological science prerequisites. Some psychologists question the necessity of such a scientific background for prescribing (Hanson et al., 1999).

In 1995 the APA Council of Representatives passed a resolution making the pursuit of prescription privilege an official objective for the organization. It has become a priority for a number of psychologists, as reflected in the growing number of initiatives of state psychological associations (Cullen & Newman, 1997). APA (1996) has focused on the pursuit of independent prescriptive authority. Meanwhile, little discussion has ensued in the psychology literature about the task force's Level 2 collaborative practice, which was envisioned to enhance patient care via collaborations with prescribers by expanding their expertise about medication management. The essential abandonment of the collaborative practice level seems especially puzzling given that more psychology graduate students believe that Level 2 (77%) training should be offered in their programs than Level 3 (57%) (Tatman, Peters, Greene, & Bongar, 1997).

#### **DEPARTMENT OF DEFENSE PSYCHOPHARMACOLOGY PROJECT**

The controversy surrounding psychologists' prescription privileges was heightened by the Department of Defense (DoD) Psychopharmacology Demonstration Project (PDP). The PDP ultimately trained ten psychologists to prescribe in military health care settings (U.S. General Accounting Office, 1999). The initial PDP participants undertook some preparation in chemistry and biochemistry before completing a majority of first-year medical school courses. During their first full-time year at the Uniformed Services University of the Health Sciences, they worked with the Psychiatry-Liaison service and assumed night call with second-year psychiatry residents. In the second full-time year, they completed core basic science courses and continued psychopharmacology training and clinical work. After 2-day written and oral examinations, they had a third year of supervised clinical work at Walter Reed Army Medical Center or Malcolm

Grow Medical Center. The PDP curriculum underwent subsequent iterations, streamlining training to 1 year of coursework and a year of supervised clinical practice (Sammons & Brown, 1997; Sammons, Sexton, & Meredith, 1996). For example, the didactic hours decreased by 48% in the second iteration. Most PDP graduates have functioned as prescribing psychologists in branches of the military. One graduate went on to medical school.

The PDP was discontinued after the first few years. Advocates of psychologist prescription privileges argue that the successes of the small sample of PDP participants justify extending prescriptive authority to other psychologists who undergo training consistent with the APA (CoR, 1996) model, even though that training model and the likely resources available for the training differ substantially from the PDP. It is not known how well the successes of the 10 PDP psychologists, who were trained within a military medical school and military hospital settings, and whose care was confined to a patient population largely screened for health and other factors, would generalize to the potentially thousands of psychologists who might wish to obtain psychopharmacology training and to practice independently across the spectrum of clinical or counseling settings with diverse populations (Bieliauskas, 1992a; Kennedy, 1998). If the clinical psychopharmacology training psychologists obtain elsewhere is less rigorous or is based on more limited access to medical populations than the PDP, the outcomes of the PDP potentially would overestimate outcomes of such training.

Additional skepticism seems warranted especially in light of the concerns about certain limitations of the PDP fellows' clinical proficiencies, such as in treating medically complex patients (Kennedy, 1998). The Final Report of the American College of neuropsychopharmacology (1998) on the PDP assessed graduates as weaker medically and psychiatrically than psychiatrists. The report indicated that graduates only saw patients ages 18–65, some had limited formularies, and some continued to have dependent prescriptive practice (i.e., supervised by a physician). Moreover, the PDP graduates advised against “short-cut” programs and considered that a year of intensive full-time clinical experience, including inpatient care, was essential. Some of the program's psychiatrists, physicians, and graduates expressed doubts about the safety and effectiveness of psychologists prescribing independently outside of the interdisciplinary team of the military context. This latter concern has been echoed in a survey of

military psychiatrists, nonpsychiatric physicians, and social workers (Klusman, 1998). Given the likelihood that other programs would lack some of the advantages of the PDP, and would provide less training than some of the PDP graduates received, we question how well the conditions of the PDP would be duplicated. Despite the positive experiences of PDP graduates, these concerns justify wariness about prescribing psychologists relative to other prescribers, especially for populations not included or emphasized in the PDP. We believe that more complete disclosure and consideration of the limitations and problems noted in the PDP are needed, both in the dialogue within the profession as well as in terms of public policy reviews of the prescriptive agenda.

#### **ATTITUDES ABOUT PSYCHOLOGISTS' PRESCRIPTIVE AUTHORITY**

The prescription privilege movement is divisive within psychology as well as between psychology and medicine (Piotrowski, 1989). The prescriptive privilege movement within psychology emanated from practitioners rather than academicians, who initially refrained from addressing it (Burns et al., 1988; DeLeon, Fox, et al., 1991). Training directors of existing psychology programs remain equivocal about it (Evans & Murphy, 1997), and relatively few academic psychologists appear interested in developing training programs (Hanson et al., 1999). Academic psychologists' ambivalence about pharmacology training programs is of concern because it raises questions about the feasibility of developing psychopharmacology training programs of consistently high quality in settings with limited experience in educating and training psychologists.

Surveys of psychologists and trainees have yielded inconsistent estimates of psychologists' support of the prescriptive authority agenda (Gutierrez & Silk, 1998). An early survey revealed that 58% opposed prescription privileges (Bascue & Zlotowski, 1981). Some recent surveys reveal that more psychologists (about 70%) favor prescriptive authority (Ax et al., 1997; Tatman et al., 1997; Youngstrom, 1991). The largest survey of APA members found that 30% strongly supported it and another 38% favored it (Frederick/Schneiders, Inc., 1990). The other third were unsure or opposed. More recent surveys continue to suggest inconsistent attitudes among psychologists (Klusman, 1998; Pimental, Stout, Hoover, & Kamen, 1997; Piotrowski & Keller, 1996). One survey indicated less support among older psychologists and women (Mas-

soth, McGrath, Bianchi, & Singer, 1990), while another found no significant correlation between support for the prescription privileges and either age or gender (Ferguson, 1997).

Ultimately, whatever sentiments surveys of psychologists might reveal, it clearly is less appropriate to decide this issue on the basis of its popularity among psychologists than on the quality of pharmacologic care that psychologists would provide (Bieliauskas, 1992b). Ample consideration needs to be given to the concerns of a range of potential stakeholders, including consumers, educators, and practitioners in other health disciplines experienced in prescribing, and regulatory and governmental authorities, such as the Food and Drug Administration (FDA).

Interestingly, even among some supporters of psychologists' prescription privileges, a subtle degree of ambivalence about the prescriptive authority agenda may be inferred (Massoth et al., 1990; Tucker, 1992). For example, although a majority of psychology internship directors and interns are supportive in principle, most are not inclined to pursue it themselves (Ax et al., 1997). The basis for this split between the abstract support of a prescription privilege and the intention not to train personally deserves further analysis (Piotrowski & Keller, 1996).

Surveys of psychologists who work within medical settings or medical schools yield relatively less support for the prescriptive authority agenda than broader surveys of psychologists (Boswell & Litwin, 1992; Chatel, Lamberty, & Bieliauskas, 1993; Piotrowski & Lubin, 1989; Riley, Elliott, & Thomas, 1992; Robiner, Koehler, & Wedding, 1998). This probably reflects their more frequent contacts with medically complex patients for whom prescribing is more complicated and risky. It may also reflect their ready access to collaboration with physicians, wish to preserve interprofessional relationships, and a fuller appreciation of their own limited understanding of medicine as a whole.

A sizable proportion of psychologists opposes prescription privileges (Dorken, 1990) due to a broad range of concerns (Adams & Bieliauskas, 1994a, 1994b; Bieliauskas, 1992a, 1992b; Brandsma & Frey, 1986; DeNelsky, 1991, 1996; Hayes & Heiby, 1996, 1998; Heiby, 1998; Klein, 1996; Kovacs, 1988; Moyer, 1995; Robiner, 1998). A comprehensive review of these concerns, including iatrogenic mortality (Schafer, 2000) is beyond the scope of this article. Professional organizations within psychology such as the American Association of Applied and Preventive Psychology (AAAPP) and Section 3 of APA Division

12 (i.e., the Society for the Science of Clinical Psychology) oppose prescriptive authority (Saeman, 1995), as do the faculty within certain psychology training programs (Hayes & Heiby, 1996).

Psychiatrists (see Kennedy, 1998; Kingsbury, 1992; Pies, 1991) have articulated compelling arguments opposing psychologists' prescriptive authority. The debate about prescription privileges has been construed more broadly than the ability to write prescriptions: that is, should psychologists practice medicine (D'Afflitti, 1991). Psychiatric organizations, such as the American Psychiatric Association (Boschert, 1998; Pies, 1991; Scully, 1995) oppose prescriptive authority for psychologists, contending that prescribing should be reserved for medical school graduates. Psychiatrists are not alone in this belief. In fact, many psychologists share psychiatrists' concern: 43% of psychologists responding to an APA survey indicted that "full medical training would be required" for prescription privileges (APA, 1992a, p. 95). The American Medical Association and a range of other professionals (e.g., family physicians) and consumer groups also have expressed opposition to allowing psychologists' prescriptive authority (Bell, Digman, & McKenna, 1995; Ginther, 1997; "Psychiatrists oppose," 1989).

#### **QUALITY OF CARE: THE CENTRAL CONCERN ABOUT PSYCHOLOGIST PRESCRIBING**

Our primary concern is the risk of suboptimal care if psychologists undertake prescribing that could arise from their limited breadth and depth of knowledge about human physiology, medicine, and related areas. This risk would be compounded by psychologists' limited supervised physical clinical training experiences. Such knowledge and skills are fundamental to competent prescribing but have been limited or absent in training professional (i.e., clinical, counseling, school) psychologists. In one survey, more than two thirds of psychologists in independent practice described their training related to psychopharmacological issues as poor (APA, 1992b, p. 50). This is not surprising given the limited psychopharmacology training in doctoral programs and psychology internships (APA, 1992b).

Although advocates of prescription privileges readily acknowledge that additional training is needed to prepare psychologists to prescribe, the central questions are these. How much training is needed? Is it possible to attain adequate knowledge and skill through abbreviated training,

such as proposed in models by the APA (CoR, 1996) or the California Psychological Association-California School of Professional Psychology Blue Ribbon Panel (1995)? How would psychologists who undergo the proposed training measure up to other prescribers? The concern is that abbreviated "crash courses" are inadequate to make up for psychologists' deficits in medical education (Bieliauskas, 1992a; Bütz, 1994).

At times, advocates for psychologist prescription privileges gloss over the complexity of knowledge sets inherent in competent prescribing (Kennedy, 1998; Kingsbury, 1992; Pies, 1991). For example, Patrick DeLeon, PhD, JD, Past President of the APA, contends that "prescription privileges is no big deal. It's like learning how to use a desk-top computer" (Roan, 1993). Related speculation that technological advances, such as computer-assisted learning (DeLeon & Wiggins, 1996), or prescriptive algorithms, could abbreviate the education necessary to prescribe competently strikes even proponents of prescription privileges as naïve (Pachman, 1996). Similarly, it seems unlikely that relying on more active roles of pharmacists or computerized systems for administration of drugs would compensate adequately for gaps in prescribers' medical knowledge. Ultimately, competence in prescribing demands adequate understanding not just of psychology and psychopharmacology but also of other domains of medical knowledge (e.g., human physiology, pathophysiology, biochemistry, clinical medicine) and clinical proficiencies (e.g., physical examination, interpretation of laboratory data) that historically have been excluded from the education and training of psychologists. More specifically, thorough understanding and proficiency related to two broad medical domains are required: understanding patients' medical status prior to and concurrent with prescribing and their medical status during and after treatment (i.e., their physiological responses to prescribed medications) (Pies, 1991; Robiner, 1999; see Table 1).

There are scant data regarding how well prepared psychologists are to prescribe. Anecdotally, psychologists' confidence in diagnosing patients and providing other types of psychological treatment, combined with limited psychopharmacology training and informal exposure to medications, may provide some sense that they have much of the knowledge related to prescribing. Thus far, however, little is known about how well the combination of doctoral training in psychology and relatively brief, fo-

**Table 1.** Knowledge base and clinical proficiencies required for prescribing

Psychopathology and Psychological Issues	Medical Status Prior to Prescribing	Response to Treatments
Primary psychiatric conditions	Comorbid medical conditions	Knowledge of adverse reactions 1. Side effects 2. Toxic effects
Comorbid psychiatric conditions Prevalence and course of psychiatric conditions	Contraindications Medical effects of concurrent treatments 1. Drug interactions 2. Other treatments (e.g., dialysis, plasmaphoresis)	Ability to recognize, diagnose, and treat adverse reactions Ability to differentiate between physical and psychiatric effects of psychoactive agents and concurrent medications
Knowledge of nonpharmacologic treatment options	Long-term effects of medications History of medication use	Other issues related to monitoring, titrating, or discontinuing prescribed medications

*Note.* The education of psychologists typically addresses column 1, but neglects columns 2 and 3.

cused training in psychopharmacology would develop psychologists' knowledge base and clinical proficiency for managing patients' medications, especially long-term and in diverse settings. Noteworthy differences exist between pharmacotherapy and current aspects of psychologists' clinical practice. As one psychologist turned psychiatrist observes:

*The effects of medications on the kidney, the heart, and so forth is important for the use of many medications. Managing these effects is often crucial and has more to do with biochemistry and physiology than with psychology. I was surprised to discover how little about medication use has to do with psychological principles and how much of it is just medical. (Kingsbury, 1992, p. 5)*

### TRAINING FOR PRESCRIBING

Proponents have construed prescriptive authority for psychologists as an "evolutionary" or "logical" step (DeLeon, Folen, et al., 1991; Fox, 1988) or even a "right" (Brentar & McNamara, 1991a) that is consistent with the trend in other health care disciplines toward broadened scopes of professional practice, including prescribing.

The first premise is debatable, especially given its fundamental departure from psychology's historic training paradigms and conceptualizations of psychopathology and intervention. The education and training for a doctoral degree in psychology largely neglects key topics relevant to prescribing (i.e., the biological and physical sciences, physical examination). Also, psychology historically has questioned, de-emphasized, or even eschewed the "medical model" (Matthews, 1998; May & Belsky, 1992). Pursuing prescriptive authority reflects a profound change in the direction toward embracing the medical model.<sup>1</sup> Adding prescribing to psychology's scope of

practice might more realistically be characterized as "revolutionary" or "radical," requiring major shifts in focus; marked expansions of training and continuing education in key areas; reformulation of accreditation criteria; modification of regulatory structure, domains, and processes; expanded ethical guidelines; and uniform requirements that at least part of psychologists' training occur within health care settings.

The second premise, that psychologists' scope of practice should broaden because some nonphysicians such as physician assistants (PAs) and advanced practice nurses (APNs) prescribe also is dubious. This seems to be based on the notion that the overall length of doctoral training that psychologists undergo might justify prescribing despite the limited relevance to prescribing of much of their actual training. Disparities in training between psychology and other professions with prescriptive authority challenge the notion that those professions' scopes of practice justify expanding psychologists' scope of practice to incorporate prescription privileges. Other professions' training models are much closer to that of physicians than to that of psychologists, and their clinical practice is more focused on physical functioning, including medication effects. Comparing the boundaries of other professions' scope of practice with psychology's is inappropriate given the differences in training between those other disciplines and psychology.

Some nonphysician health care providers have gained prescriptive authority (DeLeon & Wiggins, 1996), which is largely *dependent*, allowing them to prescribe generally under the supervision of or in collaboration with a physician. Other groups (e.g., dentistry) are independent and generally use limited formularies often for specific purposes and limited periods of time. Notwithstanding these

other professions' relatively greater medical training and their generally dependent or limited authority, the APA (1996) supports lobbying for *independent* authority. This is presumably because of psychologists' independent licensure in regulating other aspects of their clinical practices, which makes them hesitant to cede control of any aspect of their practice to physicians or other professionals. However, it does not follow that proposed prescriptive authority for psychologists is justified by other disciplines' prescriptive authority nor that if prescriptive authority is granted it should be independent because other services within psychologists' scope of practice already are.

The comparisons that advocates draw between psychology's and other disciplines' scope of practice compel closer inspection of the entry requirements and training models for psychology and other prescribing disciplines (McCabe & Grover, 1999). As outlined below, the differences in emphasis and structure are noteworthy. Since prescribing psychologists would probably be compared most closely with psychiatrists, our emphasis is on these two groups.

*Undergraduate Training.* The APA task force (Smyer et al., 1993) noted that other health professions (e.g., nursing, allied health professions) require undergraduate preparation in anatomy, biology, inorganic and organic chemistry, pharmacology, human physiology, (and some require physics); undergraduate psychology degrees and admission to psychology graduate school do not. The biological sciences and related course work is the educational foundation for knowledge and conceptual understanding related to prescribing safely. Hence, the APA task force envisioned that students with strong undergraduate, postbaccalaureate, or early graduate biological backgrounds would be admitted to psychopharmacology training (Smyer et al., 1993). The problem is that such backgrounds are rare. A survey of psychology graduate students revealed that only 27% thought they had the undergraduate preparation to undertake training to prescribe (Tatman et al., 1997). Only 7% had completed the recommended undergraduate biology and chemistry prerequisites (APA, 1992b; Smyer et al., 1993). Robiner et al. (2001) found that psychologists generally had taken fewer than five courses in the biological and physical sciences during their undergraduate and graduate education.

Despite the opinion of the experts on APA's own task force (APA, 1992b) recommending that psychologists seeking advanced psychopharmacology training would

require undergraduate basic science prerequisites (i.e., biology, chemistry, etc.), the requirement was essentially deleted from the APA (CoR, 1996) training model. Instead of specifying coursework in each area, the current APA prerequisite is merely for "demonstrated knowledge of human biology, anatomy and physiology, biochemistry, neuroanatomy, and psychopharmacology," which could be based on coursework, or merely the "completion of a sequence of continuing education courses." Consequently, the psychopharmacology programs themselves can provide relatively abbreviated overviews of some of the relevant biological and physical sciences. Unlike medical school applicants and medical students, whose mastery of these areas is reflected through a competitive selection process (e.g., based on grades in biological and physical science courses, MCAT scores) and screened again in objective measures (i.e., national board scores such as steps one, two, and three of the United States Medical Licensing Examination [USMLE]; specialty board examinations following residency), entry into proposed psychopharmacology training programs for psychologists would not require standardized, objective indices of applicants' understanding of the biological and physical sciences. It is not known whether competitive performance in biological and physical science courses with laboratory prerequisites would play any role in determining eligibility for psychologists' psychopharmacology training. In summary, the discrepancies between physicians' and psychologists' education in the biological and physical sciences, and objective mechanisms verifying that general scientific knowledge has been acquired (i.e., psychology has none), begin at the undergraduate level.

The APA College of Professional Psychology in conjunction with Professional Examination Services developed an examination for psychologists who have undergone training in clinical psychopharmacology, the Psychopharmacology Examination for Psychologists (PEP). Other groups have developed other tests (e.g., Veritas Assessment Systems). Within the APA (1996) model, psychologists seeking prescription privileges would be expected to pass one of these written tests. Such testing is an important safeguard, but may be limited, especially in an era when commercial courses have been designed to prepare individuals for tests. Whereas proponents would argue that passage of that examination demonstrates adequate knowledge for prescribing, it seems questionable that a single 3-hour, 150-item test on psychopharmacology could assure adequate knowledge of the broad

spectrum of medical issues beyond clinical psychopharmacology per se that are relevant to prescribing safely or knowledge and clinical skill sets comparable to that of other prescribers (e.g., physicians, nurse practitioners).

*Graduate Training.* Educational discrepancies between psychologists and physicians widen at the graduate level. The training of physicians and other doctoral providers (e.g., dentists) entails coursework in anatomy, biochemistry, cell biology, immunology, microbiology, pathology, pharmacology, physiology, as well as laboratory experiences in the biological and physical sciences and physical, clinical training. Doctoral-level psychology education never has (see APA Office of Program Consultation and Accreditation, 1996). Rather, graduate education in psychology has been characterized as comprising “vastly differing models of study and practice” with “no effort to standardize the training of psychologists” (Klein, 1996). Programs vary in how much training is provided in the biological and physical sciences (Sammons et al., 1996), but it is generally quite limited for degrees in professional psychology. Some types of psychology degrees, (e.g., school psychology) have relatively limited exposure to psychopathology and psychological treatments, let alone the physical sciences (DeMers, 1994; Moyer, 1995) or medical environments.

The APA accreditation criteria for doctoral programs in professional psychology are minimal for biological and physical sciences. The APA (Office of Program Consultation and Accreditation, 1996) requires doctoral programs to provide exposure to (i.e., coursework in) “biological aspects of behavior,” but does not specify the depth or breadth of this exposure nor require any training or practical experience in physical examination. Similarly, doctoral program designation by the Association of State and Provincial Psychology Boards (ASPPB) and the Council of the National Register of Health Service Providers in Psychology (2000) merely requires three graduate semester hours in the biological bases of behavior, which can cover a range of topics, such as physiological psychology, comparative psychology, neuropsychology, sensation and perception, or psychopharmacology. Their relevance to and preparation for prescribing can be negligible.

If anything, the training of psychologists is moving away from the “scientist-practitioner” model to other models that de-emphasize scientific background and activities (Belar, 1998). By 1997, nearly two thirds of clinical psychology degrees were conferred by professional schools, rather than the types of university-based aca-

demical programs (Reich, 1999) which typically require more rigorous scientific training. Surveys suggest that only 25% of psychology graduate students had courses in psychopharmacology (Tatman et al., 1997) and 36% of licensed psychologists indicated that their graduate programs offered psychopharmacology courses (Ferguson, 1997). Presumably fewer had courses in pharmacology or pathophysiology, which are intrinsic to prescribing safely (i.e., due to potential interactions and adverse effects). These limitations are of greater concern than the limitations identified in medical students’ psychiatric training (Zimmerman & Wienckowski, 1991) or estimates that medical school students receive only approximately 100 hours of pharmacology instruction (Association for Medical School Pharmacology [1990] cited by the APA Task Force [APA, 1992b]); physicians’ other didactics are relevant to prescribing and their lengthy supervised training across a continuum of settings and supervisors includes wide exposure to related topics and patient populations.

By the time psychologists obtain doctorates, most have obtained relatively little training that overlaps with that of physicians or other prescribers. Moreover, there are no objective quality assurance processes to ensure that the biological and physical sciences are well understood by entrants to psychology graduate school or by entrants to proposed postdoctoral psychopharmacology training programs. Even the Examination for the Professional Practice of Psychology (EPPP), the written test required for licensure in psychology, minimally queries knowledge of the biological and physical sciences (e.g., biochemistry) (Association of State and Provincial Psychology Boards, 2000).

*Proposed Postdoctoral Level Psychopharmacology Training.* Various models have been proposed for training psychologists to prescribe (e.g., see Brentar & McNamara, 1991a; Chafetz & Buelow, 1994; Dorken, 1990; Fox, Schwelitz, & Barclay, 1992; Kubiszyn, 1994; Sammons et al., 1996; Smyer et al., 1993) and several training programs are currently in operation (e.g., Alliant University School of Professional Psychology, American Schools of Professional Psychology, Fairleigh Dickinson University, the Psychopharmacology Institute of the Nebraska Mental Health Centers System). The current APA psychopharmacology training model is a diluted version of the original PDP training model, of the model recommended by APA’s own task force, and of other proposed models (APA, 1992b; CPA/CSPP, 1995). Because these downgrades have not been well publicized, it is not clear whether

psychologists surveyed about prescription privileges are even aware of the changes or understand the limitations or relaxed standards in the training that are inherent in the current recommendations. APA's (1996) proposal for training programs comprise a minimum of 300 contact hours of didactic instruction (part time or full time) and generally part-time supervised practice for a minimum of 100 patients of unspecified duration. The CPA-CSPP Blue Ribbon Panel advised more training than the APA (395–570 contact hours and an 18-month practicum). This compares with a total estimate of 1,796 contact hours of course work in medical school (CPA/CSPP, 1995). These discrepancies raise key questions. What would be left out and how does the deleted content detract from clinical pharmacology expertise and practice?

The APA (CoR, 1996) emphasizes that the proposed training is “unique to the needs of the practicing psychologist, and does not simply follow traditional medical practices.” We question whether such condensed training overcomes current shortcomings to achieve knowledge and clinical proficiency equivalent to that of other prescribers, especially psychiatrists, and ensure competent prescribing that the public should reasonably expect of its doctors. Furthermore, it seems incumbent upon proponents of the prescriptive agenda to fully inform legislators and the public precisely how the psychopharmacology training proposed by the APA differs from “traditional medical practices.”

Although in the APA (CoR, 1996) model, the psychopharmacology training programs are “postdoctoral” in the sense that trainees have already obtained their doctorates in psychology, they are not “postdoctoral fellowships” in the traditional sense of scientific, medical, or professional psychology postdoctoral fellowship programs, are not comparable to psychiatric residencies or fellowships, and their admissions do not appear to be competitively based. Therefore, the APA (CoR, 1996) aptly refers to the training more generically as a “postdoctoral experience.” However, in content and structure, they might be more comparable to physician assistant or accelerated advanced practice nursing training or to basic levels characteristic of predoctoral practica training within psychology. The psychopharmacology training programs do not meet the APA's own criteria for accreditation as postdoctoral programs or internships. Some of the programs award certificates or master's degrees, so describing them as postdoctoral seems misleading. Similarly, borrowing medical

terminology of “residents” for training at this level also may misinform because the level of training is more basic than medical residencies or psychology postdoctoral fellowships. The training programs are presumably funded by trainees' tuition revenues (cf. Graduate Medical Education funding). The publicity materials for the programs we informally reviewed did not identify undergraduate course prerequisites in scientific areas (e.g., biochemistry, physiology, etc.), which had been outlined in the APA task force report (APA, 1992b).

Proponents of prescription privileges recognize that the supervised practice in proposed psychopharmacology training “essential for effective, safe, ethical and practical incorporation of drugs into a psychological practice . . . is a substantive matter” (Fox et al., 1992, p. 218). Curiously, despite recognition of this substantiveness, the scope and requirements for supervised pharmacotherapeutic practice are not fully delineated in the APA model, so it is not possible to evaluate how adequate the supervised practice would be. Consistent with the APA model, training programs are designed for trainees to see a series of patients (e.g.,  $\geq 100$ ) for psychopharmacologic management. The APA model fails to specify minimal criteria for (a) the breadth of patients' mental health conditions; (b) the duration of treatment (i.e., to allow for adequate monitoring and feedback) or requirements for outpatient or inpatient experiences; (c) exposure to adverse medication effects; or (d) exposure to patients with comorbid medical conditions and complex drug regimens. Also, the qualifications for supervisors are vague. Whereas the CPA-CSPP Panel (1995) recommended an 18-month practicum, the APA model does not specify any length. That the didactic and practical training would be abbreviated relative to the PDP, and less likely to occur in organized, academic health care settings with lengthy track records of providing medical or psychiatric training, raises questions about how comparable such programs would be to the PDP.

We doubt that the proposed models of training in psychopharmacology for psychologists (APA, 1996; CPA/CSPP, 1995; Fox et al., 1992) would prepare them to provide care equivalent to that provided by psychiatrists or other health professionals. Not only would they obtain less didactics in relevant areas, but the supervised pharmacologic care of patients would be considerably less comprehensive and less well organized than training within psychiatric residencies. Psychiatric residencies accredited by the Accreditation Council for Graduate Medical Edu-



cation (ACGME) require residents to assess and provide supervised psychopharmacologic care to a multitude (i.e., considerably more than 100) of diverse patients encompassing a broad range of clinical conditions over a period of years. Accredited residences have much clearer and more rigorous requirements for the structural aspects of training programs ([www.acgme.org/req/400pr101.asp](http://www.acgme.org/req/400pr101.asp)) than any pertaining to the clinical psychopharmacology training of psychologists.

#### **ACCREDITATION ISSUES**

It is essential that the prescriptive debate address accreditation, regulatory, and legal issues. Formidable accreditation and regulatory challenges exist to psychologist prescribing. The APA model legislation allows pharmacology training programs to be any “organized program of intensive didactic instruction” and does not specify that the program itself be accredited or be sponsored by an accredited educational institution. That is, the psychopharmacology didactic programs do not need to be scrutinized by external evaluators who determine how well they conform to the APA model, or their future revisions, or to any other criteria related specifically to psychopharmacology training. Similarly, the clinical practica are not accredited or overseen in any manner. In this way, the programs differ fundamentally from other types of applied training in psychology and from the training of other health professions with prescriptive authority.

Focused accreditation guidelines and accreditation mechanisms are lacking to provide oversight of psychopharmacology training programs (e.g., specific requirements for the breadth of patients seen and how long patients’ medications are managed; qualifications of supervisors) to verify that training programs actually meet even minimal standards for didactics and supervised practical training. Unlike accreditation of psychiatric residencies, the APA has no experience accrediting programs providing training specifically in psychopharmacology or more generally in the practice of medically based procedures (e.g., physical examinations). Thus far, the APA has accredited only nine postdoctoral programs across all areas of psychology, none of which are the type of psychopharmacology training described herein. Hence, APA’s capacity to provide oversight at the postdoctoral level at all, and in psychopharmacology specifically, is largely unknown. How well the psychopharmacology training programs meet the APA criteria for accreditation

of postdoctoral programs warrants ongoing scrutiny. Similarly, how adequately the APA accreditation criteria (which were not designed for psychopharmacology programs) ensure the quality and breadth of training for psychologists to develop sufficient skills to attain prescriptive authority deserves further consideration. Given that existing psychology doctoral and internship programs generally lack the faculty capable of teaching courses and supervising practical experiences related to prescribing (Brentar & McNamara, 1991a; DeLeon, Fox, et al., 1991; Robiner et al., 1998), this is not a trivial concern. How well training programs in psychopharmacology would even comply with more general types of practice guidelines, such as the supervision guidelines promulgated by the Association of State and Provincial Psychology Boards (1998) (e.g., ratio of trainees to supervisors) also is not known.

#### **REGULATORY AND LEGAL ISSUES**

Regulation of psychologists’ proposed prescriptive practices also would be challenging. Health regulatory boards, such as psychology boards, are mandated to protect the public. The capacity and effectiveness of psychology boards to review the competence of psychologists who seek prescription privileges and regulate prescriptive practices is unproven. Boards endeavor to fulfill their responsibilities by reviewing credentials, establishing requirements for objective examinations, and investigating practitioners’ practices (generally in response to complaints). Whether and how well boards could develop the sufficient expertise to assess psychologist prescribers’ practices to protect the public is not clear given the current limitations of psychologists’ training and responsibilities related to prescribing. Thus far, psychology boards have not regulated prescribing. Boards are likely to lack members and staff competent to evaluate prescribing patterns or competence. If jurisdictions grant prescriptive authority, it seems likely that boards will be severely challenged to do so at levels that effectively protect the public. Regulatory boards’ efforts to regulate prescriptive practices will inevitably add costs to the regulatory process and may decrease their autonomy by making them reliant on the expertise of professionals other than psychologists.

A number of legal issues also would arise if psychologists were granted prescriptive authority. This includes the level of independence versus dependence of this author-

ity, potential restrictions on their prescriptive practices (e.g., limited formulary and duration of treatment; specific settings), and the most appropriate standard of care to which psychologists would be held. Would psychologists be compared with other “reasonably prudent” psychologists who have undergone the proposed psychopharmacology training, or with other prescribers, such as psychiatrists, who have greater training and experience related to medication management and who have set the standard for prescribing psychoactive medications thus far? From the consumer’s perspective, it seems likely that a standard of care closer to that provided by psychiatrists would promote accountability and afford greater protections and legal remedies than an unknown, less stringent, evolving standard based on psychologists who might gain prescriptive authority based on training that is less intensive than that of other prescribers. In addition, formulation of ethical guidelines relevant to prescribing, which are beyond the current APA (1992a) Ethical Principles of Psychologists and Code of Conduct, would be needed (Buelow & Chafetz, 1996) to address a range of ethical challenges associated with prescribing (Heiby, 1998).

#### **PROponents’ FOCUS ON PERIPHERAL ISSUES**

In essentially waging a campaign for prescriptive authority, proponents tend to focus on certain provocative issues to promote their cause and divert attention away from the inadequacies in psychologists’ education, knowledge, and skills in areas critical to prescribing. For example, DeLeon and Wiggins (1996) decry problems of current prescribers as if psychologists (who would have less extensive physical science backgrounds and more limited supervised prescriptive practical training) would avoid developing problematic patterns if they prescribe. Alternative strategies, such as enhancing the ability of current prescribers through such means as education and redesign of prescribing systems (Lesar, Briceland, & Stein, 1997), or enhancing psychologists’ collaborative practices, as proposed in the APA task force’s (Smyer et al., 1993) Level 2 training, might address such problems without requiring that psychologists prescribe.

Similarly, underserved populations (e.g., rural populations, the seriously and persistently mentally ill [SPMI], the elderly) have been invoked to frame prescriptive authority as a policy response to meet pressing societal needs (DeLeon, Sammons, & Sexton, 1995; Hanson et al., 1999). This line of reasoning is flawed in failing to con-

sider the similar access patterns to psychologists and psychiatrists across the urban-rural continuum (Hendryx, Borders, & Johnson, 1995; Holzer, Goldsmith, & Ciarlo, 1998) and the APA task force’s expectation that only “a small . . . minority of psychologists” (APA, 1992b, p. 106) would seek Level 3 psychopharmacology training. Such data and predictions, along with the virtual absence of any concrete plan to redistribute prescribing psychologists to meet the actual needs of underserved populations (May & Belsky, 1992), render broadening psychologists’ scope of practice to include prescriptive authority an indirect, needlessly risky, and highly inefficient public policy response to rural areas’ shortage of psychopharmacologic prescribers.

Interestingly, a survey of psychologists in four rural states suggests there are not significant differences in the support of prescriptive authority based on whether psychologists serve rural or urban clients, or based on client access to a psychiatrist (Ferguson, 1997), which would be expected if this were truly a matter of improving care for rural clients. Also, most family physicians, even half of those in rural areas, have concerns about psychologists prescribing (Bell et al., 1995). Most family practitioners report that there are psychological and psychiatric services available in their communities for collaboration and consultation, and most would refrain from referring patients to psychologists for pharmacological management (Bell et al., 1995).

Ultimately, there is little reason to assume that psychologists with prescriptive authority actually would relocate to areas lacking other prescribers, or would focus their practices to address the needs of other types of underserved populations (Adams & Bieliauskas, 1994b; Bieliauskas, 1992a, 1992b). Even some proponents of prescriptive privileges concede that psychologists may not be more inclined than psychiatrists to work with underserved groups (Hanson et al., 1999).

Attempts to garner support for the prescriptive agenda on the basis of underserved populations also ignores efforts by the American Psychiatric Association to enhance psychiatric consultation to primary care providers (“APA board takes action,” 1998) and the potential benefits of expanded use of telehealth technology to supplement the expertise of primary care practitioners in areas underserved by psychiatrists. Similarly, it ignores data that psychiatrists see significantly more SPMI and socially disadvantaged patients than do psychologists (Olfson &

Pincus, 1996), which brings into question whether prescriptive authority would have a major impact in expanding care to SPMI populations. Pursuing prescriptive authority may distract focus from important opportunities for psychologists to improve their collaborations with primary care providers to collectively address needs as suggested by groups such as the National Depressive and Manic-Depressive Association (Hirschfeld et al., 1997) or the National Alliance for the Mentally Ill (NAMI). The APA task force report acknowledged that Level 2 training (i.e., collaborative practice) would help to meet the clinical needs of underserved populations (APA, 1992b, p. 87). This leads logically to the query: is Level 3 (i.e., prescriptive authority) really needed if the objective is to enhance care for the underserved? If the energy and resources psychologists are currently investing into advancing the prescriptive privilege agenda were instead refocused on both Level 1 and 2 training and on developing mechanisms to redistribute the psychology workforce to address legitimate societal needs (e.g., rural mental health), might not underserved populations be best served?

Arguments favoring prescriptive authority as a response to problems previously identified for some populations may be outdated. They overlook the successes of programs such as the NIMH Depression/Awareness, Recognition and Treatment (D/ART), the National Public Education Campaign on Clinical Depression, and the dissemination of practice guidelines (American Psychiatric Association, 2000; Depression Guideline Panel, 1993a, 1993b), which appear to be enhancing general awareness and the assessment and pharmacologic treatment of psychiatric patients by primary care practitioners (Coyne, Fechner-Bates, & Schwenk, 1994; Hirschfeld et al., 1997; Simon & VonKorff, 1995; Williams et al., 1999). Proponents' focus on underserved populations raises questions about whether such populations should have access to clinicians who have adequate training to manage their medications, or whether it is acceptable for their care to be delivered by individuals whose training is questioned by nontrivial numbers of educators and practitioners within their own profession.

Another rationale of proponents of prescription privileges is that many mental health services, including prescriptions of psychotropic medications, are provided by nonpsychiatric physicians who have little psychiatric training (DeLeon & Wiggins, 1996). Indeed, the general medical sector is an essential component of the mental

health system, serving an estimated 40–50% of people with mental disorders according to the utilization data of the Epidemiologic Catchment Area (ECA) study (Narrow, Regier, Rae, Manderscheid, & Locke, 1993). Similarly, data from the National Ambulatory Medicare Care Survey (NAMCS) reveal that outpatient appointments with primary care physicians and medical specialists account respectively for 48% and 19% of all appointments involving psychoactive prescription drugs: More than the appointments with psychiatrists (33%) (Pincus et al., 1998). General physicians provide somewhat more of the nation's outpatient mental health services (35%) than either psychologists (31%) or psychiatrists (27%) (Olfson & Pincus, 1996).

According to DeLeon and Wiggins (1996), an estimated 135.8 million prescriptions for psychoactive medications were written in 1991, of which only 17.3% were by psychiatrists. Such statistics, albeit interesting, do *not* indicate how many of these physician interactions for prescriptions are enhanced by consultations involving psychiatrists, psychologists, or other mental health professionals, or how many truly need mental health consultation. There are no benchmarks for how many prescriptions nonsychiatric physicians should write or what percentage of them ought to be informed by collaborations with mental health professionals. It is possible that the large number of prescriptions written by nonpsychiatric physicians reflect that consultation with mental health professionals may be necessary only for subgroups of patients, or that adequate consultation already occurs related to many patients who might need medication. Moreover, despite focus on such patterns (DeLeon & Wiggins, 1996), the numbers neither reveal anything about problematic patterns of prescribing by physicians nor do they persuade that psychologists should prescribe. They probably do reflect several factors, such as (1) some people are more comfortable seeing their primary care physician than a mental health professional (Geller & Muus, 1997; Murstein & Fontaine, 1993), and (2) managed care organizations and capitated systems encourage primary care physicians to treat mental disorders rather than refer to specialist mental health professionals (Pincus et al., 1998). Such systems of health care delivery are similar to the service delivery models in other countries (e.g., Great Britain), where lower per capita rates of psychiatrists reflect psychiatrists' roles as specialist consultants to nonpsychiatric physicians who play primary roles in the

psychopharmacological management of most patients' care (Scully, 1999).

The widespread prescription of psychoactive agents by nonpsychiatrist physicians reflects the significant opportunities for psychiatrists and psychologists (especially those with Level 2 training) to collaborate and consult about psychopharmacology. The data confirm the importance of continuing the ongoing efforts to enhance psychopharmacology training of nonpsychiatric physicians and other prescribers. Such trends do not, however, indicate a need or justification for psychologists to prescribe.

#### **MEDICATION ADVERSE EFFECTS AND ERRORS**

Prescribers even of limited formularies necessarily assume some responsibility for the broader health status of their patients (Heiby, 1998; Kingsbury, 1992). Psychoactive medications have been described as presenting more complex drug interactions and adverse effects than any other class of drug (Hayes, 1998). Many people who take psychoactive medications also take other medications that complicate their care. Fewer than 30% who take an antidepressant take no other medications, so it is important to understand the comorbid conditions and other medications that patients concurrently experience (Preskorn, 1999). In primary care and psychiatric settings, more than 70% of patients prescribed an antidepressant take at least one other drug and a third take at least three other drugs (Preskorn, 1999). Polypharmacy rates are often higher with the elderly and medically ill, and in more specialized clinics (e.g., HIV). Consultation liaison psychiatrists have reported that tricyclic antidepressants in medically ill inpatients yielded a 60% unfavorable response and 32% discontinuation rate due to significant side effects (e.g., delirium) (Popkin, Callies, & Mackenzie, 1985).

Although newer psychoactive medications, such as the SSRIs, have more favorable side effect profiles than previous generations of medications, they are still powerful drugs that can yield serious adverse effects and drug interactions (e.g., Antonuccio, Danton, & DeNelsky, 1995; Antonuccio, Thomas, & Danton, 1998; Klein, 1996; Nemeroff, DeVane, & Pollack, 1996; Pastuszak et al., 1993; Preskorn, 1999; Riddle et al., 1991; Rivas-Vazquez, Johnson, Blais, & Rey, 1999; Settle, 1992). For example, SSRIs have been linked to abnormal electrolyte imbalances (Piasecki, 1998) and can lead to alterations of concentrations of other drugs, such as digoxin (a cardiac glycoside) or

warfarin (a blood thinner) that compete for binding receptors (DeVane, 1992; Piasecki, 1998).

The timing of the intensification of psychologists' lobbying for prescriptive authority is ironic in light of growing national concern about errors in prescribing medication (Classen, Pestotnik, Evans, Lloyd, & Burke, 1997). Nationally, medication errors are estimated to lead to as many as 7,000 deaths annually (Phillips, Christenfeld, & Glynn, 1998). The Federal Drug Administration currently receives 235,000 reports per year about adverse drug events (Institute of Medicine Committee on Quality of Health Care in America, 1999). This could increase as medication options expand, requiring constant upgrades in knowledge of the entire pharmaceutical spectrum. In 1998, the FDA approved 90 new drugs, 30 new molecular entities, 124 new or expanded use of agents, and 344 generic drugs, not counting over the counter and orphan drugs (FDA, 1999). That nearly half of the drugs currently marketed have become available in the last decade (Shatin, Gardner, & Stergachis, 1999) suggests that the knowledge base for prescribing is becoming even more complex, requiring yet more extensive scientific understanding. Between 1970 and 1997, the annual number of publications on drug-drug interactions increased fivefold (Preskorn, 1999), reflecting factors such as increased use of medications for chronic conditions and an aging society with more medical problems and more complex medication regimens. Such trends underscore the need for strong basic education in medicine and pharmacology to prepare prescribers to understand medical conditions in integrating pharmacologic developments into their practice.

Among the many contributing factors to medication errors are *inadequate knowledge* and use of knowledge regarding drug therapy and *inadequate recognition* of important patient factors (e.g., impaired renal function, drug allergies) (Lesar et al., 1997). The influence of other factors that require more sophisticated scientific understanding, such as genetic variation in drug metabolism and uptake, is increasingly likely to affect prescribing. Along with other recommendations, Lesar et al. (1997) recommended *improved prescriber education*. There have not been calls from outside of psychology to create a new category of prescribers with relatively *less* training (as psychologist prescribers would be).

Given the paucity of education and training directly related to prescribing throughout undergraduate and graduate training in psychology (Robiner et al., 2001),

the scant data about psychologists' proficiency in managing medications, which is limited to relatively few individuals, as well as inadequacies in psychologists' knowledge related to psychopharmacology (Robiner et al., 2001), we doubt that abbreviated psychopharmacology training for psychologists would be sufficient to ensure adequate competence in prescribing. Moreover, we are concerned that psychologists would lack the medical expertise to recognize, assess (e.g., all relevant hematological assays), and understand adverse effects and initiate proper medical care.<sup>2</sup>

Short cuts in education seem likely to undermine patient care and contribute to medication errors along the patterns outlined by Lesar et al. (1997). Such training, especially if paired with independent prescriptive authority, risks generating a wave of suboptimal medication management and potentially avoidable adverse drug events. In addition to potentially hazardous consequences for patients, problems associated with psychologist prescribing would present regulatory conundrums, provide a new basis for litigation, and ultimately could detract from the public's esteem of psychologists in general.

#### **CLOSING CONSIDERATIONS**

We appreciate the important roles psychologists play within the delivery of health care broadly and mental health care in particular. Our findings and conclusions in no way belittle psychologists' knowledge or proficiencies in other areas. We agree with the APA task force (APA, 1992b) that it would be beneficial to promote psychologists' psychopharmacology knowledge so as to inform and enhance their collaborations with primary care providers and psychiatrists in providing care to patients who need medications. However, achieving the APA task force's goals for enhancing the care of patients needing medications does not require prescriptive authority for psychologists. Instead, we recommend that the APA refocus its energies to better educate psychologists about psychopharmacology to enhance the psychological services that psychologists provide and their collaborations with prescribers. This is a type of training that most psychology graduate students need and would welcome (Tatman et al., 1997). Also, survey data suggest that most (90%) licensed psychologists feel that psychologists should pursue a minimum of the collaborative practice level of training and most (79%) would be personally willing to pursue it (Ferguson, 1997). Moreover, most (85%) applied psychologists already consult regularly with physicians, so such

training would enhance services that already are provided (Barkley, 1991).

Unfortunately, if psychologists prescribe, medically complex patients (e.g., older patients taking multiple medications) would probably be most vulnerable to the adverse consequences that potentially could derive from shortcomings in psychologists' scientific and medical training (Hayes & Heiby, 1996; Klein, 1996). Promoting psychologists' collaborative practices with prescribers rather than psychologists' prescription privileges would preclude new risks to patients associated with a potentially suboptimal level of care. Collaboration would avoid further confusion about psychologists' identities (Ax et al., 1997), skills, scope of practice, and the differentiation between psychology and psychiatry (Murstein & Fontaine, 1993; Wood, Jones, & Benjamin, 1986).

If legislatures grant psychologists prescriptive authority, other mental health professionals (e.g., social workers, marriage and family therapists) whose training (like psychologists') has not been designed to prepare them to prescribe, may in time be emboldened to advocate for prescriptive authority for themselves based on modules of psychopharmacology training similar to those proposed for psychologists. Would proponents of prescription privileges for psychologists support similar developments in other mental health professions or be more objective in recognizing legitimate concerns about the potential for adverse effects on patient care if undertrained professionals prescribe?

As psychologists, educators of psychologists, and related health professionals, the authors have actively supported psychology's many other advances (e.g., Medicare reimbursement, licensure, provision of nonpharmacologic interventions), including appropriate, innovative roles of psychologists in health care (Schofield, 1969). We caution against framing the debate about prescription privileges as a chapter in the saga of struggles between psychology and psychiatry (DeLeon & Wiggins, 1996). Rather, at its core it is a controversy about the education and training necessary to promote safe and effective treatment that limits unnecessary risks to patients.

We have doubts that the shortcomings in psychologists' education and knowledge related to prescribing can be surmounted through abbreviated training, such as that currently advocated by the APA. Our skepticism that these gaps can be overcome within such a shorter time frame than is involved in the training of other prescribers leads us to urge psychologists to resist the temptation to

venture into aspects of health care (i.e., prescribing and its related clinical activities) for which they would not be well-prepared. As legislators and regulators are lobbied about psychologists prescriptive privileges agenda, they need to weigh judiciously any hoped-for benefits against the potential risks associated with the inadequacies in psychologists' preparation to prescribe, even after they may have obtained the psychopharmacology training in accordance with the model recommended by the APA (CoR, 1996).

## NOTES

1. Some psychologists may not view this change as fully embracing the medical model, but rather as augmenting psychologists' skills in other areas and supporting other "holistic" approaches patients might follow in enhancing their quality of life. Psychologists do not necessarily conceptualize their interest in adding prescribing to their repertoire of clinical interventions as fully endorsing the medical model nor as detracting from their recognition of the merit of other (i.e., nonmedical) models for understanding psychopathology or human problems. Whatever the theoretical proclivities of psychologist prescribers, the unique prescribing practices they might develop, or the complementary interests and approaches they might maintain, it is self-evident that the very act of prescribing reflects greater acceptance of the medical model.

2. A range of case scenarios may be presented to illustrate these concerns. For example, case studies highlighting how drug-drug interactions may be misinterpreted due to their diverse medical presentations abound (e.g., Preskorn, 1999, pp. 183–191; Piasecki, 1998). Psychologists, who have not undergone the clinical psychopharmacology training, have little ability to identify side effects and adverse reactions of anxiolytics, antidepressants, and antipsychotics (Robiner et al., 2001). This is problematic for several reasons, and it is not clear whether the abbreviated training recommended by the APA can surmount these deficits adequately. The differential diagnosis of symptoms of a primary psychiatric illness versus complications of the treatment can be challenging diagnostically (e.g., distinguishing between the lethargy, tiredness, weight gain, and sleepiness reported by a patient taking lithium carbonate due to recurrence of depression or hypothyroidism induced by the lithium). Monitoring serious medical complications associated with medications requires adequate medical knowledge and breadth of experience (e.g., a patient beginning lamotrigine as a mood stabilizer may develop a rash that could either be incidental or a harbinger of a serious complication such as Stevens-Johnson syndrome, a potentially fatal complication). Monitoring psychoactive medications also requires the ability to assess a range of clinical conditions, not just the one for which a medication is prescribed (e.g., when screening for renal or thyroid functions in

a patient taking lithium, other tests deserve consideration, such as a creatinine clearance, urine concentrating ability, or TSH, possibly leading to other medical care, such as institution of thyroid replacement). These examples illustrate how competence in clinical psychopharmacology requires broader medical and pharmacologic knowledge and competence.

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## REFERENCES

- Adams, K. M., & Bieliauskas, L. A. (1994a). Could versus should: A reply to Sammons. *Journal of Clinical Psychology in Medical Settings, 1*, 209–215.
- Adams, K. M., & Bieliauskas, L. A. (1994b). On perhaps becoming what you had previously despised: Psychologists as prescribers of medication. *Journal of Clinical Psychology in Medical Settings, 1*, 189–197.
- American College of Neuropsychopharmacology. (1998, May). *Final report: DoD prescribing psychologists: External analysis, monitoring, and evaluation of the program and its participants*. Nashville, TN: Author.
- American Psychiatric Association. (2000). Practice guideline for the treatment of patients with major depressive disorder (revision). *American Journal of Psychiatry, 157*(4), supplement.
- American Psychological Association. (1992a). Ethical principles of psychologists and code of conduct. *American Psychologist, 47*, 1597–1611.
- American Psychological Association (1992b). *Report of the ad hoc task force on psychopharmacology*. Washington, DC: Author.
- American Psychological Association. (1996). *Model legislation for prescriptive authority*. Washington, DC: Author.
- Antonuccio, D. O., Danton, W. G., & DeNelsky, G. Y. (1995). Psychotherapy versus medication for depression: Challenging the conventional wisdom with data. *Professional Psychology: Research and Practice, 26*, 574–585.
- Antonuccio, D. O., Thomas, M., & Danton, W. G. (1998). A cost-effectiveness model: Is pharmacotherapy really less expensive than psychotherapy for depression? In S. C. Hayes & E. M. Heiby (Eds.), *Prescription privileges for psychologists: A critical appraisal*. Reno, NV: Context Press.
- APA board takes action to provide consult services in certain areas. (1998, April 17). *Psychiatric News, 2*.
- Association for Medical School Pharmacology. (1990, October). *Knowledge objectives in medical pharmacology* (2nd edition). Author.
- Association of State and Provincial Psychology Boards. (1998). *Report of the ASPPB Task Force on Supervision Guidelines*. Montgomery, AL: Author.

- Association of State and Provincial Psychology Boards. (2000). Psychology Licensure Exam (EPPP). Available online at [www.asppb.org/eppp.htm#content](http://www.asppb.org/eppp.htm#content).
- Ax, R. K., Forbes, M. R., & Thompson, D. D. (1997). Prescription privileges for psychologists: A survey of predoctoral interns and directors of training. *Professional Psychology: Research and Practice, 28*, 509–513.
- Barkley, R. A. (1991, Spring). Health Services Committee: Prescribing privileges for health psychologists: Implications from the Clinical Child Psychology Task Force. *Health Psychologist, 13*(1), 2.
- Bascue, L. O., & Zlotowski, M. (1981). Psychologists' attitudes about prescribing medications. *Psychological Reports, 48*, 645–646.
- Belar, C. D. (1998). Graduate education in clinical psychology: "We're not in Kansas anymore." *American Psychologist, 53*, 456–464.
- Bell, P. F., Digman, R. H., Jr., & McKenna, J. P. (1995). Should psychologists obtain prescription privileges? A survey of family physicians. *Professional Psychology: Research and Practice, 26*, 371–376.
- Bieliauskas, L. A. (1992a). Prescription privileges for psychologists? Reality orientation for proponents. *Physical Medicine and Rehabilitation: State of the Art Reviews, 6*, 587–595.
- Bieliauskas, L. A. (1992b). Rebuttal of Dr. Frank's position. *Physical Medicine and Rehabilitation: State of the Art Reviews, 6*, 584.
- Boschert, S. (1998). Psychologists still training for prescribing privileges: Dogged optimism reigns among the group. *Clinical Psychiatry News, 26*(10), 1–2.
- Boswell, D. L., & Litwin, W. J. (1992). Limited prescription privileges for psychologists: A 1-year follow-up. *Professional Psychology: Research and Practice, 23*, 108–113.
- Brandsma, J. M., & Frey, J., III. (1986). Caveats regarding psychologists' prescribing drugs. *Georgia Psychologist, 39*, 16–19.
- Brentar, J., & McNamara, J. R. (1991a). Prescription privileges for psychology: The next step in its evolution as a profession. *Professional Psychology: Research and Practice, 22*, 194–195.
- Brentar, J., & McNamara, J. R. (1991b). The right to prescribe medication: Considerations for professional psychology. *Professional Psychology: Research and Practice, 22*, 179–187.
- Buelow, G. D., & Chafetz, M. D. (1996). Proposed ethical practice guidelines for clinical pharmacopsychology: Sharpening a new focus in psychology. *Professional Psychology: Research and Practice, 27*, 53–58.
- Burns, S. M., DeLeon, P. H., Chemtob, C. M., Welch, B. L., & Samuels, R. M. (1988). Psychotropic medication: A new technique for psychology? *Psychotherapy, 25*, 508–515.
- Bütz, M. R. (1994). Psychopharmacology: Psychology's Jurassic Park? *Psychotherapy, 31*, 692–699.
- California Psychological Association, Professional Education Task Force, California School of Professional Psychology. (1995, January). *Report of the Blue Ribbon Panel*. Los Angeles: Author.
- Chafetz, M. D., & Buelow, G. D. (1994). A training model for psychologists with prescription privileges: Clinical pharmacopsychologists. *Professional Psychology: Research and Practice, 25*, 149–153.
- Chatel, D. M., Lamberty, G. J., & Bieliauskas, L. A. (1993). Prescription privileges for psychologists: A Professional Affairs Committee survey of Division 40 members. *Clinical Neuropsychologist, 7*, 190–196.
- Classen, D. C., Pestotnik, S. L., Evans, S., Lloyd, J. F., & Burke, J. P. (1997). Adverse drug events in hospitalized patients: Excess length of stay, extra costs, and attributable mortality. *Journal of the American Medical Association, 277*, 301–306.
- Council for the National Register of Health Services Providers in Psychology. (2000). *National Register of Health Services Providers in Psychology* (17th ed., pp. 11–14). Washington, DC: Author.
- Council of Representatives, American Psychological Association. (1996). *Recommended postdoctoral training in psychopharmacology for prescription privileges*. Washington, DC: Author.
- Coyne, J. C., Fechner-Bates, S., & Schwenk, T. L. (1994). Prevalence, nature, and comorbidity of depressive disorders in primary care. *General Hospital Psychiatry, 16*, 267–276.
- Cullen, E. A., & Newman, R. (1997). In pursuit of prescription privileges. *Professional Psychology: Research and Practice, 28*, 101–106.
- D'Afflitti, J. P. (1991). Profoundly different professions: Commentary on prescribing privileges for psychologists. *Journal of Clinical Psychiatry, 52*, 11–12.
- DeLeon, P. H. (2000, January). On top of the hill. *Register Report, 26*, 14–15.
- DeLeon, P. H., Folen, R. A., Jennings, F. L., Wilkis, D. J., & Wright, R. H. (1991). The case for prescription privileges: A logical evolution of professional practice. *Journal of Clinical Child Psychology, 20*, 254–267.
- DeLeon, P. H., Fox, R. E., & Graham, S. R. (1991). Prescription privileges: Psychology's next frontier? *American Psychologist, 46*, 384–393.
- DeLeon, P. H., Sammons, M. T., & Sexton, J. L. (1995). Focusing on society's real needs: Responsibility and prescription privileges? *American Psychologist, 50*, 1022–1032.
- DeLeon, P. H., & Wiggins, J. (1996). Prescription privileges for psychologists. *American Psychologist, 51*, 225–229.
- DeMers, S. (1994). Legal and ethical issues in school psychologists' participation in psychopharmacological interventions with children. *School Psychology Quarterly, 9*, 41–52.
- DeNelsky, G. Y. (1991). Prescription privileges for psychologists: The case against. *Professional Psychology: Research and Practice, 22*, 188–193.

- DeNelsky, G. Y. (1996). The case against prescription privileges for psychologists. *American Psychologist*, *51*, 207–212.
- Depression Guideline Panel. (1993a, April). *Depression in primary care: Volume 1. Detection and diagnosis. Clinical practice guideline, Number 5*. Rockville, MD, U.S. Department of Health and Human Services, Public Health Service, Agency for Health Care Policy and Research. AHCPR Publication No. 93-0550.
- Depression Guideline Panel. (1993b, April). *Depression in primary care: Volume 2. Treatment of major depression, Clinical practice guideline, Number 5*. Rockville, MD, U.S. Department of Health and Human Services, Public Health Service, Agency for Health Care Policy and Research. AHCPR Publication No. 93-0551.
- DeVane, C. L. (1992). Pharmacokinetics of the selective serotonin reuptake inhibitors. *Journal of Clinical Psychiatry*, *53*(suppl.), 13–20.
- Dorken, H. (1990). Malpractice claims experience of psychologists: Policy issues, cost comparisons with psychiatrists, and prescription privilege implications. *Professional Psychology: Research and Practice*, *21*, 150–152.
- Evans, G. D., & Murphy, M. H. (1997). The practicality of predoctoral prescription training for psychologists: A survey of directors of clinical training. *Professional Psychology: Research and Practice*, *28*, 113–117.
- Ferguson, V. V. (1997). *Prescription privileges for psychologists: A study of rural and urban licensed psychologists' opinions*. Unpublished doctoral dissertation, University of South Dakota, Vermillion, SD.
- Food and Drug Administration. (1999, May). *Managing the risks from medical product use, Creating a risk management framework*. Report to the FDA Commissioner from the Task Force on Risk Management, U.S. Department of Health and Human Services. Washington, DC: Author.
- Fox, R. E. (1988). Prescription privileges: Their implications for the practice of psychology. *Psychotherapy*, *25*, 501–507.
- Fox, R. E., Schwelitz, F. D., & Barclay, A. G. (1992). A proposed curriculum for psychopharmacology training for professional psychologists. *Professional Psychology: Research and Practice*, *23*, 216–219.
- Frederick/Schneiders, Inc. (1990, December). Survey of American Psychological Association Members. Washington, DC: Author.
- Geller, J. M., & Muus, K. J. (1997). *The role of rural primary care physicians in the provision of mental health services* (Letter to the Field No. 5). Frontier Mental Health Services Resource Network. Available online at [www.du.edu/frontier-mh/letter5.html](http://www.du.edu/frontier-mh/letter5.html).
- Ginther, C. (1997, October). Interim hearing next step in proposed “prescription privileges” bill. *Psychiatric Times*, *14*, 20–21.
- Gutierrez, P. M., & Silk, K. R. (1998). Prescription privileges for psychologists: A review of the psychological literature. *Professional Psychology: Research and Practice*, *29*, 213–222.
- Hanson, K. M., Louie, C. E., Van Male, L. M., Pugh, A. O., Karl, C., Muhlenbrook, L., Lilly, R. L., & Hagglund, K. J. (1999). Involving the future: The need to consider the views of psychologists-in-training regarding prescription privileges for psychologists. *Professional Psychology: Research and Practice*, *30*, 203–208.
- Hayes, G. J. (1998). Diving into the chemical soup. In S. C. Hayes & E. M. Heiby (Eds.), *Prescription privileges for psychologists: A critical appraisal*. Reno, NV: Context Press.
- Hayes, S. C., & Heiby, E. (1996). Psychology’s drug problem: Do we need a fix or should we just say no? *American Psychologist*, *51*, 198–206.
- Hayes, S. C., & Heiby, E. M. (Eds.). (1998). *Prescription privileges for psychologists: A critical appraisal*. Reno, NV: Context Press.
- Heiby, E. (1998). The case against prescription privileges for psychologists: An overview. In S. C. Hayes & E. M. Heiby (Eds.), *Prescription privileges for psychologists: A critical appraisal*. Reno, NV: Context Press.
- Hendryx, M. S., Borders, T., & Johnson, T. (1995). The distribution of mental health providers in a rural state. *Administration and Policy in Mental Health*, *23*, 153–155.
- Hirschfeld, R. M., Keller, M. B., Panico, S., Arons, B. S., Barlow, D., Davidoff, F., Endicott, J., Froom, J., Goldstein, M., Gorman, J. M., Guthrie, D., Marek, R. G., Maurer, T. A., Meyer, R., Phillips, K., Ross, J., Schwenk, T. L., Sharfstein, S. S., Thase, M. E., & Wyatt, R. J. (1997). The National Depressive and Manic-Depressive Association consensus statement on the undertreatment of depression. *Journal of the American Medical Association*, *277*, 333–340.
- Holzer, C. E., III, Goldsmith, H. F., & Ciarlo, J. A. (1998). Effects of rural-urban county type on the availability of health and mental health care providers. In R. W. Manderscheid & M. J. Henderson (Eds.), *Mental health, United States* (pp. 204–213). Rockville, MD: U.S. Department of Health and Human Services.
- Institute of Medicine Committee on Quality of Health Care in America. (1999). In L. T. Kohn, J. M. Corrigan, & M. S. Donaldson (Eds.), *To err is human: Building a safer health system*. Washington, DC: National Academy Press.
- Kennedy, J. (1998, April 3). Prescription privileges for psychologists: A view from the field. *Psychiatric News*, *33*(7), 26.
- Kingsbury, S. J. (1992). Some effects of prescribing privileges. *Professional Psychology: Research and Practice*, *23*, 3–5.
- Klein, R. (1996). Comments on expanding the clinical role of psychologists. *American Psychologist*, *51*, 216–218.
- Klusman, L. E. (1998). Military health care providers’ views on prescribing privileges for psychologists. *Professional Psychology: Research and Practice*, *29*, 223–229.



- Kovacs, A. (1988). Shall we take drugs? Just say no. *Psychotherapy Bulletin*, 23, 8–11.
- Kubiszyn, T. (1994). Pediatric psychopharmacology and prescription privileges: Implications and opportunities for school psychology. *School Psychology Quarterly*, 9, 26–40.
- Lesar, T. S., Briceland, L., & Stein, D. S. (1997). Factors related to errors in medication prescribing. *Journal of the American Medical Association*, 277, 312–317.
- Lorion, R. P. (1996). Applying our medicine to the psychopharmacology debate. *American Psychologist*, 51, 219–224.
- Massoth, N. A., McGrath, R. E., Bianchi, C., & Singer, J. (1990). Psychologists' attitudes toward prescription privileges. *Professional Psychology: Research and Practice*, 21, 147–149.
- Matthews, W. J. (1998, March 23). In opposition to prescription privileges for psychologists. GO Inside. Available online at <http://goinside.com/98/3/oppose.html>.
- May, W. T., & Belsky, J. (1992). Response to "Prescription privileges: Psychology's next frontier?" or the siren call: Should psychologists medicate? *American Psychologist*, 47, 427.
- McCabe, S., & Grover, S. (1999). Psychiatric nurse practitioner versus clinical nurse specialist: Moving from debate to action on the future of advanced psychiatric nursing. *Archives of Psychiatric Nursing*, 13(3), 111–116.
- Moyer, D. (1995). An opposing view on prescription privileges for psychologists. *Professional Psychology: Research and Practice*, 26, 586–590.
- Murstein, B. I., & Fontaine P. A. (1993). The public's knowledge about psychologists and other mental health professionals. *American Psychologist*, 7, 838–845.
- Narrow, W. E., Regier, D. A., Rae, D. S., Manderscheid, R. W., & Locke, B. Z. (1993). Use of services by persons with mental and addictive disorders: Findings from the National Institute of Mental Health Epidemiologic Catchment Area Program. *Archives of General Psychiatry*, 50, 95–107.
- Nemeroff, C. B., DeVane, C. L., & Pollock, B. G. (1996). Newer antidepressants and the cytochrome P450 system. *American Journal of Psychiatry*, 153, 311–320.
- Office of Program Consultation and Accreditation, American Psychological Association. (1996). *Book 1: Guidelines and principles for accreditation of programs in professional psychology*. Washington, DC: Author.
- Olfson, M., & Pincus, H. A. (1996). Outpatient mental health care in nonhospital settings: Distribution of patients across provider groups. *American Journal of Psychiatry*, 153, 1353–1356.
- Pachman, J. S. (1996). The dawn of a revolution in mental health. *American Psychologist*, 51, 213–215.
- Pastuszek, A., Schick-Boschetto, B., Zuber, C., Feldcamp, M., Pinelli, M., Sihm, S., Donnenfeld, A., McCormack, M., Leen-Mitchell, M., Woodland, C., Garnder, A., Horn, M., & Koren, G. (1993). Pregnancy outcome following first-trimester exposure to fluoxetine (Prozac). *Journal of the American Medical Association*, 269, 2246–2248.
- Peck, P. (1997). Psychologists take script-privileges fight to the states. *Clinical Psychiatry News*, 25(10), 1, 6.
- Piasecki, M. (1998). Antidepressant medications: A review of their potential for toxicity. In S. C. Hayes & E. M. Heiby (Eds.), *Prescription privileges for psychologists: A critical appraisal*. Reno, NV: Context Press.
- Phillips, D. P., Christenfeld, N., & Glynn, L. M. (1998). Increase in US medication-error deaths between 1983 and 1993. *Lancet*, 351, 643–644.
- Pies, R. W. (1991). The "deep structure" of clinical medicine and prescribing privileges for psychologists. *Journal of Clinical Psychiatry*, 52, 4–8.
- Pimental, P. A., Stout, C. E., Hoover, M. C., & Kamen, G. B. (1997). Changing psychologists' opinions about prescriptive authority: A little information goes a long way. *Professional Psychology: Research and Practice*, 28, 123–127.
- Pincus, H. A., Tanielian, T. L., Marcus, S. C., Olfson, M., Zarin, D. A., Thompson, J., & Zito, J. M. (1998). Prescribing trends in psychotropic medications: Primary care, psychiatry, and other medical specialties. *Journal of the American Medical Association*, 279, 526–531.
- Piotrowski, C. (1989). Prescription privileges: A time for serious thought. *Psychotherapy Bulletin*, 24, 16–18.
- Piotrowski, C., & Keller, J. W. (1996). Prescription privileges and training issues: A pilot study. *Psychological Reports*, 78, 445–446.
- Piotrowski, C., & Lubin, D. (1989). Prescription privileges: A view from health psychologists. *Clinical Psychologist*, 42, 83–84.
- Popkin, M. K., Callies, A. L., & Mackenzie, T. B. (1985). The outcome of antidepressant use in the medical ill. *Archives of General Psychiatry*, 41, 469–477.
- Preskorn, S. H. (1999). *Outpatient management of depression: A guide for the practitioner* (2nd ed.). Caddo, OK: Professional Communications, Inc.
- Psychiatrists oppose prescription privileges and direct Medicare reimbursement for psychologists. (1989, September). *Register Report*, 8.
- Reich, J. (1999, March). *Back to the future: Preparing the next generation*. Second Association of Psychology Postdoctoral and Internship Centers Membership Meeting and Conference, Orlando, FL.
- Riddle, M. A., Nelson, J. C., Kleinman, C. S., Rasmusson, A., Leckman, J. F., King, R. A., & Cohen, D. J. (1991). Sudden death in children receiving Norpramin: A review of three reported cases and commentary. *Journal of the American Academy of Child and Adolescent Psychiatry*, 30, 104–108.
- Riley, W. T., Elliott, R. L., & Thomas, J. R. (1992). Impact of

- prescription privileging on psychology training: Training directors' survey. *Clinical Psychologist*, 45, 63–71.
- Rivas-Vazquez, R. A., Johnson, S. L., Blais, M. A., & Rey, G. J. (1999). Selective serotonin reuptake inhibitor discontinuation syndrome/Understanding, recognition, and management for psychologists. *Professional Psychology: Research and Practice*, 30, 464–469.
- Roan, S. (1993, September 7). Tug-of-war over prescription powers; health: Pharmacists, nurses and other non-doctors want the authority to prescribe drugs. Others insist only physicians have the training to do so safely. *Los Angeles Times*, Part E, 1, 6.
- Robiner, W. N. (1998). Just say no to drugs: Prescription privileges and the Minnesota Psychological Association. *Minnesota Psychologist*, 47(5), 6–8.
- Robiner, W. N. (1999, May). Why psychologists should not pursue prescription privileges. In J. Boyd, M. Chesney, R. Kollmorgen, J. L. Raymond, W. Robiner, & J. Boller, *Prescriptive authority for psychologists: Pros and cons*. Annual Meeting of the Minnesota Psychological Association, Minneapolis.
- Robiner, W. N., Bearman, D. L., Berman, M., Grove, W., Colön, E., Armstrong, J., Mareck, S., & Tanenbaum, R. (2001). *Prescriptive authority for psychologists: Despite deficits in education and knowledge?* Manuscript submitted for publication.
- Robiner, W. N., Koehler, D., & Wedding, D. (1998). Contemporary issues in psychology: Survey results of the Association of Medical School Psychologists. *Medical School Psychologist*, 5(1), 1, 7–12.
- Saeman, H. (1995). Science group deplores “medicalizing” psychology plans “guerrilla war” against prescription privileges. *National Psychologist*, 4(2), 3.
- Sammons, M. T. (1994). Prescription privileges and psychology: A reply to Adams and Bieliauskas. *Journal of Clinical Psychology in Medical Settings*, 1, 199–207.
- Sammons, M. T., & Brown, A. B. (1997). The Department of Defense Psychopharmacology Demonstration Project: An evolving program for postdoctoral education in psychology. *Professional Psychology: Research and Practice*, 28, 107–112.
- Sammons, M. T., Sexton, J. L., & Meredith, J. M. (1996). Basic science training in psychopharmacology: How much is enough? *American Psychologist*, 51, 230–234.
- Schafer, J. (2000, March 17). Prescribing privileges [letter]. *Psychiatric News*, 35, 53.
- Schofield, W. (1969). The role of psychology in the delivery of health services. *American Psychologist*, 24, 565–584.
- Scully, J. H., Jr. (1995, May 1). Testimony of the American Psychiatric Association on S. B. 777 Psychologists' Prescription Privileges before the Subcommittee on Creation or Expansion of Scope of Practice, Senate Committee on Business and Professions, State of California.
- Scully, J. H., Jr. (1999). The psychiatric workforce. In S. Weissman, M. Sabshin, & H. Eist (Eds.), *Psychiatry in the new millennium* (pp. 273–283). Washington, DC: American Psychiatric Press.
- Settle, E. C. (1992). Antidepressant side effects: Issues and options. *Journal of Clinical Psychiatry Monograph*, 10, 48–61.
- Shatin, D., Gardner, J., & Stergachis, A. (1999). Letter. *Journal of the American Medical Association*, 281(4), 319–320.
- Simon, G. E., & VonKorff M. (1995). Recognition, management, and outcomes of depression in primary care. *Archives of Family Medicine*, 4, 99–105.
- Smyer, M. A., Balster, R. L., Egli, D., Johnson, D. L., Kilbey, M. M., Leith, N. J., & Puente, A. E. (1993). Summary of the report of the Ad Hoc Task Force on Psychopharmacology of the American Psychological Association. *Professional Psychology: Research and Practice*, 24, 394–403.
- Tatman, S. M., Peters, D. B., Greene, A. L., & Bongar, B. (1997). Graduate students' attitudes toward prescription privileges training. *Professional Psychology: Research and Practice*, 28, 515–517.
- Tucker, M. E. (1992, October). Psychologists' crusade for rx privileges not likely to abate. *Clinical Psychiatry News*, 1, 15.
- U.S. General Accounting Office. (1999). *Prescribing psychologists: DOD demonstration participants perform well but have little effect on readiness or costs: Report to the Chairman and Ranking Minority Member, Committee on Armed Services, U.S. Senate*. Washington, DC: Author.
- Williams, J. W., Jr., Rost, K., Dietrich, A. J., Ciotti, M. C., Zyzanski, S., & Cornell, J. (1999). Primary care physicians' approach to depressive disorders: Effects of physician specialty and practice structure. *Archives of Family Medicine*, 8, 58–67.
- Wood, W., Jones, M., & Benjamin, L. T., Jr. (1986). Surveying psychology's public image. *American Psychologist*, 41, 947–953.
- Youngstrom, N. (1991, March). Membership poll supports prescribing. *APA Monitor*, 20.
- Zimmerman, M. A., & Wienckowski, L. A. (1991). Revisiting health and mental health linkages: A policy whose time has come . . . again. *Journal of Public Health Policy*, 12, 510–524.

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