

Healthcare Reform Means Training Reform

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Abstract

Healthcare reform, including the reforms exemplified in the Affordable Care Act (ACA), has significant implications for the demand of healthcare professionals, including clinical psychologists. This paper critically reviews extant workforce analyses of both current and future statuses of the supply and demand for clinical psychologists. While there is significant vagueness and variability in these analyses, it appears there will be a significant new demand for behavioral health professionals who can work in medical teams to assist in the identification and treatment of patients who are presenting due to behavioral health pathways. This demand may be as high as 80,000 and would represent a near doubling of the current workforce of clinical psychologists. The traditional training processes of clinical psychologists have exhibited a number of problems, including exact outcomes are generally unknown; likely have great variability; are very costly to produce; have little or no data regarding their effectiveness or consumer satisfaction despite decades of use; are somewhat arcane, uncoordinated, and overly complex; produce too few professionals; and are very time consuming. This paper examines the use of web-based training to both overcome some of these problems and to help meet future workforce needs.

Keywords: healthcare reform, Affordable Care Act, workforce analysis, clinical psychology training, web-based training, integrated care

Clinical psychology is a profession that involves a variety of specific roles and, hence, a variety of competencies. These roles include, but are not limited to, functioning as a clinician for a diverse set of tasks, including treating various populations (e.g., elderly, children, autistic children, alcoholics); working in an academy as a teacher, administrator, or researcher; working as a part of upper management in various organizations (e.g., managed care company,

consulting firm), and private consulting in a variety of contexts (e.g., forensics). This wide array of roles has allowed clinical psychologists to be highly sought after professionals.

However, when examining present or future workforce needs for clinical psychologists, there have been conflicting views about whether there are or will be sufficient psychologists to meet the demand of all these roles. Some have argued that the field of clinical psychology is currently

oversaturated (Robiner, 1991; Robiner, Ax, Stamm, & Harowski, 2002) and that the production of clinical psychologists should be slowed. This alleged oversaturation would in turn lower the marketability of existing psychologists and the potential earnings of those in the field due to supply exceeding demand. Others have argued the opposite, saying there are not sufficient numbers of clinical psychologists due to the wide variety of roles that psychologists could engage in, particularly in the future (VandenBos, DeLeon, & Belar, 1991). This hypothesized undersupply means some individuals who would benefit from services or expertise are not receiving or will not receive them. Both circumstances are not ideal in that the former is detrimental to those practicing in the field of clinical psychology or training to be a psychologist, and the latter is detrimental for the public who would benefit from the particular skill sets that psychologists possess. It must be recognized that these estimates may serve self-interests, although these interests vary. Concerns of oversupply could be self-serving in that restricting supply can increase the prices for the labor of existing psychologists. On the other hand, claims of undersupply can serve the interests of those selling their services as trainers.

To analyze which of these situations is currently occurring or is likely to occur in the future, workforce analyses are useful (Rozenky, 2011). Workforce analyses are vital for any given service-based field in that these projections allow the field to be responsive to any factors that may affect the supply or demand for practitioners. In addition, through these analyses, a given field may redefine training priorities to ensure individuals in the field do not compete in an oversaturated

market or the number of service providers is sufficient to meet the changing demands of the public (Rozenky, Grus, Belar, Nelson, & Kohout, 2007).

For example, given the passage of the Affordable Care Act (ACA), individuals in the medical specialty of primary care have conducted workforce analyses to predict future workforce needs (Pettersen et al., 2012). Using national databases in regards to primary care utilization and supply projects, these authors were able to provide estimates regarding how many primary care physicians would be needed and for what reasons (e.g., aging population, increased insurance coverage). With these reforms, Dill and Salsberg (2008) estimated there will be a significant shortage—46,000 by 2025—of primary care physicians, which will comprise 37% of the workforce shortage of physicians in 2025. This is a staggering deficit that will seriously hamper any attempt to reform healthcare. In response to these predicted shortages, a call for new methods of training primary care providers has been made (Pettersen et al., 2012). Given this successful example of a workforce study and the utility of workforce studies, it would seem imperative for clinical psychology to engage in this process.

Many of the recent analyses regarding clinical psychologists have first focused on determining the state of the current workforce (Michalski & Kohout, 2011). This seems to be a more straightforward matter as it is a descriptive task—counting existing psychologists in the workforce. However, some of these analyses suggest conducting an accurate workforce analysis in clinical psychology is quite difficult (Rozenky, et.

al, 2007). The fact that the field of clinical psychology has difficulty conducting an accurate workforce analysis in comparison to other healthcare professionals such as primary care physicians is understandable given that these other professions have much more sophisticated databases regarding their current workforce numbers and their overall utilization (Rozensky et al., 2007). Also, because clinical psychologists engage in such a wide variety of duties, it is difficult to pinpoint a method that would effectively capture all those who are currently working as “clinical psychologists” in all of these diverse roles (Rozensky et al., 2007). With these difficulties in mind, a workforce analysis could still produce valuable numbers that provide a useful guide for streamlining training.

The purpose of this article is to investigate whether or not clinical psychology can meet the need of recent healthcare reform that is having and will continue to have a huge impact on how healthcare is delivered. Some authors have predicted healthcare reform will lead to growth for behavioral health providers (Cummings & O'Donohue, 2011). What is less clear is the extent to which clinical psychologists will fill these new roles. Recent healthcare reform—particularly, the ACA—has placed an emphasis on providing individuals in the United States with access to interdisciplinary teams that allow for improved access to care and improved care in the primary care setting (Rozensky, 2011), because a key to reducing costs and improving care is to identify and treat behavioral health drivers of medical presentations such as depression, anxiety, poor treatment compliance, smoking, obesity, and other

behavioral health problems (Cummings, O'Donohue, & Cummings, 2011).

These changes in the healthcare system may also require a rapid expansion of the mental health workforce in the primary care setting that the field of clinical psychology may not be able to fulfill given its current model of training and service delivery (Blount & Miller, 2009). If there are too few clinical psychologists to fill these positions, other disciplines that have shorter training periods such as social workers may fill this gap. This article will present trends in healthcare and the changing role of mental health providers. It then will be followed by a workforce analysis of the current and future psychological workforce, and our predicted shortcomings of the future workforce. We will conclude by providing recommendations on how online education and training can potentially help address these new training needs.

The Changing Landscape of the United States' Healthcare System

The healthcare system in the United States is continually changing. However, recent events like the passing of the ACA have set in motion requirements that will increase the rate of change. These changes regarding how healthcare will be delivered and even its quality will be defined and measured will have significant implications for clinical psychologists. While an in-depth analysis of these changing trends and their potential implications on mental health professionals has been conducted (see Rozensky, 2012), there are some key trends that should be reiterated. Understanding the change in landscape—what will be expected from healthcare professionals and who will be accessing their services—is an

important first step to help determine future workforce needs (Rozensky, 2012).

The Affordable Care Act's Focus on Prevention and Health Maintenance

Chronic diseases such as heart disease, cancer, and stroke account for 7 out of 10 deaths in the United States (CDC, 2012). In response to this, one of the main focuses of the ACA is disease prevention and health maintenance (Rozensky, 2012). However, to effectively engage in disease prevention and health maintenance, clinical psychologists must shift their focus to include population-based interventions aimed at the behavior health determinants of chronic disease management. In addition, demographic trends have an impact on future medical utilization. The population in the United States is experiencing a significant shift in that it is aging. By 2050, the number of individuals over age 65 is expected to double compared to today (Rozensky, 2012). This presents a unique problem to healthcare providers, due to the fact that the geriatric population has traditionally been a high utilizer of healthcare (Stanton, 2006). This is mostly due to the increase of chronic disease in older age (Stanton, 2006). This new and expanding population has unique needs, which will require healthcare providers to receive specialized training.

The Affordable Care Act's Focus on Evidence-Based Care and Accountability

The ACA was partly a reaction to the groundbreaking report *Crossing the Quality Chasm* published by the Institute of Medicine (2001). The IOM identifies a number of quality problems in the way healthcare is currently being delivered, including access, safety, use of evidence-based

procedures, timeliness and continuity, equity, being patient centric, and cost.

A follow-up to the original report *Improving the Quality of Health Care for Mental and Substance-Use Conditions* (IOM, 2006) was published to address issues specific to mental health. This report highlighted the similarities between general physical healthcare and mental health, and the evidence-based treatments available for mental health concerns and their effectiveness. However, this report also highlighted the quality gaps in mental health care delivery. The report states deficiencies in mental health care lead to a "considerable burden" (p. 7) on the workforce, educational achievement, and society overall. The deficiencies of providing effective mental health care lead to safety issues (e.g., prescribing anti-depressants to children may be more harmful than beneficial) (Antonunccio, 2008), lower overall quality of medical care (Bjorkenstam et al., 2012), and the overutilization of psychotropic medications, which leads to excess morbidity and mortality (Parks, Svendsen, Singer, & Foti, 2006).

Psychologists must shift both research and practice to ensure these factors are captured in therapy. They must also embrace the "accountability" factor of the ACA and provide consistent outcome data to ensure individuals receiving behavioral health services are actually improving.

The Affordable Care Act's Focus on Multidisciplinary Teams, Primary Care, and Patient-Centered Medical Homes

The healthcare system in the United States is currently the most expensive in the world (Bodenheimer, 2005). In order to help reduce healthcare costs, the ACA is focusing on shifting the majority of healthcare to the less costly primary care setting. To ensure patients receive the highest quality of care, the ACA promotes the use of multidisciplinary teams and patient-centered medical homes (PCMHs; Bechman, Kinman, Harris, & Masters, 2012). This comprehensive care in turn makes the primary care setting a "one-stop shop" for consumers and promotes continuity of care for patients due to the fact that healthcare providers no longer operate separately in "silos." With these reforms, providers of different specialties and backgrounds would be co-located and collaborate to come up with a more comprehensive, non-redundant, and coordinated care plan. This focus on providing primary care within a team-based system provides clinical psychologists or other behavioral health professionals with an avenue to play a key role in the delivery of more effective primary care. There has been much written on the utility of clinical psychology in the primary care setting in regards to medical cost offset and improved patient outcomes (Cummings, Ferguson, & O'Donohue, 2002). However, this setting requires psychologists to shift from traditional "specialty care" models of psychotherapy and learn to deliver brief, effective interventions that can operate within the ecology of fast-paced primary care setting (Cummings, 2011).

An Analysis of the Current Workforce of Clinical Psychologists Current Number of Clinical Psychologists

A workforce analysis in clinical psychology has proven to be a very difficult endeavor due to the broad definition of what entails a "clinical psychologist." While agencies like the U.S. Department of Health and Human Services collect data on psychologists, the definition of what a "psychologist" is may differ from county to county and not agree with what the American Psychological Association (APA) defines as a psychologist (Rozenky et al., 2007). Also, due to its reliance on information from other agencies and limited funding towards workforce analyses, the field of clinical psychology lacks a systematic or comprehensive manner of collecting relevant and important data in comparisons to other healthcare fields (Rozenky et al., 2007). Given these limitations, this manuscript will present a critical review of some of the major analyses of the current workforce of clinical psychologists, how these numbers were calculated and the strengths and weaknesses behind each methodology.

U.S. Bureau of Labor Statistics' Estimate of the Current Workforce. The U.S. Bureau of Labor Statistics (BLS) is the principle federal agency responsible for measuring labor market activity, working conditions, and price changes in the economy (BLS, 2014a). The BLS analyzes and disseminates these economic data to support both the private and public sectors to better inform economic decision making. The website provided by the BLS provides users with the ability to search specific professions, and offers its users information about current employment, future

employment predictions (ten years from now), number of individuals self-employed, job openings due to growth and replacement needs, annual wages, and types of education needed.

For clinical psychologists, the BLS has the occupation listed as “Clinical, counseling, and school psychologists.” According to BLS data, 145,100 clinical, counseling, and psychologists were employed as of 2012 and a growth of 16,400 is projected over 10 years for an estimated workforce of 161,500 by 2022 (BLS, 2014c). The BLS also predicts that due to growth and replacement needs (e.g., retirement, individuals changing employment), 55,900 positions in clinical, counseling, and school psychology will open between 2012 and 2022. Because it takes approximately 7 to 10 years to produce a licensed clinical psychologist as of 2012 (O’Donohue & Boland, 2012), this means that 55,900 new psychologists must be trained in the next 8 years to meet the needs of the future workforce and to account for those who will be retiring.

The BLS also provides users with information on how it calculates values. It lists the measurement of employment as “a count of jobs, not a count of individual works” (BLS, 2014b). Job openings due to growth and replacement needs are calculated by combining expected job growth or loss with the number of individuals projected to retire or permanently leave the occupation. The BLS reports this replacement value was calculated through a two-step process. First, the BLS measured the net change in occupational employment for thirteen different age cohorts over a five-year period. This provided the BLS with historical replacement rates of a profession. Taking this historical replacement rate, an

estimate replacement needs was calculated by assessing the replacement needs from 2012 to 2017, recalculating cohort ages, and repeating the analysis from 2017 to 2022. These numbers were then combined to create the replacement number from 2012 to 2022. By creating these numbers, a field can predict how many professionals would need to be trained to just replace those who are currently active.

Strengths and Weaknesses of the Bureau of Labor Statistics. The BLS has the unique advantage of being a federal agency. Due to this, the BLS has access to information that would be considered confidential (e.g., private surveys, census data) and not available to the public. Another strength of the BLS is that information across occupations is analyzed the same way. This allows users of the BLS’s website to make reasonable comparisons between occupations.

While the BLS attempts to make its website and information as user friendly as possible, it can also be somewhat confusing. For example, there are actually multiple numbers in regards to the current workforce of a given field. In the case of clinical, counseling, and school psychology, the numbers vary, either being 103,590 or 145,100, depending on which type of analysis is accessed on the website. For the purposes of this manuscript, both values were considered in determining current workforce size. Another weakness of the BLS is that it sums clinical, counseling, and school psychologists. While the website lists typical entry-level education is a doctoral or professional degree, it is not clear if the BLS definition of this occupation is similar to that of the APA. Also, it is not clear how many professionals are in each sub-group. Another

weakness is it fails to explicate exactly how these figures are calculated. For example, there is no explicit mention of the impact of the ACA on its calculations. Thus, it is unclear if the BLS has considered accurately the impact of healthcare reform on the future market for psychologists.

The major strength of BLS is it has access to databases and resources that are unique, and is a department dedicated to calculating and predicting workforce size. However, unclear is what BLS defines as a “psychologist.” Also, depending on which database is accessed, there is a wide range for predicted workforce size — 103,590 to 145,100—making a focused analysis difficult.

American Psychological Association. While the field of clinical psychology has struggled to devise its own comprehensive method of calculating workforce size, the APA has made an active effort to create a system to calculate this. The creation of the Center for Workforce Studies (CWS) has been the APA’s response to utilize workforce analyses to help progress the field and hone training agendas to meet the needs of society by releasing reports four to five times a year (APA, 2014b).

According to the demographic data of the APA membership in 2013, there were 77,149 members who had a doctoral-level degree (APA, 2014a). These members included a wide range of psychologists working in clinical, counseling, school, forensic, and many subspecialties. More specific to the workforce question, the CWS estimates 93,000 clinically trained psychologists are in the United States (APA, 2014c). Unfortunately, the total number of clinically trained psychologists provided on the CWS

website is not accompanied by a citation or explanation of how this number was calculated.

Strengths and Weaknesses of the American Psychological Association. The APA’s CWS is one of the only “in-house” programs dedicated to answering questions relevant to workforce analyses. Given the APA’s important role in regards to establishing course requirements and accreditation for doctoral programs, using these data can be particularly useful for decision making. The numbers provided by the APA reflect what the group would define as a “clinical psychologist” and, therefore, can reflect a more accurate count.

The APA’s methods of workforce analysis and access to relevant information are not as well-established or inclusive as those used by agencies like the BLS. This lack of access to pertinent information that agencies like the BLS use limits the scope of the analyses conducted by the CWS. Also, the reliance on APA members is problematic, due to the fact there has been a steady decline in the total number of APA members over the years (Michalski & Kohout, 2011). Another weakness is that many psychologists are not members of APA, may only be members of “rival” organizations such as APS, or not members of any professional organization.

The APA has the benefit of ensuring that those who are included in its analysis meet the requirements of being considered “clinical psychologist.” The group’s analysis also includes clinical psychologists, but no other fields of psychology. However, the analysis is based on its membership total, which has been steadily declining for years. Therefore, while more specific,

the APA analysis may not be inclusive enough to be accurate.

Workforce Numbers from Other Articles and Reports. Individual authors have also published workforce numbers about clinical psychologists. The prediction of clinical psychologists is presented within the larger frame of “mental health professionals” (Heisler & Bagalman, 2014; Robiner, 2006). These authors integrated information from numerous sources in order to provide estimates of the workforce size. One report estimated the size of the workforce for clinical psychologists is between 92,227 and 134,000, depending on the source of information (Hisler & Bagalmn, 2014). Another article estimated approximately 89,514 licensed providers, but this number was an estimate from 2002 (Robiner, 2006). However, these articles do not report estimates for future workforce needs.

Strengths and Weaknesses of These Other Articles and Reports. These authors compiled data from numerous resources, databases, and other authors. The numbers provide a wide range of estimates from the various sources. The authors are able to present these various numbers and the sources from which they compiled the information. For example, these articles presented data from sources that include APA, BLS, and the Institute of Medicine.

Due to the lack of more sophisticated databases used in other healthcare professions, these authors were not able to conduct workforce analyses that required the similar methodological and statistical analyses used by other healthcare professionals (Rozensky, et. al, 2007). Due to the reliance of numbers from other agencies, their estimates are confounded by the strengths and

limitations of those agencies. Since workforce analyses have not improved since these publications, this paper suffers from the same strengths and limitations of these authors.

Given these various sources and different methodologies of estimating the current workforce of clinical psychologists, the estimates range between 90,000 and 145,000. Due to the fact this range is too large, for the purposes of this manuscript we estimate approximately 100,000 clinical psychologists are currently in the workforce. This number was selected, because the majority of sources (e.g., APA, BLS [non-inclusive number]) (Heisler & Bagalmn, 2014) have estimates that are between 90,000 and 105,000 psychologists.

Some Key Demographics of Current Clinical Psychologists

In addition to the total workforce, the demographics of current clinical psychologists are also a valuable dimension in a workforce analysis. In a survey study conducted by Michalski & Kohout (2011), the current workforce of clinical psychologists is referred to as more “heterogeneous” than previous studies. In this study, about 58% of the respondents were women. This can be significant, as women are more likely to work part-time than men. Thus, it should not be assumed that there are 100,000 full-time clinical psychologists in the workforce. For the purpose of this manuscript, age of the workforce was the most interesting variable of demographic information available. Multiple studies have indicated the modal age of the clinical psychology workforce is over 55 years, thus relatively close to the age of retirement (Michalski & Kohout, 2011; Salazar, Frinske, &

Kohout, 2004). This number indicates the workforce as a whole is more mature than it has been in the past. While the workforce is getting older, the average age of retirement of a psychologist is also higher than average at 71 years (Saure & Zoabi, 2011).

Even though retirement for psychologists is somewhat delayed, this more mature workforce requires that the field prepare itself for a “mass exodus” when these psychologists retire, although the age at which these psychologists will retire will vary and is somewhat unclear. This trend is also consistent with the BLS estimate that 55,900 positions will be open due to expansion and retirement in the field, with the majority of those positions due to retirement. It is also important to note an important limitation of these data: It is based on APA membership. As mentioned earlier, the APA membership has slowly declined over the years and younger individuals are not becoming APA members. This factor could skew the data in a way that indicates a more mature workforce than there actually is. However, the field must prepare itself to ensure there will be enough psychologists to fill the positions of those retiring and new positions created.

Estimates of the Future Need for Clinical Psychologists

The BLS predicts that between 2013 and 2023 there will be an employment change of 16,400 new jobs— an increase of 11.3%—for clinical, counseling, and school psychologists (BLS, 2014c). However, this number fluctuates considerably across years. For example, clinical, counseling, and school psychologists were forecast in 2008 to grow between 7% and 13% (Rozenky, 2011). Given our estimate of 100,000 psychologists

currently in the workforce, this would mean that in 10 years the workforce would range from 107,000 to 113,000 psychologists.

While these numbers may give some useful information regarding what the field could expect in internal competition, they do not provide useful information about what areas in the field will require more emphasis in the future due to healthcare reform. It is also important to note that implications of the ACA in regards to future needs may not be factored into the predicted growth percentages.

While the future workforce needs of clinical psychology may be difficult to predict due to lack of information and the multiple areas in which a clinical psychologist can engage, there are specific areas that have enough information to make a prediction. As mentioned earlier, healthcare trends are pushing for more team-based, integrated care (IC). Some have offered that for an integrated care program to work ideally, there is a specific ratio of primary care providers (PCPs) to behavior health consultants (BHC). Ratios can range from 3 PCPs:1 BHC to 5 PCPs:1 BHC, depending on the goal of the clinic in regards to managing psychiatric problems (Cummings et al., 2011). For example, based on data collected across multiple family practices, a ratio of 3 PCPs: 1 BHC allowed for most (80%) psychiatric care to be conducted within the primary care clinic before needing to make referrals to specialty care while a ratio of 5 PCPs: 1 BHC allowed primary care clinics to handle about half its patients’ psychiatric needs before having to refer (Cummings et al., 2011).

Multiple workforce analyses in regards to future needs of PCPs predict the workforce

demand in 2020 for PCPs will be between 241,200 (HRSA, 2013) and 245,975 (Pettersen et al., 2012). With these predictions in mind and using the ratios above, a workforce between 48,240 and 81,991 mental health providers would be needed to meet the demands of multi-disciplinary practice in the primary care setting.

To place the number of clinical psychologists needed to work in integrated primary care in another context, if internship placements were to expand at a steady rate of 5% a year starting in 2010, there would be a total of 44,051 new doctoral psychologists produced by 2020. If every one of those new psychologists were to go into IC and no psychologists left the workforce, there would still be a minimum shortage of 4,189 psychologists in 2020, according to our calculations. These shortages in the workforce indicate a new model of training may be required in order to ensure that not only is the future workforce demand for integrated primary care met, but also to fulfill all of the other activities in which clinical psychologists engage. This is a tremendous opportunity for the behavioral health professions, but if clinical psychology does not recognize it and prepare to take advantage of it, other professions likely will. One aspect that needs to be reexamined is the efficiency of the field's training.

Using Online Education to Facilitate Effective and Efficient Training

When the profession of clinical psychology has examined models of training, generally the focus has been on the content regarding *what* to train instead of the process of *how* to train. Even when examining what to train, there has been much more attention spent on broad models of

training, such as the well-known-scientist-practitioner model, the scholar-practitioner model, or, more recently, the clinical science model (O'Donohue & Boland, 2012; McFall, 1999). There has been much less attention spent on the processes needed to reach any of these broad goals, particularly the efficiency of these models and processes. It appears the dimension of effective and efficient didactic processes has been largely assumed to be untouchable, uninteresting, or unalterable.

In recent years there have been two salutatory movements regarding clinical training: an interest in more clearly specifying training outcomes, often in terms of competencies (O'Donohue & Boland, 2012), and an increased availability of teaching technologies that present opportunities to increase the effectiveness and efficiencies of clinical training. However, there also seem to be several important impediments to innovations in clinical training. Perhaps the principle one is the generally conventionalist biases of both faculty and accrediting bodies, particularly the APA. However, the hope is that part of the onus will be a research agenda in which data on the effectiveness and the efficiency of innovative teaching methods such as online training can be used to persuade accrediting educators and accrediting bodies not only of their acceptability, but also their increased value over traditional training methods. Large deficits in the supply of clinical psychologists to fill the needs created by healthcare reform may contrive to show the necessity of these innovative teaching processes.

The Failure of Traditional Training Methods

It can be fairly argued that the traditional training methods used in clinical psychology programs are not only problematic but also have failed. A brief sketch of the argument for this failure follows: These traditional teaching methods produce outcomes that 1) are generally unknown; 2) in all likelihood have great variability; 3) are very costly; 4) have little or no data regarding their effectiveness or consumer satisfaction despite decades of use; 5) are somewhat arcane, uncoordinated, and overly complex; 6) produce too few professionals; and 7) are very time consuming. It is beyond the scope of this manuscript to present full arguments for each of these problems but again a sketch of some evidence is possible:

Current Training Models Produce Outcomes That Are Unknown. While some heterogeneity in training outcomes is advisable, it is not at all clear what core competencies are taught across training sites and even within specific training sites. For example, will all graduates in clinical psychology understand single subject research methodologies? Probably so if graduating from a behaviorally inclined program or probably not if graduating from some other theoretical orientation. Victor Remy's (1950) admonition is very much still relevant. "I am afraid that in spite of our efforts we have left therapy as an undefined technique which is applied to unspecified problems with unpredictable outcomes. For this technique we recommend rigorous training" (Raimy, 1950, p. 93). The same vagueness also seems relevant to other key competencies of a clinical psychologist (e.g., research, consultation, training).

Significant Variability. Variability of training outcomes can be produced by a wide variety of factors, including program philosophy, individual faculty interests, individual faculty strengths and weaknesses, gaps in program faculty expertise or interest (e.g., no gerontologists on the faculty), individual student interests, individual student strengths and weaknesses, internship and externship point of emphases or gaps, geographical variability such as different concentration of problems or cultures, and chance (e.g., types of clients present at the training clinic, funding opportunities).

Cost. Increasingly, particularly in state university systems, legislators are decreasing funding for higher education and asking for evidence of value and return on investment. There has been justified concern that small classes of clinical psychology students taking 5 to 7 years to graduate (and who may or may not even work in the state) are vulnerable to criticisms from these legislators about value for dollars spent. Graduate education is generally much more expensive than undergraduate education due to these small class sizes. Legislators may judge that professors' salaries and benefits are less efficiently used when teaching small classes, especially since a number of these are needed to eventually produce a cohort of clinical graduates. Graduate education also is costly for students, because of the tremendous opportunity costs---time spent out of income-producing jobs. Research is needed in more efficient graduate training to lower these costs.

Evidence Based Teaching? There is little to no data to suggest the training regimen that is currently used in clinical psychology is efficient and effective, let alone optimal. There are few data

showing its general effectiveness or efficiency, and fewer data still showing its superiority to alternative methods. Thus, there is a neglected research agenda on methods of teaching clinical core competencies. The methods relied on today—lectures, seminars, supervised research projects, supervised externships, supervised internships, and supervised post-doctoral fellowships—need to be better evaluated and compared to innovations.

Uncoordinated Training. O'Donohue and Boland (2012) called the current training model “the Rube Goldberg model of clinical training” after Goldberg’s infamous cartoons showing simple tasks being made much more complex by very intricate, complicated, multistep machines. Currently, there seems to be too little attention to the perhaps needless complexity of the training regime: Is the pre-doctoral internship still needed or is it anachronistic (O'Donohue, Thorpe, and Gregg, 2004)? Students increasingly accumulate thousands of hours of clinical experience during their doctoral training in order to try to be competitive in their internship applications. But even after the pre-doctoral internship, many states also require another year or two of additional post-doctoral supervised experience based on some sort of inchoate notion that all the training to date still has been insufficient to instill minimal competency. There are no data showing the added value of these additional years. And as the final step, even after passing all these hurdles, most states still require the student to study for the EPPP and even an idiosyncratic state test is a final hurdle. These again have no predictive validity regarding competent practice (O'Donohue & Buchanan, 2000). Thus, this entire convoluted

training process can take 8 to 10 years before someone is finally licensed to practice. This is too long and too inefficient. Early steps need to clearly show that competency has been archived so other steps are superfluous.

Producing Too Few Professionals: Our “Craft” Model of Training. The workforce analyses presented above suggest that too few professionals are being produced to meet the demands of reformed healthcare delivery. It appears that we have adopted what might be called a craft model of training—a few outputs are produced with many inputs over a quite extended period of time. Class sizes in clinical programs associated with universities are usually less than 10 (often much fewer). Class sizes in independent professional schools of psychology are great, but these still vary and there has been pressure put on by APA accreditation to reduce these. A question can be raised regarding why medical schools can admit training cohorts that are many multiples of clinical psychology cohorts. Their curricula are demanding, complex, and multifaceted (e.g., basic science, applied science, diagnosis, treatment)—much like that of clinical psychology. However, it seems the schools can train more studies in a smaller period of time. If clinical psychology is to meet the future needs of healthcare reform, the number of psychologists it produces needs to expand dramatically (i.e., many times) current class sizes.

Lasting a Decade. It takes seven or more years to produce a licensed clinical psychologist because of all these training inefficiencies. This long time period can discourage applicants from pursuing a career in clinical psychology and our profession will be slow in filling developing gaps.

Innovations

Innovations need to be made regarding methods of training clinical psychologists to create more efficient training, less costly training, and more predictable outcomes as well as to meet the needs of healthcare reform. Web-based training has the potential to help achieve these aims but it should not be assumed to accomplish this. Outcomes need to be measured and evaluated with respect to training as usual. In addition, this sort of training has greater flexibility for students to proceed at their own pace instead of using what Skinner (1957) called the phalanx method of teaching in which all students are assumed to progress equally. More specifically, some particularly attractive innovations include:

Videos of Master Sessions. It could be useful to begin a video library of therapy leaders demonstrating courses of therapy. (This would also be an interesting way to create a historical record.) The videos could be stored and accessed online. Currently, it is possible to view master therapists in their workshops, but a video library would increase access and be at lower cost. Didactically, it can be useful through modeling to see the ultimate goal of training. There can be a wide variety of videos. Some possible topics are how to conduct an intake session, a termination session, how to handle client resistance and other therapy interfering behavior, and how to implement each step in an evidence-based protocol. William Miller's motivational interviewing (motivationalinterviewing.com) is probably the best way to start this.

Websites with Other Training Resources. Again, it is useful to create websites that can archive other key training materials. Key articles,

PowerPoints, and videos of presentations can be archived. William Miller's motivationalinterviewing.com is an excellent exemplar of this kind of innovation.

Centers of Excellence and Technical Assistance Centers. In addition, it would be useful to have web-based centers of excellence that could serve as technical assistance centers to train and support skill development. Leaders in the field (e.g., Marsha Linehan's DBT) can be supported to provide consultation and supervision to therapists. There are too few academics with the credentials to teach integrated care, and with the future need, this sort of resource is required.

"Canned" Breadth Requirements. Accreditation requirements need to be analyzed to see what can be put on the web in perhaps "canned," or recorded, courses vs. what needs to be taught live. For example, it would seem that the breadth requirements (e.g., social bases of behavior, learning and conditioning, cognitive bases of behavior) can be presented in canned web courses. Perhaps these can be team taught, consisting of master teacher and researchers in multiple specialty domains. For example, it may be more interesting and impactful on students for Daniel Kahneman to lecture on heuristics than to merely have this summarized by another professor.

Distance Learning. Geography currently is a significant constraint. Reducing the number of months or years a student has to be in residence at the school can make the training more accessible, cheaper, and less intrusive. This might also help with underserved areas. For example, training people who prefer to live in rural areas

can perhaps be a partial corrective to the well known geographical disparities. In addition, this can allow international students to participate, allowing the dissemination of skills across a much wider geographical area at lower expense while helping emerging economies acquire improved healthcare.

Canned Lectures Saving Class Time for Other Activities in the Kahn Academy Model.

The popular Kahn Academy model of training assumes the traditional model of teaching ought to be reversed. Lectures should be viewed at home online while questions can be raised, problems should be worked on, and discussions can occur in class. This way, the teacher is not observing students listening but rather is helping them solve problems, answering their questions, or correcting their discussion comments.

Allow Students to Progress at Own Pace.

Instead of taking courses when they are offered, which may not be in the summer or a year later if a particular professor is on sabbatical, students can take and complete courses when they are ready. At minimum, more courses can be completed in the summers. In addition, if students have personal issues, they can proceed more slowly.

Training In Interdisciplinary Skills. It can be difficult to gain access to training that can best be taught by professionals in other disciplines. For example, integrated care students need to become medically literate and this can be best taught by a professional in medicine or nursing. Business

skills can also be key as often the emphasis is on reducing cost or showing return on investment. An understanding of healthcare economics is also useful and obviously this is best taught by a healthcare economist. Again, web-based training in which professionals in these disciplines create canned course work can make training more efficient.

Conclusions

Currently, it is very difficult to conduct an accurate workforce analysis in clinical psychology. However, based on the information provided from multiple agencies, we were able to predict there are roughly 100,000 psychologists in the workforce. Given recent healthcare reforms—in particular, the ACA—there will be a large demand for behavioral health providers to work in medical settings. This new demand along with the slow rate at which clinical psychologists are produced will lead to serious service gaps in the new healthcare setting.

These innovations surrounding online training can perhaps create the efficiencies needed to train better and prepare more professionals to meet the workforce demands of healthcare reform. Too little attention has been spent on the how of training, thus there has been too little innovation in training methods. The healthcare crisis and attendant healthcare reform may create the urgency and shake the complacency so training reforms are attempted and evaluated.

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