The Behavioral Health Workforce Needed for Integration with Primary Care:
Information for Health Workforce Planning

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KEY FINDINGS

Integrating behavioral health and primary care services is key to accomplishing the overall goals of the Affordable Care Act of 2010 to increase access to health care and improve patient outcomes. Integration also supports the "Triple Aim" of achieving better health, better care experiences, and lower health care costs. This descriptive study provides information that can be used by policymakers, practitioners, educators and other health workforce planning stakeholders to develop plans and policies to increase access to behavioral health care services through primary care settings. Key findings include:

- Approaches to integrating behavioral health and primary care occur through a variety of models, reflecting the complexity and diversity of health system organization.
- The behavioral health occupations that the literature describes in relation to primary care integration range from clinical specialists to lay community workers, with nine standing out as most relevant: *1) psychiatrists, 2) psychologists, 3) psychiatric nurse practitioners/advanced practice psychiatric nurses, 4) social workers, 5) marriage and family counselors/therapists, 6) mental health counselors, 7) substance abuse treatment counselors/addiction counselors, 8) care managers/behavioral health consultants, and 9) peer specialists.*
- The education and training requirements of the behavioral health occupations needed for integration with primary care vary greatly, and range from short training tracks following high school graduation (e.g., substance abuse counselors) to occupations requiring significant post-graduate training (e.g., psychiatrists).
- Multiple data sources can be used to describe the supply and distribution of the behavioral health workforce at national, state and sub-state levels. These sources vary in the degree to which behavioral health occupations and relevant details (such as geographic coverage) are included.

Across the U.S., the integration of behavioral health with primary care likely will take place under different models, at varying rates, and to varying degrees. Developing the behavioral health workforce needed for integration requires ongoing resources (including data and analysis, planning, policies, and funding) with support needed at the national, state and community levels. This study provides a framework to inform the process of planning and developing the behavioral health workforce that can meet these integration needs.

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BACKGROUND

Approximately 18% of adults in the U.S. suffer from a mental illness, and 9% have a substance use problem.[1] Behavioral health care (mental health and substance use disorder/chemical dependency care) is a growing concern for children and youth as well; 9% of American children under the age of seventeen suffer from emotional and behavioral issues, and 6% have a substance use problem.[1] Despite high disease prevalence and growing awareness of the importance of treating behavioral health issues, access to behavioral health services in the U.S. is a problem. Barriers include the stigma associated with receiving behavioral health care, lack of health insurance coverage, and shortages of qualified behavioral health professionals.[2]

The Affordable Care Act of 2010 (ACA) and the Mental Health Parity and Addiction Equity Act of 2008 (MHPAEA) address these barriers by expanding health insurance coverage for behavioral health care.[3] Integrating high quality behavioral health and primary care can further facilitate the ACA's overall goals of increased access and better patient outcomes as well as support the "Triple Aim" of better health, better experiences, and lower costs.[4-6]

The Institute of Medicine has stated that care for physical, mental and substance use problems should be delivered by providers with an understanding of the link between the mind/brain and the rest of the body.[7] Primary care settings promote relationships of trust between patients and their primary care providers, which make these settings ideal for screening and treating many behavioral health problems. Patients who receive behavioral health care in primary care settings are more likely to receive individualized care plans; experience reduced service duplication and error; show modest improvements in depression and anxiety; and report greater satisfaction.[8,9] Integrating behavioral health care with primary care increases access to behavioral health services, and reduces exposure to the stigma associated with obtaining behavioral health services.[9]

Integrating behavioral health and primary care will require a health workforce with the skills and training to address the expanded spectrum of mental and physical health care needs. The Substance Abuse and Mental Health Services Administration (SAMHSA) and the Health Resources and Services Administration (HRSA) have joined efforts to produce guiding principles and core competencies for the development of an integrated primary and behavioral health care workforce through their Joint Center for Integrated Health Solutions.[10] To support effective behavioral health workforce planning at the state and community level, more information is needed to help workforce planners distinguish between the variety of models for integrating behavioral health and primary care, and to identify the types of providers needed now and in the future to deliver care through these models.

ABOUT THIS STUDY

This descriptive study provides information that can be used to develop health workforce-related plans and policies, with an emphasis on state-level efforts, to increase population-based access to behavioral health care services through primary care settings. The goal is to provide policymakers, practitioners, educators and other health workforce planning stakeholders with key information regarding the occupations and roles that constitute the behavioral health workforce most relevant to primary care by:

- describing different models of integrating behavioral health and primary care;
- identifying behavioral health occupations most often used in integrated primary care-behavioral health practices, their scopes of practice, and their education/training pathways; and
- examining sources of information about the supply and distribution of these occupations, which can inform workforce planning and policy related to integrating behavioral health with primary care.

This study draws from a review of published and grey literature using PubMed, Internet search engines, organization websites, and the Grey Literature Report. While there is a substantial amount of theory and research focused on behavioral health and primary care integration, we narrowed our review to include those sources that discussed workforce issues or identified specific roles or occupations relevant to integration.

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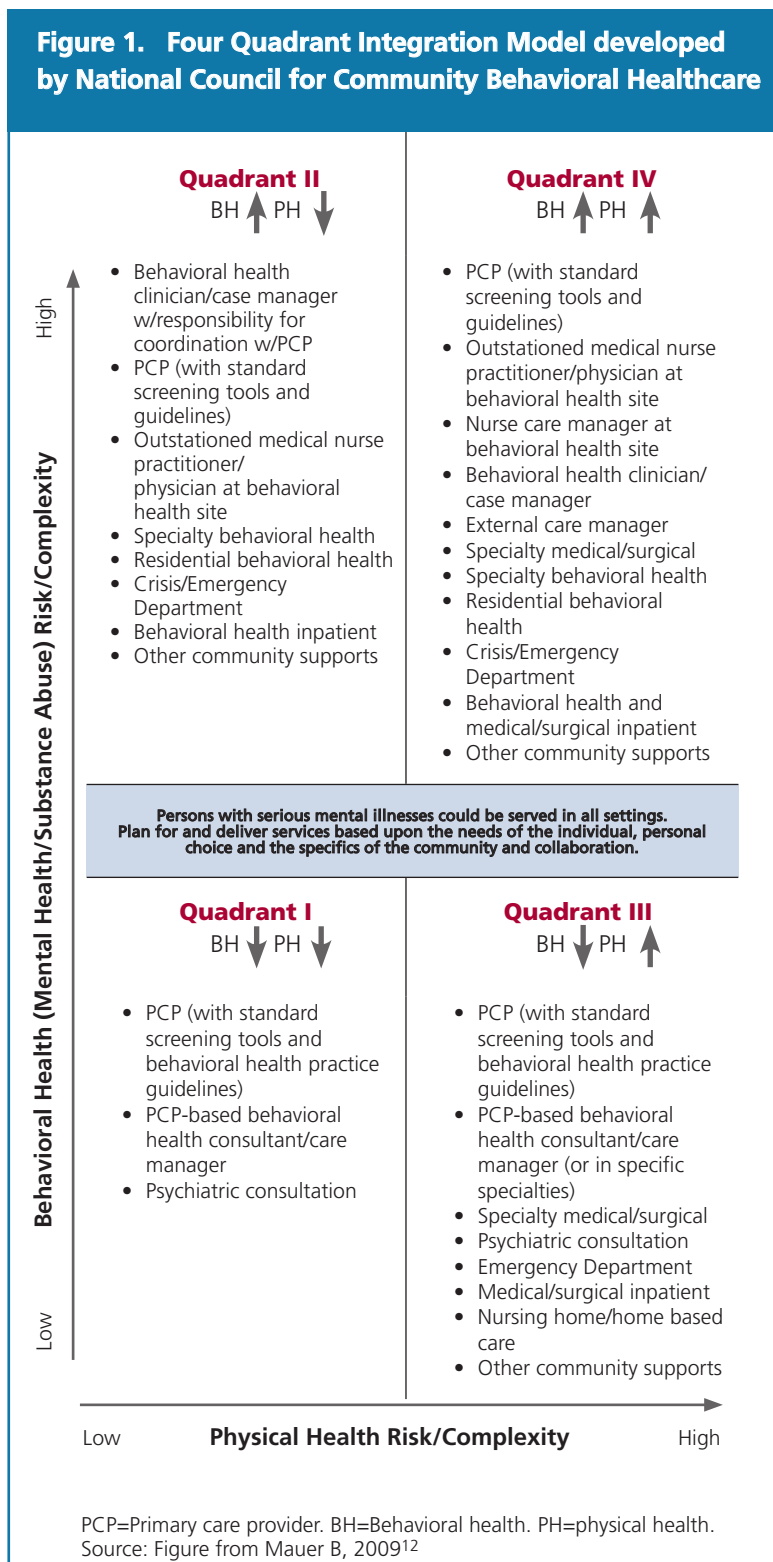
The sections that follow outline various models that facilitate the integration of primary care and behavioral health care, describe the behavioral health workforce most relevant to primary care integration, survey education and licensing requirements for key behavioral health occupations, and provide sources for obtaining more information about the supply and distribution of this workforce.

WHAT ARE THE MODELS FOR INTEGRATING BEHAVIORAL HEALTH AND PRIMARY CARE?

There are various models for integrating behavioral health and primary care, each of which has different implications for the behavioral health and primary care workforce. Identifying the "best" integrated model is a challenge as the data connecting the integrated models to health outcomes are limited. The Institute for Clinical and Economic Review[8] put forth one set of standards to assess the successful integration of behavioral health and primary care models, including:

- systematic screening in the primary care setting to identify patients with behavioral health conditions,
- a standardized care plan that includes regular interaction with both patient and physician,
- patient education regarding their diagnosed behavioral health condition,
- supervision of care coordinators,
- a structured psychotherapy program within the primary care setting (often via tele-therapy),
- hiring new staff dedicated to carrying out the integration effort,
- treatment that is adjusted to patient response – "stepped care", and
- shared records/information system enabling providers to monitor a patient's progress.

The settings in which behavioral health and primary care integration takes place can vary. The Four Quadrant Model of Integration[11] updated in 2009 for the National Council for Community Behavioral Healthcare,[12] describes how integration may not occur in just one setting and should be designed to address patients' behavioral and physical health risk/ complexity (Figure 1).

Figure 1. Four Quadrant Integration Model developed by National Council for Community Behavioral Healthcare

Quadrant II
BH ⬆ PH ⬇

- Behavioral health clinician/case manager w/responsibility for coordination w/PCP
- PCP (with standard screening tools and guidelines)
- Outstationed medical nurse practitioner/ physician at behavioral health site
- Specialty behavioral health
- Residential behavioral health
- Crisis/Emergency Department
- Behavioral health inpatient
- Other community supports

Quadrant IV
BH ⬆ PH ⬆

- PCP (with standard screening tools and guidelines)
- Outstationed medical nurse practitioner/physician at behavioral health site
- Nurse care manager at behavioral health site
- Behavioral health clinician/ case manager
- External care manager
- Specialty medical/surgical
- Specialty behavioral health
- Residential behavioral health
- Crisis/Emergency Department
- Behavioral health and medical/surgical inpatient
- Other community supports

Persons with serious mental illnesses could be served in all settings. Plan for and deliver services based upon the needs of the individual, personal choice and the specifics of the community and collaboration.

Quadrant I
BH ⬇ PH ⬇

- PCP (with standard screening tools and behavioral health practice guidelines)
- PCP-based behavioral health consultant/care manager
- Psychiatric consultation

Quadrant III
BH ⬇ PH ⬆

- PCP (with standard screening tools and behavioral health practice guidelines)
- PCP-based behavioral health consultant/care manager (or in specific specialties)
- Specialty medical/surgical
- Psychiatric consultation
- Emergency Department
- Medical/surgical inpatient
- Nursing home/home based care
- Other community supports

Y-axis: Behavioral Health (Mental Health/Substance Abuse) Risk/Complexity — Low to High

*X-axis: Low — **Physical Health Risk/Complexity** — High*

PCP=Primary care provider. BH=Behavioral health. PH=physical health.
Source: Figure from Mauer B, 2009[12]

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Under the Four Quadrant Model, patient populations with high behavioral health needs and varying levels of physical health needs may best be served where primary care is delivered within a specialty behavioral health setting (Quadrants II and IV). Alternatively, patient populations with unidentified, low-to-moderate, and average-to-high physical health needs may be best served by models that include behavioral health specialists integrated into the primary care setting (Quadrants I and III).[12] The behavioral health workforce needs described in our study largely are those for implementing Mauer's Quadrant I and III scenarios, where much of the behavioral health diagnosis and treatment occurs in primary care settings.

The Substance Abuse and Mental Health Services Administration (SAMHSA) in 2013 described different levels of collaboration between behavioral health and primary care providers.[13] Complementing the Four Quadrant Model that describes optimal ways to meet varying behavioral and physical health needs, SAMHSA's model distinguishes between different levels of collaboration that can occur, indicating that only where providers are co-located and collaborate closely can full integration exist (Table 1). For example, fully integrated care (Level 6) requires a merged practice, where behavioral health and primary care providers implement collaborative treatment for all patients. Education and training required for the Level 6 integrated care workforce would be more extensive than that for more basic collaborations at Level 1.

There are established and successful programs that are represented by the higher levels of integration in SAMHSA's model. Under the SAMHSA-HRSA Primary and Behavioral Health Care Integration grants, the Collaborative Care Model is one of the most widely implemented and studied, with more than 80 randomized controlled trials showing the model's effectiveness at improving health outcomes and reducing health care costs in patient-centered health care homes.[14-18] The Collaborative Care Model employs a collaborative team (the primary care physician, a consulting psychiatrist and a care manager) for systematic follow-up of patients identified in primary care settings with mental health needs.

Integration of behavioral health and primary care is not "one size fits all." There are several models

Table 1. Six Levels of Collaboration/Integration of Behavioral Health and Primary Care

	Level	Behavioral health, primary care and other health care providers work:
Coordinated care	1. Minimal collaboration: patients are referred to network providers at another site	In separate facilities
	2. Basic collaboration: providers periodically share communication about shared patients	In separate facilities
Co-located care	3. Basic collaboration: primary care and behavioral health providers share facility but develop separate treatment plans for patients	In same facility not necessarily same offices
	4. Close collaboration: providers share patient records and maintain some systems integration	In same space within the same facility
Integrated care	5. Close collaboration approaching an integrated practice: BH and PC providers develop and implement collaborative treatment for shared patients but not for other patients	In same space within the same facility (some shared space)
	6. Full collaboration in a merged integrated practice: BH and PC providers develop and implement collaborative treatment for all patients	In same space within the same facility, sharing all practice space

BH= behavioral health   PC=primary care
Source: Adapted from Heath et al, 2013[13]

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and differing levels of integration described in the literature, suggesting that approaches to integration should be responsive to the needs and context of the community.[2] The models of integration that are implemented depend on factors such as the health care delivery systems in place, reimbursement policies, and available workforce. Effective workforce planning requires knowledge of the extent to which integration is occurring, where, and in what forms. Further, additional workforce resources may be needed to connect care that has historically occurred in separate settings. The next sections more carefully define which occupations are needed for the various integrated models.

WHAT CONSTITUTES THE BEHAVIORAL HEALTH WORKFORCE MOST RELEVANT TO INTEGRATED PRIMARY CARE PRACTICE?

Depending on the model of integration, primary care medical providers and care management staff may have more or less direct involvement in behavioral health diagnosis and intervention. To adequately carry out integration efforts, the behavioral health workforce needs to be versed in competencies for working in primary health settings and the primary care workforce needs to be adept with competencies related to identifying and treating patients' behavioral health issues.

This study focuses on behavioral health occupations; those with the majority of their education and training in behavioral health care. Primary care providers (physicians including internists, family physicians, pediatricians; physician assistants; and nurse practitioners delivering primary care) are critical to the integrated team and provide a growing proportion of the behavioral health care that is delivered,[19] but because their educational background is principally in medicine they are not directly addressed here. Nonetheless, improving primary care providers' ability to provide evidence-based behavioral health care is recognized as a priority goal needed to improve the quality of behavioral health care and to support widespread integration of behavioral health and primary care.[20]

Various behavioral health occupations and roles have been described by different authors as being important for integrated primary care practice.[8,10,12,15,21-26] Table 2 illustrates some of the ways the behavioral health workforce has been referenced by these sources. Often, the sources only provide a list of occupations without detailing the nature of the position. Some, such as Dillonardo[21] and Heisle and Bagalman,[25] go into more detail about the nature of the role on the integrated team, supply, and/or pay for occupations. Unutzer et al[15] in summarizing the Collaborative Care Model approach to integrating physical and behavioral health care in Medicaid health homes, points to the growing body of evidence supporting positive health outcomes from a collaborative team comprised of the primary care provider, care management staff (nurse, clinical social worker, or psychologist), and a psychiatric consultant who is available in person or by telemedicine.

There may be more convergence among the occupations and roles listed by the authors than appears in Table 2, depending on whether occupations with a specific skill set can fill functions or roles offered by another occupation. For example, a licensed counselor might take on the role of a behavioral health specialist, or a social worker could possibly become a homeless outreach specialist.

All sources in Table 2 mention the use of psychiatrists, and nearly all include psychologists as well as advanced practice nurses with behavioral health roles. Other commonly mentioned roles and occupations include marriage and family counselors, social workers, addiction and substance abuse treatment counselors, and mental health counselors. Given the evidence from trials of the Collaborative Care Model that support care manager/behavioral health consultants' roles in integration, they are included in subsequent discussions of the behavioral health workforce most relevant to integration with primary care. Similarly, because of their emerging presence in integration efforts, the crossover roles of peer specialists are also included.

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Table 2. Specific Behavioral Health Occupations Referenced by Sources Addressing Behavioral Health/Primary Care Integration

	Dilonardo 2011[21]	Heisler & Bagalman 2015[25]	Hoge et al 2014[10]	ICER 2015[8]	Lardieri et al 2013[23]	Mauer 2009[12]	Peek & NIAC 2013[24]	Collaborative Care: Unutzer et al 2013[15]	Agency for Healthcare Research and Quality 2015[26]
Psychiatrists	X	X	X	X	X	X	X	X	X
Psychologists	X	X	X	X	X	X	X	X	X
Advanced Practice Nurses in Behavioral Health Roles (e.g., Cert. psych. mental health nurses practicing as clinical nurse specialist or psych mental health nurse practitioners; advanced practice psychiatric nurses)	X	X	X	X	X		X		
Social Workers (including Clinical Social Workers, and Mental Health and Substance Abuse Social Workers)	X	X	X	X	X		X	X	X
Marriage and Family Therapists/Counselors	X	X	X	X			X		X
Addiction Counselor/ Substance Abuse Treatment Counselor	X		X		X		X		X
Registered Nurses with Behavioral Health training	X					X		X	
Mental Health Counselor			X				X		X
Counselors				X			X		
Psychiatric Aide/Technician			X						
Recovery Coach			X						
Behavioral Health Interventionists	X								
Behavioral Health Consultant						X			
Care Manager/Behavioral Health Consultant								X	
Psychiatric Rehabilitation Counselor			X						
Consultation Liaison Clinicians	X								
Primary Care Behavioral Health Specialists	X								
Psychiatric Physician Assistants							X		
Recovery Support Specialist	X								
Depression Care Coordinators							X		

For several of the occupations listed in the reports, these are new titles, such as health educators, peer specialists, behavioral health specialists, and care managers, which are emerging to help facilitate these integration efforts and help bridge primary care and behavioral health services. Some of these new titles may represent emerging occupations, and some describe roles that may be filled by a variety of occupations. Because health care transformation is a work in progress, many in the field (including policymakers and health workforce planners) could benefit from better understanding of the behavioral health occupations that comprise the relevant workforce needed for integration with primary care.

Below we briefly describe each behavioral health occupation and their role(s) in integration efforts, noting places where roles and occupations may overlap.

PSYCHIATRISTS

Psychiatrists are physicians who can independently provide psychiatric services to patients, or provide consultation support to the primary care team regarding behavioral health treatment. In the most highly evaluated models of integration, these psychiatrists provide regular systematic case review of panels of patients receiving collaborative care – generally with a care manager. They work with the primary care team to diagnose, plan, and recommend treatment. Consultation may be provided to the primary care team in person or via phone or video (tele-psychiatry). As a physician, psychiatrists can prescribe medication (including psychotropic medications) for patients; however, as part of the integrated team they frequently work with the primary care physician who does the prescribing as part of the patient's overall care plan.

PSYCHOLOGISTS (CLINICAL OR COUNSELING)

Psychologists can work independently or with the primary care team to help with early detection of behavioral health concerns, provide direct counseling to patients, and help patients develop means to handle stress and emotion as a result of chronic illness. Their role can be similar to psychiatrists but, in all but two states, without the ability to prescribe psychotropic medication.

PSYCHIATRIC NURSE PRACTITIONERS/ADVANCED PRACTICE PSYCHIATRIC NURSES

Advanced practice nurses with behavioral health certifications can play varied roles in the integrated team. They may diagnose mental illnesses, provide psychiatric care, prescribe medications (including psychotropics), administer risk assessments, and/or help coordinate treatment between primary care providers and other behavioral health providers. These advanced nurses may directly provide psychiatric care, or they may take on the role of a care coordinator or manager (see below for description of care managers). Scope of practice laws vary for advanced practice nurses vary by state, and while in some they may practice autonomously, in other states they must work in collaboration with or supervised by a physician.

SOCIAL WORKERS

Social workers' roles may vary widely depending on education, credentials, specialty, and the configuration of the integrated behavioral health/primary care practice. Some social workers who are licensed to provide clinical counseling may work directly with patients to provide therapy while others might work with patients and families and coordinate treatment between patients, psychiatrists or psychologists, and primary care providers. While clinical social workers are most frequently mentioned as providing these services, other master's trained social workers might work under the consultation of a licensed clinical social worker, and bachelor's level social workers may provide care coordination or referral support.

MARRIAGE AND FAMILY COUNSELORS/THERAPISTS

Marriage and family therapists in the integrated team provide support to primary care providers by consulting around behavioral health issues and their impact on families, and connecting patients and families with community resources to facilitate care and overall positive behaviors toward well-being. They can also assist with the diagnosis and treatment plan for patients, and depending

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on credentials provide direct therapy. In the integrated team, these roles can also be taken on by social workers, psychologists, or other mental and behavioral health counselors.

MENTAL HEALTH COUNSELORS

Mental health counselors in the integrated team may work with primary care providers to deliver direct counseling and therapy for patients and their families. These individuals are usually master's level, licensed counselors. In some settings these individuals perform care management.

SUBSTANCE ABUSE TREATMENT COUNSELORS/ADDICTION COUNSELORS

Substance abuse and addiction counselors are important to integrated behavioral health/primary care given the frequency of conditions related to substance use co-occurring with medical needs. In the integrated team, these counselors may provide direct counseling to patients and families, assist patients with developing positive means to manage their addiction, and provide community support resources for recovery.

CARE MANAGER/BEHAVIORAL HEALTH CONSULTANT

Care managers/behavioral health consultants support the primary care providers by coordinating treatment, monitoring progress, connecting patients and families with outside resources, and recommending changes to treatment, providing patient education, and may provide direct counseling, depending on their credentials and scope of practice. Nurses, psychologists, social workers or counselors can take on the role of care managers/behavioral health consultants.

PEER SPECIALISTS

Because support from others who have experienced mental health or substance misuse has become an important behavioral health service, peer specialists are often included in the integrated team. Peer specialists can serve as case managers or health and wellness coaches who help patients establish positive health management techniques that promote well-being and recovery.

In the next section, we identify the education and training requirements for each of these occupations.

WHAT ARE THE EDUCATION AND TRAINING REQUIREMENTS OF THE BEHAVIORAL HEALTH WORKFORCE?

While some of the behavioral health occupations described in the previous section are well defined, others do not have clear education and training pathways because they are emerging roles or are roles that may be filled by multiple occupations. It should be emphasized that training for work in integrated behavioral health and primary care practice is a relatively recent development. Integration is consistent with other transformations underway in U.S. healthcare, such as the move toward managing panels of patients with chronic illness, working in health care teams, and using health information technology to better manage patients. As is the case for most of these transformations, much of the currently practicing workforce (both behavioral health and primary care) needs retraining for integrated practice, and there is great need for including these skills in the education and training of new providers.

Table 3 provides an overview of the education and licensing requirements for the occupations described in the section above. Alternative education and credentialing paths may exist for some occupations (e.g., one can become a nurse practitioner with a master's level or a doctoral degree), and licensing and credentialing requirements for some occupations vary by state.

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Table 3. Basic Education and Licensing/Certification Requirements for Behavioral Health Occupations That May Be Included in Integrated Behavioral Health/Primary Care

Occupation	Education (Entry Level)	Licensing and Certification Requirements
Psychiatrists	Requires a medical doctoral degree (i.e., MD, DO) and completion of 3-8 years of a residency program	State licensed; pass a national licensure examination; optional board certification
Psychologists (Clinical or Counseling)	Typically requires a doctoral degree (e.g., PhD, PsyD) and internship	State licensed; pass a national exam; optional board certification
Psychiatric Nurse Practitioners/Advanced Practice Psychiatric Nurses	Requires attaining a nursing master's degree or doctor of nursing practice (DNP). Specialization in psychiatric nursing is obtained during graduate nursing education and NPs may complete a psychiatric NP residency.	State licensed; pass a national certification exam
Social Workers	Clinical Social Worker: Requires a master's degree (MSW) and two years (3,000 hours) of post-degree supervised clinic experience. Other Social Workers: A master's degree-prepared licensed social worker (MSW) may engage in private or independent non-clinical practice, or clinical practice under the direct consultation supervision of a licensed clinical social worker. A bachelor's degree (e.g., BSW) may allow one to work as a social worker with a limited scope of practice (e.g., case management, administrative supervision).	State licensed. Board certification required for clinical social workers.
Marriage and Family Counselors/Therapists	Typically requires a master's degree (e.g., MA, MS, MEd); 2,000 to 4,000 hours of post-degree supervised clinical experience.	State licensed; pass a state exam; optional board certification
Mental Health Counselors	Typically requires a master's degree; 2,000 to 4,000 hours of post-degree supervised clinical experience; bachelor's level counselors may work under a limited scope of practice depending on the state.	State licensed; pass a state exam; optional board certification
Substance Abuse Treatment Counselors/ Addiction Counselors	Variable – typically requires at least a bachelor's degree, although on-the-job training can allow someone with only a high school degree to enter the field. Commonly these counselors have a master's degree or higher and have completed supervised clinical experience.	State licensed (for private practice); pass a state exam; continuing education
Peer Specialists	Variable – the most important requirement is that the person in this role has some personal experience with behavioral health recovery. This can occur at any educational level. Specific training programs are in development in some states.	
Care Managers / Behavioral Health consultants	Variable – is often an added role for a nurse, counselor, social workers or psychologist	

Sources: The Occupational Information Network (O*NET) http://www.onetonline.org/link/summary/29-1066.00; Bureau of Labor Statistics. Occupational Outlook Handbook. http://www.bls.gov/ooh/

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WHAT SOURCES OF DATA CAN BE USED TO ESTIMATE THE SUPPLY OF BEHAVIORAL HEALTH OCCUPATIONS?

Identifying the available supply of the behavioral health occupations described above is a necessary step in health workforce planning in order to assess whether supply is adequate to meet growing demand. A single source for all health workforce data does not exist, and even to describe the availability of one occupation, several data sources may be needed to estimate the size and distribution of that workforce. In the case of emerging or less defined roles, there may not be an available source of secondary data describing the workforce.

The potential sources of behavioral health workforce data vary in their coverage of occupations, geography, and the workers' demographic and practice characteristics. HRSA developed a report titled, "Compendium of Federal Data Sources to Support Health Workforce Analysis,"[27] which is one guide describing many Federal datasets that may be used to estimate health workforce supply and demand. The data sources listed in the Compendium can also be used to identify the subset of behavioral health occupations. This study builds on HRSA's report and identifies additional sources of data, including some non-Federal sources, that may be particularly useful for assessing the supply and distribution of behavioral health occupations. The summaries highlight which behavioral health occupations are included, where the data may be accessed, geographic coverage of the data, additional data available in the source that may be relevant to workforce planning, and some of the strengths and limitations of each source. This list below is not comprehensive, but is intended to describe some of the major resources and to illustrate how different types of data contribute in varying ways to the process of health workforce planning.

AMERICAN COMMUNITY SURVEY (ACS)[28,29]

Access: http://www.census.gov/acs/
or https://usa.ipums.org/usa/

What it is: The American Community Survey is an annual survey administered to a nationally representative sample of U.S. households by the U.S. Census Bureau. This survey includes information on occupation, employment status, location, and demographics such as race, sex, and age. Data are available as summary files or as individual-level data about individual people or housing units through the Public Use Microdata Sample (PUMS). The data are best used for identifying the headcount supply of workers employed or seeking employment. Data on usual hours of work are also collected.

Occupations: Occupation codes in this survey are based on four-digit Standard Occupational Classification (SOC) Codes. The SOC codes have evolved over time to provide more detailed occupation data; specifically, SOC 2010 allows for the identification of nurse practitioners as separate from registered nurses. Psychiatrists are not separately identified and are included under the broad category of "physicians." Data are available on psychologists and social workers. Marriage and family therapists, mental health counselors, and substance abuse treatment counselors cannot be individually identified; these occupations are under the broad category of "Miscellaneous Community and Social Service Specialists, Including Health Educators and Community Health Workers."

Geography: There is a tradeoff between geographic detail and pooling of years; one year of data allows analysis for areas with populations of 65,000 or more, while five years of pooled data allow analysis for all areas.

Strengths/weaknesses for health workforce planning: Strengths: one of the largest samples of national workforce data; detailed demographic data; repeated annually; provides detail on setting. Weaknesses: two-year delay; limited information for small geographic regions depending on years of data; lack of specificity around occupation title.

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AREA HEALTH RESOURCE FILES (AHRF)[30]

Access: http://ahrf.hrsa.gov/categories.htm#1

What it is: The Area Health Resource Files are annually released by HRSA. AHRF is a compilation of datasets based on county-level data from fifty different sources including the American Dental Association, the American Medical Association, the American Hospital Association, the U.S. Bureau of Labor Statistics, the U.S. Census Bureau, the Centers for Medicare and Medicaid Services, and the National Center for Health Statistics. The data are best used to identify the supply of workers.

Occupations: Among the behavioral health occupations, AHRF includes information for psychiatrists, psychologists, advanced practice nurses (including nurse practitioners and clinical nurse specialists [general category only]), and social workers.

Geography: AHRF data are available at the county level enabling sub-state health workforce supply estimates.

Strengths/weaknesses for health workforce planning: Strengths: provides sub-state data (county level); can compare across datasets for same occupation (e.g., licensed providers [headcounts] versus full-time equivalents [FTEs]). Weaknesses: some time lag before availability. Data are drawn from varying sources, so the AHRF is subject to the weakness of each of those sources. Many years of the data are missing so identifying trends can be challenging.

AMERICAN MEDICAL ASSOCIATION (AMA) PHYSICIAN MASTERFILE[31]

Access: http://www.ama-assn.org/ama/pub/about-ama/physician-data-resources/physician-masterfile.page

What it is: The AMA Physician Masterfile is a dataset maintained by the American Medical Association that includes information on the education, training, professional certification, practice, and demographic information of physicians (Doctors of Medicine [MD] and Doctors of Osteopathic Medicine [DO]). File records are established when an individual enters medical school (or foreign-trained physicians enter a U.S. residency), and is updated from various sources, such as certification records, as the physician's training and career develops. The AMA continuously updates and verifies the dataset, and maintains an online data collection process through which physicians can update their records. The data are best used to identify the supply of physicians by specialty. Data include physician demographics, education history, specialty, and practice characteristics.

Occupations: Physicians, by specialty, including psychiatrists.

Geography: The AMA Physician Masterfile can be used for national, state and sub-state analyses of the physician workforce.

Strengths/weaknesses for health workforce planning: Strengths: generally considered to be the best available single source data on physician supply for the U.S. Weaknesses: usually some lag time in updating the data, so information about physician practice status and location may not all be current. Physician specialty determined from education data (e.g., type of residency or fellowship completed) which may not reflect the current specialty field of practice.

COMMUNITY POPULATION SURVEY (CPS)[32]

Access: http://www.census.gov/cps/

What it is: The Current Population Survey is a nationally representative household survey administered monthly by the U.S. Census Bureau and Bureau of Labor Statistics. This survey includes information on occupation, employment status, location, and demographics such as race, sex, and age.

Occupations: Same as American Community Survey (see above).

Geography: National, state, and Census regions

Strengths/weaknesses for health workforce planning: Strengths: best used to identify the headcount supply of health workers employed or seeking employment. Data on usual hours of work are also collected. Updates occur regularly, so the data lag is less than one year. CPS includes detailed income and other financial data and supports long-term trend analyses, tracking of job

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changes, and identification of job setting. <u>Weaknesses:</u> sample is smaller than used for the ACS; information is limited for small geographic regions; occupation titles lack specificity.

INTEGRATED POSTSECONDARY EDUCATION DATA SYSTEM (IPEDS)[33]

Access: https://nces.ed.gov/ipeds/home/UseTheData

What it is: The Integrated Postsecondary Education Data System (IPEDS) is a system of institutional surveys conducted annually by the National Center for Education Statistics (NCES). IPEDS provides useful data about entrants to the supply of healthcare workers across the U.S. Educational institutions who receive Title IV funding from the federal government are required to complete the surveys and other post-secondary education institutions may voluntarily submit their data. IPEDS includes information about institutional characteristics and finances, enrollment, financial aid, program completions, graduation rates, and employees. This information can be used to help workforce planners identify the number of individuals who complete health-care related education programs and/or obtain degrees in specific health care fields.

Occupations: Data are categorized using Classification of Instructional Programs (CIP) codes, which include behavioral health-related programs such as: medicine, psychology, social work, psychiatric nursing, marriage and family counseling/therapy, mental health counseling, substance use/addition counseling, and a number of other programs that fall under the category of "Health Professions and Related Programs" that may contain useful information for understanding supply and creating health career pathways.

Geography: Because most post-secondary education institutions in the U.S. contribute to IPEDS, these data can be used for national, state and sub-state analyses of health occupations education programs.

Strengths/weaknesses for health workforce planning: <u>Strengths:</u> a rich source of data on health care program completions (for programs that do not confer degrees upon completion) and degree-granting programs. These data can also be used to identify the institutions that offer specific health care-related degrees. <u>Weaknesses:</u> not all those who earn a degree in a specific field will practice in that field.

NATIONAL AMBULATORY MEDICAL CARE SURVEY (NAMCS)[34,35]

Access: http://www.cdc.gov/nchs/ahcd.htm;
http://www.cdc.gov/nchs/data/ahcd/2015_NAMCS_Physician_II_Sample.pdf

What it is: The National Ambulatory Medical Care Survey (NAMCS) is an annual survey administered by the Centers for Disease Control and Prevention (CDC) of a nationally representative sample of physician-led ambulatory care settings. NAMCS connects patient-level data to clinic-level characteristics. The Patient Record file identifies all providers seen by patients including physicians, nurse practitioners, and mental health providers. Beginning in 2015, the Physician Induction record will expand the range of health care workers identified in the clinic. These data are best used to identify FTE supply of health workers practicing in ambulatory care settings.

Occupations: Physicians (no detail by specialty), nurse practitioner, mental health providers (unspecified), and case managers (not RNs)/certified social workers.

Geography: Meaningful estimates using these data cannot be made for most states. Because of the sampling design, the resulting data can be used only for national, regional (Northeast, Midwest, South, and West) and metropolitan statistical area (MSA) estimates.

Strengths/weaknesses for health workforce planning: <u>Strengths:</u> can potentially be used to identify "teams" of health care workers and connect the workforce with patient characteristics and outcomes. <u>Weaknesses</u>: focuses on physician-led clinics, and provider specialty may be limited for many occupations. State-level and sub-state (except MSA) estimates are not supported by the data.

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NATIONAL PROVIDER IDENTIFIER (NPI) REGISTRY[36]

Access: https://npiregistry.cms.hhs.gov/

What it is: The National Provider Identifier (NPI) is an identifier associated with health care providers and health plans participating in the National Plan and Provider Enumeration System managed by the Centers for Medicare and Medicaid Services (CMS). The individual provider NPI is a single unique identifier used for transferring health information and for payment. The NPI Registry is updated monthly and contains individual-level data for all providers who obtained a NPI number. Providers in the Registry are, for the most part, those who can bill Medicare or Medicaid for health care services. These data are best used to identify the supply of billing providers.

Occupations: Psychiatrists, psychologists, nurse practitioners, social workers, marriage and family therapists, mental health counselors, and substance abuse counselors who bill Medicare or Medicaid for their services, or who otherwise electronically transmit health information in connection with a HIPAA standard transaction, are represented.

Geography: Because the NPI registry is a census of all providers with NPIs, these data can be used for national, state and sub-state analyses.

Strengths/weaknesses for health workforce planning: Strengths: provides reasonably representative data on practicing providers. Weaknesses: Providers who bill "incident to" another provider (such as NPs working with physicians) or who do not bill for Medicare or Medicaid services or otherwise transmit health information electronically in association with their identity may not have obtained their own NPI and therefore may not be represented in the NPI Registry.

OCCUPATIONAL EMPLOYMENT STATISTICS (OES)[37]

Access: http://www.bls.gov/oes/

What it is: The Occupational Employment Statistics Survey is a semi-annual survey administered by the U.S. Bureau of Labor Statistics to a panel of employers to identify wage and salary workers in non-farm industries. This survey does not include information for those who are self-employed workers, owners and partners in unincorporated firms, unpaid family workers, or household workers. The data are best used to identify the employed headcount of health care workers.

Occupations: Occupation codes in this survey are based on a detailed level of SOC Codes which includes information for psychiatrists, psychologists, nurse practitioners, social workers, marriage and family therapists, mental health counselors, substance abuse and treatment counselors.

Geography: National

Strengths/weaknesses for health workforce planning: Strengths: Provides annual trend data, detailed occupation data, and wage data. Weaknesses: Does not provide data on job setting or worker characteristics.

STATE HEALTH PROFESSIONS LICENSURE AND REGISTRATION/CERTIFICATION DATA

Access: Depending on the state, these data may be available from the individual licensure boards for licensed or otherwise credentialed health professions (e.g., medical board for psychiatrists, nursing board for psychiatric RNs and NPs) or from a single organization such as the state's department of health.

What it is: State professions license records comprise potentially useful data for health workforce analyses. Some, but not all, states collect information with licensure and renewal that enable identification of the specialty of the provider, practice status, practice location, education history, and other data that are useful in describing the size and distribution of the workforce. Some states maintain data on health occupations that must be registered or certified (but not licensed) by the state in order to practice.

Occupations: The data's usefulness for behavioral health occupations varies by state, depending on whether or not the specialty of the licensed/registered or certified health care worker is collected. For example, states that maintain specialty information on

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physicians will be able to identify psychiatrists. Some behavioral health occupations are more easily identified among the licensed or otherwise credentialed workforce, such as psychologists, mental health counselors, and marriage and family counselors.

Geography: State licensure and registration/certification data provides the census of all credentialed providers in a state. As a result, these data can be used for sub-state as well as state-level workforce analyses.

Strengths/weaknesses for health workforce planning: Strengths: the most accurate sources of workforce supply data, depending on the accompanying data collected by the state at initial licensure and license renewal. Weaknesses: limitations to access vary by state; in some cases access is limited by legislation or regulation, or may require fee payments and/or extensive review. Practice state of licensees is not available in all states.

HRSA HEALTH CENTER DATA – UNIFORM DATA SYSTEM (UDS)[38]

Access: http://bphc.hrsa.gov/uds/datacenter.aspx

What it is: Uniform Data System (UDS) is administrative data collected annually from all federally qualified health centers and "look-alike" health centers receiving Section 330 funding. UDS provides detailed data on FTE providers, as well as the number of clinic visits per FTE of that provider category. UDS has detailed data on the patient characteristics seen by the health center. The data are best for supply of FTE providers working in health centers.

Occupations: Psychiatrists, licensed clinical psychologists, licensed clinical social workers, other licensed mental health providers, other mental health staff, nurse practitioners, and case managers.

Geography: The UDS is a census of all federally qualified health centers and look-alikes receiving Section 330 funding, so the data enable national, state and sub-state analyses of staffing in health centers.

Strengths/weaknesses for health workforce planning: Strengths: collected annually from a census of all health centers; provides detailed information on mental health providers that can be connected with some information about patient visits. Weaknesses: represents just one practice setting (health centers); available patient information is limited.

OTHER POTENTIAL SOURCES

Billing and payment data from state Medicaid records or insurance claims may help identify the number and distribution of behavioral health providers billing for services in primary care settings, as well as some other useful characteristics (e.g., patient volume, relevant diagnoses). Geographic analyses can be at the level represented by the claims/payment system.

Multiple sources of data can be used to describe the supply and distribution of the behavioral health workforce at national, state and sub-state levels. As described here, the data vary with regard to which occupations are included, geographic coverage, timeframe, and details about the workforce, so the strengths and limitations of each should be considered when used for workforce planning.

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DISCUSSION AND POLICY IMPLICATIONS

INTEGRATION MODELS

This study shows that there are many approaches to integrating behavioral health and primary care with evidence that some, such as the Collaborative Care Model, are more successful than other models at achieving full integration. The number and type of behavioral health occupations needed to integrate primary care and behavioral health varies depends on many factors: the available workforce, state licensure requirements, the forms of reimbursement and payment for the services, and the model of integration. While the goal of full integration of care in one location is based on considerable evidence for its effectiveness, widespread implementation of this goal will take many years. As a result, behavioral health workforce development efforts should acknowledge the ongoing need to support a variety of integration models across multiple delivery settings.

DATA SOURCES

The sources of data on the behavioral health workforce that are listed in this study all have limitations to their use for planning. At a minimum, however, they may be used to identify major gaps in availability of the occupations that appear most frequently, such as psychiatrists and psychologists. New data collection efforts, such as through surveys, may be needed to assess the supply of other behavioral health occupations and roles, and to distinguish the workforce practicing in integrated practices and their changes over time. New approaches for extracting workforce planning information from other secondary data sources, such as health care claims and payment databases, and data from job search engines, could yield results, but research is required to test and refine these approaches.

BEHAVIORAL HEALTH WORKFORCE CHALLENGES

The behavioral health workforce has been characterized as being in crisis.[39] Challenges include the aging of some occupations (from which the rates of retirement are increasing), low compensation and perceptions of low status for jobs requiring less formal education, and high burnout and stress rates due to the nature of the work.[40] Additionally, turnover among behavioral health occupations may be higher in rural areas.[41] Ways to foster development of the behavioral health workforce needed for integration with primary care and consistent with meeting the value-based goals of healthcare's Triple Aim include having sufficient training and education resources (including those that support integrated practice), attractive work environments, and payment systems that support effective workforce teams. Implementation and evaluation of retention programs that examine the root causes of burnout and turnover among behavioral health workers are needed to reduce the number of replacements required. Support for more psychiatric residencies serving rural and underserved communities, as well as behavioral health-related clinical training for other health professions (e.g., NP residencies, internships for psychologists) could help to increase the numbers of providers in these occupations.

Multiple U.S. Department of Health and Human Services agencies are involved in preparing resources to help develop and provide ongoing support for the integrated workforce. SAMHSA and HRSA have identified core competencies relevant to integration efforts for both the primary care and behavioral health workforce that they suggest could be used to inform training, job descriptions, recruitment, orientation, and employee performance evaluations.[10] These two federal agencies have also identified strategies to address the increasing professional development and continuing education needs of the integrated workforce.[42] In addition, the Academy for Integrating Behavioral Health and Primary Care of the U.S. Agency for Healthcare Research and Quality lists nearly 100 integration-focused training and education programs.[26]

MENTAL HEALTH AND SUBSTANCE USE DISORDER TREATMENT INTEGRATION

Less frequently mentioned in discussions of primary care and behavioral health integration is the workforce with skills in the treatment of substance use disorders (also referred to as substance abuse, chemical dependency, and/or addiction treatment). The field of "behavioral health" is generally considered to reflect the integration of mental health and substance use disorder

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treatment. But discussion of "integrated care" in the literature is often directed at linking substance use disorder treatment with mental health services rather than linking behavioral health with primary care. Substance abuse is frequently a comorbid condition with mental illness, but many mental health providers lack skills for providing effective substance use disorder treatment and may have limited, or negative, interest in treating patients with these disorders.[43] In describing workforce issues related to treating substance use disorders in primary care, Dilonardo[21] concludes that the current substance abuse treatment workforce may not be adequate to function in an integrated environment, and organizational commitment and continuing education is needed to overcome barriers to delivering evidence-based substance abuse treatment in primary care settings. She argues for more basic education for all health care disciplines on substance abuse and addiction and team-based approaches to care, more standardized certification and licensure processes for counselors in this arena, and greater adoption of evidence-based practices appropriate for primary care. Tracking where, how and the extent to which this occurs could be a valuable contribution to workforce planning and development for behavioral health and primary care integration.

SUPPORT FOR TRANSFORMATION

Integrating primary care with behavioral health (including both mental health and substance use disorders) requires the deployment of health care teams that include both behavioral health and medical occupations (ranging from clinical specialists and counselors to formally trained support personnel and lay community workers). The integrated workforce needs to have the combined skills and training to address a broad spectrum of behavioral and physical health care needs, which will require continuing education for the incumbent workforce as well as some new priorities for health occupations education programs. The transformation will take time and ongoing resources, with support (including data and analysis, planning, policies, and funding) needed at the national, state and community levels.

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