

HEALTH WORKFORCE PROGRAM ANALYSIS FOR IOWA DEPARTMENT OF PUBLIC HEALTH

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INTRODUCTION

The Iowa Department of Public Health (IDPH) directs several statewide programs designed to recruit, develop, and retain health care professionals in the medical, mental, and dental health fields. Program application starts as early as residency training and can extend beyond the start of a career. Strategies include loan repayment, Visa waiver, liability protection, and specialized training. These programs aim to reduce workforce shortages and improve access to health care for Iowans.

The IDPH requested an assessment of the health workforce development programs under the purview of the Oral and Health Delivery Systems Bureau, to include the following:

1. The scope, expenditures, outputs, and outcomes of each program
2. The extent to which the current programs are impacting and making progress toward addressing the health workforce needs identified
3. Any identified gaps in the scope and availability of workforce development programs and associated health workforce data, and recommendations to address such gaps

The University of Iowa (UI) Center for Health Policy and Research in the College of Public Health was contracted to review the following programs under the leadership of the IDPH and provide a preliminary report in September 2015, a draft final report in December 2015, and final report with executive summary in April 2016:

- The Primary Care Recruitment and Retention Endeavor (PRIMECARRE)
- PRIMECARRE Dental Loan Repayment Program Expansion
- The Delta Dental Loan Repayment Program
- The Mental Health Professional Shortage Area Program
- The Cherokee Mental Health Training Program
- The University of Iowa Mental Health Training Program
- The Iowa Psychological Association Psychologist Rotation Program
- The Medical Residency Training State Matching Grants Program
- The Volunteer Health Care Provider Program
- The Primary Care Office
- The J-1 Visa Waiver Program
- The National Health Service Corps Program
- The Shortage Area Designation Process

As requested, each program was evaluated per the following criteria:

- Scope of program
- Process and resources used to implement the program
- Utility, feasibility, and conformity with legislative intent, and effectiveness of program
- Alignment with state strategies and best practices or evidence-based data
- Duplication of other state or non-governmental agencies
- Impact of program
- Gaps in scope or data that can be identified

THE PRIMARY CARE RECRUITMENT AND RETENTION ENDEAVOR (PRIMECARRE)

Summary

- PRIMECARRE provides two-year loan repayment of \$50,000 for health professionals who practice in shortage areas.
- Physicians, physician assistants, nurse practitioners, social workers, and mental health professionals are the most common recipients of PRIMECARRE awards.
- Of 92 PRIMECARRE award recipients from 2001-2014, at least 75 are still practicing in Iowa.

Scope of Program

The PRIMECARRE Loan Repayment Program is Iowa's version of the State Loan Repayment Program (SLRP), a state-federal loan repayment program operating in more than 30 states [1]. Thus, Iowa's criteria for awards under PRIMECARRE reflect federal requirements. Iowa authorized the creation of PRIMECARRE in 1994 in order to recruit and retain primary care professionals in shortage areas [2]. Eligible providers receive an award for loan repayment in exchange for practicing in a Health Professional Shortage Area (HPSA) for a two-year period [2]. Eligible providers include:

- Physicians specializing in:
 - pediatrics
 - geriatric
 - psychiatry
 - family or internal medicine
 - obstetrics and gynecology
- Nurse practitioners (NPs)
- Physician assistants (PAs)
- Dentists and registered dental hygienists
- Mental health professionals, such as:
 - health service psychologists
 - licensed clinical social workers
 - psychiatric nurse specialists
 - licensed professional counselors
 - marriage and family therapists

Process and Resources Used to Implement the Program

A Request for Proposal (RFP) is posted each fall on the IDPH website, (<http://www.idph.state.ia.us>) and IowaGrants.gov (<https://www.iowagrants.gov/index.do>) [2]. Additional application periods may be scheduled if any funds remain unallocated after the first round. Applicants must register on the IowaGrants.gov website. Candidate selection is based on a ranking of the needs of the community where the applicant is working, and on the applicant's evidence of community commitment and personal experience in rural settings. All applicants must be U.S. citizens.

For successful applicants, the following requirements apply to the award funds:

- The full award must be used in repayment of educational loans.
- Payment in the amount of 90 percent of the total award is issued at the beginning of the first year of service directly to the lending institution.
- The final 10 percent of funds are issued at the end of the second year of service upon completion of the contract.
- Default on the contract carries a repayment fee calculated at up to twice the original grant received [2].
- Up to \$50,000 for the full two-year commitment is available for full-time eligible applicants, and up to \$25,000 for the full two-year commitment is available for part-time eligible applicants.
- Award amounts may vary based on available federal allocations and state matching funds, as well as applicant scores. Grants are exempt from federal and state income taxes.

These amounts are the maximum currently allowed by the Health Resources and Services Administration (HRSA, the source of federal funds) for state loan repayment programs. Initially, the program was funded at a total of \$300,000 per year, but in the last two years the total annual funding level has been steady at \$280,000 (half state, half federal) [3]. This funding level permits six to eight awards per year, depending on the number of full-time and part-time awardees [4]. Per HRSA requirements, all administrative costs are ineligible for federal match and must come from state sources [5].

Utility, Feasibility, and Conformity with Legislative Intent, and Effectiveness of Program

According to IDPH data, this program has been competitive, and all money has been spent in recent years [6]:

- 2010: 8 of 13 eligible applicants received an award
- 2011: 6 of 14 eligible applicants received an award
- 2012: 8 of 25 eligible applicants received an award
- 2013: 4 of 21 eligible applicants received an award
- 2014: 7 of 23 eligible applicants received an award

From 2010-2014, a majority of awardees were mental health clinicians or nurse practitioners, as shown in Table 1.

Table 1. PRIMECARRE Awardees*

Clinician Type	2010-2014 Awards Only	All 2001-2014 Awards
Licensed Independent Social Worker or Licensed Mental Health Counselor	10	15
Advanced Registered Nurse Practitioner or Certified Nurse Midwife	9	17
Physician Assistant	5	23
Doctor of Dental Surgery (Dentist)	4	14
Medical Doctor/Doctor of Osteopathy	3	28
Doctor of Psychology	1	4
Registered Dental Hygienist	1	4
Licensed Master Social Worker	-	5
Doctor of Philosophy	-	4
TOTAL	33	114

*Analysis of data provided by Iowa Department of Public Health.

Over the entire period from 2001-2014, 114 loan repayment awards were given to 92 unique providers (providers are eligible for multiple awards). Some providers received consecutive awards, with one provider receiving three consecutive two-year awards. Physicians and mid-level providers, such as NPs or PAs, received the most awards over the entire period, but in the past five years, mental health workers have also received a large number of awards.

Over the past 14 years, one of 114 service terms was not completed because the clinician resigned the position, and another term was not finished due to military service. HRSA penalizes the state for those who fail to complete assignments, but not in the case of military service or family leave. Of 92 unique PRIMECARRE participants from 2001-2014, at least 75 are still practicing in Iowa [6].

Alignment with State Strategies and Best Practices or Evidence-Based Data

The PRIMECARRE program is intended to be a comprehensive approach to meeting health workforce needs by providing access to loan repayment for a broader range of health professionals than other workforce programs [15]. Acceptance into this program has been competitive. The type of clinicians receiving awards has evolved over time, with the number of participating physicians declining substantially in recent years. NPs and PAs now constitute more than one-third of PRIMECARRE awardees.

Duplication of Other State or Non-governmental Agencies

The PRIMECARRE program is very similar to the National Health Service Corps (NHSC), providing loan repayment at the same level (\$25,000 per year for two years) for clinicians. However, PRIMECARRE is available to health professionals who are not physicians, PAs, or advanced registered NPs (ARNPs). In addition, clinicians can apply for PRIMECARRE after accepting a position, whereas the NHSC requires that sites apply before recruiting for clinicians. Thus, the PRIMECARRE program is available to a wider pool of applicants beyond those who are eligible for the NHSC.

Impact of Program

The vast majority of PRIMECARRE awardees have remained in Iowa after the completion of their service obligation. This level of retention may indicate that the program is unusually successful compared to similar programs. It may also reflect the fact that many PRIMECARRE awardees receive an award after they have already been practicing at their award site, and the program is rarely used as an incentive to recruit new clinicians into underserved practice. In the broader context of experiences with the federal NHSC program and other state programs, the experience is mixed.

Using data from the historical experience of the NHSC, the effects of similar financial incentive programs—including scholarships, loans with a service obligation, loan repayment programs, bonuses, and recently, resident support—have been well studied [7]. One key difference among these programs is the stage of training at which a physician must commit to enter rural practice. Scholarships and direct loans with service obligations are typically offered at the beginning of medical school, while loan repayment programs and direct bonuses target physicians finishing their residencies. As a result, scholarship and loan recipients are less likely to fulfill their obligation to provide rural service [7]. Some state programs have imposed substantial buy-out penalties in an effort to ensure that physicians

complete their service obligation; however, these penalties are actually associated with lower satisfaction and lower retention of program participants [8].

While financial incentives have been shown to address recruitment needs, their effect on retention is usually weaker once the incentives are no longer available and the service obligation is complete [8,9].

- Some early studies focusing on physicians remaining in practice where they start their professional careers suggested retention of participants completing a service obligation was very low [10].
- More recent evidence suggests retention is much higher when retention in other rural areas (not restricted to the original rural practice site) is considered [10].
- Similarly, studies have generally found that long-term retention in underserved practice is higher for rural physicians who are completing a service obligation than for those who are not [11].
- Rural areas with NHSC providers actually have a greater number of non-NHSC providers as well [8]. This may be because the presence of other participants fulfilling a service obligation results in a more desirable work environment for other physicians by reducing professional isolation, or it may simply be the result of these locations being more desirable for both NHSC and non-NHSC providers [9].

The selection of participants in incentive programs such as PRIMECARRE can make a difference in the long-term retention of health care providers. For example, physicians who are receiving loan repayment in return for practicing in an underserved area are more likely to remain in underserved practice if they have completed a family practice residency [12]. Personal factors, such as a rural background and an orientation toward caring for the needy, are important factors that influence providers' ability to integrate into their community and practice.

In addition, characteristics of the practice site and the community influence provider retention. Interviews with physicians who have completed service requirements suggest that dissatisfaction with the site and/or program bureaucracy may have played a role in some participants' decision to seek other employment [10].

Finally, payment levels can make a difference in retention. One early study found that each additional \$10,000 annual payment was associated with an 11 percent increase in the likelihood of retaining the provider. Some programs, such as a 1991 program that provided physicians with a 10 percent bonus payment for practicing in a HPSA, were found to be ineffective, possibly due to their small size [13]. Another recent study found a substantial change in physician preferences was associated with an increased level of incentive payment in remote areas [14]. PRIMECARRE's relatively low reimbursement level may limit its effectiveness in recruiting and retaining physicians and mid-level providers.

Gaps in Scope or Data that Can Be Identified

The PRIMECARRE program is reportedly rarely used for recruitment, because the application timing does not match the cycle on which new clinicians are usually hired [15, 16]. Instead, it is often used as a retention incentive for clinicians who are already practicing at their host site. This is consistent with both the high rate of retention for PRIMECARRE participants and the repeat enrollment in the program.

While it is possible to count the number of participants in PRIMECARRE and other provider incentive programs, the ultimate goal of the program is to increase the health care resources available to underserved parts of Iowa. Without measuring the presence of each profession over time in each underserved area, any conclusions about the effectiveness of PRIMECARRE must be tentative. Retaining 75 of 114 professionals in Iowa is notable, but thorough assessment of program effectiveness requires knowing the location of their practices and length of time they continue to serve underserved populations. Enhancing data collection on past awardees would improve the ability to measure the program's effectiveness.

Finally, the academic literature that measures the effects of physician practice incentives is limited insofar as these studies are almost exclusively about physicians. PRIMECARRE is one of many programs that incentivizes non-physician clinicians to practice in underserved areas. It may be misleading to draw conclusions about recruitment and retention of healthcare providers from earlier academic research. The high retention of PRIMECARRE participants within Iowa is another potential indicator of the program's impact.

PRIMECARRE DENTAL LOAN REPAYMENT PROGRAM EXPANSION

Summary

- The PRIMECARRE Dental Loan Repayment Program Expansion was funded through a UI College of Dentistry grant from HRSA from 2013 through 2016 and subcontracted to the IDPH to administer.
- The program is designed to mirror the original PRIMECARRE program in design, criteria, and application.
- The program has assisted four dentists with more than \$60,000 each in loan repayment in return for two years of service in a HPSA.
- The program will not be renewed.

Scope of Program

HRSA provided a three-year grant to the UI College of Dentistry & Dental Clinics in 2013. Funds from that grant help the Office of Iowa Practice Opportunities in the College of Dentistry develop activities and pilot programs to recruit and retain dentists. HRSA requested a loan repayment aspect be included in funding provided to the UI College of Dentistry. The College of Dentistry subcontracted the IDPH to administer the funds from the grant that would go to dentists for loan repayment from 2013 through mid-2016 [1]. The program was designed to mirror the current PRIMECARRE Loan Repayment Program, which is why it is so named [2].

Process and Resources Used to Implement the Program

According to a program announcement, applicants for the loan repayment program must be working in a non-profit or public setting in a dental HPSA. In exchange for a two-year commitment to work at the practice, a dentist is eligible for up to \$60,000 in loan repayment of qualified student educational debt. The practice must accept all patients regardless of ability to pay (i.e., the practice accepts private insurance, self-pay, Medicaid, hawk-i, and others) and have a sliding fee schedule for uninsured low-income patients [3].

Program funding was reallocated within the budget so that recipients actually received more than \$60,000 in loan repayment over two years. Two dentists applied and were awarded funds for 2013 and 2014. The first year, each dentist received \$42,500; the second year, each received \$20,000. In the subsequent round of applications (for 2014 and 2015), there were three applicants. One withdrew, leaving two to receive awards. The two dentists each received \$38,000 in the first year and \$25,000 in the second year [2].

Utility, Feasibility, and Conformity with Legislative Intent, and Effectiveness of Program

There is no legislative intent involved in this program. The resources were made available to the IDPH through the UI College of Dentistry via a HRSA grant. The program was useful to dentists seeking loan repayment assistance and provided more funding than most other available sources in Iowa.

Alignment with State Strategies and Best Practices or Evidence-Based Data

Loan repayment programs are attractive to early-career health care professionals willing to work in underserved areas. While financial incentives have been shown to address recruitment needs, their effect on retention is unknown once the incentives are no longer available and the service obligation is complete [4, 5].

Duplication of Other State or Non-governmental Agencies

The PRIMECARRE Dental Loan Repayment Program Expansion is a loan repayment program using the same strategy as the NHSC and the Iowa PRIMECARRE programs:

- The NHSC offers up to \$50,000 tax-free loan repayment assistance to health care providers, including dentists, in exchange for a commitment to two years of service in an approved NHSC site.
- The Iowa PRIMECARRE program matches federal funds with state funds to provide up to \$50,000 in loan repayment to health care providers, including dentists, who agree to serve two years in a HPSA.

The PRIMECARRE Dental Loan Repayment Program Expansion was deemed an expansion of the PRIMECARRE program as it is similar in criteria and substance. However, the Dental Loan Repayment Program Expansion has neither the longevity nor the continuity of PRIMECARRE. IDPH records show that the PRIMECARRE loan repayment program issued contracts with nine dentists from January 1, 2005, through January 1, 2012. During the years the Dental Loan Repayment Program Expansion was available (2013 through 2015), no new dentists received funding through PRIMECARRE [6]. However, as noted above, the awards were greater than the \$50,000 PRIMECARRE limit.

SLRPs that are partially funded with federal dollars, like Iowa's PRIMECARRE, do not always include funding for dentists. A list of SLRPs prepared by the American Dental Association indicated that as of July 2014, 39 states offer SLRPs that include dentists, but that 11 states—Alabama, Arkansas, Connecticut, Florida, Georgia, Hawaii, Idaho, Indiana, Montana, Texas, and Utah—offer only the federal NHSC loan repayment program to dentists [7].

In addition, the following programs target dentists:

- Delta Dental of Iowa Loan Repayment Program (funded and directed by Delta Dental to offer \$50,000 over two years to one dentist annually, evaluated elsewhere in this report)
- Fulfilling Iowa's Need for Dentists (FIND) Program (a Delta Dental, state, and community-funded program offering four dentists annually up to \$100,000 over five years for practicing in rural, underserved areas, not evaluated as part of this report)

Impact of Program

This program served four dentists in HPSAs for two-year periods. None of the four awardees were new recruits, so the program has been used solely as a retention tool. Because this program was the legacy of a federal grant to a private entity, there is and was no intention for follow-up or sustainability of the program.

Yet, it is notable that the program addressed the financial aspect of access to dental care. A recent ADA Health Policy Institute report indicates that while financial barriers to care were low among children, including low-income children, likely due to state Medicaid and Children's Health Insurance Programs, non-elderly adults report the highest levels of financial barriers to care [8]. Requiring loan repayment recipients to serve community residents regardless of ability or means of payment helped to lower that barrier.

Gaps in Scope or Data that Can Be Identified

Since this program was available for three years ending in 2016, there is lack of longitudinal data on retention. Therefore, the long-term impact on dental HPSAs is unknown.

THE DELTA DENTAL LOAN REPAYMENT PROGRAM

Summary

- The Delta Dental Loan Repayment Program and Fulfilling Iowa's Need for Dentists (FIND) are loan repayment programs offered and administered through the Delta Dental of Iowa Foundation.
- Since 2003, the program has provided at least one dentist per year with loan repayment funds.
- In 2011, state funds started supporting dental loan repayment efforts with annual appropriations of \$50,000, increasing to \$100,000 in 2015.

Scope of Program

The Iowa Delta Dental Loan Repayment Program is a collaboration of the Delta Dental of Iowa Foundation (Foundation), the IDPH and the UI College of Dentistry and Dental Clinics. Starting in 2003, tax-free funds of \$50,000 (from the Foundation) have been provided to at least one dentist per year for three years of service. In 2008, Fulfilling Iowa's Need for Dentists (FIND) was created using a mix of Foundation, federal, and matching community funds. The Foundation provided \$50,000, federal funds provided \$25,000, and a community provided up to \$25,000 to offer a dentist up to \$100,000 over five years toward loan repayment. After the federal appropriation expired in 2010, the State of Iowa legislature began providing \$50,000 per year in 2011 for dental loan repayment serving two dentists. In 2015, the legislature increased funding to \$100,000, thereby increasing the number of potential FIND awards to four dentists per year.

Applicant dentists are required to practice in a rural or underserved area designated as a dental HPSA and must allocate 35 percent of patient services to underserved populations. Sixty-eight of Iowa's 99 counties are considered dental HPSAs [1].

Process and Resources Used to Implement the Program

The program was implemented and is entirely managed by the Delta Dental of Iowa Foundation. It is one of two loan repayment programs administered by the Foundation. Applicants must submit an application, including responses to a series of questions, and provide a resume and letters of reference.

Utility, Feasibility, and Conformity with Legislative Intent, and Effectiveness of Program

The additive effect of two types of programs provides benefits to dentists seeking financial assistance over a spectrum of situations. Over the past 12 years, 31 dentists have received loan repayment funding through the Dental loan repayment programs.

Alignment with State Strategies and Best Practices or Evidence-Based Data

The Delta Dental Loan Repayment Program parallels current state strategies of providing loan repayment, similar to PRIMECARRE, as a recruitment and retention tool. Academic literature finds mixed evidence supporting loan repayment, specifically or alone, as a viable strategy for health care workforce development. Nationally and in most states, loan repayment programs have enticed early-career

physicians and health care professionals to work in underserved areas [2, 3]. While these programs' effect on retention is modest [2, 3], Iowa's PRIMECARRE program has a very high rate of retaining clinicians in Iowa.

Duplication of Other State or Non-governmental Agencies

The Delta Dental Loan Repayment Program uses the same approach and targets the same populations as a number of other activities in Iowa.

- The NHSC offers up to \$50,000 tax-free loan repayment assistance to health care providers, including dentists, in exchange for a commitment to two years of service in an approved NHSC site.
- Iowa's PRIMECARRE program (a state program distinct from the NHSC) matches federal NHSC funds with tax-free state funds to provide up to \$50,000 in loan repayment to health care providers, including dentists, who agree to serve two years in a HPSA. Iowa's PRIMECARRE program is one of the 39 NHSC state programs in which dentists are eligible for funds [4].
- The PRIMECARRE Dental Loan Repayment Program Expansion operated from 2013 through 2015 with funding from the UI College of Dentistry & Dental Clinics and HRSA. The program was considered an expansion of the PRIMECARRE program to mirror it in criteria and substance. While administration of that program concludes in August 2016, the application process ended in 2015.

Impact of Program

Delta Dental of Iowa Foundation reports that of the 31 dentists receiving loan repayment funding associated with Delta Dental Loan Repayment Program and FIND, 28 are still in their same positions. The three who left did so early in the programs' development, either in the Delta Dental Loan Repayment Program or during the federal earmark period. All FIND recipients funded with state dollars remain where funded. This level of retention was accomplished with \$300,000 in state funding since 2011 and Delta Dental of Iowa Foundation's contributions of \$2.5 million toward both programs since 2003 [5].

Table 2 shows locations of dentists who have benefited from Delta Dental and FIND loan repayment from 2003 through 2015.

Table 2. Locations of Delta Dental of Iowa Loan Repayment Recipients 2003-2015 [6]

Delta Dental Program	FIND
Hawarden	Storm Lake
Emmetsburg	Holstein
Clear Lake	Emmetsburg/Algona
Sac City	Allison
Lake View	Fayette
Boone	Epworth
Ames	Maquoketa
Ackley	Grinnell
Parkersburg	Muscatine
West Liberty	Wapello
Columbus Junction	Wayland
Oskaloosa	Mount Pleasant
Bloomfield	Shenandoah
Corning	Clarinda
Lenox	Denison
Ottumwa	

Gaps in Scope or Data that Can Be Identified

In 2006, more than 75 percent of Iowa’s practicing dentists were alumni of the UI College of Dentistry; in 2011, that figure rose to 80 percent of 1,500 dentists practicing in Iowa. Generally, 60 of each incoming class of 80 pre-doctoral students are Iowa residents. Approximately half of the annual graduates of the UI College of Dentistry stay in Iowa [6, 7].

The Delta Dental of Iowa Foundation is the primary contact for both the Delta Dental Loan Repayment and FIND programs. Program personnel note that the office fields 20 serious phone calls per year from dentists inquiring about the programs, and expects 8 to 10 dentists will apply for the programs each year [6]. A phenomenon noticed in review of both program applications over the past year is an increase in the number of dentists applying for loan repayment that are established five years or more in practice. The trend of applying after being employed for one to two years could be understandable due to timing of application deadlines and licensing. The primary intent of both the Delta Dental Loan Repayment and FIND programs is to recruit and retain dentists early in their careers [5].

THE MENTAL HEALTH PROFESSIONAL SHORTAGE AREA PROGRAM (MHPSAP)

Summary

- The MHPSAP was created in 2006 to support psychiatrist positions, focusing on medical directors at mental health centers.
- Legislative appropriations for the program have ranged from \$200,000 in 2007 to approximately \$105,000 in 2015.
- The program has been used to recruit three psychiatrists and retain 12 others with awards requiring at least a one year contract.
- The number of applications to the program has diminished since its creation due to legislative requirements of the program (i.e., the psychiatrist must practice in a Community Mental Health Center in a HPSA) and difficulty recruiting psychiatrists. From 2008 to 2015 some or all of the funds reverted back to the general fund for breach of contract or lack of applicants.
- Data on the longer-term retention of the 15 psychiatrists recruited or retained as part of this program is not available.

Scope of Program

The MHPSAP was one of a number of health workforce initiatives established by the Iowa Legislature in 2006 [1]. The objective of the program is to ensure access to mental health care for underserved populations. The program provides funds to “support *psychiatrist positions* with an emphasis on securing and retaining medical directors at community mental health centers, providers of mental health services to county residents pursuant to a waiver approved under section 225C.7, subsection 3 (i.e., the county has not established or is not affiliated with a community mental health center and therefore its mental health services are provided via an affiliation agreement), and hospital psychiatric units located in federally designated mental health professional shortage areas.” [2]. There were 28 community mental health centers in Iowa in April 2014 [3]. In 2015, the program’s legislation was amended to remove the waived mental health service providers [4]. Eligible applicant organizations must be working to recruit or retain a psychiatrist licensed and board eligible to practice in the state of Iowa [5].

Funds obtained by a successful applicant agency can be used for sign-on bonuses, retention stipends, or recruitment costs. In all cases, fund distribution must meet a series of required elements listed in the program RFP. The 2015 RFP indicated that applicant entities could apply for up to \$35,149 for the two-year contract period [5].

Process and Resources Used to Implement the Program

Eligible organizations provide application materials in response to an RFP posted by the IDPH on the IowaGrants.gov website. Applications are scored using a point system based on a number of criteria: HPSA score designation, preference determination, background, demonstrated experience, partnerships, and project work plan [6]. Final review is conducted by the IDPH and considers the submitted applications and the review committee’s scores and recommendations.

Awardees are expected to meet program reporting requirements, which vary based on how the awarded funds are utilized. Measurable outcomes required by the program include retention of a psychiatrist for a minimum of one year. If the psychiatrist fails to meet the one-year criteria, the awardee organization must repay the full amount of the award to the IDPH.

State general funds support this program. In FY 2015, applicant agencies could apply for up to \$35,149 for the contract period. It was anticipated that up to \$105,448 would be available for approximately three awards. Successful applicant agencies were required to implement or maintain an employment agreement with a psychiatrist to provide services in the federally designated mental health HPSA for a minimum of one year [5].

The 2015 RFP stated that notices of intent to award were to be posted by August 15, 2014. Regardless of whether the awarded funds were to be used as a sign-on bonus, a retention stipend, or to cover recruitment costs, they had to be encumbered (i.e., the check had to be written) by June 30, 2015. This relatively short window of time (approximately 10 months) was cited as one possible reason for this program’s diminished utility in the recruitment of new psychiatrists [7].

Utility, Feasibility, and Conformity with Legislative Intent, and Effectiveness of Program

Between 2008 and 2015, the MHPSAP received a total of 23 applications, although only 17 of those met eligibility criteria. All of the eligible applicant programs received an award.

Table 3. Mental Health Professional Shortage Area Program, Recruitment/Retention Results

State Fiscal Year	Applications Received	Applications Eligible	Contracts Awarded	Contracts Fully Paid	New Psychiatrists Recruited	Existing Psychiatrists Retained	Comments
2008	5	5	5	5	1	4	
2009							
2010	7	4	4	4	0	3	Contractor asked to return funds due to breach of contract
2011	5	4	4	3	1	3	Contractor asked to return funds due to breach of contract
2012	1	1	1	1		1	
2013	1	1	1	1		1	
2014	2	2	2	2	1		
2015	2	0	0	0	0	0	Neither response to RFP met eligibility criteria; not reissued due to time and staffing
TOTAL	23	17	17	16	3	12	

Source: Iowa Department of Public Health [8].

Legislative appropriations for the program have ranged from \$200,000 in 2007 to approximately \$105,000 in 2015. In 2010 and 2011, psychiatrists (one each year) recruited/retained as part of the

program left their position after only one year. In both cases, the psychiatrists were required to repay the stipend to the site receiving the award, which in turn repaid the state.

Data on the long-term status (i.e., status beyond two years) of the 15 psychiatrists recruited or retained as part of this program are not available. Since its inception, the program has been in the hands of multiple “project officers,” and the IDPH does not currently have the capacity to compile data on awardee locations or amounts, or on psychiatrist retention [7].

Alignment with State Strategies and Best Practices or Evidence-Based Data

There are many dimensions to addressing the state’s need for psychiatrists. The UI Health Professions Tracking Center in the Office of Statewide Clinical Education Programs reported that in 2014 there were a total of 230 psychiatrists (including child, family medicine, and geriatric psychiatrists) in the state, yielding a population-to-psychiatrist ratio of 13,509 to 1 [9], a significant decline from the 2004 ratio of 12,417 to 1. RUPRI Center analysis of data from the 2015 Area Health Resource File (AHRF) shows that Iowa ranks 46th in per capita psychiatrists. However, Iowa ranked 6th for “Poor Mental Health Days” (measured as the “number of days in the past 30 days that adults self-reported their mental health was not good,” data provided by the 2014 Behavioral Risk Factor Surveillance System) in the 2015 report on America’s Health Rankings produced by the United Health Foundation [10]. Mental Health America’s 2015 report on “Parity or Disparity: The State of Mental Health in America” reported that Iowa ranked 12th in an overall measurement of prevalence of mental illness and rates of access to care [11].

Unravelling this somewhat conflicting picture of mental health services in the state of Iowa is well beyond the scope of this report. In addition, statewide measures such as those reported above can be skewed by data from larger urban areas and can easily mask large service shortage areas. Further analysis of the 2015 AHRF data shows that 95 of Iowa’s 99 counties are wholly or partially considered a mental health HPSA.

Duplication of Other State or Non-governmental Agencies

Several programs in Iowa aim to address one or more elements of the shortage of mental health services, but this program is unique. Similar to the PRIMECARRE and NHSC programs, the MHPSAP provides remuneration for health care professionals, but unlike those other programs, the MHPSAP focuses solely on the recruitment and retention of psychiatrists. Further, whereas applications to PRIMECARRE and the NHSC are made by individual providers, applications to the MHPSAP are made by organizations. Other mental health workforce initiatives in the state include the Cherokee Mental Health Training Program, the UI Mental Health Training Program, and the Iowa Psychological Association Psychologist Rotation Program, but those programs are designed to address mental health workforce training issues. These programs are described fully in separate sections of this report. All of these programs (and others such as the J-1 Visa Waiver program) are different tools that hospitals and clinics can employ to help attract and retain providers.

Impact of Program

In eight years of operation (2008-2015), the MHPSAP has been used to recruit 3 new psychiatrists and to help retain 12 psychiatrists already in place. Sign-on bonuses (such as those that might be possible using

MHPSAP funds) are generally considered a necessary part of the offer package for any physician recruiting effort [12]. Therefore, programs such as the MHPSAP can be important to those organizations positioned to take advantage of them. But given its small size, this program's statewide impact is small. The decline in the number of applications to the program (from a high of five in 2008 to none in 2015) is a possible indicator of the decreasing need for the program.

Gaps in Scope or Data that Can Be Identified

The diminishing number of applicants to the program would seem to indicate a decline in its necessity. However, the decline may also be the result of a number of other factors:

- Recruiting psychiatrists can be a difficult and lengthy process. The program's relatively short time frame makes it less useful for recruiting.
- There is a sense that there is a possible lack of awareness of the program [7].
- The eligible applicant organization community is already resource constrained making it difficult to find resources to complete the application process [7].
- Applicant organization eligibility is restricted to those located in mental health professional shortage areas which are based on criteria set up by the federal government and not tailored to Iowa needs [13].

While financial incentives, such as those provided by this program, have been shown to address recruitment needs, their effect on retention is uncertain once the incentives are no longer available and the service obligation is complete [14, 15]. The impact of the size of the payment under this program is also unknown. The 2015 RFP allowed applicant entities to apply for up to \$35,149 for the two-year contract, this compares to an average signing bonus of \$26,365 for all successful physician (all types) recruitments in 2014-15 [16]. Given the current nationwide high demand for psychiatrists, it is reasonable to assume that their average signing bonuses are significantly higher.

Data on the longer-term retention of the psychiatrists recruited or retained as part of this program is not available.

THE CHEROKEE MENTAL HEALTH TRAINING PROGRAM

Summary

- The Cherokee Mental Health Training Program is a one-year psychiatric PA training program utilizing lectures and clinical experience.
- The fellow receives a monthly stipend, which totals a yearly salary of \$60,000. The stipend comes out of the \$99,904 budget allocated each May.
- The Cherokee program is similar to the UI Mental Health Training Program, but the Cherokee program provides rural training.
- Of the 20 PAs who have completed this program, 50% are still practicing in Iowa today.

Scope of Program

The Iowa Legislature established funding for the Cherokee Mental Health Training Program in 2007 under H.F. 909, 82nd General Assembly. The original funding of \$140,300 was allocated to the state mental health institute in Cherokee to fund mental health providers in rural Iowa. The objective of the program is to provide a one-year postgraduate training fellowship to one PA each year. This fellowship is 12 months, with 40-hour work weeks in adult and child/adolescent psychiatry, inpatient and outpatient case management, and supplemental on-call experience. Specific emphasis is placed on obtaining skills necessary for the “psychiatric interview, Diagnostic and Statistical Manual diagnoses, and treatment plan formulation including the use of psychotropic medication [1].” This program exposes PA fellows to the Department of Corrections, the Judicial Branch, and patient advocacy groups, in addition to the baseline lecture and clinical experience [1].

There is also an option for PAs from programs in Iowa, Nebraska, South Dakota, and Wisconsin to do a one-month clinical rotation at the Cherokee Mental Health Institute.

Eligible candidates must be graduates of an accredited PA program, have current certification by the National Commission on Certification for Physician Assistants, and be licensed in the State of Iowa, or be currently licensed as a registered nurse in Iowa or their primary state of residence and have graduated from a master’s program with a psychiatric specialization [2].

Separate line items pass through the IDPH for the amounts allocated to both the Cherokee Mental Health Training Program and the UI Mental Health Training Program. The sum of the total amounts to each program has annually been between \$300,000 and \$350,000.

Process and Resources Used to Implement the Program

The Iowa Department of Human Services acts as the contractor of this program, and the IDPH acts as the department receiving the funds. Applicants may obtain application materials for the fellowship by emailing the program secretary at crupp@dhs.state.ia.us. A secretary for the Cherokee Mental Health Institute Medical Staff receives these emails and releases them to a Clinical Support Services team for review [1]. A stipend of \$60,000 per year is paid directly to the fellow as salary in monthly increments.

Historically, the one position available per year fills up quickly, and those who call with interest are often turned away for a year or longer. The Cherokee Mental Health Institute was unable to provide additional details regarding recruitment, application, and funding, because they do not have the staff available to do the tracking [4].

Utility, Feasibility, and Conformity with Legislative Intent, and Effectiveness of Program

The program’s total budget was not to exceed \$99,904 in fiscal year July 1, 2014, to June 30, 2015 [5]. If funds required to support the fellow exceeded the predetermined budget, the Cherokee Mental Health Institute was to use its operating budget’s General Fund. The allocated funds for the past seven years are as follows. FY 2016 will include a \$2,000 specification for an incentive payment to report strategies to increase positive outcomes [1].

- FY 2010 - \$117,142
- FY 2011 - \$107,420
- FY 2012 - \$100,493
- FY 2013 - \$100,493
- FY 2014 - \$99,904
- FY 2015 - \$99,904
- FY 2016 - \$99,904

Table 4, below, shows the payment details regarding the use of these funds from July 1, 2014, to June 30, 2015, as the most recent report. Table 5 includes the state fund breakdown from 2010 to 2016[1].

Table 4. Cherokee Mental Health Training Program, Expenditure July 1, 2014 – June 30, 2015

Service Deliverable/Description	Due	Flat Fee rate	Flat fee to be paid upon:
A. Recruitment of PAs and ARNPs (Article IV, A B, D, E and F.)	During the memorandum of understanding (MOU) agreement term	\$89,450	Contractor notifying the Department that a recruited PA or ARNP begins the one-year training program. Contractor must provide written notification, to include the name of the PA or ARNP, as well as a claim voucher to the Department.
B. Clinical Rotations for PAs and ARNPs (Article IV, C)	During the MOU agreement term	\$7,454	Contractor notifying the Department that a recruited PA or ARNP begins the outpatient clinical rotation. Contractor must submit a claim voucher and documentation indicating the rotation(s) have begun. Documentation submitted to the Department must be signed by the outpatient clinical medical director or executive director.
C. Final report to include: 1. Number and type (PA/ARNP) of recruits; 2. Dates of training; 3. Audit of expenses; and 4. Summary of completion status for each recruited PA or ARNP	Due July 15, 2015	\$1,000	Contractor submitting report and Department review and approval of the final report. Contractor must submit a claim voucher with the report.

Table 5. Cherokee Mental Health Institute (CMHI) Training Program, Physician Assistant Residency Program FY10-FY16

	Allocation	Stipends	Training Materials	Remainder Applied to Training and/or Administrative Expense
FY10	\$117,142	\$86,784	\$751	\$29,607 applied to faculty expenses at 14% of the actual cost
FY11*	\$107,420	\$111,243	\$734	(\$4,557) CMHI budget covered this amount; faculty expenses not covered
FY12*	\$100,493	\$71,075	\$1,404	\$28,014 applied to faculty expenses at 18% of the actual cost
FY13	\$100,493	\$77,730	\$575	\$22,188 applied to faculty expenses at 10% of the actual cost
FY14	\$99,904	\$115,709	N/A per MOU	(\$15,802) CMHI budget covered this amount; faculty expenses not covered
FY15	\$99,904	\$46,690	N/A per MOU	\$53,214 applied to faculty expenses at 30% of the actual cost

*In FY11 and FY12, the program fellows were on staff and their salary was charged to CMHI payroll.

Alignment with State Strategies and Best Practices or Evidence-Based Data

In a commitment to promote public health and safety, the National Commission on Certification of Physician Assistants offers a program with additional certification in seven different medical specialties, including psychiatry. This certification program allows PAs to demonstrate their capabilities and ability to meet the requirements of the medical specialty. The Cherokee Mental Health Training Program is currently in the process of ensuring its graduates meet the certification level.

The PAs who have completed the fellowship program have been able to provide psychiatric services in areas that did not previously have such services available. PAs with psychiatric specialties in rural areas can assist physicians in serving a greater number of counties. This helps to co-localize services to the primary care sector, potentially increasing access and subsequent utilization.

The opportunity at the Cherokee Mental Health Institute is experience-based, which allows professionals to directly learn from colleagues. This certification is specific to training graduates in a rural area. This approach parallels the idea that programs most often seek to make a difference in physicians’ practice decisions by providing experiences during training or early-career that may shape a physician’s decisions regarding long-term practice site.

Duplication of Other State or Non-governmental Agencies

The Cherokee Mental Health Training Program is similar to the UI Mental Health Training Program, but the two programs are more additive than duplicative:

- Cherokee is an experience in a rural community learning next to physicians and already practicing PAs [2].
- The UI program is more structured and the trainees are working with the current psychiatry medical residents while taking weekly didactics. The UI program also sees severe mental health cases; therefore, the training can be more comprehensive. The UI created its program based on the organization of the Cherokee fellowship [2].

The original intent was to offer two experiences in the state with different environments to target two categories of potential applicants. One would be more rural and experienced-focused (Cherokee), and another would be in a more populous area working along with physicians (UI).

There are only two other programs in the United States that provide mental health fellowships for PAs [6]. Ohio is currently working to implement one in 2016-2017, but it has not been accredited yet.

Impact of Program

The Cherokee Mental Health Training Program has placed 20 PAs since the beginning of the program in 1999. The recruitment and retention records of this program are shown in the table below [7]. The number of fellows varies annually as a function of available funds. From 2003 to 2005, the position was not filled, due to a lack of appropriate applicants.

In 2007, based on a proposal from Dr. Michael Flaum, a UI psychiatrist, the legislature initiated funding to support training in a more populous area. The intent was to increase interest so that more than 50 percent of the applicants would remain in Iowa to practice upon completion. It is challenging to retain the Cherokee program fellows in Iowa, as can be seen in the Table 6 below [1]. The table shows that 3 of 9 fellows were retained prior to the addition of training in a populous site 2007, and 7 of 14 were retained after that site was added.

Table 6. Cherokee Mental Health Training Program, Physician Assistant Residency Program 1999-2015

Year	# Fellows Accepted	# Fellows Completing	Stayed in Iowa
1999	2	2	1
2001	3	3	1
2002	1	1	0
2003	1	1	unknown
2004	No program funding	NA	NA
2005	1	1	1
2006	1	1	0
2007	4	4	3
2008	1	1	0
2009	2	1	1
2010	3	2	1
2011	1	1	1
2012	0	0	0
2013	2	2	1
2014	1	0	0
2015	0	0	0

Gaps in Scope or Data that Can Be Identified

While past years have offered opportunities for more than one fellow per year, current funding levels allow for only one, limiting the ability to offer additional mid-level providers the opportunity to join the program. In addition, there has been an interest among candidates in multi-year training opportunities. Nevertheless, further investigation is needed to understand the decline to zero in the most recent two years of data.

Mental health providers are included in many state loan repayment programs, including Iowa's PRIMECARRE program. Further, states such as Wisconsin and Minnesota have additional mental health loan repayment programs that have a three-year commitment and provide total compensation of \$100,000 and \$36,000, respectively [8].

THE UI MENTAL HEALTH TRAINING PROGRAM

Summary

- The UI Mental Health Training Program was funded through legislation in 2007, with implementation in 2009.
- This program includes support for a one-year PA fellowship, and tuition subsidy for nursing students.
- The PA participates in didactic and clinical training for 12 months while receiving a stipend for \$65,000 plus benefits.
- The UI College of Nursing utilizes \$50,000 annually for tuition subsidies and payment of keynote speakers at state psychiatric conferences.
- Since initial funding, six PAs have completed the fellowship program, and 57 nursing students have received subsidized tuition (32 have graduated).

Scope of Program

The UI Mental Health Training Program is a health workforce initiative established in 2009 under H.F. 909, 82nd General Assembly. The original appropriation by the Iowa Legislature was \$159,700, with funds made available through the IDPH. The legislation requires a split of each year's funds between the UI PA Program for post-graduate fellowships and the UI College of Nursing for tuition subsidies and conference speaker expenses. Funding varies annually; in some years the PA program has used funds from the psychiatry department operational budget to cover gaps between program funds and actual costs [1]. The legislation allows flexibility in how these funds can be used; however, yearly reports must be presented to the IDPH.

This program provides a one-year fellowship to expose PAs interested in a psychiatry specialty to a broad variety of experiences at UI Hospitals and Clinics, including the following:

- Six months of inpatient and six months of outpatient clinical training
- Weekly didactics with current residents
- Work alongside current medical residents in classroom and clinic to foster professional relationships with their future supervisors

These experiences advance professional relationships and provide comparable training for both PAs and nurses. This program encourages psychiatrists to supervise PAs who have gone through the fellowship program, as they have specialized training and have been through similar training rigor [1, 2].

Funds provided to the UI College of Nursing are used to recruit and educate ARNPs and nurses with Bachelor of Science degrees (BSNs) seeking certification in psychiatric/mental health nursing. The College of Nursing utilizes these funds to:

- Subsidize tuition for 10 to 20 students each year
- Fund a speaker on psychiatric and mental health topics each year at either the Iowa Nurse Practitioner Society, the Iowa School Nurse Organization, and the Iowa chapter of the American Psychiatric Nurses Association spring conferences
- Provide classes with a psychiatric and mental health focus for students seeking the extra certification [3, 4]

PA fellows and nursing students are selected at the discretion of the program directors. The programs are to choose only individuals who plan to practice in Iowa and who have a strong interest in specializing in psychiatric services. The PA program generally selects fellows who have gone through the psychiatry rotation at the UI Hospitals and Clinics. The director of the Physician Assistant in Psychiatry Fellowship works closely with the PA students when they are in school and is therefore able to provide insight into selecting the best candidate for that year [2].

The College of Nursing selects students who are pursuing an ARNP degree and who have an interest in practicing psychiatry in Iowa. Once these students are identified, they are offered a stipend of varying amounts, depending on enrolled semester hours. The number of ARNP students electing to specialize in psychiatry has tripled, due principally to the tuition scholarships that are funded through the UI Mental Health Training Program [4].

Individuals who receive subsidies through the UI College of Nursing must intend to specialize in psychiatry and to receive a doctor of nurse practice degree in psychiatry [4]. Students selected for this track receive stipends to assist with tuition. This funding is not guaranteed to students annually and is available as the legislature approves an allocation each spring.

Process and Resources Used to Implement the Program

PA applicants must be certified by the National Commission on Certification of Physician Assistants and must have graduated from a program that is accredited by the Commission on Accreditation of Allied Health Education Programs [5]. Applicants must be licensed in the State of Iowa and intend to practice in Iowa for at least two years after the completion of the fellowship. An application form is available on the Association of Postgraduate PA Programs (APPAP) website.

Program funding is determined each year during the legislative session [2]. The contract amount for 2014-2015 was \$105,656 for the two programs [6]. Of that, the College of Nursing got \$50,000 to aid students with university tuition. The remainder went to support the PA fellow. However, the PA was awarded \$65,000 as an annual salary and received \$35,000 in benefits. To help cover that, the UI Hospitals and Clinics Psychiatry Department charges patients for PA fellow services. Because the allocated amount from the legislature changes each year, consistent program planning is difficult [1].

One of the biggest barriers to finding applicants for this program is that graduation is in May, the same time that funding is approved, by which time students want to be sure of their post-graduate placement. Students express interest in the program, but may not follow through with an application because of concern about the program's funding.

The application deadline for the College of Nursing program is at the beginning of each semester. Students are selected on an annual basis, with applications due at the beginning of February, interviews conducted in late February, and notification of admission sent in late March. Stipends are awarded in the fall and spring [4]. Stipend amounts are determined by the number of credit hours for which the student is enrolled in the semester during which the student applies for the fellowship. Three percent of the funding received from legislation is held back to fund student stipends during the summer session [4]. A

small portion of this amount is used for recruiting, but most of the money utilized for local, state, and national recruiting comes from general College of Nursing funds in order to maximize funds for student subsidies. One thousand dollars of the allocation is set aside to fund a psychiatry speaker at one of the Iowa state conference for nurse practitioners.

Utility, Feasibility, and Conformity with Legislative Intent, and Effectiveness of Program

In the 2013-2014 year, 17 BSN-ARNP students were funded in the fall with stipends ranging from \$1,300-\$1,500 and totaling \$22,554.88. In the spring, 16 students were funded with similar stipend amounts. The program changed the following year to include individuals seeking a psychiatric-mental health nurse practitioner (PMHNP) certificate [7].

In the 2014-2015 year, 14 BSN-ARNP students and 2 graduate students returning for a PMHNP certificate were funded for both the spring and fall, totaling \$24,812.00. The stipends ranged in value from \$818.01 to \$2,453.92 [7].

This program is also adding a dual certification program that will start in the fall of 2016 [4]. The program will be four and one-half years long, and in that time students will earn a doctor in nurse practice degree with a psychiatry certification. Students will receive the stipend when they begin the psychiatry portion of the training, not at the beginning of the general NP program.

Three additional student-training opportunities, listed below, were created as byproducts of the original PA fellowship program due to the infrastructure and resources available from the funding through the UI Mental Health Training Program:

- A one-year unpaid program, PA HELP, was created in 2010 for a PA who was practicing in a rural area but who felt she was underprepared for her first job [2]. She received evidence-based training in psychotherapy and additional areas of interest. Her employer paid the UI Department of Psychiatry \$5,000 so she could receive the training she needed. This program was created in response to a need from a PA in rural Iowa and will not be publicly promoted in the future [1].
- A UI PA graduate practicing in a rural underserved area in Iowa was interested in receiving training in child psychiatry, but was unable to find a child psychiatrist in his region to provide supervision. The UI Mental Health Training Program accommodated the needs of the former student by providing supervision via telehealth by a licensed physician practicing at the UI. There were no expenses tied to this expansion.
- In the 2014-2015 year, another graduate was offered a three-month rotation for training at UI Hospitals and Clinics. This accommodation was similar to the yearlong PA HELP program mentioned above, but was an accelerated and shorter program. The PA received no payment, but participated in didactics and received clinical supervision at the UI.

Alignment with State Strategies and Best Practices or Evidence-Based Data

For PAs:

- PAs with psychiatric specialties who work in rural areas can assist physicians in serving a greater number of counties. The presence of these PAs should help encourage utilization of primary care services and increase access to mental health services [2].
- Having PAs train with medical residents builds trust between health professionals, and the likelihood of a physician supervising these PAs in the future increases. Such a relationship combats the workforce shortage directly by increasing the number of providers, and indirectly by encouraging physicians to supervise PAs, extending services to more locations.

For nurses:

- This program is helping to pipeline nursing students into the psychiatry specialty to serve Iowa residents. Ninety-seven percent of the graduates are practicing in Iowa. The tuition subsidies have allowed for triple the number of students to complete this specialty in the state compared to the years before the allocation [4].
- Some of the individuals selected through the College of Nursing for this program are already practicing in family medicine and are seeking an additional certification. Professionals feel that they need additional psychiatry training, as the primary care population they are serving present to the clinic with psychiatric disorders. This certification is desired in order to provide sufficient care, and to cut down on referrals and unnecessary expenses for patients and facilities. Seven professionals have been awarded certifications since the beginning of this exception to the streamlined program, and four professionals have been selected to work toward a certification in the spring of 2016.

Duplication of Other State or Non-governmental Agencies

The UI Mental Health Training Program is complimented, not duplicated, by the Cherokee Mental Health Training Program. The Cherokee Program provides different experiences for graduates in a very different institution. Cherokee is an experience in a rural community learning next to physicians and already practicing PAs. The UI program is more academically structured, and the trainees are working with current psychiatry medical residents while taking weekly courses. The UI Hospitals and Clinics also see more severe mental health cases so the training is a bit more rigorous at times.

Only two other programs in the United States provide mental health fellowships for PAs [8]. Ohio is currently working to put a fellowship together for 2016-2017, but it has not been accredited yet.

Impact of Program

Since program implementation in 2009, five PAs have been funded, with an additional student expected to be funded for the coming year. It is stated that the training of PAs next to medical residents creates stronger interdisciplinary teams and increases interprofessional respect between PAs and physicians [1,2,5].

Of the five PAs who have received funding, one stayed and currently works in Iowa City at the Veterans Administration Hospital, one works at the UI Hospitals and Clinics, one works in a family medicine specialty practice in eastern Nebraska, one works at the UI Hospitals and Clinics and is attempting to start a new mental health program, and one is a current fellow at the UI Hospitals and Clinics. The newest recruit will likely be from South Dakota.

All of the nursing students who received subsidized tuition went directly into practice. Fifty-seven students have been admitted since the program's beginning in 2007, and of those, 32 have already graduated from the program [4]. Nearly all (97 percent) of these graduates are currently practicing in Iowa[4].

Gaps in Scope or Data that Can Be Identified

In past years, funding levels have been sufficient to provide opportunity to more than one fellow in the UI Mental Health Training Program. Current funding levels allow for only one fellow per year, limiting the ability to extend offers to additional mid-level providers. Those involved in the PA side of the UI Mental Health Training Program feel they could support up to four more trainees each year if they had additional funding.

THE IOWA PSYCHOLOGICAL ASSOCIATION PSYCHOLOGIST ROTATION PROGRAM (IPAPRP)

Summary

- The IPAPRP was funded through legislation in 2007 for an appropriation of \$50,000.
- This program maintains a one-year psychologist rotation that must be completed in order to gain licensure in the State of Iowa.
- The Iowa Psychological Association (IPA) subcontracts with Central Iowa Psychological Services (CIPS), the Mental Health Center of North Iowa (MHCNI), and Innovative Learning Professionals (ILP).
- The \$50,000 is split between CIPS (\$16,000) and the MCHNI (\$20,000). The remainder of the money is used for IPA administrative expenses, as ILP only receives mentoring services and no funding.
- Of the 21 psychologists trained with this appropriation, 17 remain in Iowa.

Scope of Program

The IPAPRP is a health workforce initiative that was established by the Iowa Legislature in 2007 under H.F. 909, 82nd General Assembly. The objective of the program is to expand and improve the mental health workforce engaged in providing treatment and services to Iowans. The program establishes and maintains one-year mental health training program placements in urban and rural mental health HPSAs and rotates licensed eligible doctoral level psychologists into these placement sites.

The legislation establishing this program details that the appropriated funds for the program, \$50,000, shall be used for a grant to a statewide association of psychologists that is affiliated with the American Psychological Association (APA) (ostensibly, the Iowa Psychological Association (IPA)) to be used for continuation of a program to rotate intern psychologists in placements in urban and rural mental health HPSAs, as defined in section 135.180.

The following facts spurred efforts to increase the psychologist workforce in Iowa through the IPAPRP:

- Iowa ranks 46th among the states in psychologists per capita [4].
- Iowa ranks lower in psychologists per capita than neighboring states [4].
- Fifty-three percent of Iowa psychologists are over age 55, with few in their 30s [4].
- It takes approximately 11 years for a psychologist to become licensed as an independent provider from the start of undergraduate training to the completion of the license [4].
- Psychologists are required to complete a postdoctoral year in a supervised program before gaining the licensure to practice clinical mental health care [4].

The IPAPRP develops and implements training programs in rural and underserved areas of Iowa for postdoctoral psychologists. After completing the one-year program, trainees are eligible for licensure and health service provider certification in Iowa.

In 2007, the Iowa Legislature appropriated \$50,000 to explore options for increasing the psychology workforce in Iowa. This funding allowed the IPA to hire a training director (paid \$24,000 per year), identify

solutions to the workforce shortage, collaborate with potential training sites, apply for other funding, and propose a pilot project for psychology training [1]. Program funds could be used for administration expenses, student rotation stipends, educational expenses, and health care coverage for the postdoctoral professional. The Iowa Legislature appropriated an additional \$50,000 in 2008 to conduct a pilot project at Poweshiek County Mental Health Center (PCMHC) in Grinnell for rural community mental health. The purpose of this pilot was to develop the postdoctoral training program so that it could be replicated at other sites across the state.

Process and Resources Used to Implement the Program

Postdoctoral training opportunities are announced in December and January of each year. The IPA distributes individual letters to all pre-doctoral internships listed in the Association of Psychology Postdoctoral and Internship Centers (APPIC) directory about the training opportunities at the following locations:

- Central Iowa Psychological Services (CIPS) – in Ames
- Mental Health Center of North Iowa (MHCNI) – in Mason City
- Innovative Learning Professionals (ILP) – in Des Moines

In addition, letters are distributed as email attachments to training directors at APPIC listed sites. Announcements are placed on a national postdoctoral listserv. Doctoral training programs in clinical and counseling psychology in Iowa and surrounding states also receive the announcements.

The IPA training director and the psychologists leading the efforts at each site have developed a coordinated message regarding application materials and the selection process, including the scheduling of interviews for selected candidates. Announcements are distributed under the name of the IPA to give credibility to the training opportunities.

Criteria for selection are as follows:

- Graduate of an APA-accredited doctoral programs in clinical, counseling, or school psychology
- Licensure after completing the postdoctoral training program
- Commitment to continued practice in Iowa following the training program
- Ability to provide a range of psychological services to a general population, such as individual and group psychotherapy, evaluation/assessment, psycho-education, and consultation
- For individuals applying from sites that serve a forensic population, the ability to provide psychological evaluations and share the results and recommendations for treatment in written form
- Three letters of recommendation from the applicant's doctoral training director, professors, and/or pre-doctoral internship supervisors
- At the discretion of the program, to present a copy of a psychological evaluation report with identifying information redacted to protect the privacy of the client

Trainees submit application materials to the sites by mid-to-late January. Applications are reviewed at each site and offers for interviews are coordinated for mid-February. CIPS conducts interviews in person or via Skype for candidates who cannot travel to Iowa. The MHCNI has provided limited travel funds to its

top three candidates to interview in person in Mason City. Job offers are made at the beginning of March, and candidates have a limited time to consider the offer. Offers are made until the positions are filled.

Utility, Feasibility, and Conformity with Legislative Intent, and Effectiveness of Program

The IPA receives \$48,000 per year, with a \$2,000 bonus for meeting set goals. The IPA divides the funds and subcontracts with CIPS and the MHCNI to select the candidates. The remainder of the funding is used as compensation for the administrative coordinator [3]. ILP, as discussed below, receives consultation support, but is not given monetary assistance from the legislative grant.

The IPA maintains an agreement with CIPS to provide postdoctoral training for a contract amount of \$16,000 [2]. Of that contract amount, \$6,000 is state funds per the IPA's agreement with the IDPH. The remaining contract dollars (\$10,000) are funding the IPA receives from the Iowa Psychological Foundation.

The IPA finalized an agreement with the MHCNI to develop and implement a postdoctoral training program for a contract amount of \$20,000 [2]. Funding for this subcontract will come from state funds at the beginning of each year per the IPA's agreement with the IDPH.

The IPA offers some consultation to ILP for its postdoctoral training program [2]. The psychologist/owner of ILP supervises the postdocs. The IPA does not offer ILP any funding. Funding for this position comes from Polk County Juvenile Court Services, as the focus of the postdoctoral work is to provide consultation and psychological evaluations for that entity. The IPA collaborates with ILP by providing information about postdoctoral training, inviting trainees to networking events, and disseminating announcements about that postdoctoral opportunity to potential applicants.

Application letters provided by the three sites show that they offer similar amounts of compensation for their rotation professionals [2]. CIPS pays \$31,000 per year to the rotation student; the MHCNI pays \$35,000 per year, with \$3,000 additional in health care coverage and \$1,000 for educational expenses; and ILP pays \$35,000 per year. As mentioned above, some of this funding comes from the state legislature and some comes from outside donors. For example, the Telligon Community Initiative supported the program in 2014 through a \$50,000 grant [3]. Sites use money from their operational budget if they do not receive the full funding amount necessary from legislation [3].

Implementation barriers include limited funds for sites and difficulty applying to the program due to paperwork and the timing of the May decision on available funding. The two-month window between the funding decision at the end of the legislative session and the July 1 program start date does not allow adequate time for sites to select qualified candidates. Iowa licensing for postdoctoral psychologists requires an intern rotation placement, but there are few programs to provide this opportunity in Iowa, so many professionals leave the state in order to complete their training. The fact that Iowa funds only two sites makes it likely candidates will seek training elsewhere; thus Iowa becomes uncompetitive for the top trainees. Once trainees leave the state, it is more difficult to recruit them back to Iowa as providers.

Alignment with State Strategies and Best Practices or Evidence-Based Data

The successful partnership between the IDPH, the IPA, and other organizations to develop and implement training programs has allowed an estimated 12,000 Iowans in need of psychological treatment to receive those services [3]. As the early-career psychologists supported by this program continue to live and work in Iowa, even more citizens will benefit from the collaborative effort to train psychologists in Iowa. The IPA reports that all three trainees from this year’s cohort are committed to remain in Iowa.

Duplication of Other State or Non-governmental Agencies

The only other program in the state targeting postdoctoral psychologist training is the PRIMECARRE psychologist workforce development program. The other mental health workforce programs in Iowa focus on PAs, physicians, and NPs, but not psychologists.

Impact of Program

Table 7 shows data regarding the number of individuals in the program, the number who applied, and the breakdown for the allocation of funds [4]. There is a one-time program innovation in the year 2010-2011, which is not the same as the student stipends discussed in other years. This is not tracked the same, and therefore does not continue after the initial implementation year.

Table 7. Iowa Psychological Association Psychologist Rotation Program Applications, and Allocations

Fiscal Year	Number in program	Dollars available	Number applied for training
2010-2011	1 training director 2 post-doc trainees: site 1 1 post-doc trainee; site 3 36 doctoral level post-doc trainees	\$54,155 total • \$21,900 training director • \$19,000 site 1 • \$10,755 site 2 • \$2,500 recruitment and retention project	7 at site 1 – PCMHC 0 at site 2 – CIPS, initial program development year 3 at site 3 – ILP (estimated)
2011-2012	1 training director 1 post-doc trainee: site 1 1 post-doc trainee: site 3	\$38,263 total • \$23,263 training director • \$15,000 site 1	5 at site 1 - PCMHC 7 at site 2 - CIPS 4 at site 3 - ILP
2012-2013	1 training director 1 post-doc trainee: site 1 1 post-doc trainee: site 2 1 post-doc trainee: site 3	\$38,263 total • \$23,263 training director • \$15,000 site 1	5 at site 1 - PCMHC 5 at site 2 – CIPS 3 at site 3 – ILP 1 at site 4 – 5 th Judicial District Correctional Svcs
2013-2014	1 training director 2 post-doc trainees: site 2 1 post-doc trainee: site 3	\$48,000 total + \$2,000 incentive • \$24,000 training director • \$6,000 site 2 • \$20,000 site 5	11 at site 2 – CIPS 6 at site 3 – ILP 10 at site 5 - MHCNI
2014-2015	1 training director 1 post-doc trainee: site 2 1 post-doc trainee: site 3 1 post-doc trainee: site 5 1 post-doc trainee: site 6	\$48,000 total + \$2,000 incentive • \$24,720 training director – oversight & recruit/retention • \$3,280 site 2 • \$22,000 site 5	4 at site 2 – CIPS 3 at site 3 – ILP 4 at site 5 – MHCONI (WellSource) 1 at site 6 – Capstone Behavioral Healthcare

Twenty-one psychologists have been placed in this program, and of those, 17 currently reside in Iowa. Table 8 below details the training sites of those psychologists and their current practice locations. [5].

Table 8. Iowa Psychological Association Psychologist Rotation Program Placement and Retention

Training Year	Site	Current State
2008-2009	PCMHC	Iowa
2009-2010	PCMHC	Iowa (2)
2010-2011	PCMHC ILP	Iowa and Minnesota Iowa
2011-2012	PCMHC CILP	District of Columbia Iowa
2012-2013	PCMHC/5 th Judicial Court Svcs ILP CIPS	Iowa Iowa Iowa
2013-2014	CIPS CIPS ILP	Iowa Nebraska Minnesota
2014-2015	CIPS MHCONI (WellSource) ILP	Iowa Iowa Iowa

Gaps in Scope or Data that Can Be Identified

Currently, there are 1,068 Iowa-licensed psychologists in Iowa, and of these, 894 register with an Iowa address [6]. In order to practice and treat patients, a psychologist needs to be licensed, which requires 1500 hours of post-doctoral supervised practice. This rotation can meet that need and retain licensed psychologists in Iowa.

In this report we exclude certified psychologists who do not have full licensure and therefore do not see and treat patients. [7].

Workforce shortages in mental health are generally perceived to be acute, especially in rural areas. Research on the rural mental health workforce is particularly challenging because of the difficulty in drawing a clear boundary around the workforce itself. Psychiatrists are the only physicians that directly address mental health. However, other providers such as psychologists, licensed clinical social workers, NPs, clinical nurse specialists, and a variety of paraprofessionals also provide mental health services. Further complicating this picture, nearly half of all individuals who seek mental health care consult their general medical practitioner [8]. Therefore, Iowa is similar to other states in maintaining a diversified strategy of training multiple professionals, all within their scope of practice and licensure.

MEDICAL RESIDENCY TRAINING STATE MATCHING GRANTS PROGRAM

Summary

- The Medical Residency Training State Matching Grants Program provides grants to increase the number of medical residents trained in the state.
- Grants can be used to establish new medical residency programs, expand existing residency programs, or allow programs to exceed the cap on Medicare-funded residency slots.
- Since October 2014, seven grantees have received awards through two funding rounds.

Scope of Program

The Medical Residency Training State Matching Grants Program was established by the Iowa legislature in 2009, but did not receive funding until FY 2014 [1]. Since that time, the legislature appropriated \$2 million per year in FY 2014, FY 2015, and FY 2016. The program provides matching funds to residency programs falling into one of three categories:

- New medical residency programs
- Existing medical residency programs seeking to increase the number of slots
- Medical residency programs wishing to exceed the cap on the number of slots funded by Medicare

Initially, any individual applicant program could receive only 25 percent of available funding as a match for any funds set aside for one of these three purposes. However, in its 2015 session, the legislature revised the criteria for participants so that up to 50 percent of the total funds can be used to fund a single award, if that award supports the establishment of a *new* medical residency program [2].

Process and Resources Used to Implement the Program

To receive funds through this award mechanism, organizations must demonstrate that they have set aside funds for one of the three purposes described above. Grants are awarded via a competitive bidding process, in which the IDPH must specify the criteria it will use to score grant applications. Among those criteria are the following:

- Completeness of the application
- Clarity and organization of the project's description
- Responsiveness to the objectives described in the RFP
- Ability of the applicant to successfully complete the proposed project [3]

The Bureau of Oral and Health Delivery Systems, housed within the IDPH's Division for Health Promotion and Chronic Disease Prevention, is responsible for forming a committee to review applications and has so far provided awards through two RFP mechanisms.

The first award period was October 1, 2014, through June 30, 2015, with up to two annual renewals possible through June 30, 2017 [4]. During the first award period, the IDPH provided grants to four contractors [5]:

- The UI Hospitals and Clinics, to exceed the cap on medical residency slots [6]
- UnityPoint Health – Des Moines, to increase the number of pediatric residents [7]
- Mercy Medical Center Des Moines, to fund a new fellowship in plastics, reconstructive, and hand surgery [8]
- Cedar Rapids Medical Education Foundation (CRMEF), to increase the size of its family medicine residency [9]

Applicants responded to the second RFP on October 21, 2015, with an award period from February 2016 through June 30, 2017. Up to two renewals were available to extend funding through June 30, 2019. The remaining appropriations (\$4 million) were awarded through this second round. In the second-round RFP, priority was explicitly given to family practice or psychiatric residency programs, a requirement that had not been stated in the first round [3]. On November 20, 2015, the IDPH announced its intent to award funding to Broadlawns, UnityPoint Health – Des Moines, and Mercy Medical Center Des Moines [10].

The funding for the grant program does not include IDPH operating costs [5].

Utility, Feasibility, and Conformity with Legislative Intent and Effectiveness of Program

As a program with no track record of completed residencies, it is too early to quantify its impact on Iowa’s physician workforce. One measure would be the quality and quantity of applicants, which is thought to be higher in the second year, as eligible programs had more time to prepare and submit high quality proposals. [12].

Alignment with State Strategies and Best Practices or Evidence-Based Data

Family practice and psychiatry are two specialties in which the state has particularly severe statewide shortages. During the first round, only one of the four successful applicants (CRMEF) proposed increasing the training of residents in one of these specialties [9]. However, in its second-round RFP, the IDPH has particularly encouraged applications targeting these two specialties [3].

Duplication of Other State or Non-governmental Agencies

Two features of the program are designed to ensure that it adds to existing training programs, rather than duplicating those programs:

- The three eligibility categories specifically require activities to be “new,” although it is theoretically possible that the funds will be used to pay for a share of new residency slots that would have occurred anyway.
- The use of the matching fund mechanism incentivizes awardees to increase the funding that they themselves put into training residents.

Impact of Program

To date, the Medical Residency Training State Matching Grants Program has successfully awarded funds through two rounds of an RFP process. It is too early to assess the program’s impact on the number of physicians completing residencies in Iowa each year and the extent to which those physicians remain in Iowa after completing their residencies.

At the time they apply for the award, applicant organizations are free to select the objectives most appropriate to their proposed program and track those outcomes over the course of the award period [3]. In the first round applications, two awardees (UI Hospitals and Clinics and Mercy Medical Center Des Moines) included objectives related to post-training retention in Iowa, but the other two awardees did not.

Gaps in Scope or Data that Can Be Identified

This program aims to increase the number of residencies completed in the state of Iowa. In its second-round RFP, the IDPH prioritized residencies in family practice and psychiatry, two areas in which the state's shortages are most severe. However, while the language in the RFP encourages awardees to design programs that result in more trainees remaining in Iowa after the end of their residencies [3], there is not a system for tracking trainees after they complete their residencies.

VOLUNTEER HEALTH CARE PROVIDER PROGRAM (VHCPP)

Summary

- The VHCPP offers legal protection to eligible volunteer health care providers and eligible clinics providing free health care services.
- As of October 2015, a total of 41 sites, including 380 providers, were covered under the VHCPP.
- The state appropriation for this program was \$58,125 in FY2016, which covers the cost for up to one full-time equivalent (FTE) individual to administer the program.

Scope of Program

The VHCPP was established in 1993 by the Iowa legislature, but the authorizing legislation was amended 13 times between 1993 and 2009 [1]. The VHCPP is intended to increase volunteerism by competent health care professionals by offering legal protection to eligible volunteer health care providers and eligible clinics providing free health care services [1]. The VHCPP indemnifies clinicians practicing at free clinics by considering them as state employees for the purpose of resolving claims arising from the provision of free medical care [1].

Process and Resources Used to Implement the Program

The IDPH Primary Care Office (PCO) is responsible for the VHCPP. For its volunteer clinicians to be covered by VHCPP protection, sites providing free care must apply, providing information on the following:

- Patients served
- Free health care services to be provided
- Days and hours, site of care
- Public health services to be provided to uninsured/underinsured individuals [2]

Eligible sites must meet several other criteria:

- Neither patients nor third parties are charged for services delivered at the site
- Providers must be volunteers
- Lists of providers must be submitted

In addition, individual providers must maintain an agreement with the VHCPP in which the services to be provided are specified.

A wide variety of clinicians can qualify for VHCPP protection, including the following:

- Emergency medical care provider
- Physician
- Physical therapist/occupational therapist
- PA
- Podiatrist
- Chiropractor
- Respiratory therapist

- ARNP
- Licensed Practice Nurse
- Registered Nurse
- Dentist
- Dental assistant
- Dental hygienist
- Optometrist
- Psychologist
- Social worker
- Marriage and family therapist/mental health counselor
- Speech pathologist/audiologist
- Pharmacist

An individual volunteer health care provider holding a current VHCPP agreement receives protection as an employee of the state for all claims arising from the provision of free medical care [1]. A protected clinic holding a current protection agreement with the VHCPP is treated as an agency of the state under Iowa Code chapter 669 and, in the event of a claim seeking damages, receives legal defense by the Iowa Department of Justice at no cost. Indemnification is provided to the full extent of any judgment brought against the individual volunteer health care provider or protected clinic.

Utility, Feasibility, and Conformity with Legislative Intent, and Effectiveness of Program

As of October 2015, a total of 41 sites, including 380 providers, were covered under the VHCPP [3].

- The state appropriation for this program was \$58,125 in FY2016, which covers the cost for up to one FTE to administer the program [4].
- The Free Clinics of Iowa (FCI) estimates that the value of care provided in free clinics is 5.35 times the amount of the state’s investment in free clinics [5].

The VHCPP is intended to provide legal protection that is necessary for Iowa’s free clinics to attract providers. Iowa also assists free clinics in other ways. In addition to funding allocated for maintaining the VHCPP list, the state provides a \$348,222 subsidy to free clinics [6], intended “for necessary infrastructure, statewide coordination, provider recruitment, service delivery, and provision of assistance to patients in securing a medical home inclusive of oral health care.” Some of this funding goes directly to clinics, but some is also used to fund the activities of the FCI, an umbrella organization representing free clinics in the state [7].

Alignment with State Strategies and Best Practices or Evidence-Based Data

The VHCPP is the state’s only program that encourages volunteer health care provision. While the Patient Protection and Affordable Care Act of 2010 (ACA) has reduced the number of uninsured individuals who might require free clinics’ services, an estimated 190,000 Iowans remain uninsured [8], and some number of the insured face high deductibles that may be barriers to routine care. Moreover, the role for free clinics may continue if newly insured individuals are not able to access needed care in a timely fashion.

Duplication of Other State or Non-governmental Agencies

At the state level, the VHCPP specifically targets free services provided to individuals who have difficulty paying for care. It is therefore different from the other programs covered in this evaluation, which target interventions based on the health care resources available in a given geographic area, or within a given medical specialty.

However, there are other programs that provide legal protection to free clinics and to providers who volunteer their time at free clinics. The Federal Tort Claims Act (FTCA) provides very similar protection, classifying free clinic volunteers as federal employees for the purposes of resolving claims [6]. Three major differences distinguish the FTCA from the VHCPP:

- Historically, the FTCA was not available to nearly as many clinicians as the VHCPP. However, the ACA extended protections to volunteers and employees of free clinics, so that the covered professions are now very similar to those covered by the VHCPP [9].
- The FTCA is reportedly not well administered [9]; the FCI reports that Iowa's VHCPP can process paperwork for a new volunteer within 30 days, a process that has been vastly improved since the state began allocating funding to the PCO for this purpose [9].
- Free clinic entities themselves can receive protection under the VHCPP [1], but not under the FTCA [6].

Finally, Federally Qualified Health Centers (FQHCs) also provide services that can be free in some instances. FQHCs are federal grantees and legislatively mandated to provide care on a sliding fee scale that considers patients' ability to pay. Care in FQHCs can be preferable to care provided in free clinics because FQHCs can serve as a "medical home" where patients develop a relationship with a primary care provider employed by the FQHC. However, FQHCs are known to have a heavy burden caring for their existing patient populations, and limited capacity to take on new patients.

Impact of Program

The VHCPP provides legal protection for 380 clinicians and 41 sites, removing an obstacle that might prevent clinicians from volunteering their time at free and charitable clinics.

Gaps in Scope or Data that Can Be Identified

The FCI itself offers liability protection for a smaller subset who are not eligible for protection under the VHCPP or the FTCA. Some clinicians (e.g., certified medical assistants, certified nursing assistants) are ineligible for both programs because of the lack of a state licensing board for their profession [9]. The inability of the VHCPP to protect these clinicians from liability may impact their willingness to volunteer at free clinics.

PRIMARY CARE OFFICE (PCO)

Summary

- The bulk of the PCO's workload consists of its role in shortage area designation, J-1 Visa Waiver application review and approval, and NHSC pre-screening.
- The PCO also plays a role in a variety of other health workforce and planning activities.
- The PCO's activities are carried out by 1.45 full-time equivalent (FTE) staff.

Scope of Program

The PCO is housed within the Bureau of Oral and Health Delivery Systems in the IDPH. In its own words, the program "works to improve access to services for underserved populations, especially those who remain at increased risk of illness and premature death." The PCO's website states that it performs a variety of functions, including [1]:

- "Primary care access analysis and intervention planning;
- Shortage area designation submission;
- Project development and grant application assistance;
- National Health Service Corps site development and primary care provider recruitment and retention assistance;
- Assistance in student recruitment into primary care service-oriented careers;
- Sponsorship of J-1 Visa Waiver physicians;
- Consultation and technical assistance in health care reform and public health redesign."

The PCO spends the majority of its time on the shortage designation process, NHSC activities, and the J-1 Visa Waiver program, each of which is fully evaluated in separate sections of this report [2]. Therefore, in this section, we provide only a brief overview of the PCO's activities and the resources available to carry them out.

Because of its diverse activities, the PCO also receives funding from a variety of sources:

- Federal funding (\$182,641 in FY2014) for the Office of Shortage Designation, which also encompasses the PCO's role in the NHSC [3]
- No funding for the PCO's role in the J-1 Visa Waiver process [3]
- \$58,125 in state funding for one FTE to administer the VHCPP [3]

Process and Resources Used to Implement the Program

The PCO is staffed by 1.45 FTEs [2], [6]. The responsibility for the local administration of the J-1 Visa Waiver program, the shortage area designation process, and initial review of NHSC applications constitute the majority of the PCO's time and resources. Other PCO activities include the following:

- Participating in workforce planning related to Healthy lowans 2020 goals
- Promoting the 3RNet website, a national recruiting website focused on hiring clinicians in rural and underserved practice
- Making presentations about workforce programs to medical students and other students completing clinical degrees
- Maintaining a list of providers covered under the VHCPP [2]

The PCO is responsible for designating HPSAs based on provider data and population data, subject to federal approval, although this process has been hindered by technical problems at the federal level [4]. These problems are being resolved in consultation with a working group of state PCOs. The J-1 Visa Waiver Program is administered by the U.S. State Department, but the PCO is responsible for deciding how to allocate Iowa's 30 slots for eligible applicants. The role of the PCO in the NHSC is extremely limited. Historically, the PCO had been responsible for ensuring that applications were complete, and for pre-screening for basic eligibility requirements before forwarding requests to the federal program. Now that the system is fully automated, it is not technically possible to submit an incomplete application, and the PCO is less involved in this program [2].

Utility, Feasibility, and Conformity with Legislative Intent, and Effectiveness of Program

The impact of the PCO's activities includes the designation of 380 HPSAs, the sponsorship of 30 J-1 Visa Waiver physicians each year, and the pre-approval of a number of NHSC clinicians each year.

Alignment with State Strategies and Best practices or Evidence-Based Data

The PCO's overarching goal is to increase access to services for underserved and at-risk populations. It is responsible for advancing the goals of Chapter 1 of Healthy Iowans 2020, Access to Quality Health Services. The PCO adopts a broad definition of primary care, explicitly including mental health, oral health, and public health activities [1]. Its miscellaneous activities include some planning activities, as well as activities that facilitate the operation of federal health workforce programs in Iowa.

Duplication of Other State or Non-governmental Agencies

The PCO's activities are required for Iowa to participate in several federally funded workforce programs, each of which is discussed elsewhere in this document. It also receives substantial operating support from the federal government in connection with some of these activities.

Impact of Program

The PCO plays a different role in a variety of federal and state workforce programs, ranging from full responsibility for the VHCPP, to primary responsibility for the HPSA designation process, to a limited role in pre-screening NHSC clinicians. These activities enable other workforce programs to operate.

Gaps in Scope or Data that Can Be Identified

As noted several places in this report, the ability to track clinicians' practice decisions after their participation in various workforce programs would enhance the state's ability to measure the impact of those programs. Through their PCOs, several other states participate in the Retention Management System, organized by the Cecil B. Sheps Center at the University of North Carolina. This system consists of a survey of all physicians completing some type of service obligation in each participating state (e.g. J-1 Visa Waiver, NHSC). Iowa does not currently participate in the Retention Management System, but has done so in the past and has considered doing so again [5]. The Retention Management System is subsidized by the Foundation for Health Leadership and Innovation, but participating states pay a \$1,500 annual fee [7].

J-1 VISA WAIVER

Summary

- J-1 Visa Waiver program allows international medical graduates completing U.S. residencies to begin practicing in the U.S. immediately, in return for a three-year commitment to provide services in underserved settings.
- The J-1 Visa Waiver program is federally funded, but Iowa's PCO selects up to 30 physicians for approval each year.
- The IDPH does not have the capacity to track Iowa's J-1 Visa Waiver physicians after they leave the program.

Scope of Program

The J-1 Visa Waiver program is a federal program in which international medical graduates (IMGs) who complete U.S. residencies are exempted from the usual requirement that they return to their home country for two years before pursuing permanent residency in the United States. While federal agencies such as the Veteran's Administration and the U.S. Department of Health and Human Services (HHS) can request waivers for physicians, including those involved in research, the largest number of J-1 Visa Waiver physicians are those participating in the Conrad-30 program. Under the Conrad-30 program, J-1 Visa Waiver physicians must honor a three-year commitment to provide services in underserved settings [1].

The Conrad-30 program has a long history:

- Created in 1994, providing 20 waivers for each state to allocate to physicians practicing in a HPSA or in a medically underserved area (MUA), or serving a medically underserved population (MUP) [1]
- Expanded to 30 waivers per state in 2002 [1]
- Beginning in 2004, allowed states to fill up to five "flex slots" outside of designated areas, a number that was increased to 10 in 2008 [1]

These flex slots can be used for J-1 Visa Waiver physicians who practice outside of underserved areas, but who provide services to an underserved population. For example, the UI Hospitals and Clinics is not located in a shortage area, but is able to host J-1 Visa Waiver physicians due to the provision for flex slots.

States have substantial discretion to allocate the slots available to them. In its application procedures, the IDPH specifically encourages applications from primary care physicians, defined as those physicians specializing in family practice, general surgery, general internal medicine (including hospitalists), obstetrics and gynecology, pediatrics, or psychology [2].

Process and Resources Used to Implement the Program

The IDPH requires health care facilities to apply on behalf of a physician for whom they are seeking a J-1 Visa Waiver. The physician must be:

- An IMG who obtained exchange student status in order to pursue graduate medical training in the United States
- Employed full time (at least 40 hours/week) providing direct care in a HPSA or MUA

The health care facility must:

- Provide estimates of the number of patients that will be seen by the provider who are uninsured, covered by Medicaid, or covered by Medicare
- Demonstrate how the J-1 Visa Waiver physician will be providing services to underserved populations in the event an applicant site is not in a HPSA or MUA
- Submit a waiver request to the IDPH itself, or allow an attorney to submit a waiver on its behalf—the J-1 physician cannot submit a request directly [2]

The IDPH strongly encourages health care facilities to post position vacancies on the National Rural Recruitment and Retention Network website at <https://www.3rnet.org>. This website is a national website for “matching health professionals with rural and underserved jobs.” [3]

The IDPH currently approves J-1 Visa Waiver applications, beginning each October [4].

- The IDPH reserves the right to delay action on, or reject, a request package in consideration of factors including but not limited to the number of slots that have already been awarded to a specific specialty, location, or employer, but it does not currently do so.
- After 30 applications have been approved, no further waiver applications are reviewed.
- The number of flex slots, the representation of specialties, and the geographic dispersion of waiver physicians is simply determined by the order in which their applications are submitted.
- The Primary Care Officer is responsible for Iowa’s J-1 Visa Waiver approval process.

A new Primary Care Officer, hired in late 2015, plans to update these procedures before the next application period in 2016.

The IDPH PCO does not provide any type of training or otherwise prepare sites to host J-1 Visa Waiver physicians [4].

Utility, Feasibility, and Conformity with Legislative Intent, and Effectiveness of Program

Based on the data provided by the PCO, Iowa has filled all 30 of its J-1 Visa Waiver slots in seven of the last 10 years. The number of waivers used in flex slots (i.e., for physicians outside of HPSAs) has increased from two in 2008 to 10 in 2015.

This program targets the list of primary care specialties provided above. In practice:

- The single largest specialty in the past 10 years is hospitalist (50).
- Other primary care fields are also well represented (64) [6].

Alignment with State Strategies and Best Practices or Evidence-Based Data

Beyond the basic requirements of the federal program, Iowa’s strategy is to fill slots on a first-come, first-served basis.

Duplication of Other State or Non-governmental Agencies

Unlike other programs, this program is exclusively for physicians. Many programs that provide financial incentives to physicians practicing in rural and/or underserved practice areas, including the NHSC program and the state-federal PRIMECARRE, are restricted to U.S. citizens, and therefore J-1 Visa physicians would not be eligible.

Moreover, the J-1 Visa Waiver program is a federal program, and the state’s involvement is limited to the previously described activities of the PCO. Iowa’s financial stake in the program is therefore limited, as is its ability to make major modifications to the program. Table 9 shows specialties receiving J-1 Visa Waivers in Iowa from 2006 to 2015.

Table 9. J-1 Visa Waiver Specialties, 2006-2015 [6]

Specialty		Specialty	
Acute Care Surgery	1	Neurology	14
Anesthesiology	3	Neurosurgery	3
Cardiology	17	Obstetrics; Gynecology	4
Cardiology: Cardiac Electrophysiology	1	Oncology	4
Child & Adolescent Psychiatry	3	Ophthalmology; Vitreo-Retinal Surgery	1
Critical Care Specialist	1	Orthopaedic Surgery	4
Emergency Medicine	1	Pathology	3
Endocrinology	5	Pediatric Bone Marrow Transplant	1
Epileptology	1	Pediatric Cardiology	1
Family Medicine	23	Pediatric Critical Care	1
Gastroenterology	2	Pediatric Critical Care; Pediatric Cardiology	1
Gastrointestinal Surgery	1	Pediatric Gastroenterology	3
General Pediatrics	1	Pediatric Medical Geneticist	1
General Surgery	6	Pediatric Nephrology	1
Gynecologic Oncology	1	Pediatric Neurology	5
Hematology; Oncology	5	Pediatric Pulmonology	1
Hepatology	1	Pediatric Surgery	1
Hospitalist	50	Pediatrics	10
Hospitalist; Nephrology	1	Psychiatry	10
Immunology	1	Pulmonology	4
Infectious Disease	9	Pulmonology; Critical Care	10
Intensivist	3	Pulmonology; Critical Care; Sleep Med.	1
Internal Medicine	12	Radiology	5
Internal Medicine; Psychiatry	1	Renal Pathology	1
Internist	14	Reproductive Endocrinology	1
Internist; Psychiatry	1	Rheumatology	4
Interventional Cardiology	8	Surgical Oncology	1
Neonatal Intensive Care	1	Transplant Pulmonology	1
Neonatology	2	Transplant Surgery	1
Nephrology	11	Urologic Oncology	1
Neuro Ophthalmology	1	Vascular Surgery	1
Neuro Ophthalmology: Pediatric Ophthalmology	1		

Impact of Program

Retention of physicians who participate in the J-1 Visa Waiver Program has been studied in academic research, but there is not a clear consensus. IMGs are generally more likely to choose rural or underserved practice than their U.S.-trained counterparts [7]. On the other hand, one study found that a majority of J-1 Visa Waiver physicians left their J-1 Visa employer within two years of completing their required term of service. Of those physicians who left a rural J-1 Visa site, 74 percent relocated to urban areas [8]. The IDPH has not had the capacity to track J-1 Visa Waiver physicians after they complete their three-year commitment.

Surveys and interviews with J-1 Visa Waiver physicians consistently suggest that dissatisfaction with their site can be a major deterrent to remaining at the site after the end of their service obligation. In one study, physicians expressed displeasure with being treated differently than permanent employees and felt that employers could have provided more legal assistance related to visa and immigration issues [8]. In another study, physicians had a difficult time integrating into the communities due to cultural and religious differences.

States have discretion in how to use their 30 J-1 Visa Waivers, both in the choice of practice sites and in their emphasis on particular physician specialties. However, states often have difficulty filling all their J-1 slots and, as a result, may choose to accept all eligible applicants regardless of the stated program preferences. Over time, this has resulted in more states filling J-1 Visa Waiver slots in urban areas [1]. Recent growth in the number of Iowa's J-1 Visa Waiver physicians practicing outside of HPSAs is consistent with this trend.

Gaps in Scope or Data that Can Be Identified

Research suggests that one reason J-1 Visa Waiver physicians are not always retained in underserved practices, including those in rural areas, is the experience of J-1 Visa Waiver physicians at their practice sites, not necessarily an aversion to underserved or rural practice. Previous studies of J-1 Visa physicians who left Iowa have found that practice factors played a substantial role in the decision to leave [5]. We could not locate a database with continuous data to track the career paths of J-1 Visa Waiver recipients, or to explain all career moves and the consequences for residents of the original practice locations.

NATIONAL HEALTH SERVICE CORPS (NHSC) PROGRAM

Summary

- The NHSC program is federally funded and administered.
- Applicants can receive up to \$50,000 in loan repayment for two years of service in primary medical, dental, or mental/behavioral health care at NHSC-approved sites.
- Beyond including this program in the list of loan repayment options available to Iowans, the IDPH has minimal involvement.
- A field strength report in December 2015 showed 78 NHSC-funded participants providing services in 41 Iowa counties.

Scope of Program

The NHSC program is administered by the HHS, HRSA, Bureau of Health Workforce. In Iowa, the program offers federally funded tax-free loan repayment assistance to qualified health care providers who choose to practice in underserved areas. Applicants may earn up to \$50,000 toward student loan repayment for two years of service as primary care medical, dental, or mental/behavioral health clinicians at approved NHSC sites. Grantees may choose to serve longer for additional loan repayment support.

The following are NHSC-eligible disciplines:

- Primary care physician (MD or DO): family practice, internal medicine, obstetrics/gynecology, pediatrics or psychiatry
- General dentist
- Primary care certified nurse practitioner
- Certified nurse-midwife
- Primary care physician assistant
- Registered dental hygienist
- Health service psychologist
- Licensed clinical social worker
- Psychiatric nurse specialist
- Marriage and family therapist
- Licensed professional counselor

The NHSC also offers scholarships for tuition, fees, and other educational costs, and a stipend for students who commit to work at least two years at an NHSC-approved site. Applicants must be accepted to or enrolled in an accredited U.S. school in one of the following primary care disciplines:

- Physician (MD or DO)
- Dentist
- Primary care certified nurse practitioner
- Certified nurse-midwife
- Primary care physician assistant
- Doctor of Nursing Practice

Graduates are assigned by the NHSC to serve in a Primary Medical Care HPSA with a score of 14 or above (HPSA scores are based on a number of factors, including population-to-provider ratio, poverty rate, and others, and range from 1 to 25 for primary care and mental health—the higher the score, the greater the priority). While students receive assistance from NHSC personnel in finding an appropriate site, there is no guarantee that site designation will not change by graduation.

Process and Resources Used to Implement the Program

State PCOs conduct several NHSC-related activities. The PCO is the point of contact for assistance with applications. However, in recent years, as the online NHSC application process has been improved, the PCO's role in ensuring the completeness of applications has diminished. The office is now responsible only for conducting an initial review of whether the application meets five central program requirements (e.g., site's use of a sliding fee scale) and forwarding the application, along with any comments, to the NHSC's regional office. The PCO also includes information about the NHSC in its presentations to medical students and other trainees [1].

Utility, Feasibility, and Conformity with Legislative Intent, and Effectiveness of Program

The NHSC is not designed or mandated by the Iowa legislature. It is a federal program that was established in 1970 to provide financial incentive programs for primary care, medical, and mental/behavioral health clinicians to practice in underserved areas. Nationally, more than 50,000 clinicians have served in the NHSC. Recruitment has been the focus of the program, but a 2012 retention assessment survey found that 82 percent of NHSC clinicians continued to practice in the same area for up to a year after their service commitment. Fifty-five percent continued to practice in underserved areas 10 years after service commitment was completed [2].

Alignment with State Strategies and Best Practices or Evidence-Based Data

Some early studies that focused on physicians who remain in places where they start their professional careers suggested retention of NHSC participants was very low, but more recent evidence suggests it is much higher when retention in other rural areas is considered [3]. Similarly, studies have generally found that long-term retention in underserved areas is higher for rural physicians completing a service obligation than for physicians who did not [4]. Another positive indicator is that rural areas with NHSC providers actually have a greater number of non-NHSC providers as well [5]. This may be because the presence of NHSC participants results in a more desirable work environment for other physicians by reducing professional isolation, or it may simply be the result of these locations being more desirable for both NHSC and non-NHSC providers [6].

The selection of participants in the NHSC and other incentive programs can make a difference in the long-term retention of health care providers. Around 1990, the NHSC began considering the following factors in its recruitment processes:

- NHSC participants who have completed a family practice residency have much higher rates of retention than other NHSC physicians [7].
- Personal factors, such as a rural background and an orientation toward caring for the needy, are important factors that influence providers' ability to integrate into their community and practice.

In addition, characteristics of the practice site and the community influence provider retention. Interviews with NHSC alumni suggest that dissatisfaction with the site and/or the NHSC bureaucracy may have played a role in some participants' decision to seek other employment [8].

Duplication of Other State or Non-governmental Agencies

The State of Iowa, like other states, has minimal involvement with the federal NHSC loan repayment or scholarship programs beyond participation in recognizing NHSC-approved sites. But at the state level, Iowa is one of 48 states that provide additional loan repayment incentives through a state-administered program matching NHSC funds with state funds. In Iowa, the program is PRIMECARRE and is administered by the IDPH. All NHSC/state programs provide loan repayment incentives to physicians. Iowa is among 39 states that additionally extend incentives to dentists,

Other loan repayment programs offered in Iowa, which happen to be directed to dentists only, include the following:

- Delta Dental of Iowa Loan Repayment Program (funded and directed by Delta Dental)
- Fulfilling Iowa's Need for Dentists (FIND) (partially funded by the state)

Unlike some other programs, the NHSC promotes service to others as a style of practice. Some who use this loan repayment program serve in multiple underserved areas. Thus, the driving force among those providers who utilize the program is not purely loan repayment, it includes service to others [2].

Impact of Program

An NHSC Individual Field Strength Report run by the IDPH PCO states there are currently 78 participants at 56 sites in Iowa. This is a snapshot of the number of current participants, combining new NHSC participants with those who are nearing the end of their service commitments. However, there are 95 providers listed in 41 Iowa counties benefitting from NHSC loan repayments. Thirty-three are serving in primary care HPSAs, nine in dental HPSAs, and 54 in mental health HPSAs. The document indicates 87 are in full-time positions and eight are in part-time positions [9].

Gaps in Scope or Data that Can Be Identified

Of those identified as working in Iowa through the NHSC, it is difficult to filter out those who are receiving loan repayment funding and those who are serving a scholarship commitment. A lower number of NHSC-approved sites in Iowa meet the primary care HPSA score criteria for scholars than for loan repayment, but exact numbers are not available.

THE SHORTAGE AREA DESIGNATION PROCESS

Summary

- The Shortage Area Designation Process is a federal program designed to identify locations that can be designated as HPSAs.
- A HPSA designation is critical to locations and areas in Iowa that want or need additional workforce development support.
- The PCO in the IDPH is the state's point of contact in approving applications for HPSAs.

Scope of Program

The Shortage Area Designation Process is an HHS program designed to identify locations that meet eligibility requirements to be designated a HPSA. Primary medical care HPSAs, dental HPSAs, and mental health HPSAs each have their own requirements for designation. All HPSAs can be designated by geography, population, or facilities [1].

Primary Medical Care HPSAs

Geographic areas must:

- Be a rational area for the delivery of primary medical care services
- Meet one of the following conditions:
 - Have a population-to-FTE primary care physician ratio of at least 3,500:1
 - Have a population-to-FTE primary care physician ratio of less than 3,500:1, but greater than 3,000:1, with unusually high needs or incapacity of existing primary care providers
- Demonstrate that primary medical professionals in contiguous areas are overused, excessively distant, or inaccessible to the population under consideration

Population groups must:

- Reside in an area in that is rational for the delivery of primary medical care services as defined in the federal code of regulations
- Have access barriers that prevent the population group from use of the area's primary medical care providers
- Have a ratio of number of persons in the population group to number of primary care physicians practicing in the area and serving the population group of at least 3,000:1
- Be members of federally recognized Native American tribes who are automatically designated
- Other groups may be designated if they meet the basic criteria described above

Facilities must:

- Be either federal and/or state correctional institutions or public and/or non-profit medical facilities:
 - Maximum or medium security facilities
 - Federal or state correctional institutions must have at least 250 inmates, and have a ratio of the number of internees/year to the number of FTE primary care physicians serving the institution of at least 1,000:1

- Public and/or non-profit medical facilities must demonstrate that they provide primary medical care services to an area or population group designated as a primary care HPSA and must have an insufficient capacity to meet the primary care needs of that area or population group

Dental HPSAs

Geographic areas must:

- Be a rational area for the delivery of dental services
- Meet one of the following conditions:
 - Have a population-to-FTE dentist ratio of at least 5,000:1
 - Have a population-to-FTE dentist ratio of less than 5,000:1 but greater than 4,000:1 and unusually high needs for dental services
- Contain dental professionals in contiguous areas who are overused, excessively distant, or inaccessible to the population

Population groups must:

- Reside in a rational service area for the delivery of dental care services
- Have access barriers that prevent the population group from use of the area's dental providers
- Have a ratio of the number of persons in the population group to the number of dentists practicing in the area and serving the population group of at least 4,000:1.
- Be members of federally recognized Native American tribes who are automatically designated
- Other groups may be designated if they meet the basic criteria described above

Facilities must:

- Be either federal and/or state correctional institutions or public and/or non-profit medical facilities:
 - Federal or state correctional facilities must have at least 250 inmates, and have a ratio of the number of internees per year to the number of FTE dentists serving the institution of at least 1,500:1
 - Public and/or non-profit private dental facilities must provide general dental care services to an area or population group designated as a dental HPSA and have insufficient capacity to meet the dental care needs of that area or population group

Mental Health HPSAs

Geographic areas must:

- Be a rational area for the delivery of mental health services
- Meet one of the following conditions:
 - Have a population-to-core-mental-health-professional ratio greater than or equal to 6,000:1 and a population-to-psychiatrist ratio greater than or equal to 20,000:1
 - Have a population-to-core professional ratio greater than or equal to 9,000:1
 - Have a population-to-psychiatrist ratio greater than or equal to 30,000:1

- Have unusually high needs for mental health services, and
 - A population-to-core-mental-health-professional ratio greater than or equal to 4,500:1 and a population-to-psychiatrist ratio greater than or equal to 15,000:1, or
 - A population-to-core-professional ratio greater than or equal to 6,000:1, or
 - A population-to-psychiatrist ratio greater than or equal to 20,000:1
- Contain mental health professionals in contiguous areas who are overused, excessively distant, or inaccessible to residents of the area under consideration

Population groups must:

- Face access barriers that prevent the population group from use of the area's mental health providers
- Meet one of the following criteria:
 - Have a ratio of the number of persons in the population group to the number of FTE core mental health professionals serving the population group greater than or equal to 4,500:1, and a ratio of the number of persons in the population group to the number of FTE psychiatrists serving the population group greater than or equal to 15,000:1; or
 - Have a ratio of the number of persons in the population group to the number of FTE core mental health professionals serving the population group greater than or equal to 6,000:1; or
 - Have a ratio of the number of persons in the population group to the number of FTE psychiatrists serving the population group greater than or equal to 20,000:1

Facilities must:

- Be maximum or medium security facilities
- Be either federal and/or state correctional institutions, state/county mental hospitals, or public and/or non-profit mental health facilities
 - Federal or state correctional facilities must have at least 250 inmates, and have a ratio of the number of internees per year to the number of FTE psychiatrists serving the institution of at least 2,000:1
 - State and county mental health hospitals must have an average daily inpatient count of at least 100; the number of workload units per FTE psychiatrists available at the hospital must exceed 300, where workload units are calculated using the following formula: total workload units = average daily inpatient census + 2 x (number of inpatient admissions per year) + 0.5 x (number of admissions to day care and outpatient services per year)
 - Community mental health centers and other public and non-profit facilities must be providing (or responsible for providing) mental health services to an area or population group

Process and Resources Used to Implement the Program

Each year, HHS prepares lists of designated HPSAs and areas that need to be updated to maintain designations. The listings are sent to each state PCO. Copies are also sent to primary care associations and other interested parties. The PCOs have a few months to submit designation updates for their states.

After review and consideration of all comments, HSS ultimately designates HPSAs and withdraws the designations of areas determined to no longer meet the criteria for designation.

PCOs are the primary source for designation requests in the states, and locations that want to apply for designation are encouraged to go through the state PCO. If a request arrives at the HHS Office of Shortage Designation without approval by the PCO, the Office will forward it to the PCO for review and comment.

A written notice of a designation—or withdrawal of a designation—is provided at the time of the designation decision to the applicant and other interested parties, including the governor of the state in which the HPSA is located, the PCO if they were not the applicant, and appropriate professional societies and public or non-profit agencies connected to the HPSA.

Utility, Feasibility, and Conformity with Legislative Intent, and Effectiveness of Program

As a federal program, the state PCO’s involvement is determined at a national level. Due to difficulties with a new online application process that HHS deployed in December 2014, there has been a lag in review of HPSAs. While the application process has been tweaked and improved over the past year, no HPSAs were undesignated during that time, the usual four-year review of HPSAs is off schedule, and 12 applications in Iowa are waiting review [2].

Alignment with State Strategies and Best Practices or Evidence-Based Data

This program is one of the critical eligibility criteria used by a number of programs (including PRIMECARRE, the Delta Dental Loan Repayment Program, the Mental Health Professional Shortage Area Program, the Iowa Psychological Association Psychologist Rotation Program, the Iowa Psychological Association Psychologist Rotation Program, and the NHSC) offering financial incentives to recruit health care professionals to rural and underserved areas in Iowa.

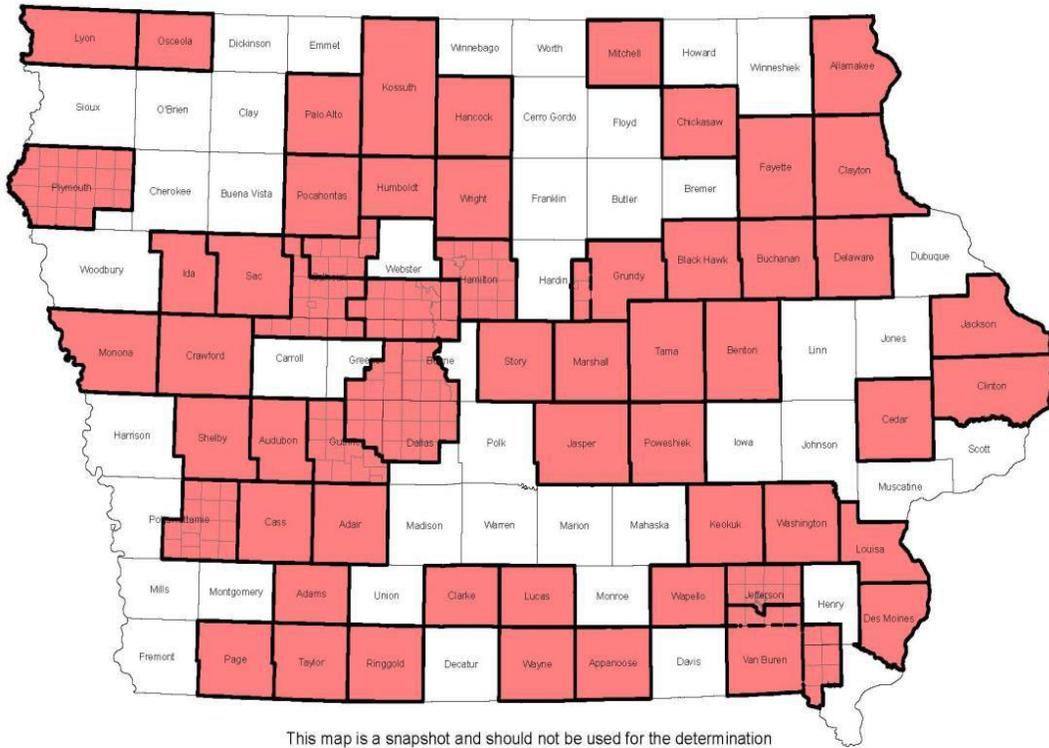
Table 10 describes Iowa’s shortage areas as reported by the Kaiser Family Foundation in April 2014. [3].

Table 10. Iowa Health Professional Shortage Areas [3]

	Total	Percentage of Need Met	Practitioners Needed to Remove HPSA Designation
Primary Medical Care HPSAs	118	86.43	76
Dental HPSAs	117	53.2	59
Mental Health HPSAs	67	60.8	30

While the above numbers might lead one to believe that there are fewer shortages in dental and mental health care, it is important to remember the provider-to-population ratios for these professions are much smaller than the ratio for primary care. The three maps below created in 2014 show HPSAs in Iowa and provide greater visualization of the shortage areas [4].

Iowa: Federal Primary Health Care Shortage Designations



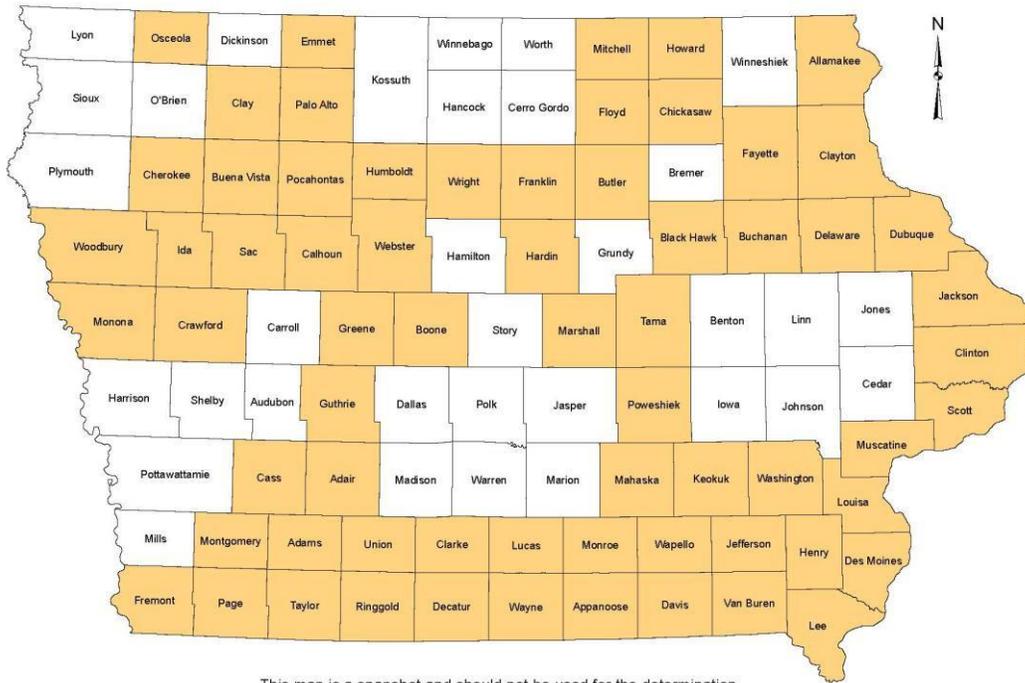
This map is a snapshot and should not be used for the determination or approval of programs requiring a shortage designation. The official site for determination of shortages is: <http://hpsafind.hrsa.gov>.

HPSA Designation

Primary Care HPSA

Created by: Iowa Department of Public Health Bureau of Oral and Health Delivery Systems
 Source: Health Resources and Services Administration Data Warehouse
 Created on: April 18, 2014

Iowa: Federal Dental Health Care Shortage Designations



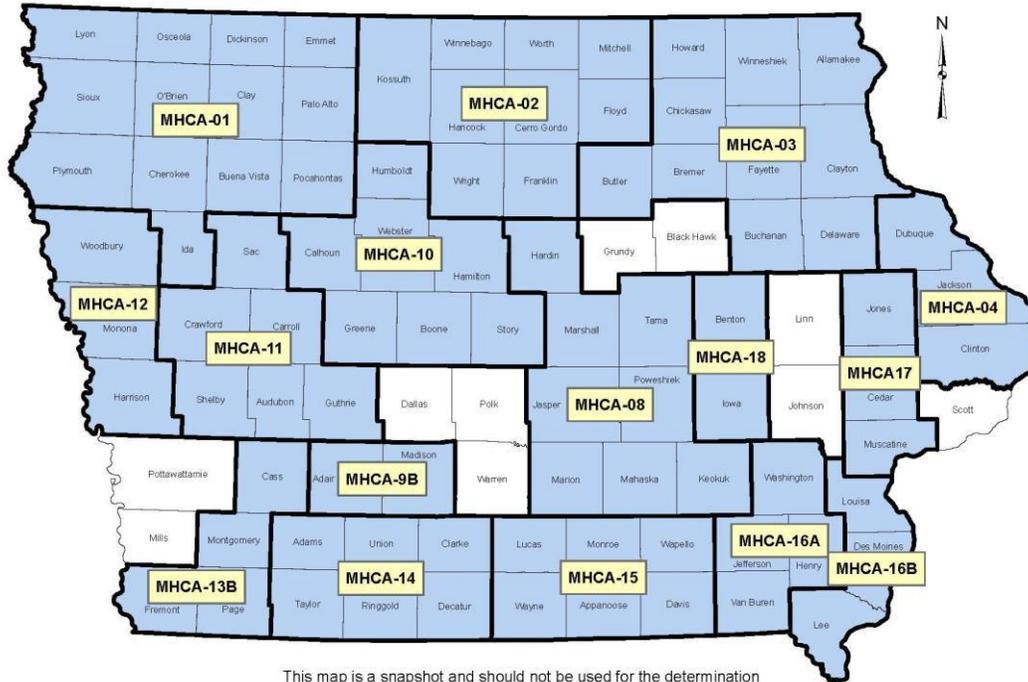
This map is a snapshot and should not be used for the determination or approval of programs requiring a shortage designation. The official site for determination of shortages is: <http://hpsafind.hrsa.gov>.

HPSA Designation

Dental Health HPSA

Created by: Iowa Department of Public Health Bureau of Oral and Health Delivery Systems
 Source: Health Resources and Services Administration Data Warehouse
 Created on: April 18, 2014

Iowa: Federal Mental Health Care Shortage Designations



This map is a snapshot and should not be used for the determination or approval of programs requiring a shortage designation. The official site for determination of shortages is: <http://hpsafind.hrsa.gov>.

HPSA Designation

Mental Health HPSA

Created by: Iowa Department of Public Health Bureau of Oral and Health Delivery Systems
Source: Health Resources and Services Administration Data Warehouse
Created on: April 18, 2014

Duplication of Other State or Non-governmental Agencies

This is the only process available to determine HPSAs, MUAs, and MUPs.

Impact of Program

While this program does not use state funds—outside of possible PCO staff involvement—and does not provide federal funding, it is core to almost all decisions made on funding directions, program development, incentives, and training, particularly among the workforce recruitment and retention programs in Iowa.

The Shortage Area Designation Process identifies and advocates for health care shortage areas, thus making communities eligible for state and federal assistance to recruit and retain health professionals, access additional reimbursement dollars, and work to eventually alleviate the shortage.

Federal and state programs reward service in shortage areas.

- Many of the training, recruitment, and retention programs contained in this report use service in designated shortage areas as award criteria. These programs include J-1 Visa Waivers, the NHSC, the Mental Health Shortage Area Program, and the state loan repayment programs.
- Shortage areas are key to the designation of FQHCs and Rural Health Clinics.
- Medicare provides a number of incentive payment programs to health care providers working in shortage areas, including general surgery incentive payments, and electronic health record incentive payments in primary care HPSAs, and bonus payments to providers in primary care and mental health HPSAs.

As of June 19, 2014, the United States has approximately 6,100 primary care HPSAs, 4,900 dental HPSAs, and 4,000 mental health HPSAs [5].

Gaps in Scope or Data that Can Be Identified

As noted above, while the Shortage Area Designation Process has state input, it is controlled at a national level. Looking at a statewide map of HPSAs provides a snapshot of a moment in time, not necessarily an ongoing, current picture of circumstances.

CONCLUSION

The health workforce programs evaluated here do not represent an exhaustive list of all programs intended to encourage clinicians to enter underserved practice in Iowa. Such a list would include not only programs involving IDPH and funded by the state and federal governments, but also programs under the purview of other executive state agencies, such as the Rural Iowa Primary Care Loan Repayment Program, for which the College Student Aid Commission has responsibility. A complete list of health workforce programs would also include initiatives undertaken by medical training programs and other private entities. Iowa's programs adopt several approaches, including financial incentives for clinicians, increasing clinical training opportunities, offering liability protection, and other benefits. In addition, Iowa engages with federal programs through the IDPH PCO, to ensure that Iowa receives the full benefits of these programs.

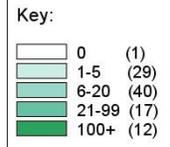
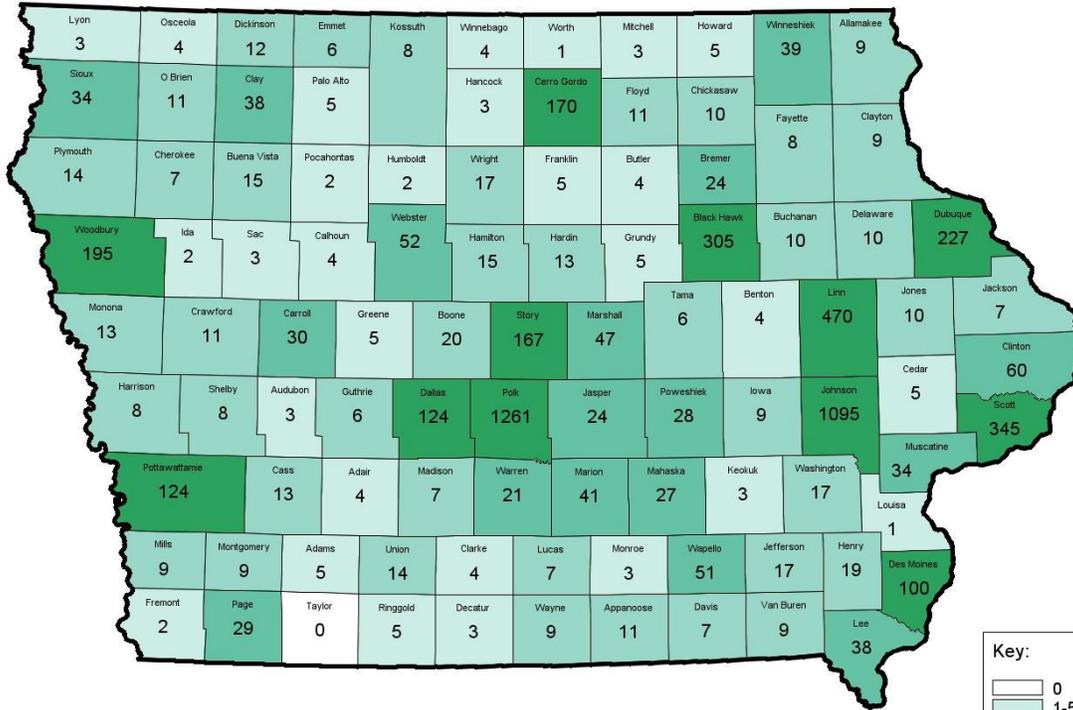
Overall, Iowa is a state with a great deal of health care resources. In 2014, Iowa had one physician for every 542 Iowans [1]. In addition, there was one PA for every 3,766 Iowans, more than twice as many PAs per capita as there had been in 1997 [1]. This trend, as well as the relatively large number of physicians per capita, appears at first glance to be a positive measure of the Iowa health care workforce.

However, these broad numbers conceal wide differences in access to care. One reason for different access is geography. In 2014, Polk and Johnson Counties were each home to more than 1,000 physicians, while 30 Iowa counties had fewer than five physicians [1]. Eighty-six of Iowa's 99 counties are designated as HPSAs, MUAs, or MUPs. When counties that have received a governor's designation or a grandfathered governor's designation are added to that number, all but four counties are considered medically underserved by at least one definition [2]. This may be an advantage for Iowa in maximizing its use of federal incentives that accompany these designations, but it does little to establish priorities for the areas of Iowa in greatest need.

Another challenge with the health care workforce, not unique to Iowa, is the distribution of clinical specialties, which is not well-matched to the needs of the population. Consistent with national trends, Iowa has a great unmet demand for primary care physicians and psychiatrists. In 2015, the ratio of population to primary care physicians ranged from a low 561:1 in Cerro Gordo County to 6,457:1 in Benton County. There were three counties with ratios less than 1,000:1 and 15 counties with ratios greater than 3,000:1 [3]. Similarly, Iowa has only one psychiatrist for every 13,509 residents, a ratio that has been largely unchanged over the past two decades [1]. Moreover, 150 of Iowa's 230 psychiatrists practice in just three counties (Johnson, Linn, and Polk). Still, Iowa ranks near the middle of all states in percentage of primary care need met (15th) and percentage of mental health need met (20th), reflecting the fact that Iowa's shortage of these health professionals is part of a national problem with specialist distribution [4].

The following maps show geographic distribution of physicians, dentists, and psychiatrists in Iowa in 2014 [5].

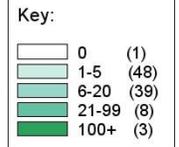
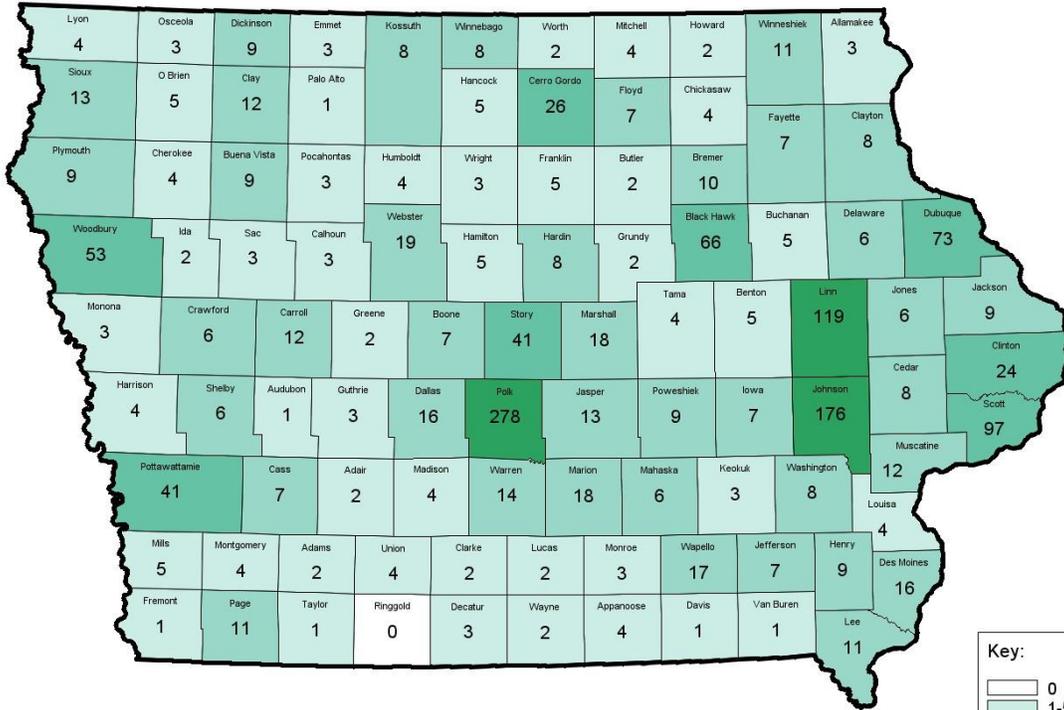
Distribution of Physicians All MDs/DOs (5,733) 2014



Population to Physician Ratio 542:1

Source: US Census Estimated Iowa Population 2014
Iowa Health Professions tracking Center, Office of Statewide Clinical Education Programs,
UI Carver College of Medicine, June 2015

Distribution of Dentists All Specialties (1,538) 2014

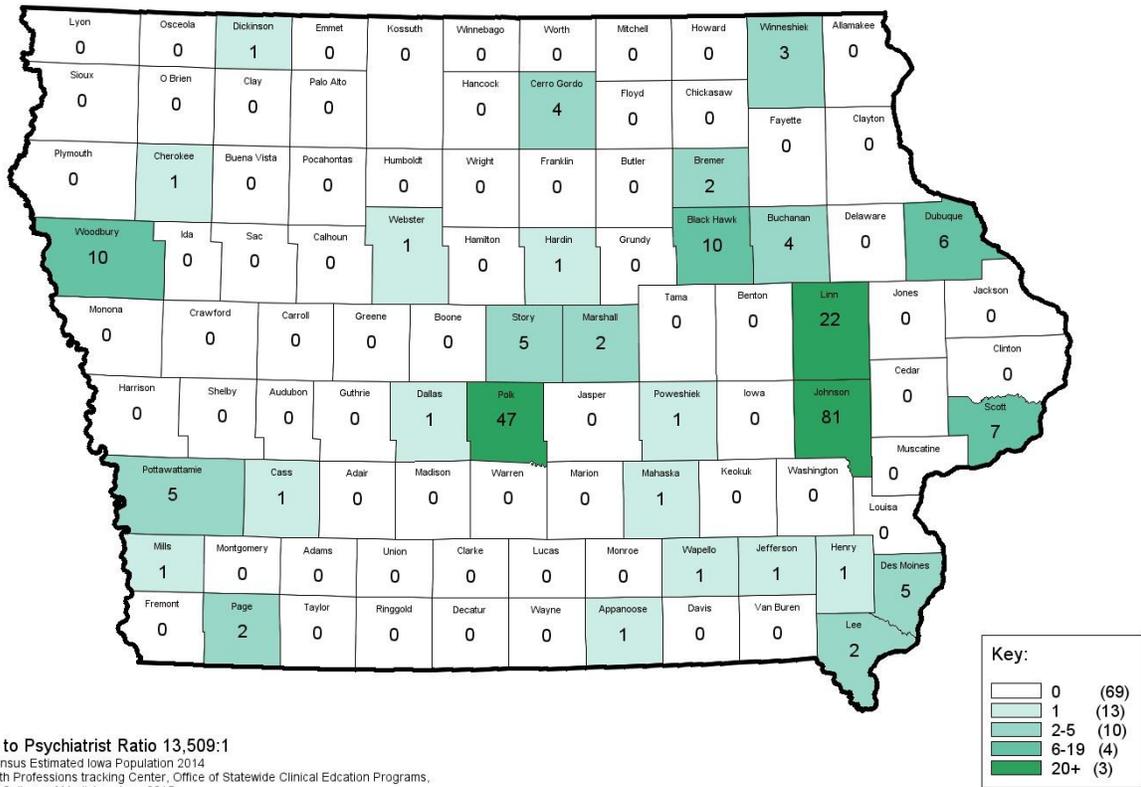


Population to Dentist Ratio 2,020:1

Source: US Census Estimated Iowa Population 2014
Iowa Health Professions tracking Center, Office of Statewide Clinical Education Programs,
UI Carver College of Medicine, June 2015

Distribution of Psychiatrists

Includes child psychiatrists, family medicine/psychiatry, and geriatric psychiatrist (230)
2014



In many states, financial barriers, including lack of health insurance and low incomes, are a major obstacle to access to care. In this regard, Iowa is fortunate; Iowa's high rate of insurance (5th for both children and working-age adults) parallels its low rate of adults foregoing care because of finances (5th) [4]. Even Iowa's free clinics emphasize the fact that they sometimes serve as a resource for *insured* individuals who cannot access care for other reasons, including a lack of willing or geographically accessible providers [6].

To fully assess Iowa's progress toward a health care workforce that meets the needs of all Iowans, it would be necessary to consider workforce shortages at a far more granular level. For example, data on health care providers could be disaggregated by clinician type and by geography, and changes in clinical resources over time in response to Iowa's workforce programs could be analyzed. Such an effort could translate into meaningful, actionable findings for the state, and would therefore be potentially worthwhile. However, it is well beyond the scope of the current report.

A major health workforce challenge is difficulty recruiting and retaining health professionals. For example, Iowa ranks 44th in its percentage of clinical residents retained in-state [4]. An earlier study found that Iowa physicians who leave the state most commonly cite practice factors, such as workload/call schedule [7]. Although Iowa trains many health care professionals, the need to improve retention is evident, and several of the programs evaluated here focus on incentivizing retention.

Some of the programs focus on training mid-level providers to fill the gaps in access that underserved counties are facing in Iowa. These programs attempt to address the geographic maldistribution of providers by training and by awarding specialty certifications that are required to provide adequate primary and specialty care to the population. These programs are offered in shortage areas to capitalize on the findings reported earlier in this report that a difference in physicians’ practice decisions can be made by providing experiences during training or early-career that may alter long-term practice choices.

While Iowa is home to a large number of health professionals, these professionals are not ideally distributed to meet Iowans’ health care needs. Iowa’s workforce programs provide loan repayment, training opportunities, liability protection, and other benefits for health care professionals who practice in needed locations and/or specialties.

Emerging Recommendations

A direct question to consider is whether reallocating state funds across programs would strengthen efforts to meet distribution of workforce needs. Of the 13 programs reviewed in this report, eight receive state funding: PRIMECARRE, the Delta Dental Loan Repayment Program, the Mental Health Professional Shortage Area Program, the Cherokee Mental Health Training Program, the University of Iowa Mental Health Training Program, the Iowa Psychological Association Psychologist Rotation Program, the Medical Residency Training State Matching Grants Program, and the Volunteer Health Care Provider Program.

Of the eight programs receiving state funds and possibly open to consideration for fund reallocation:

- Three focus on workforce recruitment—PRIMECARRE, which offers loan repayment to individual health care providers in a variety of specialties, the Delta Dental Loan Repayment Program, which assists dentists, and the Mental Health Professional Shortage Area Program, which assists organizations in recruiting mental health center directors.
- Three are designed to increase skills of mental and behavioral health care providers established in Iowa.
- One expands learning opportunities for physicians attending advance training in Iowa, who may or may not remain in the state.
- One encourages volunteer providers to serve at free clinics by protecting them from liability.

Current annual funding for the eight programs from most to least as well as number served is shown below in Table 11.

Table 11. IDPH programs’ annual funding and number served.

Program	Annual Funding	Annual Number Served
Medical Residency Training State Matching Grants Program	\$2 million	To be determined by sites
PRIMECARRE	\$140,000	6 to 8 health care providers
University of Iowa Mental Health Training Program	\$115,000	1 physician assistant, multiple nurses
Mental Health Professional Shortage Area Program	\$105,000	2 psychiatrists
Delta Dental Loan Repayment Program	\$100,000	1 to 4 dentists
Cherokee Mental Health Training Program	\$100,000	1 physician assistant
Volunteer Health Care Provider Program	\$58,000	Approximately 380 providers
Iowa Psychological Association Rotation Program	\$50,000	2 to 4 psychologists

Considerations for reallocation should include the following:

- Fund a variety of approaches in recruitment and allocations across all programs—training new professionals to meet specific needs such as mental health, recruiting to meet specific needs such as community mental health centers, and retaining practicing professionals through programs such as loan repayment
- Continue to targeting specific needs such as mental health or dental health
- Explore strategies to leverage additional funding such as through the state loan repayment program
- Use legislative language regarding funds allocation to allow flexibility in maximizing awards, particularly for mental health professionals.

Another issue to consider is how to optimize collective efforts to create the best opportunities to meet Iowa's needs. Doing so requires two levels of analysis: (1) a calculation of need and metrics to assess progress in filling gaps and (2) tracking the practice locations and populations served by recipients of state-supported programs. Therefore, an additional consideration should be to fund ongoing evaluation for program performance.

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