State of Arizona Office of the Auditor General

PERFORMANCE AUDIT

BOARD OF MEDICAL STUDENT LOANS

Report to the Arizona Legislature
By Debra K. Davenport
Auditor General

May 2000
Report No. 00-6

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DEBRA K. DAVENPORT, CPA
AUDITOR GENERAL

STATE OF ARIZONA
OFFICE OF THE
AUDITOR GENERAL

May 25, 2000

Members of the Legislature

The Honorable Jane Dee Hull, Governor

Ms. Diane Brennan, Chairperson
Board of Medical Student Loans

Transmitted herewith is a report of the Auditor General, A Performance Audit of the Board of Medical Student Loans. This report is in response to a June 16, 1999, resolution of the Joint Legislative Audit Committee. The performance audit was conducted as part of the Sunset review set forth in A.R.S. §41-2951 et seq. I am also transmitting a copy of the Report Highlights to provide a quick summary for your convenience.

As outlined in its response, the Board of Medical Student Loans agrees with all of the findings and recommendations.

My staff and I will be pleased to discuss or clarify items in the report.

This report will be released to the public on May 26, 2000.

Sincerely,

Debbie Davenport
Auditor General

Enclosure

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Program Fact Sheet

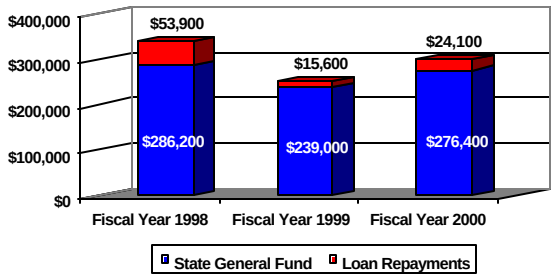
Board of Medical Student Loans

Services: The Board of Medical Student Loans recruits physicians to serve in medically underserved areas in Arizona by providing educational loans to medical students who agree to practice in rural and other medically underserved areas of the State. The Board's responsibilities include: 1) investigating each loan applicant's ability, character, and qualification; 2) granting loans to medical students; 3) collecting and maintaining data on students and doctors who have received loans; and 4) determining the number of doctors who continue to work in rural and medically underserved areas after completing service obligations.

Revenues: $300,500 (Fiscal Year 2000 est.)

Two major revenue sources: 1) General Fund; and 2) Medical Student Loan Fund Repayments.

Fiscal Year 1998:	$340,100
Fiscal Year 1999:	$254,600
Fiscal Year 2000:	$300,500



Facilities: The Board own no facilities. Board meetings are held at the University of Arizona College of Medicine in Tucson, Arizona.

Equipment: The Board owns no equipment.

Personnel: 0 full-time staff

The Board of Medical Student Loans consists of eight members who are appointed to four-year terms:

- Two doctors who are appointed by the Chairman of the Allopathic Board of Medical Examiners;
- One licensed osteopathic doctor appointed by the Board of Osteopathic Examiners in Medicine and Surgery;
- Three members appointed by the Governor who are knowledgeable about Arizona's health care problems;
- One staff member of the University of Arizona College of Medicine who is appointed by the University's president; and
- The Director of the Department of Health Services or a designee who acts as an ex officio, nonvoting Board member.

Agency Mission:

"To recruit physicians to serve in medically underserved areas in Arizona by providing substantial funding in educational loans to students at colleges of medicine in Arizona."

Program Goals (Fiscal Year 2000-2001)

1. To successfully recruit and retain students to participate in the program by providing substantial funding of their educational costs.

2. To provide physicians to medically underserved areas in Arizona.

3. To increase the number of physicians providing service in medically underserved areas in Arizona.

Adequacy of Performance Measures:

Although the Board of Medical Student Loan's three goals appear to be reasonably aligned with its mission, our review of its performance measures identified the following problem:

- The Board's performance measures do not include an outcome measure for recruiting and retaining students to participate in the program.

SUMMARY

The Office of the Auditor General has conducted a performance audit and Sunset review of the Board of Medical Student Loans (Board) pursuant to a June 16, 1999, resolution of the Joint Legislative Audit Committee. This audit was conducted under the authority vested in the Auditor General by Arizona Revised Statutes §§41-2951 through 41-2957.

The Board of Medical Student Loans was established in 1977 to provide financial assistance to Arizona medical students who are residents of the State and agree to practice in rural and other medically underserved areas after completing medical school and residency training. In return for each year spent in a rural or medically underserved location, the State forgives one year's worth of loans. Since the program's inception, 118 students have received loans.

Changes to Board's Statutes Could Help Clarify Service Area and Retention Tracking Requirements (See pages 11 through 18)

Doctors must serve in rural and other medically underserved areas.

Changes are needed to clarify the kinds of locations where loan recipients can fulfill their service obligation. Although state law requires loan recipients to fulfill this obligation in rural and other medically underserved areas as designated by the Arizona Department of Health Services (Department), the Board has approved a doctor's practice at a location that is neither rural nor a designated underserved area. The Board had good intentions when it approved the service location, which is a nonprofit health facility in Mesa that serves indigent and working poor individuals who are uninsured and who have drug and alcohol problems. However, if the Board wants greater flexibility to approve service locations that do not meet the Department's criteria for being designated as underserved, it should request that the Legislature amend its statutes.

A second problem with service area requirements is that the Board's statutes do not define "rural," making it difficult to determine which locations that are not medically underserved qualify as acceptable rural placements for loan recipients. Currently, the Board has approved four doctors to work in Prescott, Flagstaff, Lake Havasu City, and Benson, which are not medically underserved areas but could be considered rural under some definitions of the term, although not under others. The Legislature should amend the Board's statutes to define "rural" or give the Board rule-making authority to adopt a definition of the term.

Although statutes require the Board to collect data on how long doctors continue to work in rural or underserved areas after finishing their minimum obligations, they do not specify how long the Board should continue these tracking efforts. The Legislature should specify a time period in statute to track retained doctors.

Changes in Applicant Selection Process Needed to Ensure Equal Consideration of All Students (See pages 19 through 23)

Osteopath students can now apply for loans.

The Board should make changes to its applicant selection processes to ensure continued fair and equal consideration of all eligible candidates. A 1999 legislative change expanded program eligibility to allow students from both public and private medical schools to be eligible for loans. Previously, only University of Arizona College of Medicine Students were eligible; however, the expansion also allows students from Arizona's only private medical school, Midwestern University's Arizona College of Osteopathic Medicine, to apply for loans.

Although the Board has begun to make changes to accommodate eligible applicants from the private osteopathic school, additional changes to the applicant selection process could help ensure that all applicants are considered fairly and equally for funding.

- **First,** to ensure that the program's requirement for Arizona residency applies equally to all applicants, the Legislature

should add a definition of Arizona resident to the Board's statutes.

- **Second,** the Board should develop and use standard interview instruments to guide the interview process.

- **Finally,** the Board should adopt a scoring system to help evaluate and rank applicants for funding consideration. The Board has indicated that it has already begun to develop an evaluation tool that all interviewers will use to evaluate and score applicants.

Other Pertinent Information (See pages 25 through 31)

In addition to assessing the Board's performance, auditors gathered information on other state and federally funded programs that exist in Arizona to attract and recruit health professionals to work in rural and medically underserved areas. Some programs offer financial assistance to students and health care professionals in exchange for service in medically underserved areas. Other programs provide education and clinical training, job placement assistance to student and health care professionals, and employment opportunities.

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INTRODUCTION AND BACKGROUND

The Office of the Auditor General has conducted a performance audit and Sunset review of the Board of Medical Student Loans (Board) pursuant to a June 16, 1999, resolution of the Joint Legislative Audit Committee. This audit was conducted under the authority vested in the Auditor General by Arizona Revised Statutes §§41-2951 through 41-2957.

Board Responsibilities

The Board of Medical Student Loans was created in 1977 to recruit doctors to provide services to medically underserved areas in Arizona. The Board recruits doctors by providing educational loans to medical students who agree to practice in rural and other medically underserved areas of the State. Under A.R.S. §§15-1721 through 15-1726, the Board's responsibilities include:

- **Granting Loans**—The Board may grant loans to medical students to defray the expenses of their medical education. The Board is required to investigate each applicant's ability, character, and qualification to determine his or her fitness to become a loan recipient. The Board reviews a written application and the results of applicant interviews conducted by representatives from the Department of Health Services and the medical schools. Although statutes allow the Board to fund up to 40 students per year, the level of appropriations in recent years has limited the number to 16 students each year. In each of the past 3 years, the Board has funded 4 to 6 new students per year and renewed 11 to 12 students' funding.

- **Collecting and Maintaining Data**—The Board collects and maintains data on the doctors who received loans and continue to work in rural and other medically underserved areas after completing service requirements. In fiscal year 1999, the Board maintained data on 118 current and former loan recipients.

Program Requirements

Students agree to practice in primary care specialities such as family practice.

A.R.S. §15-1723 authorizes the Board to grant loans to Arizona medical students who are residents of the State and agree to practice in rural and other medically underserved areas after completing medical training. Students at public and private medical schools in Arizona who intend to practice in the areas of family practice, pediatrics, obstetrics, or internal medicine may apply for the loans. Statutes require the Board to give preference to applicants who are not able to pay the cost of a medical education and to applicants who demonstrate a commitment to serve in rural and medically underserved areas. Students reapply for loans annually and may be funded for up to four years.

Students who receive loans sign contracts agreeing to practice in approved areas of Arizona for one year for each year they accept funding, with a two-year minimum service obligation. The State forgives the loans on a year-for-year basis if recipients practice in approved areas of the State as designated by the Department of Health Services. After completing residency training, a loan recipient initiates a self-directed search for employment in a rural or medically underserved area, and requests the Board to approve service locations. If a student does not fulfill his/her service obligation, the Board may require repayment of the loan amount plus 7 percent interest and a penalty equal to the loan amount. The Board adjusts loan amounts annually based on a statutory formula that provides the cost of tuition charged by the University of Arizona College of Medicine plus $10,000, adjusted for inflation. During school year 1999-2000, the loan amount is $20,550 per student.

Allopathic schools of medicine grant a doctor of medicine (MD) degree and colleges of **osteopathic** medicine in the United States grant a doctor of osteopathy or (DO) degree. Both degrees require study of the medical sciences and participation in clinical rotations. Additionally, the DO curriculum emphasizes the relationship of body systems and holistic patient care. After graduation from medical school, both medical doctors and osteopathic physicians undertake an additional 3 to 7 years of medical residency training in a medical specialty.

Table 1

Board of Medical Student Loans
Status of Program Participants
As of June 30, 1999

Status	Number of Participants
Student	18
Medical residency training	14
Fulfilling service obligation	10 [a]
Service obligation fulfilled	38 [b]
Repaid loan	29
Repaying loan	7
Other [c]	2
Total	118

[a] Two doctors began fulfilling their service obligations since June 30, 1999, and two doctors serving prior to June 30, 1999, have since completed their service obligations.

[b] Three doctors fulfilled part of their service obligations and repaid the remaining portions of their loans.

[c] One participant is disabled and one participant has a military deferment. Auditors could not determine whether these persons can fulfill their service obligations.

As noted in Table 1, 118 medical students had received funding from the Board of Medical Student Loans as of June 30, 1999.

Doctors' Current Service Locations

Ten doctors are currently serving obligations.

Ten doctors are currently fulfilling their service obligations throughout Arizona, as illustrated in Figure 1 (see page 5). Most of the doctors who are currently serving received loans prior to a 1992 law change that limited the program to primary care. Board records indicate that at least three doctors are not primary care doctors—a general surgeon, a pathologist, and a psychiatrist. The doctors serve both urban and rural populations and Native Americans. Current placements include:

- **Northern Arizona (2):** A pathologist located in Flagstaff and a doctor serving in Prescott.

- **Western Arizona (1):** A general surgeon serving Lake Havasu City and other outlying areas around the western Arizona Colorado River region.

- **Central Arizona (4)**: A doctor working at a clinic in the Town of Guadalupe, one at the Maricopa Medical Center, and another at a facility in West Phoenix. A fourth doctor splits his time between two facilities: a free clinic in South Phoenix and a facility in Mesa that offers health services to indigent and working poor drug and alcohol addicts who lack insurance coverage.

- **Southern Arizona (3):** One psychiatrist working for the State's behavioral health system in South Tucson, a doctor working in the Town of Bisbee, and another in the City of Benson.

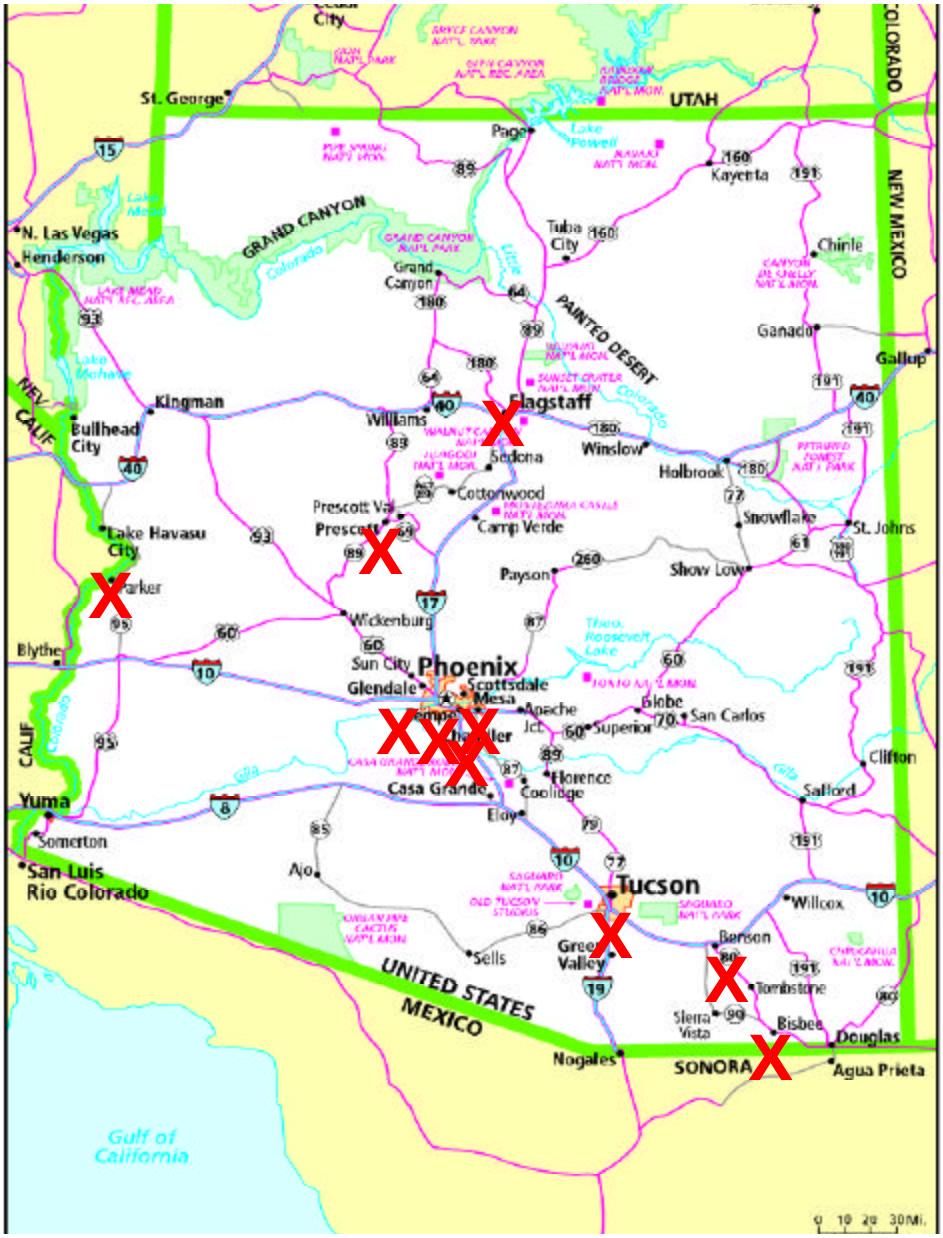
Previous Evaluations

The Board of Medical Student Loans previously underwent two reviews in 1995, a Sunset Review and a Program Authorization Review (PAR). A Legislative Committee of Reference completed a Sunset Review in October 1995. During the Board's Sunset hearing, the Committee recommended continuing the Board for five years, modifying the Board's statutes to allow doctors to serve in rural areas of the State, and requiring the Board to collect, prepare, and maintain data relating to the retention of doctors in rural and other medically underserved areas. The Legislature adopted the Committee's recommendations.

The Board also underwent a Program Authorization Review (PAR) in 1995. In 1995, PARs were completed on several state-administered programs designed to attract and retain health

Figure 1

Board of Medical Student Loans
Locations of Doctors Currently Serving
As of February 29, 2000



Source: Auditor General staff analysis of the Board of Medical Student Loans Program's participant status database.

professionals in rural and medically underserved areas, including the Arizona Medical Student Loan Program.[1] The Board's November 1995 PAR contained two major conclusions.

- **First**, that the program's performance measures adequately measured program effectiveness, although it recommended that the Board start to report the percentage of loan recipients who opt to fulfill service requirements rather than repay loans. The Board has since begun to report this percentage.

- **Second,** although the State of Arizona administered several other programs to recruit medical providers to medically underserved areas, the Arizona Medical Student Loan Program was the only state program that recruited potential doctors while they were still medical students. (For a description of other recruitment programs, see the Other Pertinent Information section on pages 25 through 31.)

Organization and Staffing

The Board consists of eight members who are appointed to four-year terms. Two members are doctors who are appointed by the Chairman of the Allopathic Board of Medical Examiners and one member is a licensed osteopathic doctor appointed by the Board of Osteopathic Examiners in Medicine and Surgery. Three members are appointed by the Governor and are to be knowledgeable about Arizona's health care problems. Finally, the president of the University of Arizona appoints one member from the staff of the University's College of Medicine, and the director of the Department of Health Services or designee is an ex officio, non-voting Board member.

Since Board loans were originally available only to University of Arizona students, the University's College of Medicine provides staff to the Board at no charge. Two financial aid staff, on an as-needed basis, assist the Board. Due to a 1999 legislative

[1] The Arizona Department of Health Services' Primary Care Program and the Arizona Area Health Education (AHEC) System, which is administered by the University of Arizona Rural Health Office, also underwent Program Authorization Reviews in 1995.

change that expanded program eligibility to students at private medical schools in Arizona, a financial aid officer from Midwestern University's Arizona College of Osteopathic Medicine will also coordinate applications and track students from that school.

Funding and Budget

All monies received are used for medical student loans.

The Board is funded through an annual General Fund appropriation and loan repayments in the Medical Student Loan Fund (Loan Fund). The Board incurs no expenses and all funding received is used for loans to students. The Loan Fund consists of monies collected from recipients who repay their loans rather than perform their service. The Legislature has provided appropriations from the Loan Fund and the General Fund to enable the Board to provide loans to 16 students annually during recent years. As shown in Table 2 (see page 8), in fiscal year 2000, the Board anticipates awarding $328,800, with $276,400 of that amount being appropriated from the State General Fund. The remaining $52,400 will come from available loan fund monies, including prior year loan repayments.

Revenues coming into the Loan Fund will likely decrease, resulting in a greater need for General Fund appropriations if the Board is to continue funding 16 students each year. In 1992 the Legislature increased the financial penalties assessed to recipients opting to repay loans rather than perform service commitments. Previously, recipients could repay their loan amount with interest plus a $5,000 penalty rather than perform service. Currently, students opting to repay may be liable for their loan amount with interest plus pay a penalty equal to the amount borrowed. As a result, as discussed in the Board's 1995 Program Authorization Review, the Board anticipates that more students will fulfill their service obligations rather than repay their loans. The Board reports that 59 percent of the loan recipients fulfilled their service obligations under the previous penalty structure. The Board anticipates a 100 percent service rate for recipients subject to the current penalty and a corresponding decrease in revenues to the Loan Fund. Loan recipients subject to the 1992 legislation are just now completing their 7 years of medical training.

Table 2

Board of Medical Student Loans
Statement of Revenues, Expenditures, and Changes in Fund Balance
Years Ended or Ending June 30, 1998, 1999, and 2000
(Unaudited)

	1998 (Actual)	1999 (Actual)	2000 (Estimated)
Revenues:			
State General Fund appropriations	$286,200	$239,000	$276,400
Loan repayments	53,944	15,591	24,090
Total revenues	340,144	254,591	300,490
Expenditures:			
Aid to individuals	305,600	316,400	328,800
Excess of revenues over (under) expenditures	34,544	(61,809)	(28,310)
Fund balance, beginning of year	96,821	131,365	69,556
Fund balance, end of year	$131,365	$ 69,556	$ 41,246

Source: The Arizona Financial Information System *Revenues and Expenditures by Fund, Program, Organization, and Object* and *Trial Balance by Fund* reports for the years ended June 30, 1998 and 1999; and Board-estimated financial activity for the year ending June 30, 2000.

Audit Scope and Methodology

This report includes findings and recommendations in two areas:

- Changes to the Board's statutes could help clarify appropriate service sites, as well as requirements to track doctors who remain in underserved areas after they complete service obligations; and

- The Board needs to make additional applicant selection process changes as a result of the program's expansion to ensure that all eligible applicants are considered equally and fairly.

In addition, this report contains an Other Pertinent Information section regarding various other state and federal programs that support placement of health professionals in rural and medically underserved areas of Arizona (see pages 25 through 31). Finally, the report presents responses to the 12 statutory Sunset factors (see pages 33 through 41).

This audit used a variety of methods to study the issues addressed in this report. These methods included interviewing Board members, University of Arizona College of Medicine program participants and potential future participants at Midwestern University's Arizona College of Osteopathic Medicine, medical school administrators and financial aid officers, representatives from the Department of Health Services and Rural Health Office, and a national expert in the retention of rural doctors; attending the November 1999 Board meeting; reviewing statutes and Board minutes; and conducting a literature review.

In addition, auditors interviewed representatives from medical loan programs in seven other states to compare statutory provisions, structure, and program operation with the Arizona Medical Student Loan Program. Auditors selected five of these states, Arkansas, Mississippi, Indiana, New Mexico, and Oklahoma, because state characteristics were similar to those of Arizona. Specifically, these five states support one public allopathic medical college, require residency as a criteria for program eligibility, and provide loans or scholarships to students in return for service. Auditors chose the other two states, Illinois and Nebraska, because literature identified them as states with medical loan programs that track retention of doctors.

This audit was conducted in accordance with government auditing standards.

The Auditor General and staff express appreciation to the members of the Board of Medical Student Loans, the staff and students of the University of Arizona College of Medicine, and the staff and students of Midwestern University's Arizona College of Osteopathic Medicine for their cooperation and assistance throughout the audit.

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FINDING I

CHANGES TO BOARD'S STATUTES COULD HELP CLARIFY SERVICE AREA AND RETENTION TRACKIING REQUIREMENTS

Changes to the Arizona Board of Medical Student Loans Program's (Board) statutes could help ensure that doctors are serving in appropriate locations and clarify how long the Board should track where they serve. Although the Board's statutes require doctors to fulfill service obligations in rural and other medically underserved areas of Arizona, one doctor is fulfilling his service obligation in an urban area of the State that is not medically underserved. In addition, because the Board's statutes lack a definition of "rural," it is difficult to determine which geographic areas of the State qualify as rural. Finally, the statutes do not specify how long the Board should track doctors after they have completed their service obligations.

State Law Requires Service in Rural and Medically Underserved Areas

A.R.S. §15-1723(D) requires participants in the Arizona Medical Student Loan Program to fulfill their service obligations in rural and other medically underserved areas of the State. The Board's statutes define medically underserved areas as those areas designated by the Arizona Department of Health Services using statutorily prescribed criteria. The Department of Health Services' statutes and administrative rules define medically underserved areas as follows:

- **Federal Health Professional Shortage Areas (HPSAs):** The U.S. Department of Health and Human Services designates Health Professional Shortage Areas by approving areas proposed by state departments of health. Several types of HPSAs can be designated including Primary Care

HPSAs can be geographic areas, population groups, or specific facilities like prisons.

HPSAs, Mental Health HPSAs, and Dental HPSAs. These types of HPSAs can include geographic areas, specific population groups, or specific facilities. The Arizona Department of Health Services (Department) uses federal criteria to develop a proposed list of geographic, population, and facility HPSAs. For geographic HPSAs, federal rules require states to consider such things as provider-to-population ratios, infant mortality rates, the percentage of people living below the federal poverty level, and the presence or absence of an unusually high need for health care services. For population HPSAs, federal rules require states to consider whether access barriers prevent the group from using an area's medical care providers. Such barriers could be economic, linguistic, or cultural, or could involve refusal of some providers to accept certain types of patients or Medicaid reimbursement. Examples of such groups include migrant farm workers and the homeless. Finally, federal rules allow states to propose facilities such as jails, prisons, and public or nonprofit medical centers as facility HPSAs. Arizona facilities must either apply to the U.S. Department of Health and Human Services or the Arizona Department of Health Services to be considered for designation as a facility HPSA. Examples of Health Professional Shortage Areas in Arizona include all Indian reservations, the Maricopa County jails, Tombstone in Cochise County, and Heber/Overgaard in Navajo County.

AzMUAs are strictly geographic areas.

- **Arizona Medically Underserved Areas (AzMUAs):** In addition to federal HPSAs, the Arizona Department of Health Services designates certain areas of the State as Arizona Medically Underserved Areas. In contrast to federal HPSA designations, AzMUA designations are strictly geographic. Each year, the Department designates AzMUAs; approximately 42 areas of the State received a designation in 1999. Such areas are identified through a process that includes consideration of factors such as an area's estimated demand for medical services, infant mortality rates, access to emergency services, distance to health care facilities, and availability to routine transportation services. Examples of Arizona Medically Underserved Areas include Tubac in Santa Cruz County, El Mirage in Maricopa County, San Luis in Yuma County, and Bryce in Pima County.

Board Has Approved An Inappropriate Service Site

The Board has approved one doctor to fulfill his service obligation in an urban area that is not medically underserved. Although the rationale appears to be based on good intentions, it is in violation of state statute. If the Board wants greater flexibility in approving such service sites, it should request a statutory change.

One doctor is serving in Mesa, an urban, non-medically underserved area.

One doctor's service site violates statutes, but based on good intentions—Board members approved one doctor to serve in an urban non-medically underserved area of the State; however, the Board members appear to have had good intentions in doing so. The Board is currently allowing one doctor to serve part of his obligation at an urban site that is not a federal HPSA or AzMUA. This doctor works part-time at a free clinic in South Phoenix and part-time as the medical director of a nonprofit medical center in Mesa that offers health services to drug and alcohol addicts. The South Phoenix clinic is located in a federal HPSA, which makes it an appropriate service site under state statute. In contrast, the Mesa site is not an appropriate service location. The Mesa site is not located in a geographic HPSA, is not designated a facility HPSA, is not in an Arizona Medically Underserved Area, and cannot be considered rural.

The Board's reasons for allowing this doctor to work in Mesa appear to be based on good intentions. Board meeting minutes mention several reasons for allowing this doctor to fulfill his service obligation at a site that is not located in a medically underserved area.

- **First,** Board members noted that the addicted population is a difficult population to serve and the Mesa facility primarily serves people who are indigent or working poor and lack insurance coverage.

- **Second**, Board members wanted to allow the doctor to provide continuity of care to his patients. The Board minutes state that the doctor began working as the Mesa facility's medical director in 1994 after completing his residency training, and while participating in a fellowship program. In

1998, the doctor requested approval to continue working at the Mesa facility to fulfill part of his service obligation.

- **Finally**, Board meeting minutes reflect that Department of Health Services' officials did not contest the Board's decision.

Two options could be explored to ensure statutory compliance—Two options could be explored to ensure service sites comply with state statutes.

- **First**, the doctor could ask the Mesa facility to apply for designation as a facility HPSA. The nonprofit facility in Mesa would have to request designation as a facility HPSA. However, Department of Health Services staff noted that facility HPSA designations are difficult to obtain.

- **Second**, if the Board wants greater flexibility to approve service locations that are not federally designated HPSAs or Arizona Medically Underserved Areas, it should request that the Legislature amend the Board's statutes to allow the Board to approve additional areas where doctors can fulfill service obligations. If possible, the Board should request that the Legislature make such a statutory change retroactive to include past exceptions, such as the doctor in Mesa.

Board's Statutes Do Not Define "Rural"

The Board's statutes do not define "rural," which makes it difficult to determine which geographic areas of the State qualify as rural areas, and which service sites are appropriate under state statute. Because definitions of "rural" vary considerably, it is not clear if current sites for four doctors who are not practicing in medically underserved areas should be considered as rural areas. The Legislature should define rural areas for the purpose of the Arizona Medical Student Loan Program as it has for other state programs that serve rural communities.

Appropriateness of four service sites is unclear—The Board is allowing four doctors to serve in geographic areas that, while not medically underserved, could be considered as rural de-

pending on how the term is defined. The Board has approved one doctor to work in Prescott, another to work in Lake Havasu City, and a third to work in Flagstaff, and recently approved another doctor to fulfill her service obligation by establishing a private practice in Benson. In addition, the Board has already approved another doctor's request to set up a family practice in Benson after he finishes residency training in June 2000. Since neither Prescott, Lake Havasu City, Flagstaff, nor Benson qualify as medically underserved areas, they would have to qualify as rural areas to be appropriate service sites in compliance with state statutes.

Rural areas are defined for other programs.

Legislative changes needed to define rural—The Legislature should amend the Board's statutes to define rural or give the Board rule-making authority to adopt a definition of rural. The Legislature has defined rural for other state programs that attract health professionals to rural communities. For example, Prescott, Lake Havasu City, Flagstaff, and Benson could be considered rural under the definitions established for the Rural Health Professions Program[1] and the Arizona Rural Private Primary Care Provider Loan Repayment Program.[2] The definitions for these two programs located in A.R.S. §§15-1754(F) and 36-2174(A) define ***rural*** broadly as either:

1) a county with a population of less than 400,000 persons according to the most recent United States decennial census; or

[1] The Arizona Legislature established the Rural Health Professions Program in 1994. The program is administered by the University of Arizona's Program in Community Responsive Medicine. The program encourages health professions students to pursue careers in rural settings, and offers intensive training experiences in rural communities. Every year, a fixed number of medical students, nursing students, and pharmacy students from Arizona's three public universities are chosen to participate in the program.

[2] The Arizona Legislature established the Rural Private Primary Care Provider Loan Repayment Program in 1997. The program offers repayment of educational loans for health professionals who work in private practices located in medically underserved rural areas of Arizona.

2) a census county division with less than 50,000 persons in a county with 400,000 persons or more according to the most recent United States decennial census.

In contrast, the United States Census Bureau has a very restrictive definition that defines rural areas as places that have a population of 2,500 or less. None of these four cities would be considered rural under this definition. In establishing a definition of rural for the Arizona Medical Student Loan Program, the Legislature should consider the impact that broad or restrictive definitions will have on eligible service areas. For example, 13 of the State's 15 counties qualify as rural counties under the definition used by the Rural Health Professions Program. Applying such a broad definition to the Arizona Medical Student Loan Program would essentially allow doctors to fulfill service obligations anywhere in one of these 13 counties, irrespective of an area's medical need.

Retention Tracking Requirements Need Clarification

The law that requires the Board to track retained doctors should be clarified. Statutes require the Board to maintain data on doctors who continue to practice in rural and medically underserved areas once their service obligations are complete. However, the statutes do not specify how long the Board should track doctors once their service obligations are complete. The Board has also slightly overstated the number of retained doctors.

Board must track doctors after they have completed service obligations.

Board's statutes require collection of retention statistics— A.R.S. §15-1723(E) requires the Board to "collect and maintain data on the retention of doctors who practice in rural and other medically underserved areas." The Legislature added this requirement after the Board's 1995 Sunset Review because they wanted to know about the program's long-term impact and they were concerned about program accountability. Since the program's inception, 35 doctors have completed service obliga-

tions.[1] As of June 30, 1999, the Board reports that 18 of these 35 doctors continue to practice in medically underserved areas.

Tracking duration is not specified in statute—The statute that requires the Board to track the retention of doctors in rural and medically underserved areas of the State does not specify how long the Board should track these doctors. Since the statute does not specify how long the Board should track these doctors, the Board will need to track them indefinitely. However, the Board's administrator indicates that it is a time-consuming process to track these doctors. As more doctors fulfill their obligations, the Board's tracking effort will become more time consuming. Therefore, the Legislature should consider amending the Board's statutes to include the amount of time the Board should track doctors after they have completed their obligations. For fiscal year 1999, the Board tracked doctors who completed service obligations back to 1986, the first year a doctor completed service. Since the Board has tracked doctors 13 years beyond completion of their service obligations, tracking doctors 10 to 15 years beyond completion of their service obligations may be an appropriate tracking time period.

Retention statistics overstated by one doctor—The Board has overstated the number of retained doctors by one.[2] The Board includes in its retention statistics a doctor who works for a facility that contracts with the State's behavioral health system. Although the facility provides services to medically needy people, it is not located within an Arizona Medically Underserved Area or Health Professional Shortage Area nor does it have a facility or population HPSA designation. The Board should include in its retention statistics only those doctors who continue to practice in rural and other medically underserved areas as required by statute.

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1 Thirty-five doctors have fulfilled their service obligations by performing the required number of years of service. An additional three doctors have performed some service and have repaid the remaining amounts of their loans.

2 The Board's retention statistics also include two doctors who continue to work at their original service sites. One service site was not located in a medically underserved area when the doctor began service. The other service site was located in a medically underserved area when the doctor began service.

Recommendations

1. If the Board wants greater flexibility to approve service locations that are not federally designated HPSAs or Arizona Medically Underserved Areas, it should request that the Legislature amend A.R.S. §15-1723(D) to include additional areas where doctors can fulfill service obligations as approved by the Board. The Board should request that the Legislature make such a statutory change retroactive to include past exceptions, such as the doctor serving in Mesa.

2. The Legislature should amend the Board's statutes to define rural or give the Board rule-making authority to adopt a definition of rural.

3. Unless and until the Board's statutes are revised, the Board should comply with the current statutes that restrict doctors' service sites to those located in rural and medically underserved areas.

4. The Legislature should amend A.R.S. §15-1723(E) to include the amount of time the Board should track doctors who continue to practice in rural and medically underserved areas once their service obligations are complete.

5. The Board should include in its retention statistics only those doctors who continue to practice in rural and medically underserved areas once their service obligations are complete.

FINDING II

CHANGES IN APPLICANT SELECTION PROCESS NEEDED TO ENSURE EQUAL CONSIDERATION FOR ALL STUDENTS

The Board should make changes to the applicant selection processes to help ensure that the increased number of eligible students receive equal consideration for available funding. A 1999 legislative change expanded program eligibility to students attending private medical schools, thereby increasing competition for program funding. With increased competition and the need to ensure that all applicants are considered equally and fairly, selection process improvements should be made.

Legislative Change Increases Eligibility and Competition for Funding

Competition for limited loan monies may increase.

A legislative change that increases the number of students eligible for loans from the Arizona Medical Student Loan Program may result in increased competition for limited program funds. In 1999, the Legislature changed the Board's statutes to allow students from both public and private medical schools in Arizona to be eligible for loans. Previously, only University of Arizona College of Medicine students were eligible. That eligibility now extends to Arizona's only other college of medicine, Midwestern University's Arizona College of Osteopathic Medicine. In each of the past three years, there have never been more than two additional applicants above the number of loans available to new applicants. With the anticipated increase in applicants from Midwestern University's Arizona College of Osteopathic Medicine, competition will likely be greater in the future.

Changes in Selection Process Needed to Ensure Equity

The Board has begun to make changes to accommodate eligible applicants from the private osteopathic medical school, but additional changes to the selection process could be beneficial. The Board has made some decisions needed to expand the program and expects to award funding in the spring of 2000. However, with the likely increased competition and only slight changes in board membership, additional changes to the selection process are important to ensure fair and equitable consideration of all applicants.

Board has made some program changes—The Board has taken a number of actions necessary to expand the Arizona Medical Student Loan Program to qualified students attending the Arizona College of Osteopathic Medicine and plans to award funding this spring. The Board held an initial planning meeting in November 1999 that included the newly appointed osteopathic doctor and representatives from the Arizona College of Osteopathic Medicine. The Board agreed to operate parallel programs at the University of Arizona and the Arizona College of Osteopathic Medicine. The Board decided to do the following:

- Request that the Department of Health Services submit scored applicant interview ranking sheets to the Board;
- Allow all eligible applicants from each school to be considered for funding by the Board; and,
- Request that the financial aid officer from the University of Arizona College of Medicine and the financial aid officer at the Arizona College of Osteopathic Medicine develop parallel application and tracking processes.

The Board planned to award the remaining five loans for the 1999-2000 school year in the spring of 2000 and held a board meeting in April to select loan recipients.[1,2] In January the financial aid officers distributed loan applications to the Arizona College of Osteopathic Medicine students and also discussed applicant selection and processing with the students. The University of Arizona College of Medicine financial aid officer also made her students aware of the available funding. Applications were due February 8, 2000. The Board met in April 2000 and awarded loans to three students and tentatively awarded a loan to one additional student pending residency determination.[3]

Changes needed to ensure equal treatment of osteopath students.

Additional changes to selection process could be beneficial—In order to ensure that all students are considered fairly and equally for funding, some additional changes could improve the selection processes. Further, since the Board consists of more allopathic doctor representation than osteopathic representation, selection process changes should reduce any appearance of bias toward allopathic students. Specifically, the following changes could be beneficial:

- **Legislature should add definition of "Arizona resident" to statutes**—The Board needs a common standard regarding Arizona residency that applies to all applicants. Previously, when only University of Arizona College of Medicine students were eligible for the program, the Board used the University of Arizona's definition of residency. As a general rule, the University of Arizona requires that students establish domicile in Arizona at least one year prior to registration. Further, the University of Arizona College of Medicine requires medical students to be Arizona residents. In contrast, Midwestern University's Arizona College of Osteopathic Medicine, a private school, does not require Arizona residency as a condition

[1] Loans for 16 students were available for school year 1999-2000. In the fall of 1999 the Board renewed loans for 11 University of Arizona College of Medicine students. The Board did not award the remaining loans at that time because no qualified applicants had applied.

[2] Students awarded these loans will be able to use monies to repay loans already incurred for the 1999-2000 school year or for other purposes.

[3] The Board did not award the one remaining loan in April 2000 because no more qualified loan applicants had applied.

for admission. In order to ensure that all applicants are required to meet the same residency requirements, the Legislature should define residency in the Board's statutes.

- **Standard interview instruments should be used for interviews**—In addition, the Board should develop and use standard interview instruments with core questions to help guide the interview process. The Department of Health Services currently uses a standard interview instrument for all applicants and has agreed to interview applicants at both medical schools. However, the interviews conducted by medical school representatives have not been standardized. The Dean of Students at the University of Arizona College of Medicine will interview students from the College of Medicine. At the Arizona College of Osteopathic Medicine, a committee will conduct student interviews. The use of a standard interview instrument with core questions would ensure that all students are asked the same basic questions and enable the Board to equally consider each applicant based on responses to like questions. Auditors found that the National Health Service Corps' scholarship program uses a standard interview instrument that enables evaluators to more fairly and equally consider applicants' qualifications despite the program's use of multiple interviewers across the United States. [1]

- **Board should adopt a scoring system**—Finally, the Board should adopt a scoring system to help evaluate applicants. The Board is required by statute to select applicants who are Arizona residents, who will practice in primary care, and the Board must also consider the applicant's financial need. Board members stated that they consider these factors and individually rank applicants based on their individual assessments regarding the applicant's fit for the program and commitment. However, this process is somewhat subjective. The Board indicates that it is developing an evaluation tool that all inter-

[1] The National Health Service Corps (NHSC) consists of a number of programs including a scholarship and a loan repayment program. The NHSC Scholarship Program awards scholarships to students receiving academic training in medicine, osteopathy, dentistry, and other health professions, and the NHSC Loan Repayment Program repays the educational loans of trained health professionals. The acceptance of financial assistance obligates individuals to provide health care services in federally designated Health Professional Shortage Areas.

viewers will use to score applicants' responses. There are other factors that the Board considers when determining who is awarded a loan, including responses to questions on the application regarding the applicants' desire to serve in medically underserved areas. The Board could also assign scores to the applicants' responses to these questions. Further, a scoring system that weighs the importance of the various selection criteria would better enable the Board to select the best qualified candidates from those who apply. In addition, it would help the Board document and justify its selection of applicants for limited funding. However, such a scoring system should not preclude the Board from using its professional judgment in applicant selection.

For example, Nebraska's Rural Health Scholarship Program scores all applicants based on common criteria, assigns points to applicants in each area examined, and multiplies the points in each category by weights in order to develop a standard score for each applicant. The Nebraska program then uses these scores as a statistical mechanism to help evaluate scholarship recipients. Nebraska developed the scoring system over 20 years ago as a tool to identify desirable qualities that commissioners agreed were important indicators for successful applicants. The Nebraska program administrator estimates that the scoring system took a year to fully develop and implement.

Recommendations

To ensure that all eligible applicants are given equal and fair consideration for available funding,

1. The Legislature should add a definition of Arizona resident to the Board's statutes.

2. The Board should develop and use standard interview instruments for applicant interviews.

3. The Board should adopt a scoring system to rank applicants and guide selection of the most qualified applicants for funding.

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OTHER PERTINENT INFORMATION

During this audit, other pertinent information was obtained about other state and federally funded programs that exist in Arizona to attract health professionals to work in rural and medically underserved areas. Possible changes in designated health professional shortage areas could affect some of these programs in the future.

Existing Health Professional Recruitment Programs

Several different programs exist in Arizona to attract health professionals to rural and medically underserved areas (see Appendix, pages a-i through a-vi for summary tables). These programs are of several basic types. Scholarship programs provide financial assistance to health professions students in exchange for service in medically underserved areas once medical training is complete. Notwithstanding its name, the Arizona Medical Student Loan Program is like a scholarship program. Loan repayment programs repay the already incurred educational loans of health professionals. Under these programs, health professionals who have incurred educational debt can have their loans paid off by serving in medically underserved areas. Finally, other programs provide educational and clinical training, mentor students, assist with job placement in medically underserved areas, and provide employment opportunities in such areas. Major programs are outlined below:

Scholarship and Loan Repayment Programs—The following programs offer financial assistance to students and health care professionals in exchange for service in medically underserved areas:

- **National Health Service Corps (NHSC) Scholarship and Loan Repayment Programs:** The Bureau of Primary Health Care in the U.S. Department of Health and Human Services sponsors an array of programs to attract health professionals to serve in federal Health Professional Shortage

Areas, including a scholarship program and a loan repayment program. The NHSC Scholarship Program underwrites training for medical students, nursing students, and students studying to become physician assistants in exchange for future service in a federal HPSA. The NHSC Loan Repayment Program provides for the repayment of educational loans for trained health professionals who agree to work in a federal HPSA. Health professionals eligible to apply for loan repayment assistance include primary care doctors, nurse practitioners, physician assistants, certified nurse midwives, dentists, and mental health professionals.

The Arizona Department of Health Services administers National Health Service Corps programs at the state level. Currently, Arizona has 49 health professionals serving the State through NHSC scholarship and loan repayment programs. Thirty-one health professionals received scholarship assistance, and 18 are receiving loan repayment assistance. The 49 health professionals include 34 medical and osteopathic doctors, 5 psychiatrists, 3 dentists, 4 nurse practitioners, and 3 physician assistants.

- **The Arizona Loan Repayment Program:** The federal Bureau of Primary Health Care also sponsors the State Loan Repayment Program, a joint federal- and state-funded loan repayment program. The Arizona Department of Health Services administers the program at the state level. Health professionals who sign loan repayment contracts agree to serve at eligible sites in a federal Health Professional Shortage Area (HPSA) in exchange for loan repayment. Program requirements restrict placement to private, nonprofit clinics located in federal HPSAs. Arizona's program pays up to $25,000 per year for doctors, and up to $7,500 per year for physician assistants, nurse practitioners, and certified nurse midwives. Fifteen health professionals are currently serving Arizona through this program including 8 medical and osteopathic doctors, 2 dentists, 2 nurse practitioners, and 3 physician assistants.

- **Rural Private Primary Care Provider Loan Repayment Program:** The Arizona Department of Health Services administers an additional loan repayment program, which is funded with state tobacco tax revenues. Reimbursement

amounts are the same as the Arizona Loan Repayment Program. However, unlike the Arizona Loan Repayment program, participants are not restricted to private, nonprofit clinics. Nine health professionals are currently serving Arizona through this program, including 7 medical and osteopathic doctors and 2 physician assistants.

- **Indian Health Services Scholarship Programs:** Indian Health Services (IHS), a federal agency within the U.S. Department of Health and Human Services, offers three types of health professions scholarships that support American Indian and Alaska Native students enrolled in health professions programs. Two scholarship programs assist health profession students without imposing service obligations. A third scholarship program obligates students to fulfill service obligations in approved IHS facilities and other sites as approved by the IHS director; students from a variety of disciplines ranging from medicine and nursing to business, accounting, public health, and counseling can receive this type of scholarship assistance.

- **Indian Health Services Loan Repayment Program:** Indian Health Services also sponsors a Loan Repayment Program that provides for the repayment of health professionals' educational loans for a two-year service obligation in an IHS facility or approved Indian health program. This program is not restricted to American Indians or Alaska Natives.

In Arizona, Indian Health Service programs are administered at IHS area offices located in Phoenix, Tucson, and the Navajo Nation.

Education, Training, Employment, and Recruitment Programs—The following programs offer educational and clinical training, employment opportunities, and job placement assistance to students and health care professionals:

- **J-1 Visa Waiver Program:** The federal J-1 Visa Waiver Program allows foreign medical graduates to practice in the United States under special circumstances. Federal law requires foreign medical graduates to return to their home countries for at least two years after the completion of their

training; however, J-1 Visa waivers allow these doctors to remain in the United States if a federal agency or state department of health so requests. The Arizona Department of Health Services may request up to 20 J-1 Visa Waivers per calendar year for doctors to work at least three years in designated underserved areas of Arizona. The State began program participation in 1997. Currently, 26 J-1 Visa doctors are serving Arizona through this program. The Department requested 13 waivers in 1997, 9 waivers in 1998, and 4 waivers in 1999. Foreign doctors also may request waivers through the United States Department of Agriculture (USDA). The Arizona Department of Health Services is aware of 5 J-1 Visa doctors serving Arizona through the USDA.

- **Arizona Rural Health Professions Program:** This program is an interdisciplinary program that provides students intensive training experiences in rural communities throughout the State. The program is administered by the University of Arizona's Program in Community Responsive Medicine. Each year, the State's three public universities select 15 medical students, 10 nurse practitioner students, and 4 pharmacy students to participate in the program.

- **Arizona Area Health Education Centers (AHEC):** The Bureau of Health Professions in the U.S. Department of Health and Human Services sponsors AHEC programs which, in Arizona, are operated by the University of Arizona Rural Health Office. The mission of Arizona's AHEC system is

  > "*to improve the development, recruitment, minority representation, distribution, and retention of health professional personnel in Arizona's rural and medically underserved communities.*"

  The system includes five centers located in five regions of the State. Together, the centers serve as a statewide, community-based infrastructure for the recruitment and retention of health care professionals. The AHEC system supports clinical rotations for health professions students and medical residents in rural and other medically underserved communities, offers continuing medical education to health

care professionals in rural and medically underserved areas, and exposes young people from such communities to health care career options. Arizona's AHEC programs were phased in gradually with an initial six years of federal core support. Beginning in fiscal year 1991, Arizona's General Fund began to absorb the cost of AHEC programs, reaching a state-supported amount of $1.2 million in fiscal year 1995; however, in fiscal year 1996 the state AHEC system lost all state funding. The AHEC system continues to operate without state-appropriated funding

- **Arizona Health Provider Resources Program (AHPR):** The Rural Health Office also operates the Arizona Health Provider Resources Program. The program provides health professional recruitment and retention assistance to Arizona's rural and medically underserved communities. The AHPR is a founding member and the Arizona designated contact for provider referrals of the National Rural Recruitment and Retention Network, which provides national exposure and advertising of health care opportunities. In 1999, the program reported receiving more than 200 inquiries from interested primary care providers and gave them information regarding provider opportunities and other state and federal programs in Arizona. The AHPR is currently performing a recruitment and retention feasibility study to assess recruitment and retention needs in the State.

- **Federal Community Health Centers:** The federal Bureau of Primary Health Care sponsors Community Health Centers across the United States. Community Health Centers provide family-oriented primary and preventive health care services for people living in rural and urban medically underserved communities. Twelve federally supported Community Health Centers operate in Arizona. Arizona's Community Health Centers treat Medicare patients, and privately insured and uninsured patients, and participate in Arizona's Medicaid system and the State's tobacco tax primary care programs. The nonprofit Arizona Association of Community Health Centers supports the State's Community Health Centers through advocacy, representation, shared services, and technical assistance. In addition, the Association recruits and provide employment opportunities for National Health Service Corps participants. According

to the Arizona Department of Health Services, Community Health Centers employ 25 of the 49 National Health Service Corps professionals currently serving in Arizona.

Possible Changes Affecting Recruitment Programs

As part of the review of the Arizona Medical Student Loan Program, auditors identified common concerns and possible changes that could impact recruitment of health professionals in medically underserved areas. These concerns and possible changes were identified through auditors' review of board minutes and interviews of administrators of other programs designed to attract and recruit health professionals to medically underserved areas, as well as students at the University of Arizona College of Medicine.[1] Identified concerns and possible changes include the following:

- **Impact of HPSA Redesignations on Placement Opportunities:** Several board members, one program administrator, and medical students expressed concerns about future changes in the State's federally designated Health Professional Shortage Areas (HPSAs). State and federal laws often require participants in state and federally funded programs to work in federal HPSAs. Several board members and one program administrator expressed concern that some areas currently designated as HPSAs would lose their designations, thereby decreasing placement opportunities in these areas and making it more difficult for program participants to find employment. A few students stated that

[1] In addition to the Board of Medical Student Loans Program coordinator, auditors interviewed the Department of Health Service's manager for National Health Service Corps programs, the program manager for the State's two loan repayment programs, and the program manager for the Arizona Health Provider Resources Program.

they want better information on trends in medically underserved areas and future job opportunities.[1]

- **Shortages in Eligible Placement Sites:** In addition to potential losses in eligible placement sites from future HPSA redesignations, several program administrators and board members expressed concerns about the lack of eligible placement sites. For example, these individuals noted that some communities in Arizona have great need for doctors' services; however, they may lack the physical infrastructure and facilities necessary to attract and support doctors.

- **Changes in Health Professional Workforce:** Finally, program administrators at the Arizona Department of Health Services expressed uncertainty about the forces influencing the demand and supply of health professional workers. They said the market for medical and osteopathic doctors does not appear saturated; however, there appears to be a glut of mid-level health professionals, such as nurse practitioners and physician assistants, who were willing to take primary care positions in medically underserved areas. They also noted that many communities prefer doctors.

[1] According to Department of Health Services staff, doctors who participate in the National Health Service Corps and the Arizona Medical Student Loan program are required to initiate self-directed job searches after they complete their residencies. The State does not guarantee job placement in designated medically underserved areas.

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SUNSET FACTORS

In accordance with A.R.S. §41-2954, the Legislature should consider the following 12 factors in determining whether the Board of Medical Student Loans (Board) should be continued or terminated.

1. The objective and purpose in establishing the Board.

The Board was established in 1977 to administer the Arizona Medical Student Loan Fund. The Board's mission is

> *"To recruit physicians to serve in medically underserved areas in Arizona by providing substantial funding in educational loans to students at colleges of medicine in Arizona."*

The Board grants loans to medical students who, upon completing their residencies, agree to provide medical services in rural and other medically underserved areas of the State. To participate in the program, a student must be an Arizona resident who plans to practice in family practice, pediatrics, obstetrics, or internal medicine. Loan recipients agree to serve in a rural or other medically underserved area of the State for at least two years, or one year of service for each year of loan support, whichever is longer, upon completion of medical residency training. Initially, the Board provided funding to only University of Arizona medical students. However, a 1999 legislative change allows students at other Arizona medical schools to receive loans. Currently, students at both the University of Arizona College of Medicine and Midwestern University's Arizona College of Osteopathic Medicine are eligible for loans. According to the Board, medical students receive about 83 percent of the average annual cost of a public medical education in exchange for their service commitments.

2. The effectiveness with which the Board has met its objective and purpose and the efficiency with which it has operated.

The Board has been generally effective in meeting its objective and purpose and has generally operated efficiently. Since its inception, the Board has awarded funding to a total of 118 students. As of June 30, 1999, of those 118 students, 48 had completed or were completing their service obligations, 34 had yet to begin to fulfill their service obligations because they were still in school or in their medical residency training, and 36 had repaid or were repaying their loans.[1] Additionally, the Board has generally operated efficiently in that all of the program's funding is awarded to medical students. The Board's administrative support is provided free of charge by the University of Arizona College of Medicine. Further, Board members have not received any compensation.

However, the Board could operate more effectively in two areas.

- **First,** the Board should include in its retention statistics only those doctors who continue to practice in rural and other medically underserved areas of the State (see Finding I, pages 11 through 18). The Board's fiscal year 1999 retention statistics include one doctor who works at a facility that serves the medically needy, but the facility is not located in a federal Health Professional Shortage Area or Arizona Medically Underserved Area.

- **Second**, some changes to the Board's selection processes could help it operate more effectively. To ensure that all eligible applicants are given fair and equal consideration for funding, the Legislature should add a definition of Arizona resident to the Board's statutes, the Board should develop and use standard interview instruments for applicant interviews, and the Board

[1] Of the 34 loan recipients who had yet to begin to fulfill their service obligations, 1 is medically disabled and 1 has a military deferment.

should adopt an applicant scoring system (see Finding II, pages 19 through 23).

Limited research on health professions' loan repayment and scholarship programs suggests that loan repayment programs may be more effective than scholarship programs to get health professionals to fulfill their service obligations. Loan repayment programs provide repayment of health professionals' already incurred education loans in exchange for service. Scholarship programs, like the program administered by the Board of Medical Student Loans, provide up-front funding for students' health professions education in exchange for future service. The United States General Accounting Office (GAO) evaluated the National Health Service Corps scholarship and loan programs in 1995, and determined that the loan repayment program offered a better long-term investment of scarce federal resources to address shortages in primary care providers when compared to the scholarship program. The GAO determined that loan program participants were more likely to complete their agreed-upon service than scholarship program participants. Similarly, a national expert at the University of North Carolina who has studied state-supported programs indicated that programs that focus on recruiting doctors after they complete training or during residency are better at getting them to complete their service obligations than scholarship programs. When auditors interviewed this expert, he stated that loan repayers do not face as many uncertainties as those associated with long-term obligations. He added that programs that require service obligations up to seven years in advance do not factor into account lifestyle changes, such as marital and family status.[1]

[1] Auditors interviewed Donald E. Pathman, M.D., MPH, of the University of North Carolina; he informed auditors that the *Journal of Rural Health* was reviewing a yet-to-be-published paper entitled "Medical Training Debt and Service Commitments: the Rural Consequences."

3. The extent to which the Board has operated within the public interest.

The Board has operated in the public interest by placing Arizona doctors in medically underserved areas of the State that may not have otherwise received such medical services. Currently, ten doctors are fulfilling their service obligations at locations statewide. In addition, the Board may grant loans to help defray the cost of a medical education to qualified Arizona residents who may otherwise be unable to pay the expenses of medical school. The Board has awarded funding to 16 students each year for the past few years. Finally, as of June 30, 1999, the Board reports that 18 doctors continue to practice in medically underserved areas of the State after completion of their service obligations.[1]

4. The extent to which rules adopted by the Board are consistent with the legislative mandate.

Since the Board does not have the authority to promulgate rules, this factor does not apply.

5. The extent to which the Board has encouraged input from the public before adopting its rules, and the extent to which it has informed the public as to its actions and their expected impact on the public.

The Board does not have the authority to promulgate rules. However, the Board informs the public of its actions by holding public meetings, as needed, to discuss applicant qualifications, to award funding to eligible students, to approve service locations, and to take any other actions needed to administer the program. The Board complies with the Open Meeting Laws regarding posting public meeting notices at least 24 hours in advance, as well as requirements for keeping meeting minutes. Finally, the Board publishes an annual report that includes information regarding the purpose of the Arizona Medical Student

[1] As discussed in Finding I, pages 11 through 18, the Board has slightly overstated its retention statistics.

Loan program, the number of students funded, and the locations where doctors are providing service.

6. The extent to which the Board has been able to investigate and resolve complaints that are within its jurisdiction.

According to the Board, there have been a few instances in which participants in repayment have complained. The Board has sought the advice of the Attorney General to appropriately handle these matters.

7. The extent to which the attorney general or any other applicable agency of state government has the authority to prosecute actions under the enabling legislation.

A.R.S. §15-1724(G) authorizes the Attorney General's Office to take actions needed to enforce the contract and achieve repayment of loans provided by the Board. According to the Board, since the program began, two loan recipients have been referred to the Attorney General's Office for repayment problems and have since repaid or are repaying the loans. In an additional two cases, the Board entered into payment arrangements with doctors, following the Office of the Attorney General's advice. Finally, one additional case referred to the Attorney General's Office was resolved with the case being returned to the Board and the loan recipient completing the service commitment.

8. The extent to which the Board has addressed deficiencies in its enabling statutes which prevent it from fulfilling its statutory mandate.

A number of changes have been made to the Board's statutes over the years to update the loan program. During the 1992 legislative session the amount of each loan granted by the Board increased from $6,000 to tuition plus no more than $10,000, adjusted for inflation. As a result, the Board is able to provide substantial funding to cover the cost of a public medical school education. In addition, during the

same legislative session, the loan repayment penalty was substantially increased. A loan recipient who does not fulfill the service obligation repays the loan at 7 percent interest plus liquidated damages in the amount borrowed. Prior to this change, the law specified $5,000 liquidated damages. Finally, a 1992 legislative change requires students to specialize in family practice, pediatrics, obstetrics, or internal medicine. Previously, loan recipients could enter any field of medicine.

The Legislature also made significant changes to the Board's statutes in 1996. First, the Legislature modified the areas of the State where doctors can serve to include rural areas in addition to other medically underserved areas. Second, the Legislature added A.R.S. §15-1723(E) which requires the Board to collect and maintain data on the retention of doctors who practice in rural and other medically underserved areas of the State.

Finally, in 1999 the Legislature made some changes to the Arizona Medical Student Loan Program and the Board's composition. The Legislature amended A.R.S. §15-1723(A) to allow students at both public and private medical schools in Arizona to be eligible for loans. Additionally, it added an osteopathic physician to the Board who is appointed by the Arizona Board of Osteopathic Examiners in Medicine and Surgery and made the Department of Health Services' board member a non-voting member.

9. The extent to which changes are necessary in the laws of the Board to adequately comply with the factors listed in the Sunset review statute.

Some legislative changes could help the Board comply with the Sunset factors.

- **First**, if the Board thinks that the Arizona Medical Student Loan Program should serve certain populations not located in rural and other medically underserved areas of the State, it should request a legislative change to A.R.S. §15-1723(D) to include additional areas approved by the Board. Currently, the Board has given approval to one doctor who works for a facility that of-

fers health services to indigent and working poor drug and alcohol addicts who lack insurance coverage. However, this health facility is not located in a rural or medically underserved area of the State (see Finding I, pages 11 through 18).

- **Second**, to better enable the Board to approve only appropriate service locations, the Legislature should define rural or give the Board rule-making authority to do so. Four doctors are currently fulfilling their service obligations by working in areas of the State that could be considered rural. However, because rural is not defined, these doctors' service sites may not be appropriate (see Finding I, pages 11 through 18).

- **Third**, the Legislature should clarify A.R.S. §15-1723(E) to specify the amount of time the Board should track doctors who continue to practice in rural and other medically underserved areas once their service obligations are complete (see Finding I, pages 11 through 18).

- **Finally**, the Legislature should include in the Board's statutes a definition of Arizona resident so all applicants' eligibility is determined based on the same residency requirements (see Finding II, pages 19 through 23).

10. The extent to which termination of the Board would significantly harm the public health, safety, or welfare.

Terminating the Board would not significantly endanger the public health, safety, and welfare. The Arizona Medical Student Loan Program is only one of a number of state and federal programs that place health care professionals in medically underserved areas of Arizona (see Other Pertinent Information, pages 25 through 31). However, the Board does provide substantial funding to approximately 16 medical students each year who, in turn, provide a minimum of 2 years of care to Arizona residents in rural and other medically underserved areas. According to the

Board's records, since its inception, 38 doctors have provided a combined total of more than 104 years of service to medically underserved areas of Arizona during their years of commitment.

If the Legislature were to terminate the Board, a phase-out of the program would be beneficial to those students who currently are receiving funding. In addition, the Board or another entity is needed to approve service sites of those who have yet to fulfill their service obligations and to monitor those who are currently fulfilling their service obligations.

- **First**, those students who are currently receiving program funding would have to incur unanticipated debt from other sources to complete their medical education if the program were terminated. According to the Board, most students currently receiving funding plan to participate in the program for four years. If the program were terminated, these students would have to find other sources of funding, but would still owe a minimum two-year service commitment or would have to repay their loans.

- **Second**, the Board approves service sites for those doctors who are ready to fulfill their service obligations. If the Board were terminated, an alternative entity should approve service sites.

- **Finally**, the Board monitors doctors who are currently fulfilling their service obligations to ensure that the doctors serve the appropriate amount of time. If the Board were terminated, an alternative entity should monitor the service obligations.

11. The extent to which the level of regulation exercised by the Board is appropriate and whether less or more stringent levels of regulation would be appropriate.

Since the Board is not a regulatory agency, this factor does not apply.

12. The extent to which the Board has used private contractors in the performance of its duties and how effective use of private contractors could be accomplished.

The Board has not used private contractors and there does not appear a need to do so.

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APPENDIX

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Table 3

Board of Medical Student Loans
Health Professional Scholarship and Loan Repayment Programs

Program	Sponsoring Agency	Administrator	Description
Arizona Medical Student Loan Program	State of Arizona	Board of Medical Student Loans	State program established in 1977 that provides financial support to Arizona medical students who: ➲ Are residents of the State; ➲ Agree to specialize in primary care and practice medicine in rural and other medically underserved areas after completing residency training.
National Health Service Corps Scholarship Program	U.S. Department of Health and Human Services (DHHS), Bureau of Primary Health Care	Arizona Department of Health Services (ADHS), Office of Primary Care Resources	Federal program that underwrites training and pays full tuition and fees for eligible primary health care students: ➲ Selected students agree to provide primary health care services in federally designated Health Professional Shortage Areas (HPSAs) after completing training; ➲ Eligible providers include primary care physicians, family nurse practitioners, certified nurse-midwives, and physician assistants.

Table 3 (Cont'd)

Board of Medical Student Loans
Health Professional Scholarship and Loan Repayment Programs

Program	Sponsoring Agency	Administrator	Description
National Health Service Corps Loan Repayment Program	DHHS, Bureau of Primary Health Care	ADHS, Office of Primary Care Resources	Federal program that repays loans incurred by health care professionals who agree to a 2-year commitment to provide primary health care services in federal HPSAs.
Arizona Loan Repayment Program	DHHS, Bureau of Primary Health Care; and the State of Arizona	ADHS, Office of Primary Care Resources	Joint federal and state program established in 1994: ➲ The federal government provides a dollar-for-dollar match to states to repay qualifying educational loans for primary health care providers who agree to practice in a public or nonprofit entity located in a federally designated HPSA.
Rural Private Primary Care Provider Loan Repayment Program	State of Arizona	ADHS, Office of Primary Care Resources	State program established in 1997: ➲ Repays educational loans for physicians, dentists, nurse practitioners, certified nurse-midwives, and physician assistants with current or prospective rural primary care practices located in medically underserved areas of the State of Arizona; ➲ Supported by tobacco tax revenues.

Table 3 (Concl'd)

Board of Medical Student Loans
Health Professional Scholarship and Loan Repayment Programs

Program	Sponsoring Agency	Administrator	Description
Indian Health Services (IHS) Scholarship Program	DHHS, Indian Health Services	Twelve IHS Area Offices around the United States, including three that serve Arizona.	IHS operates three scholarship programs to assist American Indian and Alaska natives to pursue health careers: ➲ *Section 103 Program*: Provides financial support to students who enroll in courses leading to a bachelor's degree in a specific professional area. ➲ *Section 103p Program*: Provides financial support to students who enroll in courses that will prepare them for acceptance into health professions schools. ➲ *Section 104 Program*: Provides financial assistance to students enrolled in health professions and other programs. Students agree to enter into a service obligation with the IHS to provide health services upon completion of their health education programs.
IHS Loan Repayment Program	DHHS, Indian Health Services	Twelve IHS Area Offices around the United States, including three that serve Arizona.	Repays health professionals' educational loans in exchange for a two-year service obligation in an IHS facility or approved Indian health program. Program is not limited to American Indians and Alaska Natives.

Source: Auditor General staff analysis of program reports, program literature, and interviews with agency personnel.

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Table 4

Board of Medical Student Loans
Health Professional Education, Training, Recruitment, and Employment Programs

Program	Sponsoring Agency	Administrator	Description
Arizona Area Health Education Centers (AHEC)	DHHS, Bureau of Health Professions	Rural Health Office University of Arizona	Established in Arizona in 1984 with federal funding: ➲ Five regional AHEC centers operate in Arizona. They serve as a state-wide, community-based infrastructure for recruiting and retaining health professionals in rural and medically underserved areas.
Arizona Health Providers Resources Program	Rural Health Office, University of Arizona	Rural Health Office, University of Arizona	Program provides health professional recruitment and retention assistance in Arizona's rural and medically underserved areas. The program is a founding member of the National Rural Recruitment and Retention Network.
Arizona Rural Health Professionals Program	State of Arizona	University of Arizona, College of Medicine, Program in Community Responsive Medicine	State program established in 1994 to provide Arizona health professions students intensive clinical training experiences in rural Arizona: ➲ Each year, the State's universities select 15 medical students, 10 nurse practitioner students, and 4 pharmacy students to participate.

Table 4 (Concl'd)

Board of Medical Student Loans
Health Professional Education, Training, Recruitment, and Employment Programs

Program	Sponsoring Agency	Administrator	Description
Federal Community Health Centers	DHHS, Bureau of Primary Health Care	DHHS, Bureau of Primary Health Care	Twelve federally qualified Community Health Centers operate in Arizona: ➲ Provide family-oriented primary and preventive health care services for people living in rural and urban medically underserved areas; ➲ Located in areas where economic, geographic, or cultural barriers limit access to primary health care for a substantial portion of the population; ➲ Private, nonprofit, Arizona Association of Community Health Centers provide support.
J-1 Visa Waiver Program	U.S. Immigration and Naturalization Services	ADHS, Office of Primary Care Resources	J-1 Visa Waivers allow foreign doctors to waive federal requirements to return to their home countries after completing medical training if a federal agency or state health department so requests: ➲ The Arizona Department of Health Services may request up to 20 J-1 Visa waivers per year for doctors to work at least three years in medically underserved areas.

Source: Auditor General staff analysis of program reports, program literature, and interviews with agency personnel.

Agency Response

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May 9, 2000

Debbie Davenport, Auditor General
State of Arizona
Office of the Auditor General
2910 N. 44th Street, Suite 410
Phoenix, Arizona 85018

Dear Ms. Davenport:

The Board of Medical Student Loans appreciates the objective evaluation of the Arizona Medical Student Loan Program conducted by your office. The research your team did on the Nebraska program will be helpful to us in improving our interview evaluation form. We will also be implementing other recommendations made by the audit team.

FINDING I
Changes to Board's Statutes Could Help Clarify Service Area and Retention Tracking Requirements

The Board of Medical Student Loans has relied upon the evaluation of service sites by the Arizona Department of Health Services (ADHS), the state agency responsible for determining medically-underserved areas. ADHS recommended approval of the sites in Prescott, Lake Havasu City, and Flagstaff, which were subsequently approved by the Board for physicians meeting their service commitments to the Arizona Medical Student Loan Program.

Prescott/Mayer and Humboldt:
ADHS recommended approval of the site of the physician in Prescott who located her practice less than 20 miles from Mayer and 10 miles from Humboldt. Mayer/Humboldt is a medically underserved area. Like many communities in Arizona, Mayer and Humboldt lack the facilities necessary to attract and support doctors. There was no facility available in Mayer or Humboldt to support a practice when this physician started serving these towns. She was the first full time pediatrician in the area when she began to practice in this vicinity.

Lake Havasu City and outlying areas:
ADHS recommended approval of the Lake Havasu City physician who provides vascular and general surgery, and who has been the only vascular surgeon in the area, which extends along the Colorado River. Evaluations of medically-underserved areas by ADHS are only done for primary care and this physician was a student in the Arizona Medical Student Loan Program before it required primary care service. However, planning studies in the service area reported a community need for vascular surgery specialists, and the lack of a vascular surgeon available for timely consultations on hospitalized patients was of particular concern to the hospital and attending physicians. Patients were being sent by helicopter to Phoenix. ADHS recommended approval of this physician's service to the Board of Medical Student Loans. This physician has also filled in for the general surgeon in Parker, AZ, which is designated both a Medically Underserved Area (AzMUA) and a Health Profession Shortage Area (HPSA).

Flagstaff/Winslow:
The Board of Medical Student Loans approved this physician's service based upon ADHS's recommendation of approval. The physician serves not only Flagstaff but also Winslow Hospital, which provides services to the Native American population through the Indian Health Service. At the time of approval, Winslow was reported by ADHS as a medically-underserved area and Flagstaff as having a Medically Underserved Population designation (MUP, designated by the Governor of Arizona).

Non-Profit Facility serving Indigents in Mesa:
One doctor is fulfilling his service obligation working with indigent and working poor individuals without insurance coverage for chemical addiction, in an urban area of the State. The physician began working at the facility during his training in Toxicology. It is difficult to recruit physicians to serve this population and the Mesa facility serves only people who lack insurance coverage for chemical addiction. A large portion of the patients have undiagnosed or untreated medical problems. Once patients are medically safe from the complications of their withdrawal syndrome, the staff establishes an ongoing treatment regimen. The facility is supported by the Arizona Department of Health Services, United Way, Maricopa County, and the cities of Phoenix, Tempe and Mesa. The Board approved his service to this medically-underserved population.

Benson:
In the approval of Benson as a service site for two family practice physicians, the Board considered several factors. It was reported to the Board by ADHS that the census figures say that there is a population of 9000 but that there are 12,000 – 15,000 in the service area. Benson is a rapidly growing rural area that had six male physicians in Benson when the decision was made, including one that planned to retire the next year and one that wasn't working full time. There were no female physicians and no obstetrical services. The community was averaging 125-130 live birth deliveries per year and patients were going to Tucson or Sierra Vista for care. The approved female physician planned to emphasize gynecology in her practice and provide pediatric as well as adult care. She and

the other approved physician and his brother have plans to share on-call with her and provide obstetrical services. Both physicians approved are from the area and the health care people in the community expressed a desire to have them return to the community and be part of their master health care plan for the area. Both physicians plan to make a lifelong commitment to offer full spectrum family practice to the community. ADHS did not make a recommendation, but the Board referred back to the Sunset Review hearing where it was made clear that the Board was to concentrate on rural areas. The Board reasoned that this is a growing rural community that wants these two physicians from the area, one of them born and raised there, to provide medical services there. The physicians were approved for service in Benson.

Recommendations:

1. The experience of the Board of Medical Student Loans in administering this program has led to the conclusion that the Board needs greater flexibility in approving service sites that meet the spirit and intent of the program in serving medically-underserved and rural people in Arizona.

   The finding of the Auditor General is agreed to and the audit recommendation will be implemented.

2. The Board agrees that the statutes should be amended to define rural.

   The finding of the Auditor General is agreed to and the audit recommendation will be implemented.

3. The finding of the Auditor General is agreed to and the audit recommendation will be implemented.

4. The Board of Medical Student Loans agrees that the statutes should be amended to limit the amount of time the Board must track doctors who continue to practice in rural and medically-underserved areas. We recommend that the statute read that the Board "collect and maintain data on the retention of doctors who practice in rural and other medically underserved areas for at least ten (10) years.
5. We believe that 10 years will demonstrate the physician's intention to continue or not in providing this needed service to Arizona, and make it less burdensome for university staff. At the same time, including the word "minimum," allows the Board to continue to collect data if staff time allows.

6. The finding of the Auditor General is agreed to and the audit recommendation will be implemented.

FINDING II
Changes in Applicant Selection Process Needed to Ensure Equal Consideration for All Students

The Board of Medical Student Loans is pleased with the cooperation between the faculty and staff of The University of Arizona College of Medicine (UA) and Midwestern University and their Arizona College of Osteopathic Medicine (AZCOM) in bringing the private osteopathic medical students into the Arizona Medical Student Loan Program. The legislative change was effective in August 1999 for 1999-2000.

The UA College of Medicine Program Coordinator Senior made two trips to AZCOM to work out the details of the joint participation with faculty and staff and to present the program to the osteopathic students. Arizona Department of Health Services (ADHS) also sent a representative to be part of that presentation to the students. Midwestern's Director of Financial Aid and AZCOM's Associate Dean for Academic Affairs attended two meetings of the Board of Medical Student Loans and plan to continue to attend in the future. The written information, application and contract have been revised to include both the allopathic and osteopathic students, and a standardized interview instrument and an interview evaluation form was developed and used for recent interviews of UA and AZCOM student applicants. Eligible osteopathic students who applied have been approved for funding for 1999-2000.

Recommendations:

To ensure that all eligible applicants are given equal and fair consideration for available funding,

1. The Legislature should add a definition of Arizona resident to the Board's statutes.

   The finding of the Auditor General is agreed to and the audit recommendation will be implemented.

2. The Board should develop and use standard interview instruments for applicant interviews.

   The finding of the Auditor General is agreed to and the audit recommendation will be implemented.

3. The Board should adopt a scoring system to rank applicants and guide selection of the most qualified applicants for funding.

   The finding of the Auditor General is agreed to and the audit recommendation will be implemented. Such a scoring system should not preclude the Board from using its professional judgment in applicant selection, as noted in the Audit Report.

We are looking forward to working with the Legislature to implement the recommended changes in the statutes, which we believe will strengthen the Arizona Medical Student Loan Program.

Sincerely,

Diane Brennan
Chairperson
Board of Medical Student Loans

DB:mjg

Other Performance Audit Reports Issued Within the Last 12 Months

99-7	Arizona Drug and Gang Policy Council
99-8	Department of Water Resources
99-9	Department of Health Services—Arizona State Hospital
99-10	Residential Utility Consumer Office / Residential Utility Consumer Board
99-11	Department of Economic Security—Child Support Enforcement
99-12	Department of Health Services—Division of Behavioral Health Services
99-13	Board of Psychologist Examiners
99-14	Arizona Council for the Hearing Impaired
99-15	Arizona Board of Dental Examiners
99-16	Department of Building and Fire Safety
99-17	Department of Health Services' Tobacco Education and Prevention Program
99-18	Department of Health Services—Bureau of Epidemiology and Disease Control Services
99-19	Department of Health Services—Sunset Factors
99-20	Arizona State Board of Accountancy
99-21	Department of Environmental Quality—Aquifer Protection Permit Program, Water Quality Assurance Revolving Fund Program, and Underground Storage Tank Program
99-22	Arizona Department of Transportation A+B Bidding
00-1	Healthy Families Program
00-2	Behavioral Health Services—Interagency Coordination of Services
00-3	Arizona's Family Literacy Program
00-4	Family Builders Pilot Program
00-5	Department of Agriculture—Licensing Functions

Future Performance Audit Reports

Department of Public Safety—Aviation Division

Department of Agriculture's
Animal Disease, Ownership and Welfare Protection Program