

FINANCIAL SUPPORT FOR RESEARCH TRAINING AND CAREER DEVELOPMENT IN COMPLEMENTARY AND ALTERNATIVE MEDICINE FROM THE NATIONAL INSTITUTES OF HEALTH

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ABSTRACT

Research careers are a relatively new reality for complementary and alternative medicine (CAM) practitioners (eg, chiropractors, naturopaths, doctors of oriental medicine, etc). Before the establishment in 1998 of the National Center for Complementary and Alternative Medicine (NCCAM) as part of the National Institutes of Health (NIH), there were few funding resources available for those interested in a CAM research career and fewer still feasible paths. Now, however, NCCAM provides a broad array of research training and career development awards for those seeking a long-term career in CAM research. These awards include predoctoral and postdoctoral fellowships, individual career development awards, and institutional training awards. The goal of this article is to provide information about current research training funding opportunities from NCCAM and NIH as a whole that are available to CAM practitioners in the context of the historical challenges of transitioning from a clinical career in CAM practice to a CAM research career. (*J Manipulative Physiol Ther* 2007;30:483-490)

Key Indexing Terms: *Research; Research Support; Fellowships and Scholarships; Complementary Therapies*

Research careers are a relatively new reality for complementary and alternative medicine (CAM) practitioners (eg, chiropractors, naturopaths, doctors of oriental medicine, etc).¹ Before the establishment in 1998 of the National Center for Complementary and Alternative Medicine (NCCAM) as part of the National Institutes of Health (NIH), there were few resources available for those interested in a CAM research career and fewer still feasible paths.^{2,3} As a consequence, there were only a few intrepid CAM practitioners who sought the requisite research training to begin a career in CAM research.^{4,5} Since that time, and in the last seven years in particular, new funding opportunities

as well as formal academic programs in CAM research have become available.⁶ The March 2002 White House Commission on Complementary and Alternative Medicine Policy report,⁷ the 2005 Institute of Medicine of the National Academies report on Complementary and Alternative Medicine in the United States,⁸ and 2 5-year Strategic Plans of NCCAM⁹ all have emphasized the vital importance of training and funding an appropriate cohort of CAM practitioners to be able to conduct rigorous biomedical research. The goal of this article is to provide information about the range of current research training funding opportunities from NCCAM and NIH as a whole that are available to CAM practitioners in the context of the historical challenges of transitioning from a clinical career in CAM practice to a CAM research career.

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DEFINITION OF CAM PRACTITIONERS

Complementary and alternative medicine practitioners are trained in healing practices that are not part of conventional (ie, allopathic) medical care. In the United States, most CAM practitioners with terminal doctoral degrees include Doctor of Acupuncture and Oriental Medicine (DAOM), Doctor of Chiropractic (DC), and Doctor of Naturopathy (ND). In

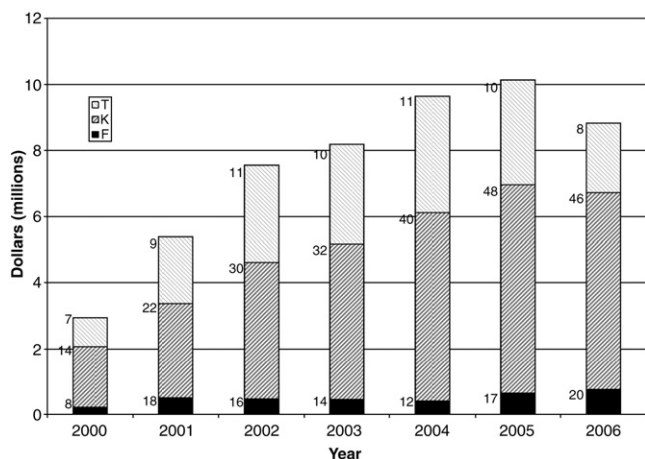


Fig 1. Total annual expenditures from fiscal year 2000 to 2006 by NCCAM on training and career development awards stratified by generic grant mechanisms. The numbers to the left of each data series indicate the total number of individual grants supported that year per generic grant mechanism. T indicates T32 institutional training grants; K, research career development awards; F, NRSA pre- and postdoctoral fellowships.

addition, Doctors of Osteopathy (DO) who have been taught and use Osteopathic Manual Medicine are also included by NCCAM as CAM Practitioners with doctoral degrees. There are numerous other CAM professions where a doctoral degree is not the common terminal degree, some of whom are licensed (eg, licensed massage therapist) and others are not (eg, yoga therapist).

Traditional Path for Research Careers

The traditional path to, and de facto standard for, developing a career in biomedical research has been to undergo “research training” by obtaining a doctoral research degree (ie, a PhD) or a doctoral clinical degree (eg, an MD), and then obtain further postdoctoral research training in an advanced research area.¹⁰ This combination of doctoral plus postdoctoral training has generally been seen as critical to successfully developing a subsequent long-term career as an “independent investigator” with the necessary scientific/biomedical knowledge and skills in how to conduct rigorous biomedical research.¹¹ Recognizing the importance of training medical scientists, in 1964, the NIH began the Medical Scientist Training Program¹² that funds highly qualified new medical students to obtain dual degrees (MD/PhD).^{10,13} In addition, many NIH institutes and centers have supported Mentored Clinical Scientist Development Program Awards, which are institutional programs that provide research training infrastructure for those with clinical doctoral degrees.¹⁴ In recent years, the NIH has explored new avenues to reengineer clinical research training,^{15,16} which is part of the NIH Roadmap Initiative.¹⁷ All of these efforts for developing long-term careers in

biomedical research have been based at research-intensive institutions such as conventional universities and health professional schools (eg, medical schools, nursing schools, etc), and these environments have provided a rich opportunity for conventional new biomedical researchers to obtain essential postdoctoral and early research career mentoring.

Challenges for CAM Practitioners

In contrast to the training of conventional medical doctors and biomedical scientists, most institutions that train CAM practitioners (eg, chiropractic schools, naturopathy colleges, etc) have never been directly affiliated with research-intensive universities.¹⁸ The mission of the CAM institutions has primarily been to train CAM clinicians to treat patients, not to conduct basic biomedical or clinical research. Before 1997, few faculty at chiropractic institutions had obtained significant clinical or basic science research funding¹⁹; the institutions did not have substantive research infrastructure, and the faculty did not have the release time from their teaching and/or clinical responsibilities to pursue research funding.²⁰ Arguably, chiropractic is one of the CAM professions that has most enthusiastically embraced the need for clinical²¹ and basic science research²² and for developing a research cadre, yet it finds it is still lacking in achieving its research goals.²³ There are still no federally funded CAM dual-degree programs (eg, DC/PhD) comparable to the Medical Scientist Training Program.⁶ Furthermore, the CAM professional training²⁴ has not necessarily been an obvious fit with the research training programs at conventional research intensive universities.^{25,26} Hence, there have been considerable barriers both programmatically and financially for interested CAM practitioners to pursue a research career. With that said, it remains essential to have highly trained scientists who understand CAM to conduct rigorous research in determining efficacy and mechanisms of CAM.

NATIONAL CENTER FOR COMPLEMENTARY AND ALTERNATIVE MEDICINE ADDRESSES THE CHALLENGES

NCCAM is committed to funding the research training and career development of CAM practitioners and scientists who themselves are committed to CAM research.²⁶ The funding of research training and career development is not just part of NCCAM’s Strategic Plans,⁹ it is also an explicit part of the congressional language (Public Law 105-277) that created NCCAM as 1 of the 27 institutes and centers that comprise the NIH. From 2004 to 2006, NCCAM averaged over \$9 million dollars annual expenditures for CAM research training and career development awards (Fig 1). There are a number of different funding opportunities that are focused on individuals at different stages of their research training (eg, predoctoral and postdoctoral) and research careers (faculty position at an accredited institution). It

Table 1. Summary of individual training awards provided by NCCAM

Mechanism	FOA	Stage of career	Basic eligibility ^a	Focus	% Effort	Max salary/stipend	Max research fund	Max years
F31 (NCCAM)	PAR-07-384	Predoctoral	Bachelor's degree; acceptance into a research doctoral program	Basic or clinical research	100	NRSA ^b	NRSA ^b	5
F31 (diversity)	PA-07-106	Predoctoral	Bachelor's degree; acceptance into a research doctoral program	Basic or clinical research	100	NRSA ^b	NRSA ^b	5
F32 (NCCAM)	PA-07-319	Postdoctoral	Clinical or research doctoral degree	Basic or clinical research	100	NRSA ^b	NRSA ^b	3
K01	PA-06-001	Newly independent investigator or mid career	Clinical or research doctoral degree and independent position	Basic or clinical research with a shift in research	Min 75	\$75 000	\$25 000	3-5
K01 f or CAM practitioners (NCCAM)	PAR-07-003	Newly independent Investigator	CAM practitioners with doctoral degrees (see PAR for details)	Basic or clinical research	min 75	\$75 000	\$25 000	3-5
K07 developmental	PA-00-070	Newly independent investigator	Clinical or research doctoral degree and independent position	Curriculum development and clinical or basic research	min 75	\$75 000	\$25 000	5
K07 leadership	PA-00-070	Senior or mid career investigator	Clinical or research doctoral degree and independent mid career or senior position	Curriculum development and clinical or basic research	25 to 50	Institutional salary level to the NIH legislative limit	\$25 000	2-5
K08	PA-06-152	Newly independent investigator	Clinical doctorate and independent position	Laboratory or field research	min 75	\$75 000	\$25 000	3-5
K22 (NCCAM)	PAR-05-129	Postdoctoral	NRSA postdoctoral training; 1-5 y postdoctoral experience	Career transition; basic or clinical research	Postdoctoral phase: 100 independent phase: minimum 75	Postdoctoral phase: NRSA ^b ; independent phase: \$50 000	Postdoctoral phase: \$25 000; independent phase: \$150 000 direct cost (includes salary but not F&A costs)	Postdoctoral phase: 1; independent phase: 3
K23	PA-05-143	Newly independent investigator	Clinical doctorate	Patient-oriented research	Min 75	\$75 000	\$25 000	3-5
K24	PA-04-107	Mid career investigator	Clinical doctorate and mid career independent position	Patient-oriented research	25-50	Institutional salary level to the NIH legislative limit	\$50 000	3-5
K99/R00	PA-07-297	Postdoctoral	Max 5 y postdoctoral experience	Career transition; basic or clinical research	Postdoctoral phase: 75; independent phase: 75	Postdoctoral phase: \$75 000; independent phase: institutional salary level	Postdoctoral phase: \$25 000; independent phase \$249 000 total cost (includes salary and F&A costs)	Postdoctoral phase: 1-2; independent phase: 3

All F and K awards require that the candidate be a citizen, permanent resident, or noncitizen national of the United States. The one exception is the K99/R00, which does not require U.S. citizenship or permanent resident status. Eligible clinical doctorates for F32 and K awards include MD, DDS, DMD, DO, DC, OD, ND, DVM, PharmD, or the PhD in disciplines such as nursing, speech language pathology, clinical genetics, audiology, and rehabilitation. Research doctorates include PhDs in nonclinical areas. For NCCAM K awards, the applicant must have an independent research position past the postdoctoral stage, with the exception of the K99/R00 and the K22.

PAR indicates Program Announcement with Special Receipt Dates; PA, Program Announcement; FOA, Funding Opportunity Announcement.

^a See specific program announcement for complete eligibility requirements.

^b National Research Service Award stipend and research allowance information can be found at: <http://grants1.nih.gov/training/extramural.htm>.

should be noted that NIH does not make grants to individuals but, rather, to institutions who submit a research grant application on behalf of a given investigator. The institution receiving the award has the obligation to provide the necessary and appropriate fiduciary and ethical oversight of all activities funded under the award.

All such grants are made on a competitive, peer-reviewed basis, and investigators are strongly encouraged to contact the relevant program officer at NCCAM for information about what makes an application competitive. Because NIH's mission is focused on biomedical research, research training, and research career development, NIH does not fund students obtaining solely clinical degrees, whether conventional (eg, MD) or CAM (eg, DAOM, DC, DO, ND). All the funding opportunities described in this article require an individual to have some sort of position (student, postdoctoral, staff, or faculty) at an accredited academic or research institution (CAM or conventional). Information on all NCCAM funding opportunities is described on the NCCAM Web site,²⁷ and NCCAM research training opportunities can be found on the Training Page of the NCCAM Web site.²⁸ Also on the NCCAM Training Web site is an interim assessment of the initial 5 years of NCCAM's research training and career development programs.²⁹

Research Training for CAM Practitioners with Doctoral Degrees

Complementary and alternative medicine practitioners with doctoral degrees (eg, DAOM, DC, DO, ND) from accredited institutions are eligible to apply for funding for "research training." In this context, research training implies learning how to rigorously conduct science, whether conventional or CAM. The underlying assumption is that most professional clinical degree programs (ie, both CAM and conventional) train clinicians to treat patients rather than provide rigorous training in the conduct of research. Hence, although a CAM practitioner may have a doctoral degree, they still would need research training. The funding opportunities for research training range from graduate student fellowships, which are called "F31" awards to help fund graduate student research training for those enrolled in a research doctoral program (ie, a PhD program), to postdoctoral fellowships, which are called "F32" awards to help fund more advanced research training in a specific research area (Table 1). Because CAM doctoral degrees are considered by the NIH to be academically equivalent to conventional medical/scientific degrees (eg, MD, PhD), a CAM practitioner with a doctoral degree is eligible to apply for a postdoctoral fellowship (ie, an F32 award). If eligible for postdoctoral fellowships, then the advanced research training may or may not include a component that leads to a research doctoral degree (ie, PhD). The decision to pursue either predoctoral training (via an F31 award) or postdoctoral training (via an F32 award) will depend on many factors

including prior academic and research background, stage of clinical career, and personal/family factors.

A new NIH transition program to facilitate segueing from a postdoctoral position to a tenured faculty position is now available through NCCAM. Complementary and alternative medicine practitioners with doctoral degrees in active postdoctoral research training who are no more than 5 years in their postdoctoral research appointment may apply for a "Pathway to Independence" award using the K99/R00 mechanism (Table 1). The primary, long-term goal of this program for NCCAM is to increase and maintain a strong cohort of new and talented NIH-supported CAM independent investigators. This program is targeted to advanced postdoctoral fellows who have sufficient research experience to make them good candidates for tenure-track research faculty positions in 1 to 2 years. It is designed to facilitate a timely transition from a mentored postdoctoral research position to a stable independent tenure-track research faculty position with independent NIH or other independent research support at an earlier stage than is currently the norm. Successful applicants will receive stipend support for up to 2 more years of postdoctoral research studies and a commitment for up to 3 years of salary support for a tenure-track faculty position at a research-intensive institution. Funds for conducting a research project are included in the award.

NCCAM has awarded a number of institutional training grants (T32 awards) to CAM and conventional research institutions, which are listed and described on the Training page of the NCCAM Web site.²⁸ Depending upon the specific T32 award, these programs recruit CAM practitioners, graduate students, and/or postdoctoral fellows into their CAM research training programs; fund their studies; and provide some tuition reimbursement, fringe benefits, and a stipend.

Complementary and alternative medicine practitioners with doctoral degrees and who are engaged in certain federal-, state-, or privately funded research programs are eligible to apply for the Educational Loan Repayment Program.³⁰ If awarded, this could substantially reduce or eliminate any prior educational debt incurred to obtain their CAM doctoral degree. This program is designed to help recruit and retain scientists who plan to develop a long-term research career but might otherwise be deterred by the amount of debt they incurred obtaining their doctoral degree.

Research Training for CAM practitioners without Doctoral Degrees

For CAM practitioners without doctoral degrees but with bachelor's degrees, research training could be initiated by matriculating at an academic institution that offers graduate student research training in CAM, such as one of the NCCAM-funded institutional training grant programs (T32), graduate training programs with a CAM focus at other

conventional biomedical research universities (eg, Georgetown University, Washington, DC), or in a conventional biomedical research university. These CAM practitioners with bachelor's degrees would also be eligible to apply for a predoctoral fellowships (F31 awards) (Table 1) when matriculated in an accredited biomedical research doctoral program (conventional or CAM). These F31 awards are made on a competitive basis and are considered highly prestigious for the awardee, their mentor, and the institution.

In addition, there are other ways in which graduate students may receive financial support. For example, in many biomedical research graduate science programs in the United States, admitted full-time doctoral students (ie, PhD students) are often financially supported by their academic department, faculty sponsor, or by federally funded or private foundation training grants. Students typically receive some sort of tuition scholarship (or waiver) and are paid a stipend to conduct mentored research. In addition, graduate students may be paid as teaching assistants. For CAM practitioners without bachelor's degrees, there are a few US institutions that offer bachelor's degrees with a major or minor in a CAM-related discipline.⁶ It would be essential to have at least a bachelor's degree to begin pursuing a research career (in CAM or conventional science).

Research Career Development for CAM Independent Investigators

Complementary and alternative medicine practitioners with doctoral degrees and who have a faculty position at an accredited institution (CAM or conventional) are eligible to apply for research Career Development Awards (ie, the K-award series) (Table 1). To be eligible, the candidate need not have a tenure-track faculty position but any full-time position such as research assistant professor, instructor, clinical assistant professor, and others, as long as it is past the postdoctoral stage and the institution has a long-term commitment to the individual. In general, the K-award series provides salary support for the mentored principal investigator (PI) to enable their "release time" from clinic, administrative, or teaching responsibilities, but typically only provides minimal resources for the conduct of the research project itself. Thus, the bulk of the research support itself typically comes from resources provided by the PI's mentor (who presumably would already have research support), small grants the PI might also have, and/or institutional funds. Whatever the source of the research support, it must be identified and committed prior to the submission of the research grant application. The specific amount of funding available for research support varies depending on the specific type of K-award (Table 1).

New Opportunity for CAM Practitioners Only

In October 2006, NCCAM released the funding opportunity announcement PAR-07-003—The Bernard Osher

Foundation/NCCAM CAM Practitioner Research Career Development Award (K01).³¹ The specific purpose of this award is to provide research training support for CAM practitioners with clinical doctorates (eg, DAOM, DC, DO, ND), who have had limited opportunities for research training but a strong desire to pursue a career in CAM research. The long-term goal is to encourage more CAM practitioners to enter research careers, thus enriching CAM research through their experience and knowledge of CAM practice. This award will provide support and "protected" time (3, 4, or 5 years) for intensive supervised career development research experience in the biomedical, behavioral, or clinical sciences related to CAM. Awards are not renewable nor are they transferable from one PI to another. Full information about this Funding Opportunity Announcement is available via the grants.gov Web site³² and is also on the NCCAM Training page of the NCCAM Web site.²⁸ This award is designed exclusively for CAM practitioners with doctoral degrees (from accredited institutions) and specifically excludes those with conventional medical and PhD degrees (ie, MD, PhD). Like all NCCAM-funded K01 awards for newly independent investigators, it provides a contribution to salary support up to \$75 000 annually plus fringe benefits and a small research development fund to enable release time from clinical, administrative, and/or teaching duties at the awardee's institution to pursue a mentored research career development program. To be competitive, the institution submitting the application on behalf of the investigator must have a well-established record of funded research and research career development activities and qualified research faculty to serve as mentors. The institution must also have a long term commitment to the applicant in providing him/her with some type of position, mentoring, space, and research resources. Collaborative arrangements between CAM and conventional research institutions are possible to facilitate the most appropriate mentoring for a given candidate, and as always, investigators are strongly encouraged to discuss possibilities and options with the appropriate NCCAM Program Officer. To encourage research mentors and institutions to consider providing CAM practitioners with positions and resources for research training, The Bernard Osher Foundation will provide a separate annual salary award of \$40 000 to the primary mentor of successful applicants. Finally, in some cases, the mentored research may not be directly in CAM per se, as the CAM practitioner presumably already has a strong CAM background. Rather, the CAM practitioner may become mentored/trained in conventional biomedical research that would augment and/or be integrated with their CAM knowledge. Investigators are strongly encouraged to discuss their proposals with the appropriate NCCAM Program Officer before developing and submitting their applications. This Osher/NCCAM K01 award is also distinct from others in the K-award series in that it does not require significant prior research training to be eligible to apply for

it. However, the more prior research training performed would likely make a given application more competitive for actual funding.

Career Development Award K-series

The Mentored Research Scientist Development Award is designed for investigators pursuing a shift in focus of their research. It uses the K01 funding mechanism, and its purpose for NCCAM is to provide support and “protected time” (3, 4, or 5 years) for an intensive, supervised CAM career development experience in the biomedical, behavioral, or clinical sciences (Table 1). The proposed CAM career development experience must be in a research area new to the applicant and/or one in which an additional supervised research experience will substantially augment the CAM research capabilities of the investigator. NCCAM uses this award both for newly independent investigators and for midcareer investigators who need some protected time to gain the necessary experience to shift their research career into new areas.

The Mentored Clinical Scientist Research Career Development Award uses the K08 funding mechanism (Table 1) and provides support and “protected time” to individuals with a clinical doctoral degree (either CAM or conventional) for an intensive, supervised research career development experience in the fields of biomedical and behavioral research, including translational research, but not in patient-oriented research per se. Individuals with a clinical doctoral degree interested in pursuing a career in patient-oriented research (POR) should refer to the Mentored Patient-Oriented Research Career Development Award (K23).

The Mentored Patient-Oriented Research Career Development Award uses the K23 funding mechanism, and its purpose for NCCAM is to support the career development of investigators who have made a commitment to focus their research endeavors on CAM POR (Table 1). This mechanism provides support for 3 to 5 years of supervised study and research for clinically trained professionals who have the potential to develop into productive, clinical investigators focusing on CAM patient-oriented research. Applicants must justify the need for a period of mentored research experience and provide a convincing case that the proposed period of support and career development plan will substantially enhance their careers as independent investigators in CAM patient-oriented research. Clinically trained professionals or individuals with a clinical degree who are interested in further career development in biomedical research that is not patient-oriented should refer to the Mentored Clinical Scientist Career Development Award (K08).

The Midcareer Investigator Award in Patient-Oriented Research uses the K24 funding mechanism, and its purpose for NCCAM is to provide support for clinician investigators to allow them protected time to devote to CAM POR and to act as CAM research mentors primarily for clinical residents,

clinical fellows, and/or junior clinical faculty (Table 1). This award is primarily intended for clinician investigators who are at a minimum at the associate professor level or are functioning at that rank in an academic setting or equivalent nonacademic setting, and who have an established record of independent, peer-reviewed Federal or private research grant funding in CAM POR. This award is intended to advance both the research and the mentoring endeavors of outstanding CAM patient-oriented investigators. It is expected, for example, that investigators will obtain new or additional independent peer-reviewed funding as the PI for CAM POR and establish and assume leadership roles in collaborative CAM POR programs, and that there will be an increased effort and commitment to mentor beginning clinician investigators in CAM POR to enhance the research productivity of the investigator and increase the pool of well-trained CAM clinical researchers of the future.

The Developmental Academic Career Award (using the K07 funding mechanism) is used by NCCAM to support individuals interested in introducing or improving curricula in a particular CAM scientific field as a means of enhancing the educational or research capacity at the grantee institution (Table 1). The K07 provides up to 5 years of support for more junior candidates who are interested in developing academic and research expertise in a particular field as a way to increase the overall pool of individuals capable of research or teaching in the identified CAM area. During the period of the award, the candidate will become a successful CAM academician in the chosen area. Teaching, curriculum building, research, and leadership skills are to be learned during the tenure of the award. For junior candidates, a mentor is required.

The Leadership Academic Career Award uses the K07 funding mechanism and is used by NCCAM to support individuals interested in introducing or improving curricula in a CAM scientific field as a means of enhancing the CAM educational or research capacity at the grantee institution (Table 1). The award provides from 2 to 5 years of support for more senior individuals with acknowledged CAM scientific expertise and leadership skills, who are interested in improving the CAM curricula and enhancing the CAM research capacity within an academic institution. It is expected that support under this award will increase the visibility and the overall research support or academic capacity for the given field of CAM research within the academic medical/health and research community.

Institutional Grants

To ensure that a diverse and highly trained workforce is available to assume leadership roles related to the Nation's CAM research agenda, NCCAM awards the Ruth L. Kirschstein National Research Service Award (NRSA) Institutional Research Training Grants to eligible institutions using the T32 funding mechanism. For NCCAM, this program supports predoctoral, postdoctoral, and short-term

CAM research training programs at domestic institutions of higher education, including CAM institutions. Awards for T32 institutional NRSA research training grants may be for periods up to 5 years in duration and are renewable. Trainees are required to pursue full-time CAM research training. Only domestic, nonprofit, private or public institutions that have strong and high-quality research programs in the CAM area (s) proposed for research training and have requisite research staff and facilities may apply to NCCAM for grants to support NRSA Institutional research training programs. A history of producing successful research scientists and a faculty with research training experience and substantial research funding are also important characteristics of institutions that are competitive for these awards.

Accredited CAM institutions that have not been major recipients of NIH support are eligible to apply for the Academic Research Enhancement Award (AREA) program using the R15 funding mechanism. The general purpose of the AREA program is to stimulate research at educational institutions that provide baccalaureate or advanced degrees for a significant number of the Nation's research scientists, but that have not been major recipients of NIH support. Eligible organizations include all public or private institutions and components of institutions such as health professional schools/colleges and other academic components of domestic institutions offering baccalaureate or advanced degrees in the sciences related to health, except those that have received research grants and/or cooperative agreements from the NIH totaling more than \$3 million per year (in combined direct and indirect costs) in each of 4 or more of the last 7 years. The purpose of this program for NCCAM is to stimulate CAM research, especially at eligible CAM educational institutions and to create research opportunities for scientists at such institutions that otherwise are unlikely to participate extensively in NIH programs. The AREA grants from NCCAM are intended to support small-scale, CAM-related research projects proposed by faculty members of eligible, domestic institutions. In addition, providing research training for students at these institutions is an important element of AREA awards.

Research Training and Career Development in CAM for Conventional Scientists

Most applications that are received by NCCAM for CAM research training awards and for CAM research career development awards are from scientists and physicians with conventional training (eg, PhD and/or MD). Given the substantially larger pool of these scientists, this should not be a surprise. NCCAM welcomes applications from both the CAM and conventional scientific fields to seek funding for promising CAM research training and career development. All of the research training awards (ie, F-series) and the career development awards (K-series, with the exception of the Osher/NCCAM K01) are also available to those

scientists with conventional research training who now wish to focus on CAM (Table 1).

Current conventional postdoctoral scientists already supported by F32, T32, or other prestigious postdoctoral awards from whatever sources (Federal, State, or private foundations) and who are proposing a career in CAM research may apply for the Complementary and Alternative Medicine Career Transition Award, which uses the K22 mechanism (Table 1). The goal of this funding opportunity is to provide support for outstanding advanced postdoctoral research scientists during their transition to independence in CAM. The award will provide support for up to 1 year of postdoctoral research training and 3 years of research support as an independent investigator.

CONCLUSION

NCCAM has developed an extensive portfolio of CAM training and career development awards that are designed for CAM clinicians, scientists, and institutions. In combination with the NIH Educational Loan Repayment Program, it is now financially and programmatically feasible for clinicians and scientists from the CAM community to pursue a career in CAM research.

Practical Applications

- Complementary and alternative medicine research training and career development awards are available from NCCAM.
- Research Career Development Awards for faculty provide salary support.
- Postdoctoral research fellowships provide stipend support.
- Predoctoral research fellowships require matriculation in an accredited research doctoral program.
- Osher/NCCAM CAM Practitioner Award is exclusively for CAM practitioners.

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