

# INFORMATION AND COMMUNICATION SERVICES NIH - TASK ORDER

RFTOP# 149      TITLE: Med Students, Older People and the Arts

## **PART I - REQUEST FOR TASK ORDER PROPOSALS**

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B. PROPOSED PERIOD OF PERFORMANCE: 18 months from date of award.

C. PRICING METHOD: Time and Material. Firms shall provide fixed, fully loaded hourly prices for likely labor categories and a percentage handling charge for non-labor costs. Price will be a factor in the determination of the firm that is selected for award. Firms shall provide a ballpark, best estimate of the annual amount of likely expenditures but it is emphasized that hourly rates and handling charges will receive the most attention and weight in evaluation.

D. PROPOSAL INSTRUCTIONS: Proposals should be submitted by e-mail to the above POC. Proposals should not exceed 20 pages. Please enter in the subject line the following text, "RFTOP #148- Proposal submitted by \_\_\_\_\_ {insert your firm's name} \_\_\_\_\_." A signed task order form (last page of the RFTOP) should be submitted electronically or will be secured later.

E. RESPONSE DUE DATE: September 3, 2003 at 12:00 p.m. (noon).

F. TASK DESCRIPTION:

### **The contractor will:**

- Contact and enlist participation of 24 medical school students (MSS) in an 8-month art journey with 12 older people. The goal of the 4 meetings is to improve participating MSS' understanding and attitudes towards older people through direct contact and art-related activities.
- Contact and enlist participation of 12 older people (OP) that may be drawn from the community, assisted living, senior centers or other sources.
- Arrange OP transportation to museum.
- Coordinate meetings between MSSs and OPs.

- Evaluate effectiveness of arts program to affect the 12 medical students' attitudes toward aging. One way to measure effectiveness is by using the Aging Semantic Differential (ASD) attitude scale and comparing their attitudes to 12 medical student control group.
- Provide art and other supplies
- Manage subcontract with museum as a vendor (to the contract). Museum staff will provide arts education and programming.
- Provide photographic documentation of the program.
- Arrange final meeting with medical students and facilitate discuss the program
- Write and submit a final report.

**The Vital Visionaries Collaboration:  
A Program Proposal for the NIA  
and the American Visionary Art Museum (AVAM)**

**Proposal:** Concurrent with AVAM's year-long exhibit on late onset creativity, the Vital Visionaries Collaboration would pair first and second year medical students from Johns Hopkins University Medical School and University of Maryland Medical School with older people from Baltimore City in an 8-month art journey. Participants would meet three times over the course of "The Golden Blessings of Old Age" exhibition to learn about each other, themselves, and the value of creative, self-reliant expression.

The goal of NIA/AVAM's "Vital Visionaries Collaboration" is to help improve attitudes towards aging and older people by providing positive role models as exemplified by AVAM's featured senior artists and their artwork. The program intends to:

- Encourage interaction between first and second year medical students and older people from nursing homes and senior centers, which may exert a positive affect on their attitudes on aging, according to research, and,
- Awaken seniors to the creative possibilities still available to them and stimulate their intellect and senses.

**Justification:** Medical students who interact with healthy older people in their first and second years of medical school may experience improvements in their attitudes toward aging and older people, according to a study published by Dr. Marie Bernard in the March 2003 *Journal of the American Geriatrics Society*. As a result of the interaction, the students may become more compassionate and effective healers than those who do not have the opportunity to know and develop rapport with older people, according to Dr. Bernard. This result is in keeping with past studies that have demonstrated a beneficial effect of the exposure of medical students to the geriatric population, particularly early in their training, notes Bernard, a new member of the NIA's National Advisory Council on Aging.

**Program Activities and Methodology**

Collaborators will meet 4 times over the course of the exhibition, each time documenting their visits with photographs and written impressions.

1) During the first visit, the teams will receive a private tour of the exhibit by a museum-trained docent who will provide educational materials on the genre of visionary art and the prevalence of senior citizens within the genre. After the tour, the teams would become better acquainted with each other by sharing information on subjects such as:

- The best advice your grandparents ever gave you, or.
- Advice you would give your younger self now that you are wiser.
- What you would do differently if you had life to live over again.

The 'best advice' might be posted on a large art board for all the teams to see and discuss.

2) During the second visit, the teams would attend the museum's "Meet the Senior Artist" program and have an opportunity to ask the artist direct questions about their work and their creative lives. [The teams would be advised on the first visit to pay special attention to the artwork of the artist who they will meet on the second visit.] For example, the teams might learn about the construction of giant metal whirligigs from Vollis Simpson, 76.

3) In the third visit, the teams will create together a two-part piece of art, or diptych, using photos taken in the first two sessions and art supplies furnished by the museum. The diptychs will be hung in the Community Voices Gallery at the conclusion of the program.

### **About AVAM**

Each year, AVAM mounts a "megaexhibition," dedicating five of its seven galleries to exploring a theme that inspires human beings to acts of fresh creation. AVAM's unique, socially relevant exhibitions and innovative educational programs have drawn widespread media attention. CNN News called it "one of the most fantastic museums anywhere in America." *Travel Holiday* magazine ranked it #4 on a list of the "Top 25 Museums in the United States." This media attention may prove advantageous to the NIA's outreach efforts.

"Golden Blessings of Old Age" will run from October 2003 to September 2004. By showcasing the work of older people liberated by their age to create art, "Golden Blessings" will fuel a palpable sense of hope for everyone approaching their golden years.

The primary message of the exhibition is the importance of attitude to happy, healthy later years. Exhibit wall text will be based on conclusions of the MacArthur Foundation Study on Aging in America, that lifestyle and attitude are significantly more important than genetics in determining whether one's golden years are healthy ones -- even if one has a genetic predisposition for Alzheimer's, arthritis, or cancer.

Research on

**of the American Geriatrics Society**

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**An Evaluation of a Low-Intensity Intervention to Introduce Medical Students to Healthy Older People**

*Marie A. Bernard, MD\** *William J. McAuley, PhD* *John A. Belzer, PhD\** and *Karen S. Neal, PhD\**

This is a report of a controlled, prospective, longitudinal trial of an intervention to affect medical students' attitudes toward aging. Members of the Class of 2002 at the University of Oklahoma College of Medicine were assigned a senior mentor (a community-dwelling older person) upon matriculation into medical school. Students were required to perform a structured interview with the mentor once per semester for the first 2 preclinical years and to discuss these interviews in small groups mediated by geriatrics faculty. Members of the Class of 2001 were controls. Attitudes toward aging were determined using the Aging Semantic Differential (ASD) attitude scale in August 1998 and again at the end of the second year of medical school. Initial mean ASD scores were not significantly different for the two groups. Although both classes experienced improvements in their ASD scores from Time 0 to Time 1, the improvement for the class of 2002 was significantly greater than that for the class of 2001 (2001 class mean = 0.17, 2002 class mean = 0.40,  $t = -3.09$ , degrees of freedom ( $df$ ) = 219,  $P = .002$ ). This difference held up under controls for sex, age, prior visits to a nursing home, prior work/volunteering in an old-age environment, and a prior course on aging (Model  $F = 3.00$ ,  $df = 6/214$ ,  $P = .008$ ; class  $F = 9.70$ ,  $df = 1$ ,  $P = .002$ ). It was concluded that a low-intensity intervention to introduce entering medical students to healthy older people might have a positive effect on attitudes toward aging.

An educational strategy for medical students was used to test the hypothesis that introducing first- and second-year medical students

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to community-dwelling older people would improve medical students' attitudes about older people and increase student empathy for older patients. The Donald W. Reynolds Department of Geriatric Medicine, University of Oklahoma, introduced this program in the fall of 1998. The hypothesis was that the Class of 2002, which experienced the educational strategy, would have a more positive attitude toward older individuals (as measured using a standardized aging semantic differential questionnaire) than would the Class of 2001, which did not receive the intervention.

The literature has demonstrated that healthcare professionals, and physicians in particular, tend to have a negative attitude toward older patients.<sup>1-5</sup> Healthcare professionals tend to believe that most older individuals are frail and dependent and that those who are not are atypical. Some academic institutions have attempted to offset this stereotyping of older people through educational interventions that introduce students in the health professions to healthy older people.<sup>6,7</sup> Although these programs appear to have had a positive effect, they have generally been conducted without a control or comparison group<sup>3,8-10</sup> and have often required a significant time commitment on the part of the student and the faculty.<sup>3,8,9</sup> At least one study demonstrated deterioration in attitudes subsequent to an exposure to geriatric patients.<sup>11</sup>

Based upon findings from studies reported before 1998, the Department of Geriatric Medicine at the University of Oklahoma devised a low-intensity intervention to expose medical students in the first 2 preclinical years to healthy, community-dwelling older people. The study is ongoing, with members of the Class of 2001 as controls. A controlled, prospective, longitudinal trial is being conducted to determine the effect of an educational intervention titled "The Senior Mentors Program." The Class of 2002 serves as the intervention group, with the Class of 2001 serving as the controls. The University of Oklahoma Health Sciences Center Institutional Review Board approved the study protocol. The setting was the University of Oklahoma College of Medicine. The College of Medicine provides a traditional 4-year training program for approximately 150 medical students per class. Students are involved in basic science instruction in the first 2 years on the Oklahoma City campus. Third- and fourth-year instruction is conducted on the Oklahoma City and Tulsa campuses, with approximately one-fifth of the class electing to participate in clinical instruction in Tulsa.

All students in the Class of 2002 were eligible for participation in the study. All members of the Class of 2001 were used as controls.

Students who withdrew from medical school or who decided not to complete the subsequent questionnaire were considered early terminators. Students were not told of the intent of the program, having been informed that the intervention was intended to introduce them to usual aging. They were not specifically informed that the goal of the program was to improve their attitudes toward aging. See [Table 1](#) for a detailed description of the two classes.

The Senior Mentor Program pairs entering medical students with older volunteers with whom the students complete a series of structured interviews over the first 2 years of the students' medical school experience (at least one interview contact per semester). Mentors were volunteers recruited from churches, volunteer organizations, and by word of mouth. The only requirement for participation was that mentors were aged 65 and older, living in the community within a 30-mile radius of the University of Oklahoma College of Medicine, and committed to meeting with the medical student at least once per semester. There was no specific screening of mentors regarding their health status, but mentors were recruited from volunteer organizations in the Oklahoma City metropolitan area and were, as a result, generally mobile and healthy. Any mentor who would be unable to meet the student at a mutually agreed upon neutral location was excluded from the program.

The program is designed to give students an opportunity to get to know an older person who is in relatively good physical health and to learn about the person's lifestyle and activities. The total curricular time for the educational strategy is 12 hours over 2 years. [Table 2](#) shows the guidelines for the structure of the interviews. The objectives of the first encounter are to develop rapport with the senior mentor and clarify expectations for the project. Students also practice their newly acquired skill of obtaining a family and social history. On the second encounter, students determine the mentors' position within the continuum of aging and functionality. They perform a functional assessment and practice skills in obtaining a medical history and a review of systems. For the third encounter, the students are expected to determine the risk of the mentor for one or more of the common syndromes seen in geriatrics: impaired homeostasis, incompetence, instability and falls, immobility, incontinence, and inanition. During the fourth and final encounter, the students and mentors explore the mentors' values, beliefs, and wishes as these values relate to their health and health care. The students reported the outcomes of those interviews in small groups of eight to 10, with the discussion mediated by the Department of Geriatric Medicine

faculty.

## Measurements

Students in both classes underwent a baseline assessment with the Aging Semantic Differential (ASD)<sup>12</sup> in the fall of 1998 (start of the second year for Class of 2001; start of first year for Class of 2002). The ASD has been used frequently as a means of understanding the attitudes of medical students toward older people and attitudinal change.<sup>1,9,13,14</sup> The ASD is a 32-item scale measuring stereotypes or perceptual predisposition of participants toward older adults. Items have bipolar adjective pairs with seven response levels; item scores ranged from 1 to 7, yielding summary scores of 32 to 224. Higher scores indicate a more-positive view of older adults. Examples of questions in the ASD include, "older people are independent/dependent" and "older people are friendly/unfriendly." The baseline assessment instrument also collected demographic information and other information shown to influence attitude in past studies,<sup>15,16</sup> such as prior nursing home exposure; perceived closeness to older family members, neighbors, and friends; and prior gerontology coursework. Follow-up reassessment was conducted at the end of the second year of medical school for each class: spring 1999 for Class of 2001 and spring 2000 for the Class of 2002.

## Statistical Methodology

Individual student means for the full set of baseline and follow-up ASD items were produced, and a change score was calculated by subtracting the baseline score from the follow-up score. The mean change scores were then compared using Student *t* test. In addition, the general linear model was employed to compare the effect of class on the mean change scores, with adjustments for selected background variables. Mean values for the baseline and follow-up ASD are presented in Table 1. SAS version 6 (SAS Institute, Inc., Cary, NC) was used for all data analyses. Study results are summarized in Table 3. Initial mean ASD scores were not significantly different for the two groups (2001 class mean = 3.42, 2002 class mean = 3.45, degrees of freedom (*df*) = 219, *P* = .75). Dropout rates (due to lack of return of the questionnaire or lack of progression to the second year) for the two classes were not significantly different, at 38/146 (26%) for the Class of 2001 and 31/148 (21%) for the Class of 2002. Although both classes experienced improvements in their ASD scores from Time 0 to Time 1, the improvement for the Class of 2002 was significantly greater than that for the class of 2001 (2001 Class mean = 0.17,

2002 Class mean = 0.40,  $t = -3.09$ ,  $df = 219$ ,  $P = .002$ ). The significantly greater improvement in ASD score for the intervention group persisted while controlling for (using SAS general linear models) sex, age, prior visits to a nursing home, prior work/volunteering in an old-age environment, and a prior course on aging (Model  $F = 3.00$ ,  $df = 6/214$ ,  $P = .008$ ; class  $F = 9.70$ ,  $df = 1$ ,  $P = .002$ ).

The study findings appear to support the concept that medical students in the Class of 2002, who were involved in the Senior Mentors program, had a more positive attitude toward aging than students from the Class of 2001. This result is in keeping with past studies that have demonstrated a beneficial effect of the exposure of medical students to the geriatric population, particularly early in their training.<sup>1-10</sup> As noted in the introductory section, there have been conflicting results of the effect of the exposure of students to geriatric patients.<sup>11</sup> It is likely that studies in this area show conflicting results due to differing times for exposure of students to geriatric patients, differing orientation (subspecialty oriented vs primary care oriented) and admission standards for various medical schools, and differing outcome measures used to assess student attitudes.

One point that distinguishes this study from prior studies is the availability of a comparison group. Although, ideally, the comparison group should be matched controls from the same class, the decision was made to draw a comparison with the medical school class the year earlier, which presumably experienced the same educational environment, with the exception of the added geriatric curriculum. This type of comparison theoretically avoids the contamination that might be experienced by providing the intervention to some but not all members of the same medical school class. However, it introduces the possibility that there were other changes in the educational environment that may have contributed to the differences noted.

Most notably, the Department of Geriatric Medicine was developed concomitant with the introduction of the Senior Mentors program. What effect this new development may have had on student attitudes is difficult to assess with the data currently available. However, the establishment of this program should have had relatively similar effects on all students, as the Department was established as the members of the Class of 2001 entered medical school. Nonetheless, there is the potential for a differential effect of the Department on the two classes, beyond the effect of the Senior Mentors program that was not captured through the

demographic information and other baseline information gathered in the questionnaire.

Another unique feature of this study is the low level of intensity of the intervention. Prior studies evaluating the effect of student exposure to seniors have generally required numerous contact hours, ranging from a full day's exposure weekly during a 4-week geriatrics rotation <sup>7</sup> to a concentrated 1-month geriatrics clinical course. <sup>8</sup> This intervention required only 6 hours of curricular time/year for each of 2 years. Each semester students spent up to 1.5 hours interviewing their senior mentor and then 1.5 hours writing up and debriefing faculty about the contact. Some students spent more than the minimal required time interacting with the mentor or writing up the outcome of the interaction. It is not possible to assess how much additional time students may have given to this project, given the nature of the data collection. However, geriatrics faculty, who led the debriefing sessions, have anecdotally noted that only a minority of the students spent more than the minimum required time interacting with mentors.

Department of Geriatric Medicine faculty also devote a relatively small amount of time to the program, each semester using 1 to 2 hours reviewing the student write-ups and 1 to 2 hours leading debriefing sessions. The Department Chair also gives a 2-hour lecture at the beginning of the first semester of the second year to guide the students in their third encounter with mentors. The greatest time involved with the program is in the recruitment of the senior mentors. The Director of Education of the Department spent 20 to 30 hours assembling the initial group of mentors via presentations at, for example, volunteer organizations, aging organizations, and churches. However, it was found that once the initial cohort of mentors was assembled, maintenance of the group was relatively simple. Mentors receive a brief newsletter from the Department once per trimester and a recognition reception at the end of the 2-year term of working with a medical student. Mentors have volunteered to continue with the program for several successive classes of medical students. In addition, as the program has become known in the aging community, volunteers have sought out the opportunity to become involved.

Although statistically significant, the actual difference in mean ASD change is relatively low, amounting to 0.23 point on a 7-point scale. However, the robustness of the outcomes in the general linear model argues that a low-level intervention like this can be beneficial. It should thus theoretically be replicable in a range of medical school settings, given that it requires relatively

limited time. In addition, the increases may be viewed as more meaningful, given that mean scores on the ASD were already near the mid point. However, it is also conceivable that had the assessments been initiated with the Class of 2001 at the beginning of the first year of medical school, rather than at the beginning of the second year, the differential in attitudes at the end of the second year might not have been discernible.

Concomitant with the initiation of the program was the addition of an Aging Game equivalent for second-year students. The Aging Game is a simulation of common problems that may be acquired with aging, developed to sensitize healthcare providers to some of the challenges their older patients experience.<sup>17,18</sup> The authors believe that the effect of the addition of the Aging Game is minimal, given that the student contact time with the program was only 2 hours. In comparison, the 12 hours devoted to the Senior Mentors program is most likely responsible for the positive effect measured on the ASD. However, this assumption cannot be stated unequivocally. It is important to note that there were no discernible differences in faculty/student contacts between the intervention and control groups beyond the intervention and Aging Game.

Although it is encouraging to see the positive attitude of medical students toward older people at the end of 2 years, it is unclear whether this effect will persist after the students have completed the clinical years of training. Although Reuben et al.<sup>1</sup> demonstrated that medical students often enter medical school with a negative attitude toward aging, some data suggest that this attitude persists or is worsened via clinical exposure unless students are exposed to a structured geriatrics rotation.<sup>11</sup> This matter is being evaluated in an ongoing fashion, comparing and contrasting outcomes from the classes of 2001 and 2002, neither of which will be exposed to a compulsory geriatrics rotation. A low-intensity intervention to introduce entering medical students to community-dwelling older people may have a positive effect on attitudes toward aging. Although this finding is statistically robust, the positive effect of the intervention cannot be stated conclusively, because, concomitant with the Senior Mentors program, a Department of Geriatric Medicine and an experiential program related to aging were established. It is yet to be determined whether this positive effect persists through the clinical training years and whether it influences ultimate career choices. Dissemination for further study at other sites is warranted to thoroughly determine the generalizability of this intervention.

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G. EVALUATION FACTORS

**Technical Approach (40%)** Contractors must demonstrate a thorough understanding of the task order requirements and experience with program development and management. This includes creative and innovative approaches, and the assignment of tasks to experienced personnel. The proposal will be evaluated according to the soundness, practicality, and feasibility of the written description.

**Staffing and Management (30%)** Contractors must demonstrate experience of key personnel in supporting the planning and implementation of activities described in the task order. Contractors must provide a staffing plan, including proposed labor

hours, and a management plan that describes the contractor's approach to managing work and subcontract management, if applicable. As part of the staffing and management plans, the contractor shall summarize the relevant program development experience and skills of each of the individuals proposed for the task order

**Management Experience (20%)** Contractor must demonstrate experience related to the work outlined in this task order. No more than five relevant projects demonstrating the contractors experience should be provided.

**Cost (10%)** While price is not the most important evaluation factor, costs will be considered in determining the firm that represents the best value to the government.

