NMTCB REPORT

Karen L. Blondeau, CNMT
Chairperson

The NMTCB is well into its second decade of providing certification of nuclear medicine technologists by nuclear medicine technologists. In 1989, 510 candidates successfully passed the examination and brought the total number of certified nuclear medicine technologists to over 11,000. The September examination was the anchor exam reflecting the new matrix, which was published in the December 1988 issue of the *JNMT*. According to the American College of Testing, (ACT), which provides the NMTCB with psychometric services, the examination was technically and statistically sound and performed quite well compared to exams given over the past 10 years. This should be a source of pride to all of those individuals who have served on the Board throughout its 13-year history.

The year 1989 brought changes in leadership on the Board and I would like to present the new officers to you. First, you have probably noticed the new name as Chairperson. I have served on the Board since 1988 and was elected to the Chair at the October 1989 meeting. Other new officers include Trudy Battison, CNMT, Secretary and Robert Bowen, CNMT, Treasurer. Retiring Board members were Helen Drew, CNMT, Barbara Park, CNMT, David LaFond, MD, and John Frietas, MD. The NMTCB and the nuclear medicine technology community owe Helen, Barbara, David, and John a great debt of gratitude for dedicated years of service. New Directors are Martha Pickett, CNMT and Paul Christian, CNMT. Myron Pollycove, MD will replace David LaFond, MD as the ASCP physician representative. The SNM physician representative is Robert Meckelnburg, MD.

In recent columns of this report, the varied duties and functions of a Director and the sequence of events at a typical Board meeting have been outlined. In this issue, I would like to add my thoughts on the value added to my professional development by participation on the Board. It cannot be denied that service on the Board means a commitment of time and energy, but the sense of accomplishment and reward for my efforts far exceeds the sacrifice. It has been stated that we all bring something different to the table when we come together in groups and this is true of the Board. Each Director has expertise within the varied aspects of our field that ultimately blend together for the common effort. NMTCB Director membership currently consists of technologists in both imaging and non-imaging areas, administrators, educators, physicians, and a physicist.

Critical to the maintenance of a contemporary examination, however, is the periodic cycling in of new Directors. At the last NMTCB meeting in October, the Board voted unanimously to amend the bylaws of the organization to provide a smoother transition from one year to the next regarding the nomination and election of Directors. One important fact regarding this change is that technologist candidates have only one route to nomination and that is through the Technologist Section of the SNM. I encourage you to carefully consider participating in one of the most rewarding professional activities you may have. Begin by submitting your name as a candidate to the President of the Technologist Section.

Another area of ongoing need is for qualified item writers. The NMTCB examination consists of 200 multiple-choice items and these criterion-referenced items are rotated on a regular basis. NMTCB Directors contribute a number of new items each year, but the majority of new items are submitted by volunteers throughout the country. There are a few rules and a general format that must be followed in order to submit an item, but the NMTCB provides instruction in these areas. As a new service beginning this year, the NMTCB will bring the Item Writer's Workshop, usually held only at the annual SNM meeting, to the chapter level in order to train a larger number of potential contributors. Becoming an item writer is an excellent means of learning more about the NMTCB and eventually becoming a Director.

A way in which every technologist can serve the NMTCB is through the use of their CNMT designation and by renewing their registration each year. In my work with student nuclear medicine technologists, I see the excitement and pride every year when successful candidates return with that letter that states they passed the examination. Those CNMT initials are well earned and should be displayed with pride.

Examination Dates

The Nuclear Medicine Technology Certification Board

1990–1992

Year	Exam Date	Application Deadline
1990	June 23	April 21
1990	September 22	July 21
1991	June 22	April 20
1991	September 28	July 20
1992	June 27	April 18
1992	September 26	July 18

For more information or to request an application, contact:

NMTCB
P.O. Box 806
Tucker, GA 30085

(404) 493-4504

NOMINATIONS FOR NMTCB DIRECTORS

The Nuclear Medicine Technology Certification Board is seeking nominations for NMTCB Directors from the nuclear medicine technology community. Terms for New Directors will be from January 1991 through December 1994. Individuals interested in serving should contact the NMTCB office at (404) 493-4504.

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Public Reaction

Will consumers buy irradiated foods? IAEA data on market research testing suggest that "informed" consumers were willing to try or purchase irradiated foods (Fig. 3). According to the IAEA, in many of these test trials, the irradiated product sold better than the nonirradiated (at a margin of 10–1 in Thailand and 11–1 in the U.S.) even when the irradiated product cost more. The ACSH also reports that of two tons of irradiated mangoes sold to a supermarket in Miami, the irradiated mangoes sold rapidly at the same or a higher price than the nonirradiated. The general consensus is that providing accurate information to the consumer on the radiation process from the government and the food industry will result in wider use of this processing technique.

Proponents for irradiation believe that low doses of radiation for the decontamination and disinfestation of food products can be beneficial. However, opposition to this process is strong. According to Edward G. Remmers, ScD, Associate Director of the ACSH, "opponents of irradiation are well organized and are working hard to ban it wherever they can."

And so the debate continues. In addition to New York, Maine is the only other state to ban the sale of irradiated foods. New Jersey and Massachusetts are considering enacting similar bans. According to Dr. Takeguchi, activity on the state level has not resulted in a change on the FDA's position regarding the safety and efficacy of irradiated foods.

Eleanore Tapscott
Managing Editor, *JNMT*

■ Relative Value Scales: Basis for a New Medicare Fee Program

"Resource-based relative value scales" (RBRVS), the offspring of a congressionally-mandated national study by the Harvard School of Public Health designed to develop a more equitable mechanism for reimbursing physicians who treat Medicare patients, will serve as the framework for a 1992 federal implementation of a new medical payment scheme.

Published as the "Final Report to the Health Care Financing Administration" (publication no. 18-C-98795/2-03), the 30-month study has completed two phases and surveyed 33 different medical specialties. William C. Hsiao, PhD, an epidemiologist at the Harvard School of Public Health, operating under a grant from the Health Care Financing Administration (HCFA), developed and refined a uniform methodology by which he could examine the worth and effort required to carry out various clinical tests and procedures.

Magnitude Estimation

The Hsiao study measures physicians' work using a mathematical technique called "magnitude estimation." Nuclear medicine physicians selected from American Medical Association (AMA) listings were systematically surveyed with regard to certain preselected high-volume, high-cost procedures. They were asked to rate the difficulty of each procedure by applying a point-value, relative to the value of some base reference procedure. Each procedure was judged on several criteria: complexity, time involved, mental effort, physical effort, technical skill required, psychological stress induced, preparation time needed, etc. The questionnaire also allowed physicians to compare the complexity of one surgical or medical procedure by "cross-linking" to an approximately similar procedure in a different specialty. Subsequently, Hsiao's Harvard group compiled the data and derived relationships between procedures and specialties. Based on the results of the Harvard study, the government is expected to institute a new Medicare fee program.

Project director of the RBRVS study, Edmund R. Becker, PhD, Department of Health Policy, Harvard, explains that the impetus behind the payment reform movement stemmed from the government's perception that physicians are generally overpriced and that the only way to control the rising cost of Medicare was to establish an across-the-board, uniform, consistent fee structure, by procedure and specialty. "We surveyed over 1,500 medical practitioners in all fields on a series of subjective questions and to our surprise we found that, within each specialty, their responses were remarkably consistent. We recorded standard errors of no more than 7%."

Two-Year Exemption

RBRVS specifies that all physicians should receive a standardized, fixed compensation for each particular procedure and service performed. The fee will be based on the amount of effort involved in carrying out the task. Dr. Becker notes that the old radiology RVS payment system, as developed by the American College of Radiology (ACR), was plagued by errors and tended to inflate the value and difficulty of radiologic procedures. Indeed, nuclear medicine organizations, notably the Society of Nuclear Medicine (SNM) and the American College of Nuclear Physicians (ACNP), regarded the radiology RVS system as flawed and unable to properly evaluate nuclear medicine procedures. Congress recognized that the radiology RVS scheme had gone astray and approved a partial two-year exemption for the practitioner who performs nuclear medicine procedures at least 80% of the time. The exemption was granted under a provision of the 1990 Budget Reconciliation Bill, effective April 1. The measure specifies that reimbursement to nuclear physicians under Medicare Part B will be one-third times the radiology RVS plus two-thirds times 101% of the 1988 prevailing charge. In 1991, the reimbursement will be two-thirds times the radiology RVS plus one-third times 101% of the 1988 prevailing.

That measure was granted in order to provide the time necessary to develop a more equitable fee schedule for nuclear medicine physicians. Still, there is concern from the nuclear medicine community about the RBRVS structure.

William Allen, MD, President of the ACNP and Richard A. Holmes, MD,

President of SNM, testified before the Physician Payment Review Commission (PPRC)—an advisory body that will recommend to Congress on Medicare payment fees—on behalf of nuclear medicine practitioners in January. In their testimony, they cited concerns about the proposed RBRVS payment scheme as it applied to nuclear medicine. "The Harvard system of estimating the time and the complexity of the physician component focuses on direct patient contact," they reported to the committee. "It does not account for the time spent in supervision of non-physicians, particularly when this supervision includes several procedures going on simultaneously. We need to be sure that other physician time essential to the diagnostic procedure, including compliance with radiation safety regulations of the Nuclear Regulatory Commission, is not overlooked."

The implementation of the RBRVS payment scheme is expected to be phased-in from 1992-1996 as part of a long-range reform of Medicare payments. The Department of Health and Human Services will continue to use the existing radiology RVS for radiologic services.

Difficult Cross-Linking

Robert E. Henkin, MD, Loyola University, who served on an RBRVS panel representing nuclear medicine, cites similar concerns about the proposed resource-based payment system. "Nuclear medicine is wholly different from other branches of medicine, it is difficult to provide convenient cross-linkages between nuclear medicine procedures and procedures in other specialties," said Dr. Henkin. "There is a philosophical and conceptual problem here. The Hsiao study considered each medical task as having been performed by a single doctor treating a single patient. That scenario is convenient for the purposes of an analytical study, but it is not very realistic. We could be adversely affected by the RBRVS system if it incorrectly evaluates the time, training, and effort demanded by our specialty. Nuclear medicine physicians face unusually high capital expenses and it is not uncommon for us to deal with several patient studies concurrently. We are now in the process of validating Dr. Hsiao's methodology." Dr. Henkin noted that Dr. Hsiao has been receptive to the concerns of the nuclear medicine community and has modified his methodology accordingly. "Dr. Hsiao has not been uncooperative."

Nuclear medicine additionally poses a difficulty in accurately assessing the practice-cost component. In their testimony before the PPRC, Dr. Allen and Dr. Holmes stated "At some institutions, the PhD physicists or other scientists who are essential to our practice are covered out of practice income. The expenses are different than the overhead practice costs typically incurred by physicians."

William L. Roper, MD, director of the HCFA, the government body that regulates reimbursement of Medicare payments and helped to fund the Harvard study, believes that while the RBRVS proposal can be a "valuable tool," it is only one possible mechanism of physician payment reform.

Apparently, the AMA has resolved to accept the government's RBRVS implementation and not pose any challenges. "The medical community really doesn't have much choice in the matter," said Barbara Y. Croft, PhD, University of Virginia. "The AMA decided it's better to join than fight. They feel it is preferable to, say, the socialized medicine practiced in Canada."

Dr. Henkin added that RBRVS should not affect certified nuclear medicine technologists (CNMTs), since they are paid on a straight hourly wage scale.

Palash R. Ghosh
Associate Production Editor, *JNMT*

■ EPA Regulations on Radionuclide Emissions

Under the authority of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) provision of the Clean Air Act (Section 112), on December 15, 1989 the United States Environmental Protection Agency (EPA) issued the final rules controlling radon and other radionuclide emissions from industrial sources, including nuclear power plants, Department of Energy (DOE) nuclear facilities and underground uranium mines. However, due to critical comments from the Nuclear Regulatory Commission (NRC) and the National Institutes of Health, the EPA has delayed the application of this stringent regulation to NRC-licensed facilities (hospitals, radiopharmaceutical manufacturers, radiation research laboratories and reactors) for three months, effective until March 15, 1990.

Reconsideration Granted

The EPA granted this period of reconsideration in the face of concern that the proposed standard might have a detrimental effect on the ability of medical facilities to use certain types of treatments and thus hamper medical care. Furthermore, time was needed to examine ways to reduce the burden posed by dual regulations from both the EPA and the NRC. The three-month stay allows academic and industrial groups to submit comments to the EPA in order to dissuade them from permanently establishing such rigorous standards. The Association of American Medical Colleges (AAMC), in a move led by the American Council of Education (ACE), has urged hospitals and research laboratories using radiation to aggressively demonstrate to the EPA the detrimental effects of the ruling to their work. President of the AAMC, Robert G. Petersdorf, MD expressed his concern that university research laboratories and hospitals are already regulated by the NRC, and their small emissions do not warrant the application of more standards by the EPA. Dr. Petersdorf also felt that the EPA's study in the matter used only the worst-case assumptions of upper-bound risk in their determination of "acceptable" emissions, and severely underestimated the high cost of compliance that the standard would cause. According to Dr. Petersdorf, the implementation of this regulation would create barriers to medical treatment and research.

TABLE 1. Summary of Current and Final Rules

Source Category	Number of Facilities	Current Rules	Final Rules
NRC-licensees	6,000	25 mrem/yr	10 mrem/yr*
DOE facilities	45	25 mrem/yr	10 mrem/yr*
Nuclear reactors and support facilities	135	25 mrem/yr	10 mrem/yr*

*Effective dose equivalent

'Overkill'

The regulation specifies that the maximum allowable dose to the public from radionuclide emissions shall be limited to 10 millirems per year effective dose equivalent (ede) (Table 1), a reduction from the previous 25 mrem standard. For NRC-licensed facilities, the EPA will require that no more than 3 mrem/yr of the permitted dosage can come from iodine. "The EPA is seeking to protect the greatest number of people possible," said William G. Rosenberg, EPA's Assistant Administrator for Air and Radiation. He stated that the regulation would ensure that the lifetime risk to an individual (living near a source emission) in contracting a fatal cancer would be less than one in ten thousand, assuming that the person was exposed to the maximum pollutant concentrations for 70 years.

"This new ruling is a matter of overregulation and overkill on the part of the EPA," complains Suresh C. Srivastava, PhD, Medical Department Brookhaven National Laboratory. "No conclusive evidence has been reached on what constitutes safe and acceptable dose levels of low-level radiation to the general public. But consider that 5000 mrem/yr has been accepted as a safe exposure level for people who work at radiation facilities."

Ten Years After

The radionuclide ruling is the culmination of ten years of efforts by the EPA to establish strict controls over the emissions of hazardous air pollutants. Radionuclides were not officially designated as hazardous air pollutants until 1979, and emission standards were initially proposed in 1983. But, lengthy litigation and conflicts over health-risk management issues delayed the establishment of stricter standards, according to Mr. Rosenberg. He complained that under the current legislative framework and the continuing, unresolved debate over acceptable levels of risk, the process of reducing hazardous emission standards is lengthy, cumbersome and complex.

Since the passage of the Clean Air Act in 1970, the EPA has been able to regulate only eight hazardous air pollutants. The drive to regulate radionuclide emissions accelerated after the landmark 1987 ruling by the Federal Appeals Court of Washington, DC, which mandated the EPA to adhere to a "two-step" process in the regulation of hazardous air pollutants. The first step involves the establishment of "acceptable" levels of risk based strictly on health consideration. The second step requires the EPA to set enforceable standards which provide an "ample margin of safety" to the public, while taking into account issues of technological feasibility and pollution-control costs.

Palash R. Ghosh
Associate Production Editor, *JNMT*

■ Summit Implements Outreach Program

Allied health care services are expected to be among the United States' fastest growing industries in the 1990s according to projections by the Federal Bureau of Labor Statistics and other health field organizations. The major factors cited for this boom are an anticipated dramatic increase in the population of elderly Americans along with advancements in medical technology and procedures. The Summit on Manpower, a confederation comprised of seventeen radiologic-related professional organizations, was formed last year to cope with the imminent shortage of qualified radiologic and sonographic technologists. In a meeting convened last October in Washington, DC, the Summit outlined proposals to simultaneously document the problem and explore possible solutions. The group has initiated a multi-year national program to educate the public about the critical urgency of the shortage and establish formal methods of attracting students into radiologic technology careers. Summit officials hope to coordinate their efforts with academia, corporations, federal and local governments, and the media.

Critical Labor Shortage

The shortage of nuclear medicine technologists in the new decade will reflect a general labor trend in the United States. Declining birth rates, the aging of the "baby-boom" generation, a rapid increase in the number of elderly, a historic shift away from manufacturing to service industries, and the explosive demand for computer expertise will combine to create a dilemma: the need to fill more demanding, more complex jobs with fewer and fewer qualified personnel. The health care industry will be especially hard hit.

According to the Bureau of Labor Statistics, the 1990s will witness a 65% growth in the field of medical imaging, and only a 20% increase in the number of qualified workers to fill those jobs. This glaring scarcity of adequately trained workers will force corporations to recruit employees from "nontraditional" sources; namely, inner-city minorities, immigrants, elderly workers, part-time workers, women reentering the job market, and middle-aged workers who change careers.

According to Raymond Blair, MEd., director of the Health Careers Opportunity Program, Springfield Technical Community College,

Springfield, Mass., minorities will play a big role in the work force of the 1990s. "We expect to reach out to the black and Hispanic community in this area and steer young people into medical careers," said Dr. Blair. "Many of these students are economically and educationally disadvantaged, so the pressure will be great upon the health care industry to train them. As the medical technology continually changes, leading to the performance of more procedures, the demand for qualified workers in medicine is extremely urgent."

National Campaign

In order to tackle the labor shortage crisis on a national level, the Summit, in coordination with John Adams and Associates, a Washington, DC, public relations firm, has developed an outreach program to meet the explosive demand for radiologic technology professionals. To ease current shortages and avert the growing crisis, the outreach program has targeted the following groups from which to recruit: high school students, women re-entering the job market, Hispanics, older Americans and military retirees with medical training. In a proposed national media and educational campaign, the Summit hopes to produce videos, public service commercials and instructional materials that not only present the critical need for technologists, but also convey the message that such a career is exciting, important, respected, secure, flexible, and in great demand.

Without such an organized outreach program to recruit and retain technologists, the health-care industry faces two alternatives in dealing with the shortage crisis. First, hospitals and clinics might be forced to substitute medical imaging procedures with other less-effective, riskier mechanisms for diagnosis. Second, the burden might fall upon other allied health care professionals, untrained in imaging, to perform the radiological procedures. Howard W. Schwartz, administrative director of the University of Minnesota Hospital, stated that "Either alternative is undesirable, since it would hamper the quality assurance and effectiveness of diagnostic imaging."

Funding for the outreach program is expected to be structured into three phases. Mr. Schwartz, who also serves as a member of the Summit's Finance Task Force, states that the budget for 1990 should be in the range of $300,000–$500,000. "Funding has to be developed segmentally, and the program will be implemented at a pace that matches the availability of funds," said Schwartz. "The extent and breadth of the program is dependent on existing financial [constraints]." "Now, we are targeting the top 50 medical imaging firms for initial pledges of $50,000. These corporations have been very receptive to the idea because they are in partnership with health care associations and there is a mutually beneficial direct link between reducing the shortage of technologists and the success of radiologic manufacturers." Schwartz added that he expects to hear from the targeted corporations by the end of March.

Loretta Hanwell, Director of Central Imaging Services, Presbyterian Hospital, Pittsburgh, Pennsylvania and Summit Chairperson, states that organization pledges of $5,500 have been received from 11 of the 17 member groups. "Although we are at a very early stage of this program, we are very optimistic about it, having received positive feedback from potential corporate sponsors," Ms. Hanwell said. "We envision a five-year program to attract students in the U.S. into the field of allied health care."

Chairperson Hanwell also stated that aside from the economic factors impacting on the shortage, allied health care professions must also grapple with the public's negative attitudes towards medicine in general. "It seems that people are afraid of going into medicine, espeically in light of the AIDS epidemic. We want to assure people that health care is a good career with lots of opportunities and [which] employs the booming sophistication of computer technology."

Although the Summit has received the $5,500 pledges from many of its member organizations, government grants and fundraising efforts cannot be initiated until the Summit decides whether or not to incorporate as a nonprofit charitable institution.

Government's Role

Another potential source of funding, the federal government, has been approached by the Summit's Task Force on Government. Marcia Boyd, CNMT, chairperson of the Task Force, led a delegation that held informal, exploratory talks with key legislative aides. "They were very receptive and sensitive to our problem," said Ms. Boyd. "But we face the hurdle of limited available funding, and the fact that we have an identity problem. People simply are not familiar [with] who we, as radiologic technologists, are."

The central piece of legislation relevant to the shortage of radiologic technologists, addressed by the Government Relations Task Force, is the Public Service Health Act Title VII, a bill that covers funding for various health care programs. An amendment to the bill (S.1606) as proposed by Senator Ted Kennedy, (D) Massachusetts to provide funding to increase the participation of minorities in health care professions, has not yet passed.

J. Michael Hall, of the Senate Labor-HHS-Education Appropriations Committee, has encouraged the Summit's Government Task Force to be among the first lobbyists for the 1991 funding and schedule to testify at House hearings.

In different action, Senator Matsunaga, (D) Hawaii, thought that Title VII's 1990 appropriations of $750,000 was inadequate to handle the problem of training allied health care professions. His office proposed bill S.1552 as an amendment to supply more funding for allied health care and training. "The Matsunaga bill," said Ms. Boyd, "does not include radiologic technologists yet. We're trying to get RTs and NMTs in this and other health bills."

Ms. Boyd stated that another avenue to alleviate the shortage of trained radiologic technologists was immigration. "We understand that in Canada, for example, there is a surplus of techs," she said. "The problem is that

the INS (Immigration and Naturalization Service) refuses to grant techs the H-1 classification." H-1 is an immigration quota classification reserved for professionals, who are given first preference. "Our contention is that while they don't regard RTs as professionals, they have bestowed the H-1 status on nurses for the last 20 years, and they don't require any more advanced educational credentials than RTs and NMTs." Ms. Boyd stated that following the Summit's scheduled May meeting in Washington, her task force will intensify lobbying efforts with government figures.

The Summit's Task Force on Retention will present the results of its pilot job satisfaction survey conducted in Massachusetts and offer recommendations based on the findings. Beverly Buck, a radiographer at the Joint Center for Radiation Therapy, Harvard Medical Center, stated that Massachusetts was chosen for its "chronic history of technologist shortages." A questionnaire was distributed to 5,500 certified radiology technologists asking them what they like and dislike about their jobs.

The results of this pilot survey will aid the Summit in determining means of retaining people in the field and attracting newer candidates. Following completion of the Massachusetts analysis, a nationwide survey will be instituted.

The Summit's next organizational meeting is tentatively scheduled for May 19–20 at Washington, DC.

■ News Briefs

Allied Health Project Grants

As authorized under Title VII of the Public Health and Service Act and amended by the Health Professions Reauthorization Act of 1988, approximately $750,000 has been allocated for allied health project grants and contracts for fiscal year 1990. The bill, which appropriated these funds to the Department of Health and Human Services (HHS), was signed into law by President Bush on November 21, 1989.

The current legislation authorizes the HHS to award grants and contracts for projects that:

1. Improve and strengthen the effectiveness of allied health administration, program directors, faculty, and clinical faculty.
2. Improve and expand program enrollment in those professions in greatest demand and whose services are most needed by the elderly.
3. Promote the effectiveness of allied health practitioners in geriatric assessment and the rehabiliation of the elderly through interdisciplinary training programs.
4. Emphasize innovative models to link allied health clinical practice, education, and research.
5. Add and strengthen curriculum units in allied health programs to include knowledge and practice concerning prevention and health promotion, geriatrics, long-term care, home health and hospice care, and ethics.
6. Recruit individuals into allied health fields, particularly minority and disadvantaged students and those projects or programs which coordinate and improve recruitment among official and voluntary agencies and institutions.

To obtain more information contact: Grants Management Officer, Bureau of Health Professions, HRSA, Parklawn Bldg., Room 8C-26, 5600 Fishers Lane, Rockville, MD 20657 or call (301) 433-6857.

Virginia Pappas Receives CAE Recertification

Virginia Pappas, Associate Executive Director of the Society and Technologist Section Administrator, was one of 221 individuals recently recertified as a Certified Association Executive (CAE) by the American Society of Association Executives (ASAE). CAE designation is indicative of demonstrated skill in leadership, activity in community affairs, and expertise in association management.

For initial certification, applicants are rated on their experience and accomplishments in association management and must successfully pass a comprehensive one-day examination, which tests general knowledge of association management. To maintain certification, association executives must accumulate professionals credits based on continuing education and professional activites.