

DEVELOPMENT OF CERTIFIED HEALTH EDUCATION SPECIALISTS (CHES) IN THE UNITED STATES: FOCUSING ON THE CHES RESPONSIBILITIES AND COMPETENCIES

Keiko SAKAGAMI*

Health education is an important profession. The certification of health education specialists (CHES) has evolved in the United States (U.S.) over the past 50 years. This article briefly focuses on the CHES system in the U.S. and research studies related to this topic, including coverage of the CHES responsibilities and competencies by professional school programs in the U.S., as well as other CHES issues. The CHES credentialing system in the U.S. was successfully developed over a long period of time, and its history in the U.S. is unique. Japan has now started to develop a similar certification process and is concerned about academic programs for training Japanese health educators. Awareness of the CHES system and the U.S. health education certification process and framework may help Japanese health educators and academics to tailor their health education certification processes more effectively.

Key words : health education, health educators, certified health education specialists (CHES), CHES credentialing, CHES responsibilities, CHES competencies

I. Introduction

Health education is an important profession and a learning process for fostering health and healthy behavior. In 1943, the American Public Health Association (APHA) defined health education as the “process of facilitating desirable learning experiences through which people become more aware of health problems and actively interested in securing their solution”¹⁾. By that time, the importance of health education had already been recognized in the United States (U.S.). At the end of the World War II, the first health educator was employed in Massachusetts. Since then, tremendous efforts have been made in developing the field of health education, including the establishment of a credentialing system, entry-level and graduate-level responsibilities and competencies, and a certification process for health education specialists²⁻⁴⁾. The responsibilities and competencies developed for health education specialists in the U.S. have been used to guide curriculum development for health education-related professional preparation programs in the U.S.⁵⁾ These responsibilities and competencies have recently been updated by the National Commission for Health Educa-

tion Credentialing, Inc. (NCHEC).

This article briefly focuses on the CHES development process in the U.S. and also includes a review of research studies related to coverage of the CHES responsibilities and competencies by professional school programs in the U.S., as well as other CHES issues. It is important for academics and current Japanese health educators to be aware of how the CHES credentialing system/body was successfully developed/established in the U.S. over the past 50 years. It is hoped that this article may be a good resource for future development of both Japanese health educator and health education.

II. Brief Overview of Health Education in the U.S.

By the time of World War II, health education and public health were already established entities, and taught in health-related programs at colleges and universities in the U.S. Health education began to be promoted as an important profession in American society. In 1996, the NCHEC stated that the goal of health education in the U.S. was to promote, maintain, and improve individual and community health. The Commission noted that health educators played important roles in achieving this goal and in assisting the nation’s efforts to promote health and prevent disease. However, to provide better health education and develop high-quality health educators, the Commission recognized that health educators needed to

* New York City Department of Health and Mental Hygiene (DOHMH)
Keiko Sakagami, 125 Worth St., Rm1047 CN 33 New York, NY 10013
E-mail: keiko810@cybercap.com

increase their basic knowledge, skills, and professional capacities⁶⁻⁹). Improving academic preparation programs for health educators and establishing a credentialing system to certify health educators professionally have since been topics for serious consideration^{6,10-12}). Health educators in the U.S. today continue to pursue a wide range of competencies and, as professionals, have actively engaged in improving the health of individuals, communities, and society by promoting the importance of credentialing^{7,12,13-19}).

III. The Development Process for the Certified Health Education Specialists in the U.S.

Both the professional development of health educators and the establishment of a credentialing system to certify health education specialists in the U.S. were initiated by Helen P. Cleary, the first health education specialist in the U.S.²⁰⁻²¹) Her determination led her to outline the roles to be played by health educators and to develop a credentialing process for U.S. health education specialists, a topic long discussed by American health education professionals. In the 1960s and 1970s, Cleary's significant contribution and efforts toward developing the credentialing system and clarifying the roles and responsibilities of U.S. health educators involved working with health-related professional organizations, especially the Society for Public Health Education (SOPHE). In 1978 she helped to create the National Task Force on the Preparation and Practice of Health Educators, which became the National Commission for Health Education Credentialing (NCHEC) 10 years later²⁰).

In the 1950s, before the National Task Force and NCHEC had formally established their roles to oversee the credentialing of entry-level health educators in the U.S. SOPHE had been established, and had started to develop standards for undergraduate community health education preparation programs. During the 1960s, a specific SOPHE committee formulated a statement on the functions of community health educators at both the Bachelor's and Master's degree levels and published a document entitled "Guidelines for the Preparation and Practice of Health Educators"^{18,20,22}). The American Association for Health Education (AAHE) then joined SOPHE to support this work. The guidelines became the first document on standards for undergraduate community health education programs. In the 1970s, accreditation of professional preparation programs such as the School of Public Health and the Master's degree programs in community health edu-

cation, conducted and sponsored by American Public Health Association (APHA), was developed. As a result, the National Task Force on the Preparation and Practice of Health Educators was established to develop a credentialing system for health education specialists^{17,18,20,22-24}).

In the early to mid-1980s, SOPHE revised and updated the guidelines, which NCHEC published as "A Framework for the Development of Competency-based Curricula for Entry-Level Health Educators." At the same time, professional preparation programs and specific curricula for health educators in the U.S. began to develop. This phase involved the construction of the guidelines for minimum-level responsibilities and competencies for health educators as well as the certification process for health education specialists. Many conferences and committee meetings for providing consensus on these issues were conducted among health-related professional organizations, including AAHE, SOPHE, and APHA, to verify and refine the roles of health educators. SOPHE and AAHE collaborated to develop updated guidelines and a framework for a competency-based curriculum for entry-level health educators, and to further consider guidelines and a framework for graduate-level health educators as well. In 1984, they sponsored a single review process focusing on baccalaureate programs in community health education and implemented this through the SOPHE/AAHE Baccalaureate Program Approval Committee (SABPAC). Four years later, the Task Force was renamed the National Commission for Health Education Credentialing (NCHEC), and its members became an Interim Board of Commissioners initially charged to define the credentialing mission for NCHEC^{2,23}). In addition, NCHEC worked with a Professional Examination Service (PES) to develop the first written examination for certifying health education specialists. The NCHEC identified the CHES as an individual who met the proper qualifications and successfully passed a competency-based examination demonstrating skill and knowledge of the basic-level standards or responsibilities upon which the credential is based. The CHES examination has undergone several revisions since it first was started in 1990^{18,20,25}).

Seven responsibilities and 27 competencies have been identified as standards for entry-level health educators since the guidelines were revised for entry-level health educators in 1985^{14,20,25-28}). The entry-level standard for the professional preparation of health education specialists requires a baccalaureate degree in health education, which entails a 4-year college or university program focusing on the specific contents and skills necessary for health education

practice, including the 7 entry-level responsibilities listed below, and required competencies needed for health education specialists, initially developed by SOPHE ^{2,17,25,29}).		tion programs (4 competencies)
Responsibility I: Assessing individual and community needs for health education (3 competencies)	Responsibility IV: Evaluating the effectiveness of health education programs (4 competencies)	
Responsibility II: Planning effective health education programs (4 competencies)	Responsibility V: Coordinating the provision of health education services (4 competencies)	
Responsibility III: Implementing health education programs (4 competencies)	Responsibility VI: Acting as a resource person in health education (4 competencies)	

Table 1. 27 Entry-Level CHES Competencies

Responsibility I	: Assessing individuals and community needs for health education
Competency 1	: Obtain health-related data about social and cultural environments, growth and development factors, needs and interests.
Competency 2	: Distinguish between behaviors that foster and those that hinder well-being.
Competency 3	: Infer needs for health education on the basis of obtained data.
Responsibility II	: Planning effective health education programs
Competency 4	: Recruit community organizations, resource people and potential participants for support and assistance in program planning.
Competency 5	: Develop a logical scope and sequence plan for a health education program.
Competency 6	: Formulate appropriate and measurable program objectives.
Competency 7	: Design educational programs consistent with specified program objectives.
Responsibility III	: Implementing health education programs
Competency 8	: Exhibit competence in carrying out planned educational programs.
Competency 9	: Infer enabling objectives as needed to implement instructional programs in specified settings.
Competency 10	: Select methods and media best suited to implement program plans for specific learners.
Competency 11	: Monitor educational programs, adjusting objectives and activities as necessary.
Responsibility IV	: Evaluating effectiveness of health education programs
Competency 12	: Develop plans to assess achievement of program objectives.
Competency 13	: Carry out evaluation plans.
Competency 14	: Interpret results of program evaluation.
Competency 15	: Infer implications from findings for future program planning.
Responsibility V	: Coordinating provision of health education services
Competency 16	: Develop a plan for coordinating health education services.
Competency 17	: Facilitate cooperation between and among levels of program personnel.
Competency 18	: Formulate practical modes of collaboration among health agencies and organizations.
Competency 19	: Organize in-service training programs for teachers, volunteers, and other interested personnel.
Responsibility VI	: Acting as a resource person in health education
Competency 20	: Utilize computerized health information retrieval system effectively.
Competency 21	: Establish effective consultative relationships with those requesting assistance in solving health-related problems.
Competency 22	: Interpret and respond to requests for health information.
Competency 23	: Select effective educational resource materials for dissemination.
Responsibility VII	: Communicating health and health education needs, concerns and resources
Competency 24	: Interpret concepts, purposes and theories of health education.
Competency 25	: Predict the impact of societal value systems on health education programs.
Competency 26	: Select a variety of communication methods and techniques in providing health information.
Competency 27	: Foster communication between health care providers and consumers.

Responsibility VII: Communicating health and health education needs, concerns, and resources (4 competencies)

Twenty-seven entry-level CHES competencies are shown in Table 1.

The CHES examination items have been continuously revised up to the present. The examination consisting of multiple-choice items, became more systematic in the early 1990s. The current CHES examination includes 150 knowledge-based and practice-based multiple-choice questions. Over time, more test sites have been developed, and the examination has been implemented in collaboration with colleges and universities in over 40 States. By 1998, over 8,000 people had become certified health education specialists in the U.S.^{18,30,31)} A continuing education system and several further self-study opportunities for health education specialists have also been developed and offered since the 1990s.

From the early 1990s, the Joint Committee of AAHE, NCHEC and SOPHE also adapted and developed standards specifically for graduate-level health educators in a document entitled "A Competency-Based Framework for Graduate-Level Health Educators"²⁾. This framework was published to expand upon the original framework for entry-level health educators, with new competencies and sub-competencies reflecting advanced skills. This framework also included three new advanced-level responsibilities and 46 competencies and sub-competencies, reflecting research, management, and supervisory skills required for future employment and career development, leadership knowledge/skills, advocacy, and ethical principles^{2,30,32)}. These three responsibilities for graduate-level health educators were:

Responsibility VIII: Applying appropriate research principles and methods in health education (3 competencies)

Responsibility IX: Administering health education programs (4 competencies)

Responsibility X: Advancing the profession of health education (3 competencies)

Additional responsibilities and competencies have recently been considered for the needs of advanced-level competencies. In 1998, the Competencies Update Project (CUP), a project conducted by the Steering Committee, was commenced to re-verify entry-level health education competencies and to further delineate and verify advanced-level competencies and skills needed by health educators. In January 2000, the Steering Committee comprised 24

representatives, including Executive Directors of health-related professional organizations and NCHEC, who had worked in various health education practice settings, who were familiar with role delineation projects, and who were involved in developing Graduate Standards for health education specialists^{33~35)}. These representatives were interviewed using a checklist to ensure that the survey documents were clear and contained concise statements about the tasks performed by health education specialists. The Steering Committee conducted a preliminary research study from September 1998 to October 1999 as well as a four-state (Iowa, New York, Oregon, and Texas) national pilot study from October 1999 to March 2000, with selected samples contacted by postal mail or email. The primary purpose of the pilot test was to identify the population of health educators as well as the feasibility of various response modes to obtain the highest response rate³⁴⁾. After the pilot test, a final project was conducted from March 2000 to August 2001. The final project phase involved conducting the full study to determine what health educators actually do in practice, analyzing the data, and communicating the results to various public and public agency members^{34,36)}.

The SOPHE annual meeting, held in Atlanta in October 2001, featured a group discussion on the need for new additional competencies for health education specialists. Four new competencies, identified at the meeting, were recommended to expand the knowledge base of health education specialists in fields such as environment, genetic counseling, and public health law³⁷⁾. However, these four new competencies and sub-competencies will need to be more clearly specified and clarified in the future.

In recent years, other countries have become interested in developing health education specialists. The NCHEC has supported and advised these countries and tried to assist foreign health educators or professionals who want to be certified as health education specialists. The NCHEC has offered opportunities to those in other countries such as Taiwan and Israel to take the U.S. CHES exam, and those who pass the exam have become certified health education specialists (CHES)³⁸⁾. However, some countries such as Japan have developed their own credentialing systems for health education specialists, and China, Taiwan, Brazil, and India have developed, changed, and reviewed their health education systems and curricula for health educators or health promoters over the past decade^{39~43)}. Australia has accepted the challenge of developing a system-wide approach to link both education and practice for health education and public health practitioners⁹⁾.

IV. Research Studies on Professional Health Education Preparation Programs in the U.S.

Several articles have focused specifically on professional preparation programs for health educators. Schwartz, O'Rourke, and Eddy et al. (1999)⁴⁴⁾ reported on the use and impact of CHES competencies for planning curricula. Survey questionnaires were distributed to all departments (N=214) listed in the most recently published AAHE directory of institutions offering undergraduate and graduate degree programs in health education (response rate: 74.9%). Nearly all respondents (96.9%) indicated personal familiarity with the CHES competencies; about 85% felt that their faculty members were familiar with the competencies; and 92.9% indicated that the programs prepared students in the competencies. The impact of the competencies was examined with a Likert scale ranging from 1 (not at all) to 10 (very strong). Health education curricula (Mean=8.4) had the greatest impact on the responsibilities and competencies for entry-level health educators, compared with any other listed program component. The quality of students who graduated from these programs (Mean=7.3) and student employment prospects (Mean=6.5) impacted second and third, respectively. Less affected by the responsibilities and competencies were the students' demands for both the undergraduate and graduate programs, department image and credibility, faculty development, faculty composition and hiring, and administrative support. The study concluded that the majority of health education programs have used the competencies in formulating their programs. Finally, the study recommended that NCHEC should work with both public and private employers of health educators to require or encourage them to be certified as health education specialists if the employers value these competencies.

Gaines (1984-1985)⁴⁵⁾ assessed the major content areas necessary for professional preparation programs of health education. All members of the panel for this assessment were involved in college or university health education programs, research, and/or publication. The author compared the major content areas in 1961 and 1981 included by college or university health education programs. The major content areas in 1961 included: Basic Health Concepts; Health on the College Campus; Mental Health; Marriage and Family; Heredity and Environment; Care of Skin, Teeth, Eyes, and Ears; Fitness; Posture and Body Mechanics; Recreation and Health; Rest, Sleep, and Relaxation; Nutrition and Diet; Consumer Health; Communicable Diseases;

Chronic and Degenerative Diseases; Stimulants and Depressants; Accidents and Safety; Community and International Health; and Health Careers. The major content areas in 1981 also included most of these content areas, but others such as Emotional Health; Environmental Health; Drug, Alcohol, and Tobacco Issues; Sexuality; and Community Health were added. Gaines suggested that the emphasis on the content of health education programs had changed over the two decades. Similarly, another study on this topic, conducted by Golaszewski et al. (1982)⁴⁶⁾, also recommended including broader areas and topics on health professional preparation programs for health educators. They identified skills, competencies, and values specific to health education specialists working and practicing in these fields.

Sondag, Taylor, and Goldsmith (1993)⁴⁷⁾ surveyed 74 community agencies (CA) and 43 worksites (WS) to investigate employer perceptions of the importance of the practice of health education skills within these organizations. The survey included a skills analysis of the 7 entry-level responsibilities and 27 competencies recommended for health education specialists in the U.S. at that time. The study revealed: 1) the respondents generally felt that all responsibilities and competencies were important for health educators working in their organizations; and 2) health educators performed designated entry-level skills less than 50% of the time within the organizations surveyed. Worksite settings were more likely to hire health educators to let them perform these skills than were community agencies. This could be because the latter are more likely to hire other employees with health-related backgrounds who are perceived as capable of carrying out these skills⁴⁷⁻⁴⁸⁾. In both settings, the most important role of health educators was to respond to clients' health-related requests (CA = 41.1%, WS = 53.8%). A second contribution was to provide health-related information for community agencies (39.7%) and written materials for worksites (48.2%). A third role was to implement health-based programs and provide consultation for community agencies (38.2%), and to provide and interpret information for worksites (46.4%)⁴⁷⁾.

In another study focused on worksite settings, Girvan and Kearns (1993)⁴⁹⁾ recommended that school health educators be certified health education specialists. The logical reasons listed for this recommendation were that this would: 1) increase credibility inside and outside the health-related profession; 2) augment school health teachers' effectiveness; 3) assure that school health educators had taken coursework meeting the current competency standards; 4) facilitate collaborative efforts between school and

community health educators; 5) provide for more flexibility and mobility on occupational choices; 6) benefit rural communities; and 7) encourage standardization of preparation programs.

Hurster and Schima (1994)⁵⁰⁾ surveyed 88 institutions offering degrees in health education and received 276 student responses from 26 participating institutions. Competencies which most programs covered were needs assessments, program planning, spiritual health, identification of health sources and information, definition of health education and the profession, and health ethics. Competencies not covered were the evaluation and coordination of health education services, and acting as a resource person. In addition, geographical differences were found in curriculum design and teaching emphasis. The study revealed that introducing entry-level responsibilities and competencies is helpful and useful in updating or renovating curricula, program content, and requirements^{15,50~51)}. Brandon (1996)⁵²⁾ and Livingood et al. (1995b)⁵³⁾ also reported on the effectiveness and influence of the competencies on curriculum development and accreditation.

Christoffel (2000)⁵⁴⁾, Gebbie (1999)⁵⁵⁾, and Merrill et al. (1998)⁵⁶⁾ stated that the publication of the framework of responsibilities and competencies for entry-level health educators has strongly influenced professional preparation programs of health education in the U.S. Discussions on the future of health education and CHES in the U.S. have also emphasized course content and training needs; the need to change the school curriculum for graduate-level health educators; the need for faculty training and involvement in behavioral change research; accreditation of graduate health education programs and certification of their graduates; future employer issues; and public health advocacy⁵⁾.

V. Research Studies Focused on Other Issues for Health Education Specialists in the U.S.

Specific research studies have focused on cost issues for the certification examination. Ombres and Bensley (1995)⁵⁷⁾ examined the opinions and reasons why health educators, public health practitioners or individuals eligible to be certified health education specialists (CHES) choose not to be. Of 159 study respondents, 60% believed that certification was a means to strengthen the skills of health education professionals, but 78% indicated that they did not believe that CHES are more competent than non-certified educators. In addition, the cost of the CHES examination was a factor for 44% who chose not to be certified and stressed the need for financial

support for the CHES examination and the renewal of the CHES certificate.

Donatelle et al. (1993)⁵⁸⁾ also compared fees of examination, application, renewal for certificate or license, degree requirements, continuing education requirements, and costs of re-certification with other credentialing organizations. Goldman and Bloom (1993)⁵⁹⁾ described continuing education issues for CHES such as credit hours, fees, sponsorships, and providerships of professional organizations for continuing education courses, and tips for potential designated continuing education providers. Other studies in the U.S. have evaluated such issues as the continuing education and certification process^{7,35,60,61)}.

Prelip (2001)⁶²⁾ measured differences of job and work satisfaction, pay, opportunity for promotion, co-workers, and supervision for health educators between certified and non-certified health education specialists (CHES). The results showed no differences in any of these areas between the two groups. A significant difference was only found in promotion opportunities: those with CHES credentials were more dissatisfied.

Kai, Spencer, and Woodward (2001)⁸⁾ stated the importance of training health professionals for work in an ethnically diverse society, particularly for health educators and others in the health field such as medical students, hospital physicians, and therapists. Finally, Barry (2000)⁶³⁾ and Steckler et al. (1995)⁶⁴⁾ recommended measuring skills and specific practices of health educators and interventionists that would be necessary for the success of health education intervention programs, for performance standards increasing accountability in health education, and for public health programs that are operated by health educators, public health practitioners or interventionists.

VI. Conclusion

Tremendous efforts have been made by professional organizations, task forces and coalitions to develop the U.S. CHES credentialing system and related professional preparation programs, and the CHES framework over the past 50 years. Since the first CHES exam was implemented in 1990, it has been introduced in over 40 states in the U.S. As of 2003, over 11,000 U.S. CHES candidates have been certified as health education specialists.

However, some unresolved issues remain and in terms of 21st century priorities, the NCHC will need to promote CHES issues more widely through professional organizations and professional preparation programs in university/colleges. It must also

emphasize the benefits of the CHES license to employers, and continuously update CHES responsibilities and competencies. Much research on CHES issues has indicated that important topics for future discussion are continuing education, the certification process, job satisfaction, promotion opportunities, and CHES training. Effective qualitative and quantitative research studies need to be implemented for assessing these issues.

Acknowledgments

This article is a part of doctoral dissertation of the author approved by Columbia University, Teachers College in 2004, and was supported by the following professors at Teachers College, Columbia University and two Japanese professors:

John P. Allegrante, Ph.D. (Professor of the Department of Health and Behavior Studies, Teachers College, Columbia University), Isobel R. Contento, Ph.D. (Professor of the Department of Health and Behavior Studies, Teachers College, Columbia University), Ray Marks, Ed.D. (Department of Health and Behavior Studies, Teachers College, Columbia University), Lawrence H. Kushi, Sc.D. (Associate Director for Etiology & Prevention Research, Division of Research, Kaiser Permanente), Atsuhisa Eguchi M.D., D. Md. Sc. (Professor Emeritus, University of Tsukuba), and Masaki Moriyama, M.D., Ph.D. (Professor, Department of Public Health, School of Medicine, Fukuoka University)

References

- 1) Simons-Morton, B. G., Greene, W. H., and Gottlieb, N. Introduction to health education and health promotion (2nd ed. Appendix A). Prospect Heights, IL: Waveland Press, 1995.
- 2) American Association for Health Education, National Commission for Health Education Credentialing, and Society for Public Health Education. A competency-based framework for graduate-level health educators. Allentown, PA: National Commission for Health Education Credentialing, American Association for Health Education, and Society for Public Health Education, 1999.
- 3) Cleary, H. P. The credentialing of health educators: An historical account 1970-1990. Allentown, PA: National Commission for Health Education Credentialing, Inc., 1995
- 4) Taub, A. Personal credentialing and the professionalization of health education. *J Health Educ*, 1998; 29: 121-125.
- 5) Brandon JE. Graduate health education programs' support for the NCHEC competencies and the graduate standards. *Int Elect J Health Educ* 2000; 3: 244-252.
- 6) DeGroft S. CHES: Committed to education. *Nurs Managem* 1998; 29: 65-66.
- 7) Henderson AC, Wolle JM, and Cortese PA, et al. The future of the health education profession: Implications for preparation and practice. *Public Health Report* 1998; 96: 555-559.
- 8) Kai J, Spencer J, and Woodward N. Wrestling with ethnic diversity: Toward empowering health educators. *Med Educ* 2001; 35: 262-271.
- 9) Rotem A, Hine B, and Hodgkinson A. Linking public health education and practice: The Australian experience. *Asia-Pacific J Public Health* 1998; 10: 17-20.
- 10) Auld ME. Personal communication on the report "Executive Edge." Executive Director and a member of editorial board of Society for Public Health Education: February 2003.
- 11) Grossman J. Continuing competence in the health professions. *Am J Occup Therapy* 1998; 52: 709-715.
- 12) Tappe MK, and Galer-Unti RA. Health educators' role in promoting health literacy and advocacy for the 21st century. *J Sch Health* 2001; 71: 477-482.
- 13) Allegrante JP, Moon RW, Auld ME, et al. Continuing education needs of the currently employed public health education workforce. *Am J Public Health* 2001; 91: 1230-1233.
- 14) Gold RS, and Atkinson NL. Importance of health education research to health education. *Am J Health Behav* 2001; 25: 301-310.
- 15) Knight EA. Curriculum planning for professional education: Meeting national standards and local needs. *J Health Educ* 1991; 22: 226-232.
- 16) Livingood WC, and Auld ME. The credentialing of a population-based health profession: Lessons learned from health education certification. *J Public Health Manag Prac* 2001; 7: 38-45.
- 17) Mail PD. A national profile of health educators: Preliminary data from the first cohorts of CHES. *J Health Educ* 1993; 24: 269-278.
- 18) National Commission for Health Education Credentialing. A competency-based framework for professional development of certified health education specialists. Allentown, PA: National Commission for Health Education Credentialing, 1996.
- 19) Rash JK. The school health educator: The image of the health educator. *J Sch Health* 2001; 71: 393.
- 20) Cleary HP. The credentialing of health educators: A historical account 1970-1990. Allentown, PA: National Commission for Health Education Credentialing, 1995.
- 21) Nolte AE, and Hamburg MV. Development of national certification for health education specialists. *J Health Educ* 1993; 24: 263-268.
- 22) Patterson SM. A historical perspective of selected professional preparation conferences that have influenced credentialing for health education specialists. *J Health Educ* 1992; 23: 101-107.
- 23) Eddy JM, and O'Rourke TW. Organizational and departmental issues in the preparation of graduate-level health educators. *J Health Educ* 1997; 28: 55-56.
- 24) National Commission for Health Education Credentialing, and Coalition of National Health Education Organizations. The health education profession in the

- twenty-first century: Setting the stage. *J Health Educ* 1996; 27: 357-364; *J Sch Health* 1996; 66: 291-298.
- 25) National Commission for Health Education Credentialing. The health education specialists: A study guide for professional competence. 4th Edition. Allentown, PA: National Commission for Health Education Credentialing, 2000.
 - 26) Girvan JT, Hamburg MV, and Miner KR. Credentialing the health education profession. *J Health Educ* 1993; 24: 260.
 - 27) Taub A. Credentialing: The basics. *J Health Educ* 1993; 24: 261-262.
 - 28) Wolle JM, Cleary HP, and Stone EJ. Initiation of a voluntary certification program for health education specialists. *Public Health Reports* 1989; 104: 396-402.
 - 29) Hayden J. Professional socialization and health education preparation. *J Health Educ* 1995; 26: 271-276.
 - 30) Auld ME, Gielen A., and McDonald E. Practice notes: Strategies in health Education—Strengthening graduate professional preparation in health education for the 21st century. *Health Educ Behav* 1998; 25: 413-417.
 - 31) Mail PD. Quality assurance in health education. *J Health Educ* 1994; 25: 333-337.
 - 32) Dennison D. Health education graduate standards: Expansion of the framework. *J Health Educ* 1997; 28: 68-73.
 - 33) Taub A. Defining advanced level competencies for health education specialists. *J Health Educ* 1999; 30: 197-199.
 - 34) The Steering Committee, National Commission for Health Education Credentialing. Competencies update project (CUP): Status report of November 2000. A handout for the group discussion of the competencies update project at SOPHE annual meeting held in October, 2001, Atlanta, GA, 2000.
 - 35) Van Scoder LI. Recredentialing in the allied health professions. *J Allied Health* 2001; 30: 229-231.
 - 36) The Steering Committee, National Commission for Health Education Credentialing. Competencies update project: Promoting quality assurance in health education. Press Release, February, 2002: NCHCEC Website: <http://www.nchec.org/cupproj.htm>
 - 37) Marks R. Personal communication. Adjunct Professor of the Department of Health and Behavior Studies, Teachers College, Columbia University: January, 2002.
 - 38) Taub A. Personal communication. Chair of the Department of Health Studies, School of Health Education, New York University: October, 2001.
 - 39) Chen WW. A comparison of self-reported health education competencies among selected school health educators in the United States and Taiwan, R.O.C. *J Sch Health* 1991; 61: 127-130.
 - 40) Hiramani AB, and Sharma N. Health educators in India—A profile. *Hygiene* 1989; 8: 34-37.
 - 41) Martins N, and Candeias F. Evaluating the quality of health education programmes: Some comments on methods and implementation. *Hygiene* 1991; 10: 40-45.
 - 42) Soha C. Personal communication. Executive Director of the National Commission for Health Education Credentialing, Allentown, PA: November 20, 2001.
 - 43) Workers' risk perception in Brazil: A challenge for health promotion and education planning. *Promotion Educ* 1994; 1: 11-18.
 - 44) Schwartz LW, O'Rourke TW, Eddy JM, et al. Use and impact of the competencies for entry-level health educators on professional preparation programs. *J Health Educ* 1999; 30: 209-214.
 - 45) Gaines J. Health education content assessment. *Health Educ* 1984-1985; 15: 6-8.
 - 46) Golaszewski T, Tomik W, Pyle R, et al. Competency identification, evaluation and improvement for corporate health program fitness specialists: Health education variables. *Health Educ* 1982; 13: 32-35.
 - 47) Sondag KA, Taylor EL, and Goldsmith M. Employers' perceptions of the importance of entry level health education skills. *J Health Educ* 1993; 24: 305-310.
 - 48) Olsen LK. Are baccalaureate-level community HE specialists an answer to the labor shortage? *Health Educ* 1978; 9: 6-7.
 - 49) Girvan JT, and Kearns RL. The case for school health educators becoming certified health education specialists. *J Health Educ* 1993; 24: 296-298.
 - 50) Hurster M, and Schima M. Students' perceptions of coverage of health education competencies by their professional preparation programs. *J Health Educ* 1994; 25: 362-368.
 - 51) Neiger BL, and Giles R. Survey of health education, professional preparation programs. *CHES Bulletin* 1993-1994; 5: 6.
 - 52) Brandon JE. Success stories: How guidelines have helped professional programs. Paper presented at the meeting of the National Congress for Institutions Preparing Graduate Health Educators, Dallas, TX, 1996.
 - 53) Livingood WC, Woodhouse LD, Underwood CS, et al. Integrating individual and program credentialing: The East Stroudsburg University experience. *J Health Educ* 1995; 26: 104-106.
 - 54) Christoffel KK. Public health advocacy: Process and product. *Am J Public Health* 2000; 90: 722-726.
 - 55) Gebbie KM. The public health workforce: Key to public health infrastructure. *Am J Public Health* 1999; 89: 660-661.
 - 56) Merrill R, Chen DW, Gielen A, et al. The future health education workforce. *J Health Educ (Suppl.)* 1998; 29, S59-S64.
 - 57) Ombres MA, and Bensley LB. A study to determine opinions of the membership of Great Lakes SOPHE regarding certification. *J Health Educ* 1995; 26: 44-48.
 - 58) Donatelle RJ, Schima M, Champeau D, et al. Professional credentialing: At what cost? *J Health Educ* 1993; 24: 288-291.
 - 59) Goldman KD, and Bloom FK. Designated provider-ship 101: Providing continuing education to a local CHES constituency. *J Health Educ* 1993; 24: 292-295.
 - 60) Fullerton JT, Roberts JE, and Valhoff WL. Recent developments in professional midwifery education and

- credentialing. *J Nurse-Midwifery* 1996; 41: 322-327.
- 61) Parboosingh J. Credentialing physicians: Challenging for continuing medical education. *J Contin Educ Health Professions* 2000; 20: 188-190.
- 62) Prelip ML. Job satisfaction in health education and the value added of credentialing. *Am J Health Educ* 2001; 32: 26-30.
- 63) Barry MA. How can performance standards enhance accountability for public health? *J Public Health Manag Prac* 2000; 6: 78-84.
- 64) Steckler A, Allegrante JP, Altman D, et al. Health education intervention strategies: Recommendations for future research. *Health Educ Quart* 1995; 22: 307-328.
-

(Received June 2, 2004; Accepted October 8, 2004)