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EVALUATING THE CURRICULA FOR ENTRY-LEVEL CARE PROFESSIONALS IN AGING-RELATED FIELDS

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The rapidly growing older population has generated the need for more gerontological or geriatric care professionals. This study evaluated the undergraduate programs offered by the departments of medicine, nursing studies and social work at a university in Hong Kong, based on the data of a recent alumni survey. It also identified factors that determine the perceived adequacy of training. The training was found to be moderately adequate in preparing the alumni for practice in the field of aging, but there is a need to improve the existing curricula. Suggestions for further studies are discussed.

The older Hong Kong population has grown very rapidly in recent years and will increase to an estimated 15% of the total in 2019, up from 12% in 2006 (Census & Statistics Department, 2001a & 2007). These demographic changes are presenting an imminent challenge to human services for older adults. From 1998 to 2001, there was a remarkable increase in the demand for various community and residential services for the elderly (Census & Statistics Department, 2001b), which created the need for more gerontological or geriatrics care professionals.

Despite these challenges, higher education institutions in Hong Kong only offer two master's gerontology programs, one postgraduate diploma program in community geriatrics, and some elective gerontology courses at the undergraduate level. Although the Hong Kong Association of Gerontology and some community colleges offer certificate or short-term gerontology courses, most of them

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target paraprofessionals or caregivers. Until recently, no commonly accepted or core knowledge-based competencies had been identified for the development of formal curricula for training gerontologcial and geriatric care practitioners (Working Group on Gerontological Care, 2001; Working Group on Gerontology Training for Social Work Students, 2003). Although a study was recently conducted on administrator perceptions of the practice competencies of care professionals (Ma, 2005), there is little valid and reliable information on the adequacy of related curricula. Hence, this study evaluated the undergraduate programs offered by the University of Hong Kong, and it identified potential areas for improvement in the curricula for entry-level care professionals.

To facilitate the development of gerontology and geriatrics curricula, educators have attempted to identify core practice competencies for care professionals. Studies show that primary care physicians have stressed a need for geriatric training in the areas in which they feel least prepared for (Grilly, Ellett, Chung, & Kulatilaka, 1996; Henderson, Eleazer, & Olderdick, 1998) and the importance of interpersonal intervention and program accountability for entry-level professionals (Bennett & Sneed, 1999). Geriatric training for internist medical residents has emphasized attitudinal issues and skills in effective communications and assessment (Chodosh, Katz, Kochersberger, & Jall, 1997). Core competencies for geriatric nurses have been identified as critical thinking, communication, assessment, technical skills, and illness and disease management (American Association of Colleges of Nursing, 2000).

Gerontology students and graduates vary from those of medicine and nursing in their need for specific training. The alumni of gerontology programs want to acquire more knowledge and skills in aging policy, clinical practice, general aging, research (Cummings & DeCoster, 2003), management, communication, dimensions of the aging process (Usita, Blisezner, & Roberto, 1998), self awareness, assessment, special needs of older people, and community resources (Naito-Chan, Damron-Rodriguez, & Simmons, 2004). They consider interdisciplinarity, multidisciplinary opportunities for learning, and practicum experience to be the most valuable components of a gerontology program (Usita et al., 1998).

The employers of graduates from gerontology and geriatrics programs are also a reliable source of feedback for improving curricula. Studies have found that employers consider professional ethics and values, communication skills, team work skills (Ma, 2005), assessment skills, case management skills, and self awareness (Naito-Chan et al., 2004) to be the most important competencies for care professionals.

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Some employers are not satisfied with the skills that their employees display in funding proposal writing and research/evaluation (Ma, 2005; Roberto, Usita, Weeks, & Wacker, 1997), which suggests the need for improvement in these areas of the curricula.

Despite the cumulative studies conducted to identify the most important practice competencies and the areas of curricula that need to be strengthened, no conclusive findings have been obtained. To maintain the availability and quality of gerontology education, educators have suggested the establishment of commonly accepted practice competencies and the standardization of aging-specific curricula (Cummings & DeCoster, 2003; Sharlach, Damron-Rodriguez, Robinson, & Feldman, 2000). Professional organizations such as the American Geriatrics Society (2000), the American Association of Colleges of Nursing (2000), and the Council for Social Work Education (2000) have also recognized the need for developing essential competencies for care professionals.

METHOD

Study Population and Sampling

The study population comprised alumni who had worked with older adults after graduating from the undergraduate programs of the departments of medicine, nursing studies, and social work and social administration at the University of Hong Kong. These alumni were surveyed because they represented many care professionals working in the field of aging, providing a diverse sample of perceptions and attitudes. No sampling was needed because questionnaires were mailed to all alumni based on the records available at each of the three departments.

Measures

The major variables were adequacy of training, importance of practice competencies, and potential areas for development. Adequacy of training denoted how adequate the training was in each of the listed practice competencies and the experiential exposure offered to the graduates in preparing them for practice in aging-related jobs. The listed competencies were grouped into interpersonal intervention and administration/management. Importance of practice competencies referred to the importance of the listed practice competencies in the field of aging. These two variables were measured by the perceptions of the surveyed alumni, with a 4-point rating scale

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ranging from 0 = not important to 3 = very important. This scale was adopted based on the suggestions of key informants, the findings of a pilot test, and a review of the related literature (Bennett & Sneed, 1999). Potential areas for development were indicated by the discrepancy between the rated adequacy of training and perceived importance of each type of competency and experiential exposure.

Procedure

The main instrument used to collect data was a self-administered questionnaire, which was developed based on the concepts of practice competencies and the question styles used in previous studies (Bennett & Sneed, 1999; Henderson et al., 1998; Roberto et al., 1997; Usita et al., 1998), and on the feedback of nine alumni who represented the fields of medicine, nursing, and social work. The finalized questionnaire contained six sections including sociodemographic background, education and training, current employment, perceived importance of practice competency, perceived adequacy of training, and suggestions for improvement. Two waves of questionnaires were mailed to the alumni in the summer of 2003. A total of 211 questionnaires was completed and returned for a response rate of 23%, which is comparable to previous studies (Grilly et al., 1996; Henderson et al., 1998). Of the returned questionnaires, 41 were invalid due to missing data. Hence, the sample size was 170, which was still sufficient for descriptive and basic inferential statistical analyses.

CURRICULA OF UNDERGRADUATE PROGRAMS

The following is a brief description of the curricula of the undergraduate programs offered by the aforementioned departments. The MBBS (Bachelor of Medicine, Bachelor of Science) curriculum comprises five major components: the Introduction to Health and Disease Block, System-based Blocks, the Integrated Block, Clinical Clerkships, and Special Study Modules. In five years of training, students acquire basic medical and health science knowledge, basic concepts in medical ethics, knowledge of the structure and function of the organ systems, and clinical and clinical interpersonal skills. Students also participate in the day-to-day care of patients, which enables them to apply their knowledge and clinical skills to diagnosis, treatment, patient management, and communication with patients and their families.

The BNS (Bachelor of Nursing Studies) program focuses on the concepts of wellness and the health-illness continuum and nursing

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competencies in health care. Throughout four years of study, students learn the fundamental concepts that are essential to nursing and health. They develop skills in health promotion and education, continuing care, and health assessment. They also gain knowledge of the behavioral and life sciences, clinical pharmacology, the sociology of health and illness, family health maintenance, mental health nursing, emergency nursing, nursing theory, research and statistics, the health problems of individuals, gerontological nursing, community health nursing, professional issues, and Chinese medicine. During their training, students are provided with learning experiences in practicums at hospitals and in the community.

The BSW (Bachelor of Social Work) program prepares students for ameliorating people's problems, improving their quality of life, and advancing social justice. Over three years, students are equipped with the value, knowledge, and skills of the profession in five major areas: social work theory and practice, social policy and social welfare, human development, social research, and sociology and psychology. They also have to complete minor or elective courses, and to undertake 800 hours of field work and 200 hours of skills training in the laboratory.

RESULTS

Background Characteristics of Alumni

The background characteristics of the respondents are summarized in Table 1. All of the respondents were young, with mean ages ranging from 27.6 to 29. The gender ratio of the medical graduates was much lower than those of the nursing and social work graduates, which suggests that nursing studies and social work programs appeal more to female students.

Among all of the respondents, the social work graduates had the highest qualifications. A total of 43% of them had master's degrees, while most of the medical and nursing graduates held bachelor degrees only. Regardless of their educational background, most of the graduates were trained to be generalists. The exceptions were 11 medical graduates and 4 nursing graduates who had received postgraduate training in community geriatrics or other specialties.

The respondents appeared to be recent graduates, as the mean years since graduation for all of them were less than three. Most were currently working in aging-related jobs. In their daily practice, the medical and nursing graduates participated mainly in direct services, whereas the social work graduates undertook other duties such as management, planning, and education in addition to direct services.

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Table 1. Background characteristics of the surveyed alumni

Characteristics	Discipline		
	Medicine ($n = 51$)	Nursing ($n = 79$)	Social work ($n = 40$)
Age			
Mean	28.66	27.59	29.08
SD	9.13	8.12	6.71
ANOVA	$F = 0.93$	$df = 2, 106$	$p > .1$
Gender			
Male	52.00%	10.30%	22.50%
Female	48.00%	89.70%	77.50%
Education level			
Bachelor's degree	78.00%	90.00%	57.50%
Master's degree	—	5.00%	42.50%
Postgraduate diploma	22.00%	5.00%	—
Years since graduation			
Mean	2.80	1.80	2.64
SD	1.15	0.91	2.43
ANOVA	$F = 8.41$	$df = 2, 164$	$p < .001$
Current aging-related job			
Yes	72.00%	83.10%	75.00%
No	28.00%	16.90%	25.00%
Job duty allocation			
Direct service	87.27%	73.10%	47.13%
Education	6.35%	12.55%	11.55%
Management	1.80%	6.24%	21.33%
Planning	1.71%	6.67%	13.63%
Research	0.37%	1.17%	4.63%
Other	2.49%	0.26%	1.75%

Perceived Adequacy of Training

In general, the respondents perceived that their training was somewhat adequate in preparing them for practice in aging-related jobs (combined overall mean rating = 1.22), although a few competencies were lowly rated (mean ratings <1) (see Table 2). Yet, the perceived adequacy of training varied substantially with each respondent's discipline. For the medical graduates, the training was generally perceived to be much less adequate (combined overall mean rating = .98) than for the nursing and social work graduates (combined overall mean ratings = 1.37 and 1.22, respectively). These different ratings could be caused by the complexity and challenge of care services for older adults and their families in the medical field relative to the other two fields.

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Table 2. Adequacy of training for practice in aging-related fields as rated by the alumni[a]

	Sample ($N = 170$)		Medicine ($n = 51$)		Nursing ($n = 79$)		Social work ($n = 40$)	
Competency and experiential exposure	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***
Interpersonal intervention								
Clinical skills	1.63	.78	1.57	.78	1.80	.76	1.35	.74
Assessment skills	1.54	.79	1.57	.85	1.68	.74	1.22	.73
Special problems in aging	1.54	.83	1.63	.85	1.71	.74	1.08	.83
Professional ethics and values	1.54	.78	1.24	.82	1.60	.71	1.80	.76
Concepts underlying the holistic approach	1.47	.85	1.22	.92	1.61	.76	1.50	.85
Health promotion and education	1.44	.79	1.12	.74	1.75	.78	1.25	.67
Group work skills	1.42	.92	.96	.85	1.56	.89	1.75	.84
Case management skills	1.41	.84	1.32	.87	1.41	.82	1.50	.85
Communication skills	1.41	.89	1.14	.90	1.56	.83	1.45	.96
Biological aspects of aging	1.40	.78	1.22	.76	1.63	.75	1.17	.75
Theories on aging	1.36	.81	1.12	.82	1.46	.80	1.50	.75
Social demography	1.36	.80	1.16	.78	1.43	.80	1.47	.82
Psychological aspects of aging	1.35	.87	1.04	.87	1.38	.82	1.70	.85
Teamwork skills	1.32	.87	.90	.81	1.54	.87	1.40	.74
Social aspects of aging	1.31	.84	.96	.80	1.33	.80	1.70	.82
Medical decision making	1.30	.83	1.51	.81	1.45	.75	.73	.75
Research and evaluation	1.23	.88	.76	.82	1.43	.84	1.42	.84
Community care practices	1.22	.77	.98	.74	1.30	.81	1.35	.66
Biomedical/social ethics	1.19	.75	1.02	.76	1.34	.73	1.10	.71
Principles of rehabilitation	1.18	.85	.98	.84	1.51	.79	.78	.73
Principles of disease prevention	1.12	.83	.98	.84	1.42	.76	.70	.72
Community resources	1.08	.77	.92	.72	.99	.82	1.48	.60
Service delivery skills	1.04	.81	.71	.70	1.05	.80	1.43	.81
Knowledge about other professions	.97	.72	.80	.80	1.10	.67	.93	.66
Policy issues/policy development	.94	.78	.57	.67	.92	.75	1.45	.68
Overall mean rating	1.31		1.10		1.44		1.33	
Administration/management								
Service planning	1.79	.83	.53	.70	1.06	.84	1.05	.82
Interdisciplinary team building	1.18	.82	.94	.88	1.42	.74	1.02	.77
Program development	1.09	.78	.73	.78	1.23	.75	1.27	.72
Supervision skills	.91	.79	.69	.76	1.15	.79	.72	.72
Personnel management	.82	.81	.51	.73	1.10	.86	.65	.62
Management of LTC facilities	.77	.78	.53	.70	1.01	.82	.60	.63
Financial management	.69	.73	.41	.57	.86	.77	.73	.75
Funding proposal writing	.64	.71	.41	.61	.75	.75	.70	.69
Overall mean rating	.88		.59		1.07		.84	
Experiential exposure								
Case studies	1.42	.76	1.12	.79	1.63	.72	1.40	.74
Practicum/internship	1.41	.86	1.03	.90	1.65	.79	1.45	.78

(*Continued*)

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Table 2. Continued

Competency and experiential exposure	Sample ($N = 170$)		Medicine ($n = 51$)		Nursing ($n = 79$)		Social work ($n = 40$)	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Overall mean rating	1.42		1.07		1.64		1.43	
Combined overall mean rating	1.22		.98		1.37		1.22	
ANOVA[b]	*F*: 8.11		*df*: 2, 167		$p < .001$			

[a]0 = not adequate; 1 = somewhat adequate; 2 = adequate; 3 = very adequate.
[b]Comparison among medicine, nursing, and social work graduates.

In addition to the general pattern of training adequacy, the three groups of respondents each identified areas of subadequacy. For instance, training in intervention knowledge and skills was perceived to be somewhat subadequate to different degrees, with scores ranging from 8% for nursing graduates and 16% for social work graduates to 44% for medical graduates (mean rating $\leq .9$). The adequacy of training in administration/management competencies was particularly low as rated by the medical and social work graduates (overall mean ratings = 0.59 and 0.84, respectively). The medical graduates might have given a low rating in this case because no administration/management course was available to them when they were students. The social work graduates might have given the rating because many were required to undertake a considerable amount of administrative or managerial work in their daily practice, which would have made them aware of the limitations of their training (refer to Table 1).

Factors Affecting Perceived Training Adequacy

Regression analyses were used to identify the factors that affected perceived training adequacy. The graduates' demographic characteristics, educational background and work experience and duties were entered to assess their effects on perceived training adequacy. The regression coefficients of all independent variables are displayed in Table 3 to provide a full picture of the relationships between the factors and the perceived training adequacy.

Table 3 shows that of all the independent variables, only gender and discipline were correlated with perceived training adequacy in the interpersonal intervention competencies. Specifically, training adequacy as rated by the male alumni and the nursing and social work graduates was higher than that rated by the female alumni and the

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medical graduates. In addition to gender and discipline, perceptions of administration/management competencies varied inversely with involvement in direct service and managerial/administrative duties, and perceptions varied positively with the years since graduation. In contrast, the perceived adequacy of experiential exposure had significant relationships with the respondents' discipline only.

These results indicate that the personal characteristics and disciplines of the respondents largely determined their perceptions of training adequacy. The female graduates and the medical graduates perceived their undergraduate programs to be less adequate in training them than did the other graduates, regardless of their work

Table 3. Regression analysis of adequacy of training for practice in aging-related fields[a]

Factor	Interpersonal intervention	Administration/ management	Experiential exposure
Demographic characteristics			
Age	−.067	−.010	−.172
Gender (female = 1; male = 0)	−.256**	−.217**	−.153
Education background			
Discipline N (nursing studies = 1; medicine = 0)	.414***	.565***	.482***
Discipline S (social work = 1; medicine = 0)	.266*	.388***	.297*
Years since graduation	.043	.209**	.069
Education (postgraduate = 1; undergrad = 0)	−.089	−.123	−.082
Work Experience and duties			
Current aging-related job (yes = 1; no = 0)	−.034	.086	.035
Percentage of direct service	−.593	−.621*	−.574
Percentage of education	−.238	−.262	−.335
Percentage of management/ administration	−.280	−.468**	−.329
Percentage of planning	−.214	−.253	−.153
Percentage of research	−.218	−.201	−.191
Intercept[b]	2.586	1.739	3.159
R^2	.150	.223	.174
F-ratio	2.149	3.487	2.559
p-value	.017	.000	.004
N	158	158	158

[a]Figures shown are standardized regression coefficient, unless otherwise indicated.
[b]Figures shown in this row are unstandardized regression coefficients.
*≤ .05; **≤ .01; ***≤ .001.

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experience, current employment, or duties. Furthermore, those graduates who were involved in more managerial/administrative duties and direct service perceived the adequacy of their training to be lower. However, more work experience could compensate for this perceived subadequacy.

Potential Areas for Development

Table 4 displays the potential areas for the development of practice competencies for care professionals. Each of these areas was measured by the discrepancy between training adequacy as rated by the graduates and the perceived importance of the practice competencies. The discrepancy was calculated by subtracting the rating of importance from that of adequacy. A negative sign indicates the need for development, and a positive sign indicates extraordinary adequacy.

Surprisingly, each of the listed practice competencies has a negative sign, which suggests a comprehensive need for development in all competencies. Those competencies with higher ratings are in greater need of development, particularly knowledge about community resources, service delivery skills, knowledge of special problems, and communications skills (with mean ratings ranging from -1.01 to -1.20). Nevertheless, it is evident that the respondents considered their training to be somewhat inadequate to prepare them for daily practice. This deficiency could be attributed to either the excessively high requirements of aging-related jobs or the undertraining of the respondents.

The different groups of respondents perceived different levels of deficiency in each area. The nursing graduates appeared to receive better training than did the medical and social work graduates, as the perceived need to develop their competencies was much lower. Yet, the need of the medical graduates for further training in interpersonal intervention competencies (overall mean rating $= -.88$) was higher than their need for improvement in administration/management competencies (overall mean rating $= -.77$). This suggests that the medical graduates perceived interpersonal intervention skills to be more important than administration/management skills. Moreover, the social work graduates seemed to need more effective training in their administration/management competencies (overall mean rating $= -1.06$) simply because they were required to undertake more administrative and managerial duties than the other graduates.

The specific competencies that were perceived to need improvement varied between disciplines. For the medical graduates, knowledge of community resources and the principles of disease prevention, an

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Table 4. Potential areas for development of practice competencies for practice in aging-related fields[a]

	Sample ($N = 170$)		Medicine ($n = 51$)		Nursing ($n = 79$)		Social work ($n = 40$)	
Area for development	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***
Interpersonal intervention								
Community resources	−1.20	.97	−1.16	.90	−1.25	1.11	−1.15	.74
Service delivery skills	−1.11	1.01	−1.24	.84	−1.06	1.15	−1.02	.92
Special problems in aging	−1.01	.96	−.90	.96	−.88	.92	−1.40	.96
Assessment skills	−1.01	.90	−.96	.98	−.87	.85	−1.35	.83
Communication skills	−.94	1.08	−1.18	1.05	−.77	1.07	−1.00	1.11
Principles of disease prevention	−.89	1.00	−1.02	1.07	−.64	.93	−1.23	.95
Clinical skills	−.88	.85	−.96	.85	−.75	.80	−1.03	.92
Biological aspects of aging	−.86	.93	−.90	.83	−.70	.94	−1.13	.97
Psychological aspects of aging	−.85	1.05	−.98	1.17	−.80	1.07	−.80	.85
Social aspects of ageing	−.82	.98	−1.00	.94	−.82	1.05	−.72	.85
Medical decision making	−.84	.94	−1.00	1.04	−.75	.85	−.81	.96
Principles of rehabilitation	−.83	1.00	−.94	1.03	−.66	1.99	−1.03	.95
Knowledge about other professions	−.76	.90	−.96	.96	−.57	.89	−.90	.78
Policy issues/policy development	−.70	.96	−.90	.90	−.68	1.03	−.48	.85
Teamwork skills	−.67	1.08	−.78	1.10	−.61	1.10	−.64	1.02
Concepts underlying the holistic approach	−.62	1.01	−.86	1.08	−.39	.96	−.75	.95
Community care practices	−.56	1.00	−.78	1.03	−.37	1.05	−.63	.77
Theories on ageing	−.54	1.09	−.71	1.22	−.32	1.09	−.75	.84
Group work skills	−.53	1.08	−.69	1.10	−.51	1.10	−.39	1.00
Biomedical/social ethics	−.47	.99	−.51	1.03	−.25	.89	−.85	1.03
Social demography	−.44	.98	−.61	.96	−.38	.98	−.34	.99
Research and evaluation	−.40	1.07	−.71	1.10	−.20	1.04	−.42	1.04
Professional ethics and values	−.35	.97	−.55	1.05	−.25	.94	−.28	1.02
Health promotion and education	−.60	.89	−.63	.98	−.57	.87	−.64	.83
Case management skills	−.82	1.00	−1.05	1.07	−.66	.97	−.85	.95
Overall mean rating	−.75		−.88		−.63		−.82	
Administration and management								
Management of LTC facilities	−.89	1.01	−.86	1.06	−.72	.99	−1.24	.93
Service planning	−.88	1.01	−.82	.95	−.84	1.03	−1.04	1.03
Financial management	−.88	1.00	−.84	1.03	−.78	1.00	−1.11	.97
Interdisciplinary team building	−.84	1.03	−.90	1.25	−.71	.80	−1.04	1.09
Funding proposal writing	−.80	.96	−.63	.92	−.71	.98	−1.19	.89
Supervision skills	−.79	.99	−.71	1.10	−.75	.85	−.96	1.09
Personnel management	−.73	1.08	−.63	1.08	−.56	1.06	−1.19	1.01
Program development	−.67	.99	−.78	1.03	−.58	.97	−.71	.99
Overall mean rating	−.81		−.77		−.71		−1.06	
Experiential exposure								
Practicum/internship	−.81	1.01	−.87	1.22	−.85	.89	−.66	.97
Case studies	−.73	.92	−.73	1.08	−.65	.73	−.91	1.01

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Table 4. Continued

Area for development	Sample ($N = 170$)		Medicine ($n = 51$)		Nursing ($n = 79$)		Social work ($n = 40$)	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Overall mean rating	−.77		−.80		−.75		−.79	
Combined overall mean rating	−.76		−.85		−.65		−.87	
ANOVA[b]	*F*: 2.44		*df*: 2, 167		$p < .1$			

[a]0 = Not at all; −1 = Somewhat necessary; −2 = Necessary; −3 = Very necessary.
[b]Comparison among medicine, nursing, and social work graduates.

understanding of the social aspects of aging, and the skills of service delivery, communication, case management, and medical decision making were most in need of development. In comparison, the social work graduates identified slightly more such competencies, namely an understanding of the social and biological aspects of aging, knowledge of the principles of disease prevention, community resources, and the principles of rehabilitation, and the skills of assessment, clinical, service delivery, and communication. In addition, the social work graduates thought that they needed to strengthen their administrative/managerial skills, especially LTC (long-term care) facility management, funding proposal writing, personnel management, financial management, service planning, and interdisciplinary team building. Unlike the other graduates, only two competencies—knowledge of community resources and service delivery skills—were identified by the nursing graduates as lacking in their training.

Many of the aforementioned competencies were common to two or three groups of the graduates surveyed, despite their different backgrounds. For instance, a perceived lack of adequate training in communication skills and knowledge of the principles of disease prevention was common to the medical and social work graduates, while perceived subadequate knowledge of community resources and training in service delivery skills was common to all three groups of graduates.

DISCUSSION

This study evaluated the undergraduate programs offered by the University of Hong Kong as perceived by medical, nursing studies, and social work alumni. It identified potential areas for the

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development of effective curricula for entry-level care professionals. The findings show that the training was somewhat adequate in preparing the alumni for practice in aging-related jobs. However, all of the alumni tended to under-rate training in administration/manmanagement competencies. Similar to the findings reported by Roberto et al. (1997), they thought themselves least competent in funding proposal writing and financial management. In recent years, human services in many developed societies such as Hong Kong have faced serious fiscal constraints. To secure sufficient funding for aging-related services, human service practitioners need to strengthen their competency in funding proposal writing, and they should sharpen their financial management skills to best utilize limited resources.

As indicated by the results of the regression analyses, perceptions of training adequacy were mainly determined by alumni discipline, regardless of work experience and current employment. Among all of the alumni surveyed, the nursing graduates perceived their training to be the most adequate, and the medical graduates considered theirs to be the least adequate. The discrepancy among the three groups is understandable because no geriatrics element was incorporated in the MBBS curriculum, whereas the BNS students were required to take gerontological nursing as one of their core courses. The BSW students were offered an aging elective and a practicum in aging fields. These findings strongly imply that the gerontology/geriatrics components of the fundamental curricula can strengthen the competencies of entry-level care professionals in working with older adults (more at Lee & Waites, 2006). Moreover, in the near future there will be greater numbers of older people with increasingly complex needs in Hong Kong, and existing and prospective care professionals will face greater challenges in helping them. Thus, the infusion of aging-related knowledge and skills into generalist programs is essential for the training of competent practitioners. Effective approaches to achieving this goal would be teaching collaboration between gerontologists/geriatricians and general human service educators (Chodosh et al., 1997) and hands-on training in aging programs and services in various settings.

Despite the moderately adequate training, there was a comprehensive need to develop all of the competencies listed. This is because the training was subadequate compared to the perceived importance of those competencies. The medical graduates needed more training in their interpersonal intervention competencies than in those of administration/management. The social work graduates needed to strengthen their administration/management knowledge and skills more than their interpersonal intervention competencies. The specific

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competencies that needed improvement varied between disciplines. For the medical graduates, these included skills of service delivery and communication with older adults. For the nursing graduates, the relevant competency was knowledge of community resources. The competencies in question for the social work graduates included knowledge of special problems in aging, the principles of disease prevention and the skills of assessment, and LTC facility management. These care professionals intended to develop cross-disciplinary knowledge and skills that would strengthen their competencies in working with older adults that were not provided in the undergraduate programs. This indicates that the daily practice of care professionals in Hong Kong has become more challenging in recent years due to increasing demand from older service-users. Hence, human service educators should tailor curricula to meet the requirements of specific disciplines in accordance with the current social conditions and the changing needs of the rapidly aging population.

The three groups of alumni all considered their knowledge of community resources, service delivery skills, communication skills, and knowledge of the principles of disease prevention to be in need of improvement. This suggests that these competencies should be fundamental components of curricula that are designed for the interdisciplinary training of gerontological and geriatric care practitioners. The problems of older persons are becoming more complex, and no single discipline is equipped with all of the knowledge and skills that are needed to deal with them. In addition to the multidisciplinary approach, interdisciplinary teamwork could be a cost-effective and cost-efficient alternative to solving these problems (Goins, Gainor, Pollard, & Spencer, 2003; Richardson, Montemuro, Mohide, Cripps, & Macpherson, 1999; Skinner, 2001). Health and social care practitioners would be more competent in tackling the problems of older persons if instructional programs strengthened the practice competencies that are fundamental to most of the disciplines concerned.

This study used the adequacy-importance analysis to identify alumni perceptions of the need to improve practice competencies. The findings show that the importance of practice competencies per se is not necessarily an effective indicator of the need for improvement. It is a relative concept that results from the discrepancy between job requirements and perceived training adequacy. The results of the comparison between alumni expectations and perceived training adequacy provide an alternative measurement of the need for improvement in practice competencies. Furthermore, the analytic methods that were used in this study can serve as a useful

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reference for further studies in gerontology and geriatrics education and training. However, limited resources meant that the study could not examine how infusing aging-related components into the generalist curricula would affect the competencies of care professionals in serving older adults and their families, student interest in formal gerontology and geriatrics education, and the provision of gerontological/geriatric practitioners compared with the needs of older service-users. An understanding of these issues will strengthen existing training for care professionals. Researchers of gerontology and geriatrics education need to consider investigating these areas in future studies.

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