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Increasing Nursing Faculty Research: The Iowa Gerontological Nursing Research and Regional Research Consortium Strategies

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Abstract

Purpose—Research development and regional consortium strategies are described to assist schools in all countries extend their gerontological nursing research productivity. The strategies, collaboration and mentoring experiences, and outcomes are also shared to illustrate a highly successful approach in increasing faculty programs of nursing research in a focused area of inquiry.

Design—A case description of gerontological nursing research development and regional consortium strategies in schools of nursing is used. The regional consortium included 17 schools of nursing that are working to increase faculty programs of gerontological nursing research. Survey responses describing publications, presentations, and research funding awards from 65 of 114 total faculty participants in consortium opportunities (pilot and mentoring grant participants, participants in summer scholars' grantsmanship seminars) were collected annually from 1995 through 2008 to describe outcomes.

Findings—From 1994 through 2008, faculty participants from the consortium schools who responded to the annual surveys reported a total of 597 gerontological nursing publications, 527 presentations at research conferences, funding of 221 small and internal grants, and 130 external grant awards, including 47R-series grants and 4 K awards.

Conclusions—There is an urgent need for more nurse faculty with programs of research to inform the health care of persons and support the preparation of nurse clinicians and faculty. The shortage of nurse scientists with active programs of gerontological research is especially serious and limits the number of faculty who are needed to prepare future gerontological nurses, particularly those with doctoral degrees who will assume faculty positions. Further, junior faculty with a gerontological nursing research foci often lack the colleagues, mentors, and environments needed to develop successful research careers. The outcomes of the development and regional consortium strategies suggest that the principles of extending collaboration, mentoring, and

resource sharing are useful to augment faculty research opportunities, networking and support, and to increase productivity in individual schools.

Clinical Relevance—Clinical relevance includes: (a) implications for preparing nurse scientists and academicians who are and will be needed to train nurses for clinical practice, and (b) development of more faculty programs of research to provide systematic evidence to inform nursing practice.

Keywords

Gerontological nursing research; faculty programs of research; nursing school research capacity; nursing school research resource sharing

Nursing has made great strides in its development as a scholarly discipline. The number of nurses with doctoral degrees (not necessarily PhDs) continues to increase (Dr. Polly Bednash, personal communication, October 16, 2007; Health Resources and Services Administration, 2007). However, only 0.9% of the estimated 2,909,467 nurses in the United States have doctoral research degrees, and this shortage is even more severe in other countries (Broome, 2009). Nonetheless, the number of nursing studies that are conducted and reported in peer-reviewed journals is at an all-time high. These efforts have produced a number of research foci for the discipline as a whole that are contributing substantially to research-based practice and to healthcare policy decisions (e.g., premature infants, persons with dementia, family care-givers, HIV/AIDS). Yet, there are still too few nurse academicians with active programs of nursing research (Hinshaw, 2003). Moreover, the graying of many seasoned nurse researchers threatens to create an even more critical shortage of nurse scientists in the near future. The imminent loss of research-intensive nurse faculty due to retirement threatens to further increase the overall shortage of senior nurse scientists and educators (Buerhaus, Staiger, & Auerbach, 2000). Compounding these problems, too few university schools of nursing currently have the research infrastructure and the critical mass of nurse researchers in a number of areas of inquiry for the collaboration and mentoring that are optimal to support the research efforts of individual faculty members (Dr. Polly Bednash, personal communication, October 14, 2007).

Although a substantial number of schools of nursing desire to increase the number of faculty programs of research, many in the United States and other countries have underdeveloped research environments and cultures. Nursing academic units are often resource poor, lacking the means to recruit or develop the most advantageous number of faculty with active programs of research in a focused area. The results are too many nurse researchers who are working in relative isolation; junior, and often senior, faculty who have underdeveloped research skills and programs of research; and numerous, discrete, nursing studies, rather than several studies around common or related topics. Even among schools of nursing located in research-intensive universities, cadres of nurse faculty with active programs of research in a specific focal area are often lacking.

These circumstances make collaborative research and development of networks among faculties of several schools of nursing a useful strategy for the effective use of scarce resources that are required to build a stimulating and supportive research environment. Additional resources are often needed to mentor and develop junior faculty, strengthen the research skills of all existing faculty, and increase research productivity, in particular to promote clusters of studies in focused areas, studies with more diverse samples, and multisite and cross-cultural studies.

Importance of Increasing Gerontological Nursing Research

There is an urgent need for nurse faculty with programs of gerontological nursing research to test theoretical nursing models and interventions to inform the health care of older persons and to support the preparation of gerontological nurse clinicians and faculty (Mezey & Kovner, 2003). Gerontological nurse scientists are testing interventions and producing research findings that are critical for improving outcomes for older persons, but they are relatively few in number and many are close to retirement. One result of the shortage of gerontological nurse scientists is the corresponding shortage of doctorally-prepared gerontological nursing faculty for undergraduate and graduate nursing programs.

Despite the projected rapid 17% increase in the proportion of culturally diverse older persons age 65 years and older in the population by 2010 and the 76% increase by 2030 (O'Neil, 2001), the majority of the more than 2 million nurses in the United States have little or no gerontological nursing training. Also, fewer than 1% of practicing RNs are certified in the care of older persons, even though the majority of healthcare organizations serve a high percentage of elders. Notwithstanding progress in including gerontological nursing content in nursing school curriculums, only one third of baccalaureate programs require gerontological content, and over 94% of courses that do include some content are integrated courses, limiting the amount of time devoted to gerontological nursing (Berman et al., 2005).

As late as the mid-1990s, only 12% of nursing faculty had advanced training in gerontological nursing (Fulmer & Mezey, 1994) and an alarming 40% of nursing faculty teaching in graduate-level programs had no formal gerontological preparation (Dye, 1992). Although the number of schools that emphasize gerontological nursing in their curricula is increasing, the majority of registered nurses providing acute and long-term care continue to have no specific preparation in the nursing care of older persons (Beverly, 2002). The shortage of nurse scientists with active programs of gerontological nursing research limits the number of faculty who are needed to prepare future gerontological nurses, particularly those with doctoral degrees who will assume faculty positions. Likewise, the shortage of nurse graduates trained in gerontology limits the number who will pursue advanced gerontological nursing degrees.

As noted for a number of areas of nursing research, gerontological nursing intervention research tends to be discrete studies completed by single investigators. In many schools of nursing, much of the research in gerontological nursing is conducted without the benefits of collaboration with and mentoring by colleagues who have common or similar research interests. Junior faculty with a gerontological nursing research focus often lack the seasoned colleagues, mentors, and infrastructure support (e.g., research office and staff, resources devoted to faculty research time and effort) that are needed to develop the skills, experience, and productivity for a successful research career.

In response to the need to increase gerontological nursing research in terms of research competence and the volume of externally funded faculty studies, some schools of nursing that are gerontological nursing research intensive have developed outreach models to mentor and assist other less fortunate schools and also extend their own research productivity. The experience at the University of Iowa College of Nursing is shared as an approach that has been highly successful in increasing faculty programs of research in a focused area of inquiry. This article describes the development of gerontological nursing research capacity at the University of Iowa College of Nursing and the regional consortium strategy initiated by the Iowa Gerontological Nursing Interventions Research Center (GNIRC) research training core (RTC). The evolution of gerontological nursing research at the University of

Iowa College of Nursing, formation of the Regional Training Core consortium, tactics to assist regional schools develop faculty programs of gerontological nursing research, and outcomes of the tactics are discussed. Although one outcome was the development of an instrument to measure research intensity in a school, a detailed description of the measure and results of its use is beyond the scope of this article. The interested reader is referred to an article published in *Research in Gerontological Nursing* for more information about the research intensity measure (Maas & Buckwalter, in press).

Evolution of Gerontological Nursing Research at University of Iowa

Beginning in the late 1970s and continuing into the mid-1980s, the development of individual faculty members' programs of gerontological nursing research was emphasized. During this period, four faculty developed externally funded gerontological nursing programs of research. In 1987, these faculty initiated capacity building at Iowa by forming the Gerontological Research Interest Group (GRIP). At this time, a research culture and infrastructure were extant in the College. The primary purposes of GRIP were to mentor junior faculty and enhance scholarly intradisciplinary and interdisciplinary collaboration. Monthly meetings focused on the development of theoretical models and middle-range theories of gerontological nursing to guide research; reviews of manuscripts and research proposals; and strategic planning for gerontological nursing research and education. The series *Advances in Gerontological Nursing*, published by Springer, was developed and gerontological nursing research was one of two tracks of the doctoral program that began in 1988. Other gerontological nursing research-intensive activities included research colloquia; seminars in survival skills in science, grantsmanship, gerontological nursing, and interdisciplinary aging research; and a research methods series. Faculty and student participation in the Midwest Nursing Research Society, Gerontological Society of America, and other relevant national organizations was encouraged. Attendance and research presentations at annual research conferences where faculty and students network with other gerontological nursing and interdisciplinary scientists, assume leadership positions, and present their research was promoted. Additional less formal, but equally important, strategies were to talk about gerontological nursing issues and research at every opportunity; recruit and protect new gerontological nurse scientists; recruit and anoint existing strong faculty to gerontological nursing; nominate gerontological faculty and doctoral students for awards; grow interdisciplinary teams; nurture support of the Dean; create campus, national, and international visibility; and have fun doing it all.

Strategies for Development of Courses, Faculty, and Students

GRIP activities contributed significantly to a rigorous sequence of gerontological nursing doctoral courses, including Biological Phenomena and Interventions in Gerontological Nursing, Geriatric Mental Health Research, Sociocultural Dimensions of Aging and Interventions Research seminars, a Gerontological Research Utilization Residency, and two semesters of Research Practicum with a gerontological nursing interdisciplinary research team. Two National Institutes of Health (NIH) T32 institutional pre- and postdoctoral grants in gerontological nursing funded by National Institute of Nursing Research (NINR) 1990-2004 and an interdisciplinary aging T32 grant funded by the National Institute on Aging (NIA), beginning in the early 1990s, greatly advantaged recruitment and preparation of doctoral and postdoctoral trainees. A third funded T32 grant in nursing effectiveness research also supported several pre- and postdoctoral trainees with nursing effectiveness research in aging populations.

One benchmark of successful academic program development is the ability to recruit talented doctoral students into the field. To date, Iowa has admitted 60 predoctoral students

and graduated 32 in gerontological nursing. Twenty-four students who qualified have submitted proposals for Individual predoctoral National Research Service Awards, and 19 have been funded, for a 79% success rate (three applications are pending). Eight of 14 predoctoral students received John A. Hartford Foundation Building Geriatric Nursing Capacity Pre-doctoral scholarships, a 57% success rate. Two predoctoral students received Veterans Administration (VA) predoctoral development awards. Thirty-nine (39) postdoctoral fellows in gerontological nursing have been trained: 10 cross-mentored NIA T32 fellows, 10 NINR gerontological nursing T32 fellows, 4 effectiveness T32 fellows with a gerontological nursing emphasis, 13 Hartford fellows (8 trained at Iowa and 5 trained at other schools with an Iowa faculty mentor), and 2 VA career development fellows. Most pre- and postdoctoral trainees have assumed tenure-track positions in schools of nursing following the completion of their training, and several have received external funding for their research.

Strong mentorship of pre- and postdoctoral trainees and of faculty is another important benchmark of the development of strong academic programs. For this reason, senior faculty with externally funded programs of gerontological nursing research advise and mentor predoctoral students and postdoctoral fellows, and mentor junior and senior faculty who are developing research programs in gerontological nursing. In the late 1980s and 1990s, the mentorship was assumed mostly by four senior faculty—Buckwalter, Frantz, Maas, and Tripp-Reimer. As the RTC progressed, the number of qualified advisors and mentors at Iowa grew to 14, and they also took a primary role in mentoring faculty in the RTC schools.

As expected, the doctoral program concentration in gerontological nursing research strengthened the research environment and culture in the College. Other important factors that contributed to the increasing gerontological nursing research intensity in the College were the support of the Dean and added resources in the Office of Research, including at least one and sometimes two dedicated college statisticians, strong interdisciplinary collaborators in aging and research methods within the university, highly skilled administrative and clerical grant management and processing staff, research assistant funds, and the leadership of the Associate Dean for Research and senior research faculty. The culture quickly included commitment to gerontological nursing research and scholarship and celebration of success.

History and Development of the Regional Research Training Consortium

In 1994, the Gerontological Nursing Interventions Research Center (GNIRC) was funded for 5 years by the NINR, supported by 12 externally funded gerontological nurse faculty. The GNIRC included an administrative core, a research translation and dissemination core (RTDC), and an RTC. Building on the existing research infrastructure and intensive culture in the school, the main objectives were to increase the number of faculty programs of gerontological nursing research through greater opportunities for collaboration and mentoring, and to develop and disseminate evidence-based gerontological nursing practice protocols through the RTDC.

To meet the objective to increase the number of faculty programs of gerontological nursing research through greater opportunities for collaboration and mentoring, the RTC established a consortium of four university schools of nursing, including Iowa. The schools were selected because each had senior faculty with research programs in gerontological nursing, junior and senior faculty who wanted to develop gerontological nursing programs of research, and a desire for the school to become more research intensive in gerontological nursing. The consortium was based on the assumption that each school would benefit from additional opportunities for collaboration and mentoring of faculty among the four schools, resulting in an increase in programs of gerontological nursing research with actual or

potential for external funding. A Web page and listserv were developed to facilitate communication among faculty in the four schools. Junior and senior faculty in each school and their gerontological nursing research foci were listed on the Web page. A senior gerontological nurse scientist was named as a site liaison to inform faculty in each school about RTC activities and opportunities and to facilitate contacts and communication among faculty in the four schools. To participate in the consortium, the dean of each school agreed to provide financial support for their faculty to take part in opportunities offered, such as expenses to attend a summer grant writing seminar or travel to visit a senior mentor in another school.

Pilot grants were offered through the RTC to enhance or increase faculty programs of gerontological nursing research, extend mentoring relationships across the schools, increase externally funded gerontological nursing studies, and advance interdisciplinary cooperation and synergy within institutions. In addition to the scientific integrity of the proposal, pilot grant applicants were required to provide a clear description of how the pilot study would lead to externally funded research and to select a senior mentor from a consortium school other than their own who was a good match with their research focus.

GNIRC funding was renewed in 1999 and again in 2004 for a total of 15 years of funding, during which time it was the only P30 grant funded by NINR with a specific gerontological nursing focus. In the 1999 renewal, the RTC consortium was expanded to include 12 university schools of nursing, including three minority schools. The benefits of extending the consortium included achieving a greater variety of content and methods expertise, increased opportunities for mentoring by senior scientists with a wider variety of specific areas of gerontological research, access to more extensive and heterogeneous older adult subjects, and greater opportunities to facilitate multisite studies. In addition to pilot grants that were continued, mentoring grants were offered, and a summer scholars seminar was offered to assist junior faculty or more senior faculty who were beginning gerontological nursing programs of research with grant proposal preparation and writing and career planning. The RTC summer scholars seminar was patterned after the summer grant writing seminar at the New York University John A. Hartford Institute for Geriatric Nursing with their permission. Again, key seasoned gerontological scientists at each school of nursing provided the leadership needed in each site, supported and facilitated by the resources and activities at the Iowa Center.

In 2001, the John A. Hartford Center of Geriatric Nursing Excellence (HCGNE) at the University of Iowa College of Nursing was funded for 5 years. The additional funding enabled an increase in the funding amounts and number of mentoring and pilot grants awarded, an increase of five schools in the regional research training consortium, and stipends for senior scientists from a variety of consortium schools to serve as faculty for the summer scholars seminars. As a result, the RTC consortium grew from four schools in 1994 to 17 with the 2004 renewal of the GNIRC. With the 2004 renewal we also reserved one pilot grant that was earmarked for a translational research proposal. This reserved pilot funding reflected the RTC support of the work of the GNIRC dissemination core that developed 33 research-based gerontological nursing protocols during the life of the GNIRC and our dedication to promoting the use of research findings in the care of older persons through protocol development and dissemination.

Despite an increase in research and scholarship productivity, it became apparent that there were different needs for training and development among the participating schools. Three schools were at a more advanced stage in gerontological nursing research intensity than many of the other schools, and their faculty tended to take greater advantage of RTC opportunities, as well as assuming greater leadership in the consortium. On the other hand,

several schools had little or no research activity and were lacking in research infrastructure, resources, leadership, and faculty research skills. Most of these schools were not located in universities where faculty programs of research were a high priority. The remainder and largest number of schools were all located in universities where research was an important part of their mission, but most had a small number of gerontological nursing faculty supported by developed offices of research and support resources. The faculty programs of research in these schools were more often not in gerontological nursing or only one or two faculty had gerontological nursing research programs. Based on the experience and knowledge about the consortium schools gained during the previous 10 years of GNIRC funding, the RTC that was proposed for renewal adopted a three-tiered approach with the 17 schools that were by then participants in the regional consortium. The approach was designed to better tailor training and development opportunities to the individual needs of each school.

The consortium schools were assigned to groups defined as development schools, peer schools, and intensive schools. For the development schools, mentoring and training strategies emphasized basic research methods and skills, as well as building structures, processes, and resources within the schools to support faculty research. Strategies for peer schools were more collaborative and focused on providing experiences and opportunities to network with other gerontological nurse researchers and increase research methods and grantsmanship knowledge and skills. Intensive schools were viewed as leadership schools that worked together to mentor and assist development and peer school faculty with their research while seeking opportunities to continue to develop research intensity in their own schools. For example, all schools had the opportunity to participate in translational research seminars from an intensive school via distance technology. The intensive schools shared multisite clinical and translational gerontological nursing research. Faculty members in all schools were eligible for mentoring and pilot grants and to apply to attend summer scholars seminars at Iowa. At the 2007 Midwest Nursing Research Society (MNRS) annual meeting, faculty from two intensive schools, two peer schools, and one development school presented a symposium describing the RTC consortium, the objectives of the RTC, and illustrations of how participation in the consortium benefited the progress of gerontological nursing research and scholarship in each school.

While every school in the consortium has not made equal progress, the gain in faculty gerontological programs of research at the University of Missouri-Columbia Sinclair School of Nursing illustrates the potential for each school. From 1985 to 1995, the Sinclair School had no R series grants funded. Since then, the Sinclair School has steadily increased faculty programs of research in gerontological nursing, generating greatly increased total external funding during this period (Figure). The Sinclair School has received 10 gerontology-focused NIH R01 grants and many other major external gerontology grants since 1995. Much of this success would have undoubtedly occurred if the Sinclair School had not been a member of the regional research consortium, but there is little doubt that the School's participation contributed substantially to the outstanding success. The Missouri-Columbia experience illustrates that regional research consortia can be used to expand nursing research capacity in any area of nursing science to support faculty research despite the constraints of faculty and other resource shortages (see Figure).

Not only have the research products of the regional consortium schools continued to increase, but many additional opportunities for all of the schools were provided by individual schools. For example, one of the peer schools located in a large metropolitan area offered several large databases that included minority subject data that were available for secondary analyses, a second development school shared interesting ways of providing research experiences for master's students, another development school had a teaching

nursing home, and another peer school added experience with vulnerable populations, particularly older homeless minority women.

Strategies have been less effective for minority schools. We learned that minority schools require more fundamental development approaches, such as assistance with curriculum, leadership training, and education-focused grant writing, as well as with tactics to relieve resource shortages. While each of the schools was eager to participate, it was difficult to sustain development activities because of a high rate of turnover of school administrators and site liaisons. Specific strategies were designed to assist the schools with mutually agreed upon priority needs, including site visits by several Iowa faculty to work with the faculty in these schools.

Productivity among faculty in the regional consortium schools, however, exemplifies the overall success of the RTC consortium. As of spring 2008, based on results of annual surveys of faculty in the regional schools (responses from 65 of 114 total participants) who received pilot grants, mentoring grants, and/or attended a summer scholars seminar, research and scholarship productivity included 597 peer-reviewed publications, more than 525 research presentations, 52 university internal grant awards, 169 small grant awards, and 130 total external grant awards, including 47 NIH R-series grants and 4 K-series grants (Table 1). Although this overall productivity indicates success with individual faculty participants, progress was highly variable among the consortium schools, prompting concerns about how gerontological nursing research intensity of each school and the need for development could be better measured. Data on the translation of RTC studies to inform nursing practice were not collected because this was the purview of the RTDC of the GNIRC. The RTDC developed 33 evidence-based gerontological nursing protocols that have been disseminated to 514 hospital and 898 nursing home settings in the United States and internationally during the 15 years of GNIRC funding.

Measure of Research Intensity

In October 2006, site liaisons and faculty from the intensive schools held a retreat at the University of Iowa College of Nursing to discuss shared leadership for consortium progress. The participants agreed that more refined assessment of the status of each participating school was needed. This resulted in the development of benchmarks of research intensity to assess the status of each school and its designation as a development, peer, and intensive school. Based on these benchmarks, the Research Intensity Scale (RIS), a 27-item instrument, was developed to measure the research intensity of a school. The RIS assesses university and college or school missions; various aspects of research infrastructure, resources, and culture; and faculty expectations, work assignments, career development, and productivity. The total score and evaluation of individual items can be used to evaluate and refine approaches that will best assist schools in increasing their gerontological nursing research intensity. The tool can also be easily revised to assess overall research intensity or the intensity in nursing focal areas other than gerontological nursing. Detailed discussion of the development of the RIS is described elsewhere (Maas & Buckwalter, in press). RTC consortium schools have been surveyed using the RIS. Interestingly, the scores placed most of the schools in development, peer, and intensive categories as initially designated (Table 2). Fourteen of the 17 schools completed the RIS. However, one school that was categorized as a peer school but is highly research intensive other than in gerontological nursing had a total score of 79 in the intensive range, and one previously categorized as a development school that has been working very hard to increase faculty programs of research in gerontological nursing had a total score of 66 in the peer school range. Based on these results, several items describing additional aspects of research intensity have been added to the instrument, increasing the number of items to 36. One open-ended item was also added

asking respondents to describe factors that are believed to fundamentally prevent the respondent's school and faculty from increasing research intensity. Plans are underway to evaluate the psychometric properties of the revised RIS. Although GNIRC funding ends in April 2010, the HCGNE will continue to lead the RTC consortium. The HCGNE will offer a reduced number of pilot grants, partner with the Arkansas HCGNE to offer the summer scholars seminar, and facilitate multisite and other gerontological nursing studies. The HCGNE is also assuming RTDC activities.

Conclusions

Key Strategies and Lessons Learned

There is a sense of urgency among nurse leaders to increase the number of nurses with doctoral degrees for faculty positions and to speed the development of nursing science to inform nursing practice and education. This need is apparent for the health care of older persons who are rapidly increasing in number compared with other population age cohorts. The need to build greater nursing research capacity, however, also exists for nursing to enlarge knowledge for practice with other populations, to support best practices education, and to prepare faculty for schools of nursing, especially those that are or strive to be research intensive.

Key Iowa RTC Strategies

The RTC consortium is a strategy of collaboration and sharing among schools of nursing that can be used to extend nursing research capacity despite the shortage of faculty in many areas of nursing inquiry. This overarching strategy was clearly successful given the faculty research and scholarship products among the RTC schools. It is also clear that the pilot grant, mentoring grant, and summer scholars seminar strategies were key to the success of the RTC, as were the site liaison regular communication and interaction strategies that were used. Site liaison meetings that were held annually at GSA and MNRS conferences were especially important opportunities for face-to-face information sharing, planning, and networking.

Lessons Learned, Issues, and Challenges

Several lessons learned are important to share. The success of the consortium for a participant school was dependent upon the leadership provided by the site liaison and the support given the site liaison by the school leadership. Turnover of the site liaison role interfered with maintaining effective communication and curtailed participation of a school's faculty. Schools were also more successful if there was at least one faculty person with an active program of gerontological nursing research in addition to the site liaison. Thus, recruitment of additional gerontological nursing research faculty influenced the success of a school. We were reminded of the importance of assessing the stage of development of a school and the status of needs for the school to progress. When we were able to provide the assistance that was accurately matched with the school's development status, the school was more successful. We also learned that too rapid increase in the number of schools participating in the consortium presented challenges that overwhelm communication, collaboration, and resource sharing strategies. For example, the number of participating schools and faculty threatened to outstrip the mentoring resources at the University of Iowa College of Nursing and the other Intensive schools. Less rapid increase in the number of participating schools than was experienced by the Iowa RTC, greater effort in securing the commitment of senior mentors throughout the consortium, and better assessment of the adequacy of research training of faculty to prepare them to initiate a program of research are recommended. Finally, while we had some success in securing multisite studies, considered a good thing by most, it is well to recognize that there are

always issues such as cost, IRBS approval, and fidelity of the intervention across sites that are challenging.

In summary, we are convinced that the RTC model holds much promise for increasing the intensity of research in schools of nursing and recommend its consideration to build nursing science in a time of resource scarcity, including shortage of seasoned faculty.

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Clinical Resources

- Computer Retrieval of Information on Scientific Projects, <http://crisp.cit.nih.gov/>
- National Guidelines Clearing House, <http://www.guideline.gov/>
- University of Iowa College of Nursing Gerontological Nursing Interventions Research Center/Dissemination Core Evidence-Based Practice Guidelines, http://www.nursing.uiowa.edu/products_services/evidencebased.htm

**MU Sinclair School of Nursing
Expenditures for Research Grants Category**

Figure.
Annual external funding of nursing research at the University of Missouri Sinclair School of Nursing (1995 through 2007).

Table 1
Summary of Research and Scholarship Products of Research Training Core Consortium Participants

School	Participation type	N	Publications	Presentations	Small grants	Internal grants	External grants	R series	K series
A	Pilot grants	3							
	Summer scholars seminar	3	95	73	35	8	27	5	1
	Pilot grant	21							
B	Summer scholars seminar	5	169	212	55	20	47	22	1
	Mentoring grant	2							
C	Summer scholars seminar	2	32	38	8	1	7	2	0
	Pilot grant	3	27	18	12	3	9	0	0
E	Summer scholars seminar	2	0	2	0	0	0	0	0
F	Pilot grant	1	0	0	0	0	0	1	1
G	Summer scholars seminar	3	18	28	5	1	4	4	0
H	Pilot grant	3	41	49	13	3	10	1	1
I	Pilot grant	2	3	6	5	2	3	2	0
K	Summer scholars seminar	1	4	5	2	2	0	0	0
L	Summer scholars seminar	1	2	2	1	0	1	1	0
	Pilot grant	1							
M	Summer scholars seminar	6	29	44	15	5	8	2	0
N	Summer scholars seminar	3	3	9	8	3	5	3	0
O	Summer scholars seminar	2	12	15	5	2	3	2	0
P	Pilot grant	1	12	10	1	1	0	1	0
Total			597	527	169	52	130	47	4

Note. Sixty-five of 114 research training core (RTC) consortium faculty from 15 of the 17 RTC schools responded.

Table 2
Research Intensity Scale Results for Regional Training Core Consortium Schools (N= 14)

Item topics	Item numbers	Schools													
		Intensive							Peer						
		A	B	C	D	E	F	G	H	I	J	K	L	M	N
Mission of university	1	3	3	3	3	3	3	3	3	3	2	3	2	3	2
	2	3	3	3	2	2	3	2	3	2	3	3	2	2	2
Mission of school	3	3	3	3	3	3	3	3	3	3	2	3	2	3	2
	4	3	3	3	3	3	3	2	3	3	2	2	2	3	2
Office of research	5	3	3	3	3	3	3	3	3	3	3	3	2	3	2
	6	3	3	3	3	3	3	3	3	3	3	3	1	3	2
Research office staff	7	3	3	3	3	3	3	3	3	3	3	3	2	2	3
	8	3	3	3	3	3	3	3	3	3	3	3	1	3	2
	9	3	3	3	3	3	3	3	2	3	3	2	2	1	1
Director/Associate Dean of Research	10	3	3	3	3	3	3	3	2	3	3	3	2	3	2
	11	3	3	3	3	3	3	3	2	3	3	3	1	2	1
	12	3	3	3	3	3	3	3	2	3	3	2	3	3	3
Faculty expectations for research	13	3	3	3	3	3	3	3	3	3	3	3	2	3	2
	14	3	3	3	2	3	3	2	3	3	3	3	2	2	2
Faculty research development	15	3	3	3	2	3	2	3	3	3	2	2	2	3	3
	16	3	3	3	3	3	3	3	3	3	3	3	3	3	2
Grant reviews	17	3	3	3	3	3	3	2	3	3	3	2	2	2	2
Research culture	18	3	3	3	3	3	3	2	2	3	3	3	2	2	2
Faculty gerontological nursing research programs	19	3	3	3	2	3	2	3	2	3	2	2	2	2	2
Faculty teaching assignments	20	3	3	3	3	3	3	3	3	3	2	3	2	2	1
	21	3	3	3	3	3	3	3	3	3	2	3	2	3	1
	22	3	3	3	3	3	3	3	3	3	2	3	2	3	3
Research funding	23	3	3	3	3	2	3	2	3	2	3	3	2	1	1
Publications	24	3	3	3	3	2	3	3	3	2	3	3	2	2	2
	25	3	3	3	3	2	3	2	3	2	2	2	2	2	2
Leader career development	26	3	3	3	2	1	3	2	3	1	2	2	2	3	2

Schools														
Item topics	Intensive			Peer							Development			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
National/international research recognition	3	3	3	2	2	3	2	3	2	2	1	2	2	1
Total score	81	81	81	75	74	79	72	72	75	69	70	53	66	52

Possible range = 27–81 (intensive = 77–81; peer = 52–76; development = 27–51).