



JAMDA

journal homepage: www.jamda.com

Editorial

Keys to Successfully Embedding Scientific Research in Nursing Homes: A Win-Win Perspective

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The quality of institutional care for older people has been criticized over the past decade and the International Association of Gerontology and Geriatrics and the World Health Organization have recently stressed the need for quality improvement initiatives in nursing homes.¹ Both community and institutional care service systems face more complex care demands, as policies aim to enable people to live at home for as long as possible and provide institutional care services only in more advanced stages of their disease. The care complexity in nursing homes has thus increased tremendously over the past decades, not only caused by aggregated care needs of residents but also through technological and related health care innovations. Despite the increasing complexity of care, the number of well-trained staff is decreasing.² Simultaneously, there is a strong need for the development and implementation of technology and evidence-based practice. Therefore, a solid interaction among clinical practice, education, and scientific research is badly needed, as a tradition of scientific research in nursing homes is lacking.

As a result, until now, traditional models of care delivery persist in nursing homes, which are not sufficiently directed at the changing needs and demands of the future. For example, residents' autonomy is often limited and the prevalence of health care problems and use of physical and chemical restraints is high. Scientific evidence on new care models and person-centered care philosophies are being developed to overcome this and to improve residents' quality of life and quality of care. Increasing residents' autonomy, offering meaningful activities, and the avoidance of the use of physical and chemical restraints are important topics of interest.¹ However, evidence-based innovations are implemented only sparsely in nursing homes and there is still a gap between scientific knowledge and current practice. As a result, health care professionals, policy makers, and residents and their families do not benefit sufficiently from new advancements and best evidence. The challenges to redesign nursing home care and to develop and implement evidence-

based innovations require leadership and the bringing together of expertise from an interdisciplinary perspective.³

This editorial sets out key issues to successful research in nursing homes, aiming to (1) address the right clinical and policy questions; (2) develop, evaluate, and implement evidence-based innovations; and (3) adequately educate nursing home staff and increase levels of expertise. We highlight the importance of an interdisciplinary and structural collaboration between academia and nursing homes so as to embed scientific research within nursing home practice, policy, and education. Structural interdisciplinary collaboration will help to equip nursing homes in delivering sustainable long term care for the future against the background of an increasing demand for care and scarcity of resources. We propose an Academic Collaborative Centre on Care for Older People as a model to achieve this.

Academic Collaborative Centre on Care for Older People

An interdisciplinary network is needed in which universities and long term care organizations collaborate on a structural basis to improve quality of care in nursing homes. This network would be able to identify relevant issues for practice and policy, translate these into scientific research projects, and enable the translation of evidence-based knowledge in daily practice. It would aim to develop, test, and implement innovative care concepts in joint collaboration and partnership to provide sustainable solutions for current and future problems in nursing homes for the elderly.

In the southern part of The Netherlands, we have developed such a formal interdisciplinary network, consisting of 2 universities and 5 large long term care organizations: the Academic Collaborative Centre on Care for Older People (ACC-COP). The model has 2 vital characteristics. First, the *interdisciplinary partnership*, with nursing home administrators, clinical and nursing staff, researchers, and teaching staff as collaborating partners; and with nursing science, old age medicine, physiotherapy, psychology, and gerontology being the core disciplines. Second, *joint appointments* of ACC-COP staff working at both a university and a long term care organization. Senior researchers are posted on a structural basis (at least 1 day a week) to long term care organizations. In the nursing homes, they initiate and coordinate research and teaching activities. In addition, long term care staff participate in research projects and members of the nursing

The authors declare no conflicts of interest.

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home may be posted (on average 2 days weekly for about a 4-year period) to the university to conduct PhD projects.

In this model, most of the PhD research is covered by external research funding earned in competition, whereas the long term care organizations finance the structural placement of the senior university staff. The university covers the costs of coordination of the ACC-COP and workplaces of posted long term care staff at the university. We started to develop this model in 2000 with 1 long term care organization. Now we cover 5 long term care organizations (including 85 care locations and about 13,000 long term care staff).

Illustration of Successful Outcomes

The interdisciplinary collaboration among research, practice, policy, and education has proven to be a successful approach over the past 10 years. It has not only led to relevant research, focusing on important clinical (eg, malnutrition, pressure ulcers, pain in dementia, falls, heart failure) and administrative topics (eg, work environment, employee health and well-being, redesign of nursing home care), but also to the fruitful implementation of results and evidence-based innovations.^{4–10} We illustrate this briefly with 2 projects aimed at improving quality of life and quality of care of residents with dementia in nursing homes: (1) the development, evaluation, and implementation of an intervention to reduce physical restraints in nursing homes, and (2) the evaluation of an innovative care environment focused on small-scale, homelike settings.

Defined as any limitation of an individual's freedom of movement, the use of physical restraints (eg, belt restraints, bed rails, chairs with a locked table) is still common practice in nursing home care for residents with dementia, with prevalence rates varying from 11% to 66% internationally. To reduce physical restraints, the ACC-COP adapted a successful educational intervention program as developed in the United States¹¹ to the Dutch situation, and tested it in randomized controlled studies. The educational approach aimed to improve nursing staff's knowledge and confidence in avoiding restraints and using alternative measures. Unfortunately, it proved ineffective.^{12,13} Subsequently, a new multicomponent intervention called "EXBELT," was developed, which included (1) an institutional policy change discouraging use of belt restraints, (2) nursing home staff education, (3) consultation by a nurse specialist, and (4) availability of alternative interventions. After successful pilot testing, EXBELT proved effective in a large controlled clinical study. The program resulted in a 50% decrease in belt use, without increased use of other restraints, psychotropic drugs, or falls.^{14–16} EXBELT has now been implemented in all nursing homes of the ACC-COP and a national campaign has disseminated the research results. A Web site was developed where materials can be downloaded for implementation in daily practice, serving as a knowledge-sharing center between professionals, with a nurse specialist acting as a consultant. Moreover, results were used to inform policy change at the level of the Dutch Parliament and Health Care Inspectorate, which has resulted in a proposed act to prohibit the use of belts.

Long term, institutional dementia care is currently being redesigned, and increasingly directed toward small-scale and homelike facilities. In these new settings, a small number of residents (usually 6 to 8) live in a familiar and homelike environment, with nursing staff being part of the household. The ACC-COP was the first to co-fund and conduct a large, quasi-experimental matched study to investigate the effects of small-scale, homelike facilities simultaneously on residents, family caregivers, and nursing staff.¹⁷ Although results indicated mainly positive experiences of family caregivers and nursing staff with small-scale, homelike facilities,¹⁸ this did not necessarily result in more positive outcomes for residents, their

family caregivers, and nursing staff. The effectiveness study revealed, for example, no effects on residents' quality of life and neuropsychiatric symptoms, on family caregivers' involvement with care, and on nursing staff's job satisfaction and motivation.¹⁹ These findings showed that small-scale living facilities are not necessarily a better care setting for all residents with dementia. Because governmental policies and, in some countries such as The Netherlands, financial support are increasingly aimed at providing small-scale, homelike care, we suggested that small-scale living facilities are not a final solution and other options should be considered. As this topic was high on the political agenda in The Netherlands, the results of this study gained much media attention and eventually questions were raised in the Dutch Parliament on the results and conclusions. Currently, new studies into innovative care environments are being set up within the ACC-COP network.

Several characteristics make these projects successful examples of the interdisciplinary collaboration within the ACC-COP. The long term care organizations themselves gave rise to the main research questions in both research projects. Furthermore, long term care staff have been involved with the development and implementation of the intervention from the start throughout the whole research trajectory. The ACC-COP provides an excellent infrastructure that guarantees optimal assistance from staff in carrying out the research in everyday care practice and participating in advisory boards. Moreover, a project does not stop when funding ends, but researchers, directors, and practitioners try to seek better solutions and improvements in joint collaboration. Finally, the ACC-COP infrastructure supports the implementation of research findings, for example via Web site symposia for professionals and consultation.

Future Directions

We believe that the ACC-COP model has clearly given a boost to realize improvements in long term care. Furthermore, the model is attractive to external funding agencies, which has added to our earning power. To illustrate, recently the ACC-COP obtained 2 major grants (total amount of €2,000,000) to start 2 large-scale research projects contributing to improving the quality of care in nursing homes using technological innovations and empowering nursing staff and residents. One project aims to study current and future bottlenecks in care related to labor market issues and develop and test sustainable solutions for these. It aims at the identification, development, evaluation, and implementation of both technological (such as robots, information and communication technology solutions, monitoring systems) and social innovations (such as self-managing teams and client participation) in long term care. The other project is called "Nurses on the Move," which aims at empowering nurses to make a direct impact on resident care by focusing on the improvement of residents' functional status and reduction of disability. To achieve this, the research line consists of 3 unique but interrelated projects: (1) effective nursing care, (2) strategies to empower the use of evidence in nursing practice, and (3) nurse qualifications and leadership of the future.

There is no fixed scheme to set up a collaboration between academia and long term care organizations, as one size does not fit all. Both within and between countries, organizational culture, structure, and financing of health care and research may differ. However, in our opinion, the interdisciplinary character and joint appointments of staff working in our ACC-COP are responsible for its success over the past years. This structure has both scientific merit as well as a great societal impact for research in care of older people, which is important in improving long term care quality.²⁰ Furthermore, it can positively influence the link between practice and education. For example, health care professionals and policy makers

give lectures to students in our Bachelor's and Master's programs (eg, medicine, health care science, nursing). It can further enable young people to gain enthusiasm for the field of elderly care by organizing internships and work visits during their education. Structural collaboration between universities and health care organizations can in this way contribute to an infrastructure in which care professionals from various backgrounds (eg, nurses, physicians) along with scientists and educators can jointly work to develop, implement, and test innovative approaches to improve long term care quality.

Acknowledgments

The Academic Collaborative Centre on Care for Older People consists of five long term care organizations (MeanderZorggroep Zuid-Limburg, Sevagram, Vivre, Cicero Zorggroep and Orbis Medischen Zorgconcern) Zuyd University and Maastricht University.

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