

Letter to the Editors

Dear Drs. Schmader and Hanlon:

There are many parallels between the situation in the United States described by Hanlon,¹ and the situation in Finland. Similar to North America and many other European countries, Finland has a rapidly aging population. The use of medications is increasing among older people,^{2,3} and Finland has among the highest rates of psychotropic medication use in the world.⁴ The creation of national health care registers in the Nordic countries, including the Finnish National Prescription Register in 1993 (with data available from 1994), has facilitated pharmacoepidemiologic research.⁵ Researchers interested in geriatric pharmacotherapy in Finland have also conducted a series of population-based cohort studies of community-dwelling and institutionalized older people. There are 193 registered geriatricians and 34 registered clinical pharmacologists aged <65 years to serve 5.3 million Finnish residents.⁶ However, unlike in the United States, geriatricians are not widely employed in Finnish hospitals. Most geriatricians in Finland are employed as consultants in primary health care.

Given the rapidly aging population and burden associated with adverse drug events (ADEs), the potential roles of pharmacists have attracted much recent attention. Despite recent curriculum reforms,⁷ undergraduate pharmacy education in Finland remains less clinically focused than in North America, the United Kingdom, and Australia. Nevertheless, a model for comprehensive medication review involving collaboration between pharmacists and physicians has been developed.⁸ Graduates with a 3-year Bachelor of Pharmacy degree or a 5-year Master of Pharmacy degree are able to undertake 18 months of postgraduate training to perform these reviews.⁹ At present there is no national program to remunerate pharmacists to conduct medication reviews. However, the Ministry of Social Affairs and Health has recommended that municipalities commission health care services to review and optimize medication use by older people. Research is continuing into how best to incorporate pharmacists' medication review into a model for comprehensive geriatric assessment. In addition, a new postgraduate specialization in hospital pharmacy is presently under development. It is expected that this specialization will include enhanced clinical content.

Pharmacists have also adopted new roles in geriatric pharmacotherapy research. The Kuopio Research Centre of Geriatric Care, affiliated with the University of Eastern Finland (the University of Kuopio prior to 2010), is a multidisciplinary research center with a special focus on improving medication use among older people. The present team of researchers includes pharmacists, geriatricians, clinical pharmacologists, family physicians, dentists, nutritionists, physiotherapists, and epidemiologists. As experts in medications and medication use, pharmacists are highly valued members of the team. The Centre presently employs 10 Finnish and internationally trained pharmacists conducting doctoral (PhD) and postdoctoral research. Doctoral training in Finland is typically of 3 to 5 years' duration, and comprises both course work (minimum of 60 European Credit Transfer System credits, equivalent to ~1600 hours) and original research (via the publication of peer-reviewed journal articles or a monograph). It is hoped that pharmacists who undertake their doctoral training at the Centre will take leadership roles in research, clinical practice, and teaching related to geriatric pharmacotherapy.

In January 2010, the Clinical Pharmacology and Geriatric Pharmacotherapy Unit was established within the School of Pharmacy at the University of Eastern Finland. The Unit is the first of its kind within a pharmacy school in one of the Nordic countries, and will be responsible for providing teaching to pharmacy, medical, nursing, and dental students. Providing undergraduate pharmacy students with greater exposure to geriatric pharmacotherapy topics is expected to result in a new generation of skilled clinicians and research investigators.

Greater recognition of the burden associated with ADEs has created new roles and responsibilities for pharmacists in Finland. These new roles and responsibilities have been developed through close collaboration between the medical and pharmacy professions. The establishment of a multidisciplinary research center and new clinical

pharmacology and geriatric pharmacotherapy unit with a pharmacy school are important steps toward upgrading the skills of the pharmacy workforce to care for the aging population.

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