

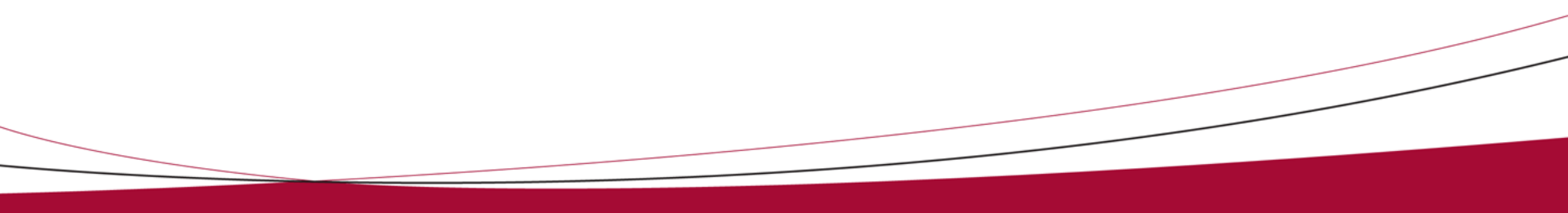
Nutrition Education in the PharmD Curriculum at the University of Waterloo School of Pharmacy

WATERLOO
PHARMACY


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Outline

- Overview of UW pharmacy curriculum
 - Pharmacists' knowledge of nutrition
 - Nutrition in required courses
 - Nutrition elective course - topics and assessment
 - Spotlight on Natural Health Products
 - Outstanding questions
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Pharmacy curriculum

- University of Waterloo School of Pharmacy is Canada's newest pharmacy school
 - Located on UW's Health Sciences campus, downtown Kitchener
 - 120 students admitted per year
 - Four-year program plus 2 years pre-pharmacy
 - Combination of 8 academic terms plus 3 co-op work terms
 - Academic terms include clinical rotations
 - Students graduate with entry-level PharmD
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Do pharmacists need to know about nutrition?

- Very few studies published on pharmacists' actual or perceived knowledge of nutrition
- Nutrition education in pharmacy schools is sporadic
- Anecdotally, pharmacists are often asked about:
 - Drug-nutrient interactions
 - Including drug administration with “tube feeds”
 - Infant nutrition (ex. formula)
 - Special diets (ex. weight loss, disease risk reduction, nutrition in diabetes)
 - Natural Health Products (NHPs), including vitamin/mineral supplementation

Chang L et al. Am J Pharm Ed 2008; 72(3): Article 66.

Allen JP et al. CPJ 2011; 144(2):79-84.

Nutrition in UW Pharmacy required courses


- Introductory pharmacology course
 - Vitamin action
- Professional practice courses
 - Infant nutrition
- Integrated patient focused care (IPFC courses)
 - Enteral/parenteral nutrition
 - Nutrient function and deficiency
 - Drug-nutrient interactions
 - Nutrition in specific disease states
 - Ex. Osteoporosis, cardiovascular disease, chronic kidney disease
 - Nutrition in pregnancy (mainly folic acid)

UW Pharmacy nutrition elective course - topics

- Causes and management of nutrient deficiency
- Popular diets
- Nutrition for disease risk reduction
 - Ex. Mediterranean diet
- *Nutrition for optimal growth and development
 - Ex. pregnancy, infancy
- Nutrition in disease states
 - Ex. CKD, diabetes, gout, cancer
- *Enteral/parenteral nutrition
- Supplementation in special populations
- Food avoidances, allergies
- Drug-nutrient interactions
- Functional foods and nutraceuticals
- Topics related to public health/policy
- Teaching tools
- Research design

*Guest lectures from Registered Dietitians

Nutrition elective course - assessment

- Midterm
 - Final exam
 - Debates
 - Focus on topics related to public health/policy, such as nutrition information on menus, FOP labeling, etc.
 - Diet reflection
 - Follow a diet for 1 week and write a reflection paper
 - Pamphlets
 - Nutrition-related information in patient-friendly language
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Are pharmacists required to be knowledgeable about Natural Health Products (NHPs)?

- Provincial pharmacy authorities
 - Most provincial standards refer to pharmacists knowledge of OTC products, including NHPs
- NAPRA model standards
 - Pharmacists must offer assistance on NHPs and be able to retrieve information on complementary medicine
- Canadian Pharmacists Association
 - Advertisements: pharmacists are able to provide information on NHPs

Are pharmacists prepared to be experts on NHPs?

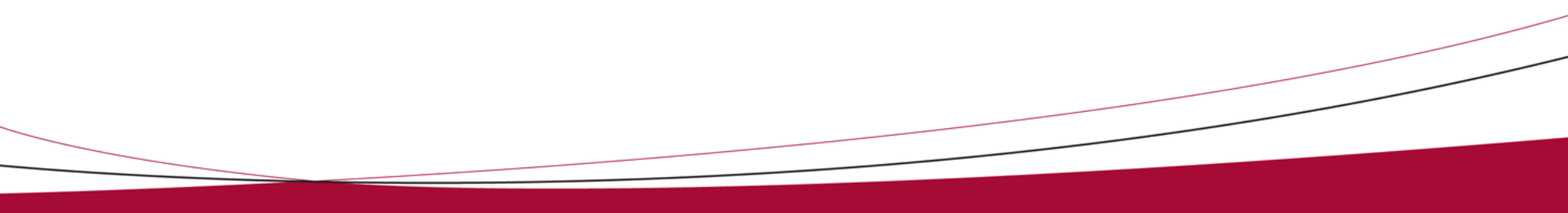
Systematic review of studies involving US and Canadian pharmacists:

- Pharmacists are regularly asked to field questions on NHPs
- Current perceived and actual knowledge of NHPs is inadequate
- Current information on NHPs is inadequate
- Study of NHPs should be mandatory in pharmacy curriculum

NHPs in UW Pharmacy Curriculum

- Professional Practice Course
 - Introduction to Natural Health Products
- Health Systems and Society course
 - NHP regulations
- Integrated patient focused care (IPFC courses)
 - Common NHPs for many conditions
 - Ex. respiratory conditions, cardiovascular disease, menopause, arthritis, etc.
 - ~8-10 lecture hours spread throughout the curriculum
- Elective courses that include NHPs:
 - Complementary and Alternative Medicine
 - Advanced Patient Self-Care

Outstanding questions

- Lack of systematic study to date
 - Questions for further study:
 - Are pharmacists knowledgeable when it comes to nutrition?
What are the gaps in pharmacists' knowledge?
 - What nutrition-related questions do patients often ask pharmacists?
 - How can nutrition-related education be enhanced for pharmacy students and students in other disciplines?
 - How can pharmacists interact with other healthcare professionals to meet patient needs related to nutrition?
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Final thoughts

- Pharmacists are experts in medication therapy, but are also relied upon for expertise related to nutrition
- Providing education in nutrition to future pharmacists can ultimately improve patient health

“As members of one of the largest, most accessible, and trusted health care professions, pharmacists can play an even more significant role in disease prevention and health promotion by using MNT when educating patients at the point of care, in both clinical and retail settings.”

Chang L et al. (2008). American Journal of Pharmaceutical Education: Volume 72, Issue 3, Article 66;