



Culinary Medicine: Advancing client-centred nutrition care using an innovative and active learning model for Canadian medical and dietetic learners

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The following steps have been taken to mitigate bias:

- All speakers have been provided with a speaker letter outlining the certification/accreditation requirements for their presentation.
- All authors reviewed the presentation prior to their delivery.

Shared Responsibility¹⁻³

“I will apply dietetic measures for the benefit of the sick according to my ability and judgment; I will keep them from harm and injustice.”

- Hippocrates





Education Disconnect⁴⁻¹²

Nutrition should be treated like all other medical education content areas.

Katz, 2018



Recipe for Nutrition in Medical Education

- Simulation-Based Medical Education with Deliberate Practice (SBME-DP)^{2,11,13,14}
 - Mimic clinical encounters
 - Constant skill improvement
 - Superior in mastery learning
- Culinary medicine^{15,16}
 - Comprehensive
 - Translatable
 - Interdisciplinary





Objective

To evaluate the impact of CML 110: Mental Health on UME and DI learners with recommendations for future virtual sessions.

Session learning objectives

- Identify the key nutrition issues in mental health conditions including factors that may affect nutritional status.
- Demonstrate how to prepare quick and easy recipes for individuals with psychiatric disorders such as depression.
- List three key nutrition messages that can support mental health treatment and recovery.
- Recognize credible and evidenced informed nutrition information, tools, resources and available supports including referrals to RDs.

Recipes & Case Study



Vegetarian Chili

- Mix of canned & fresh ingredients
- Food bank access
- Easily customizable to fit preferences & diets



Vegetable Frittata

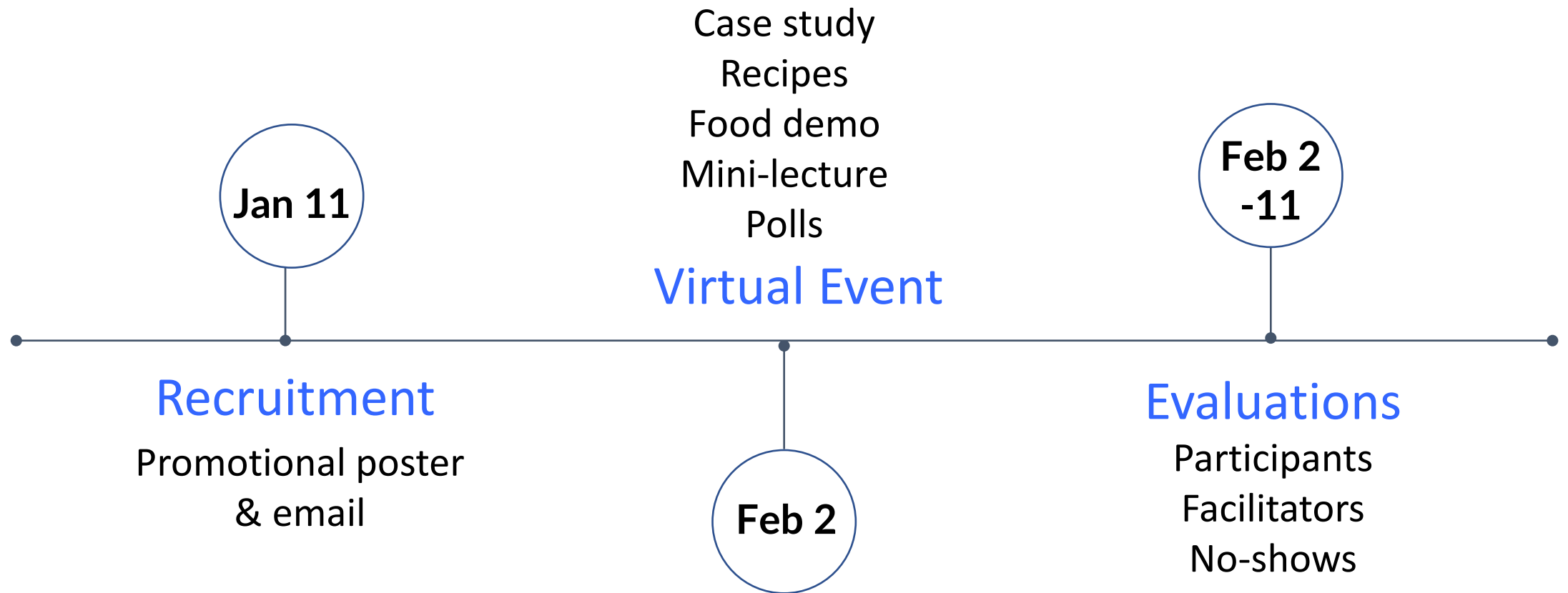
- Minimal food skills & equipment
- Low cost/serving
- Made in batch & can be reheated



Martin Dufour

- Francophone living in North Western Ontario
- Recent decreased mood/energy
- Unintended weight loss

Methods



Demographics

49% (n=31)

attended the CML

35% (n=22)

previously
attended a CML

52% (n=16)

Were dietetic
interns

39% (n=12)

UME Year 1 and 2

12% (n=3)

NOSM U RD
faculty/community
RDs



NOSM
UNIVERSITY
Δ°ΛΡΡΔ"ΔL9Δ·bΓ°
UNIVERSITÉ
EMNO



UNIVERSITY OF
ALBERTA

Nutrition Competence¹⁷

(n=21)

Evidence-based
Dietary
Strategies

Nutrition
Critical
Appraisal

Basic
Nutritional
Sciences

Food Sources
of Nutrients,
Social
Importance
of Food

Team
Approach to
Nutrition
Care

100% UME (n=6 of 6)

78% DI (n= 7 of 9)

Application
of Basic
Dietary
Strategies

Ethics and
Nutrition
Management

Nutrition
Risk

Nutrition in
Health/Disease
Prevention

Satisfaction and Attendance

100%
(n=21)

Would
encourage
others to
attend

100%
(n=2)

Effective
learning
strategy

57%
(n=8)

Did not
attend due
to a time
conflict

36%
(n=5)

Did not
attend due
to time of
day

28%
(n=4)

Did not
attend due
to virtual
fatigue

Interprofessional Learning

- Essential component of medical education ¹⁸
- Allows UME and DI learners to learn about other professions, scopes of practice and professional perspectives ^{19,20}
- Value of RD referrals and improving patient care ^{12,18,21-23}
- Leverage expertise to augment physician care ²
- Fosters a sense of community leading to improved wellbeing ²⁰
- Improves personal health behaviours and perspectives ^{11,20,24-27}
- Virtual formats are feasible and enhance national faculty expertise but in-person preferred by learners ²⁸

Teaching Kitchens²⁹

“See one, do one, teach one” could become “See one, taste one, make one, teach one.”

- Eisenberg, 2020



The Canadian Conference on Medical Education



Enhanced Nutrition Competence and Knowledge Application^{11,19,24-28,30,31}

McGovern Resolution on Nutrition Education in Medical Schools Passes House

Washington, May 17, 2022 | 0 comments

<https://mcgovern.house.gov/news/documentsingle.aspx?DocumentID=398867>



NNEdPro Global Centre for Nutrition and Health

Advancing and implementing nutrition knowledge to improve health, wellbeing and society

Key Aims

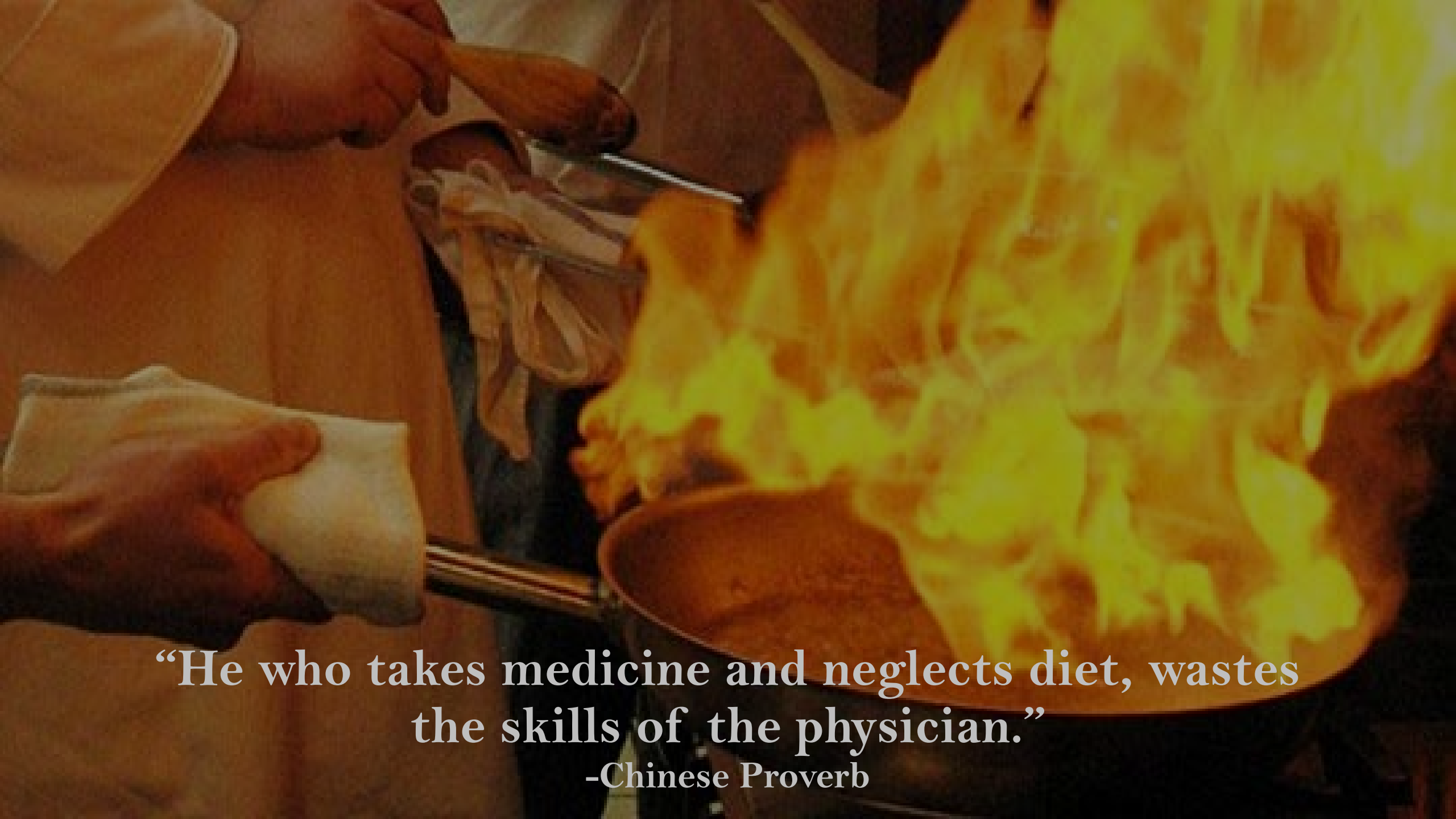
Facilitate the spread and scale of existing nutrition knowledge, experiences, standards, and evidence-informed interventions across Canada and internationally.

Support the strengthening of nutrition competence and confidence in the healthcare workforce through education and training opportunities.

Facilitate the spread and scale of existing ways to empower underserved communities and diverse populations in nutrition and health.

Facilitate knowledge sharing related to food security, food safety, food waste, agriculture, and environmental sustainability.

<https://www.nnedpro.org.uk/canada>



“He who takes medicine and neglects diet, wastes
the skills of the physician.”

-Chinese Proverb

References

1. Health Canada. (2019). Canada's Dietary Guidelines for Health Professionals and Policy Makers. Available from: <https://food-guide.canada.ca/en/guidelines/>.
2. Van Horn L et al. Advancing nutrition education, training, and research for medical students, residents, fellows, attending physicians, and other clinicians: building competencies and interdisciplinary coordination. *Adv Nutr*. 2019;10:1181S–1200S.
3. Devries S, Willet W, Bonow RO. Nutrition Education in Medical School, Residency Training, and Practice. *JAMA* 2019; 321(14): 1351-1352.
4. Wynn, K et al. Nutrition in primary care: current practices, attitudes, and barriers. *Can Fam Physician*. 2010;56 (3),e109-e116.
5. AFMC. Graduation Questionnaire National Report 2021. Retrieved from www.afmc.ca.
6. Gramlich LM et al. Medical students' perceptions of nutrition education in Canadian universities. *Appl Physiol Nutr Metab*. 2010; 35(3):235-243.
7. Hanninen S, Rashid M. Assessment of Students' Perception of the Nutrition Curriculum in a Canadian Undergraduate Medical Education Program. *J Can Assoc Gastroenterol*. 2019 Aug;2(3):141-7.
8. Dubois E, Ducharme N, Lalonde D, Rysdale L. Undergraduate medical students' perceptions of their nutrition education at the Northern Ontario School of Medicine (NOSM). *Can J Diet Pract Res* (accepted manuscript, December 2021).
9. Crowley J et al. Nutrition in medical education: a systematic review. *Lancet Planet Heal*. 2019 Sept;3(9):379-89.
10. Timmins D. , Fenton T, Kachra R, Ellaway R. Exploring systemic barriers to providing nutrition care in residency programs (Oral). Canadian Conference on Medical Education, April 2022.
11. Monlezun DJ et al. Novel Longitudinal and Propensity Score Matched Analysis of Hands-On Cooking and Nutrition Education versus Traditional Clinical Education among 627 Medical Students. *Adv Prev Med*. 2015:656780.
12. Katz DL. How to improve clinical practice and medical education about nutrition. *AMA J Ethics*. 2018;20(10):E994-1000.

References

13. McGaghie WC et al. Does simulation-based medical education with deliberate practice yield better results than traditional clinical education? A metanalytic comparative review of the evidence. Acad Med. 2012; 86(6): 706–11.
14. Asher RC et al. Culinary medicine and culinary nutrition education for individuals with the capacity to influence health related behaviour change: A scoping review. J Hum Nutr Diet. 2021; 1-8.
15. Badaracco, C. & Thimmig, L. Advancing patient health and provider knowledge through culinary medicine. (2021). DCMAND Annual Meeting 2021.
16. Hirsch IB et al. Culinary medicine: advancing a framework for healthier eating to improve chronic disease management and prevention. Clin Ther. 2019; 41:2184e2198.
17. Deakin University. Nutrition Competency Framework, March 2016. Available from: <https://www.deakin.edu.au/students/faculties/faculty-of-health/school-of-exercise-and-nutrition-sciences/research/wncit/toolkit/nutrition-educationresources>.
18. Hark LA & Deen D.. Position of the Academy of Nutrition and Dietetics: Interprofessional Education in Nutrition as an Essential Component of Medical Education. J Acad Nutr Diet. 2017; 117(7), 1104–1113.
19. Magallanes E, Sen A, Siler M, Albin J. Nutrition from the kitchen: culinary medicine impacts students’ counseling confidence. BMC Med Educ 2021;21(88):1-7.
20. Lieffers S et al. Interprofessional culinary education workshops at the University of Saskatchewan. February 16, 2021; published: June 30, 2021. CMEJ 2021, 12(3).
21. Burch E et al. Dietitians’ perspectives on teaching nutrition to medical students. J Am Coll Nutr.2017;36(6):415–421.
22. Sicker K et al. Implementing Culinary Medicine training: collaboratively learning the way forward. J Nutr Ed Behav. 2020;52(7): 742-46.
23. Barkoukis H et al. Culinary medicine and the Registered Dietitian Nutritionist: time for a leadership role. J Acad Nutr Diet. 2019; 119(10):1607-1612.

References

24. Levine DM et al. Medical student nutrition and culinary training. Med Educ. 2015; 49(5):516-17.
25. Hauser M. A Novel Culinary Medicine Course for Undergraduate Medical Education. Am J Lifestyle Med. 2019; 13(3):262-264.
26. Rothman JM et al. A Culinary Medicine Elective for Clinically Experienced Medical Students: A Pilot Study. J Altern Complement Med. 2020; 26(7):636-644.
27. Ravavi A et al. Multisite Culinary Medicine Curriculum Is Associated With Cardioprotective Dietary Patterns and Lifestyle Medicine Competencies Among Medical Trainees. Am J Lifestyle Med. 2020; 14(2):225-233.
28. Barohn J, Rysdale L. Virtual Culinary Medicine Labs: A Northern Ontario School of Medicine (NOSM) and University of British Columbia (UBC) Collaboration (Poster). Canadian Conference on Medical Education, April 2021 Virtual.
29. Eisenberg DM & Imamura A. Teaching kitchens in the learning and work environments: The future is Now. Glob Adv Health Med. 2020;9;1–9.
30. Bhat S et al. Use of Culinary Medicine as a medical education tool in clinical practice. (Workshop). Canadian Conference on Medical Education, April 2022.
31. Xue, J. Culinary Medicine Pilot: Serving up nutrition knowledge for family medicine residents. NOSM Resident Research Day, June 2022.

Competence & Behaviour Change

UME Learners

“Changes to improve health need to be made in small steps to be manageable for patients...”

“Creating easy/healthy recipes that are simple to make especially for people with mental illness who may not have the desire to cook”

“Ask if patient is able to make ends meet”

“Important to consider the patient's social and personal context to make suggestions/plan more feasible and achievable”

“Meal prepping to ensure that I’m eating/valuing healthy eating”

“Refer to or suggest dietitian when possible and applicable”

Dietetic Learners

“Information...how much energy our brains use and how adequate nutrition can affect brain processes”

“Suggesting simple recipes that don't require lots of energy”

“Working with my patient’s dietary intake and adding to it rather than taking things away”

“I will pay more attention to mental health drugs when reviewing patient charts in order to evaluate for possible nutrition implications”

“Learn more about mental health and plan to take the food and mood online course.”