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Dietitians and Community Mental Health: Setting the Research Agenda

Project Report

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Dietitians and Community Mental Health: Setting the Research Agenda, a collaborative effort between Dietitians of Canada (DC), Canadian Mental Health Association Ontario, and the University of British Columbia.

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Canadian Mental Health Association
Mental health for all

Association canadienne pour la santé mentale
La santé mentale pour tous

UBC
Critical Research in Health and Healthcare Inequities (CRiHHI) Research Unit

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Executive Summary

Although nutrition and mental health is becoming an area of increasing investigative interest, no specific research agendas to help guide research, policy, and practice currently exist. Based on evidence that mixed approaches that engage diverse stakeholders with an experiential understanding of the nutrition and mental health system generate meaningful action plans, an integrated, citizen-engaged research agenda-setting project, Dietitians and Community Mental Health: Setting the Research Agenda, was conducted from 2013 to 2014. This national initiative was a collaborative effort of Dietitians of Canada (DC), Canadian Mental Health Association Ontario, and the University of British Columbia, with funding from the Canadian Institutes of Health Research (CIHR). The consultation process engaged researchers, policymakers, service providers, persons with lived experience of mental illness and/or family members of persons living with mental health conditions. The end result was the formulation of a Canadian nutrition and mental health research agenda ultimately aimed at the optimization of nutrition and mental health services in community settings.

Methods in Developing the Research Agenda

The national nutrition and mental health research agenda-setting project was a mixed methods, participatory initiative that involved five steps:

I. a scoping review to contextualize current nutrition and mental health knowledge
II. a national online stakeholder survey to prioritize research topics (n=811)
III. key informant consultations to define prioritizing criteria (n=79)
IV. a national workshop involving representatives from research, policy, and practice to further define priorities (n=16) and
V. synthesis of findings - triangulation of textual, descriptive and inferential data to formulate the final research agenda/framework.

Summary of Research Priorities

Based on the integrated analysis of this national multi-step initiative, four nutrition and mental health research priorities were identified:

1. Nutrition and Mental Health Programs and Services

- **Research Priority:** Identify nutrition program/service needs, gaps and barriers for people living with mental health conditions with respect to healthy diet, food access and skills development.
- **Research Use:** Identify and implement effective models of care to address nutrition and mental health needs in community settings.

2. Service Provider Roles in the Provision of Nutrition Care

- **Research Priority:** Explore and define roles and responsibilities of mental health service providers, including dietitians, in the effective provision of nutrition care to individuals living with mental health conditions in the community.
- **Research Use:** Enhance collaboration and cross-training among service providers, and improve access to nutrition care at the most effective points of intervention.

3. Informing Policy through Determinants of Health

- **Research Priority:** Investigate the impact of social determinants (housing, income, education, employment, etc.) on diet, food security and mental health.
- **Research Use:** Advocate for and establish effective systems-level policies to benefit people living with mental health conditions.

4. Knowledge Translation and Exchange

- **Research Priority:** Explore and evaluate methods of knowledge translation and exchange to effectively mobilize evidence from nutrition and community mental health research.
- **Research Use:** Improve dissemination and uptake of new and existing knowledge to strengthen the impact of community services, inform policy and program decision-makers, and increase food literacy in the target population.

Moving the Research Agenda Forward

Given the evidence that optimal nutrition supports the mental health of Canadians and the national research priorities identified from the Dietitians and Community Mental Health: Setting the Research Agenda project, a foundation has been established that will help direct multiple stakeholders in formulating studies, policies, and knowledge translation initiatives aimed at the optimization of population nutrition and mental health.

Since the completion of the CIHR-funded consultation, project team members have done preliminary work in presenting the findings at various conferences and in scientific publications. However, more targeted work is required to fully disseminate the results and effectively engage investigators and knowledge users to act on the findings in research, practice, and policy-making. Specifically, a targeted knowledge mobilization plan is needed to develop and disseminate tailored knowledge products and tools that are related to the four research priorities and that reach diverse audiences including researchers, policymakers, practitioners, funding agencies, administrators, non-profit organizations, private industry, and people with lived experience of mental illness.

Identifying and prioritizing research topics in consultation with a broad spectrum of stakeholders has been a critical element in defining nutrition and mental health investigative targets, particularly in the context of increased competition for funds. Since the best predictor of research uptake is early and continued involvement of relevant stakeholders, a sustained and deliberate effort must now be made to engage stakeholders in meaningful dialogue about the research priorities and initiate investigations that represent a true collaboration between researchers and knowledge users. Actively engaging stakeholders from research, policy, practice, and those with experiential understanding will require focused and proactive facilitation. The investment in a process that mediates and directs diverse stakeholders to engage in identified national research priorities will ultimately lead to the optimization of nutrition and mental health-related outcomes.

1. Project Overview

1.1 Background

While nutrition and mental health research has been published for decades, there has been a major surge of investigations in recent years, particularly in the fields of nutritional and psychiatric epidemiology. There are many ways in which nutrition and mental health intersect[1]. From an intervention perspective, nutrition is increasingly being recognized as a cornerstone in psychiatric treatment as targeted strategies can effectively augment medical approaches to help optimize the structure and function of neurons and brain centres. Furthermore, nutritional interventions as part of integrative programs aimed at mental health promotion, contribute to social inclusion, self-reliance, self-determination, food security, healthy body image, and reducing health and social inequities. Given that mental health conditions associated with long-term disability and significant mortality are estimated to cost the Canadian economy $51 billion dollars annually[2], and that diet is the leading risk factor of global burden of disease[3], focused research initiatives are needed to define and advance nutrition and mental health practice with the ultimate goal of improving population health.

While there is a need to engage a broad range of relevant stakeholders to work toward consensus on research priorities, no collaborative nutrition and mental health research agendas to guide Canadian practice and policy have been formulated to date. In November 2010, the Institute of Nutrition, Metabolism, and Diabetes of the Canadian Institutes of Health Research sponsored a workshop aimed at advancing Canadian food and health research priorities where approximately 80 representatives from food science and nutrition research, voluntary health organizations, federal and provincial governments, and the food industry contributed to the articulation of an agenda that identified research priorities in areas such as nutrient requirements and nutrition intervention studies for special populations (e.g., pregnant women, children, Aboriginal), community-based interventions, balancing randomized controlled trials and population studies to determine best practices, interdisciplinary research of food and nutrition policies, food security and diet quality, understanding population variability in responses to nutrient interventions, and disease prevention. In the U.S., two research nutrition agendas have recently emerged with peripheral connection to mental health. The first, conducted by the Rural Food Access Workgroup, convened a national sample of academic and non-academic researchers, public health and cooperative extension practitioners, and other experts to focus on rural food access and economic development using a concept mapping process[4]. The second, led by the American Society of Parenteral and Enteral Nutrition Research Committee, identified research priorities ranging

[1] Davison KM, Ng E, Chandrasekera U, Seely C, Cairns J, Mailhot-Hall L, Sengmueller E, Jaques M, Palmer J, Grant-Moore J - for Dietitians of Canada. *Promoting Mental Health through Healthy Eating and Nutritional Care*. Toronto: Dietitians of Canada, 2012.

[2] Canadian Mental Health Association. *Fast Facts: Mental Health/Mental Illness*. http://www.cmha.ca/bins/content_page.asp?cid=6-20-23-43 . Canadian Mental Health Association, 2012.

[3] Institute for Health Metrics and Evaluation. *Global Burden of Disease Study 2010*. http://www.thelancet.com/themed/global-burden-of-disease . 2012.

[4] Johnson DB, Quinn E, Sitaker M et al. *Developing an agenda for research about policies to improve access to healthy foods in rural communities: a concept mapping study*. BMC Public Health 2014;4:592.:592.

from improving the definition of malnutrition to the design and implementation of RCTs in specific areas and patient populations[5]. In July 2014, the International Society for Nutritional Psychiatry Research initiated a Delphi process to inform a consensus statement from experts and stakeholders with an interest in nutritional psychiatry for the recently formed international organization to help guide research, clinical guidelines, and public policy[6].

As occurs in the formulation of many research agendas, the processes tend to be driven largely by singular processes involving mainly funding bodies and scientists, with little input from policymakers or those with direct involvement in the health issue being addressed (e.g., frontline workers, affected individuals). Singular methods that focus on select groups for consensus building inherently lack exploration of differing perspectives, which can result in specious consensus with limited external validity[7]. Evidence shows, however, that the use of qualitative and quantitative approaches enables depth of understanding and corroboration[8] and that if those with experiential knowledge are included in the process then investigative results are more likely to be used to improve the system[9].

In recent years, granting bodies such as the National Institute of Mental Health[10] and CIHR have developed directives for citizen engagement (i.e., meaningful involvement of individual citizens in research, planning, and implementation) into their research and policy development role. "Citizens" are defined as those interested representatives from the general public, consumers of health services, patients, caregivers, advocates, as well as representatives from affected community and voluntary health organizations, and although their engagement is viewed as integral to planning processes, little is known about how they may influence the decision-making process at higher levels of the involvement spectrum[11]. Since the best predictor of research uptake is early and continued involvement of relevant stakeholders[12] and the principles of citizen engagement (15), we instituted an integrative, citizen-engaged, mixed methods approach in the establishment of a Canadian nutrition and mental health research agenda.

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[5] Chan LN, Compher C, DiBaise JK et al. *American Society for Parenteral and Enteral Nutrition research agenda*. JPEN J Parenter Enteral Nutr 2014;38(1):13-8. 13-8.

[6] Jacka FN. *Delphi process to inform a consensus statement from the ISNPR*. Personal Communication 29-06-2014.

[7] Keeney S, Hasson F, McKenna H. *Debates, Criticisms and Limitations fo the Dephi*. In: Keeney S, Hasson F, McKenna H, eds. The Delphi Technique in Nursing and Health Research. Oxford, UK: Wiley-Blackwell 2011.; Mitroff II, Turoff M. *Philosophical and methodological foundations of Delphi*. In (Eds.). In: Linstone HA, Turoff M, eds. The Delphi method: Techniques and applications. Reading MA: Addison-Wesley Publishing Co. 1975:17-35.; van Bon-Martens MJ, van de Goor LA, Holsappel JC et al. *Concept mapping as a promising method to bring practice into science*. Public Health 2014;128:504-14.

[8] Creswell JW, Plano Clark VL. *The Nature of Mixed Methods Research*. In: John W.Creswell, Vicki L.Plano Clark, eds. Designing and Conducting Mixed Methods Research Second Edition. Thousand Oaks, CA: Sage Publications 2011.

[9] Lavis JN, Robertson D, Woodside JM, McLeod CB, Abelson J, *Knowledge Transfer Study Group. How can research organizations more effectively transfer research knowledge to decision makers?* Milbank Q.2003;81(2): 2003;81:221-48.

[10] National Institute of Mental Health (NIMH). *Bridging science and service: A report by the National Advisory Mental Health Council's Clinical Treatment and Services Research Workgroup*. 1999. Washington, DC, Author.

[11] Corporate Consultation Secretariat, Health Policy and Communications Branch Health Canada. *The Health Canada Policy Toolkit for Public Involvement in Decision Making*. http://www.hc-sc.gc.ca/ahc-asc/pubs/_public-consult/2000decision/index-eng.php . 2006.

[12] Henderson J, Brownlie E, Rosenkranz S, Chaim G, Beitchman J. *Integrated Knowledge Translation and Grant Development: Addressing the Research Practice Gap through Stakeholder-informed Research*. J Can Acad Child Adolesc Psychiatry 2013;22:268-74.; see also references in Footnotes 9-11.

1.2 Goals and Objectives

The primary goal of the *Dietitians and Community Mental Health: Setting the Research Agenda* project was to develop a national research agenda aimed at improving nutrition and mental health services in community settings. Multi-stakeholder engagement and a collaborative, multi-step process for data collection and analysis were key features of this study which resulted in a set of research priorities intended to meaningfully inform the broad agenda and guide health research investments and knowledge translation.

The project also aimed to:

1. facilitate collaborations among health professionals, especially dietitians, and the community mental health sector, to improve and contribute to knowledge exchange and research,
2. strengthen linkages among researchers and knowledge users and facilitate the production, translation and dissemination of research, and
3. engage people living with mental health conditions and their family members, to provide relevant input in the research agenda-setting process.

1.3 Project Timeline

The planning, implementation and subsequent preliminary dissemination of results from the *Dietitians and Community Mental Health: Setting the Research Agenda* project occurred over 18 months, from June 2013 to November 2014 (see below). **Details are outlined in the Methods section of this report.**

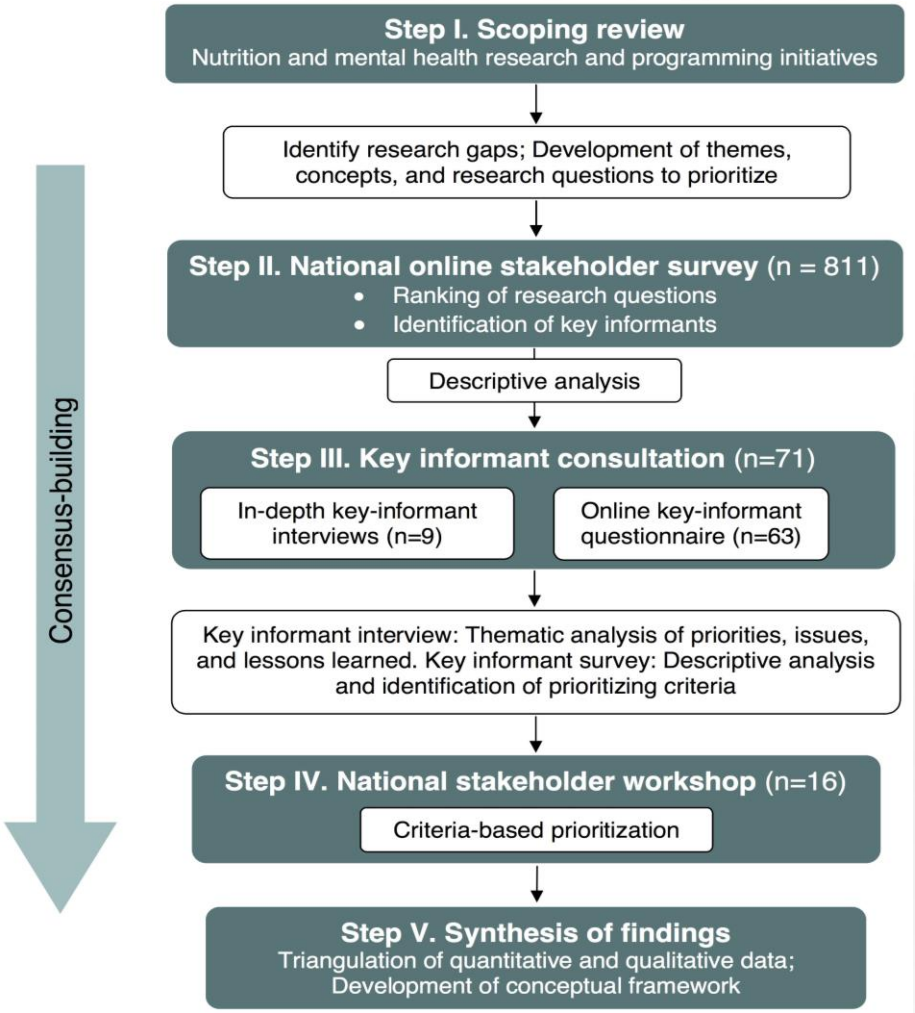
Dates	*Activities*
June to August 2013	• Convene advisory committee • Conduct environmental scan • Develop and pilot-test electronic survey; revise electronic survey and prepare for launch
September 2013	• Launch electronic survey • Begin planning for stakeholder workshop
October to November 2013	• Evaluate data collected from electronic survey; create survey report • Develop key-informant interview tool and questionnaire
December 2013 to January 2014	• Launch electronic key-informant questionnaire • Conduct key-informant interviews • Confirm date for stakeholder workshop and invite participants
January to February 2014	• Evaluate data collected from key-informant interviews and questionnaire • Create key-informant report, with prioritizing criteria • Develop content for stakeholder workshop; conduct stakeholder workshop
March to April 2014	• Analyze data collected from stakeholder workshop • Determine final priority research areas from all data collected; prepare draft of final report • Develop presentations for dissemination of project results
May to November 2014	• Present abstracts and poster presentations of research results

2. Methods

2.1 A Collaborative, Multi-Step Agenda-Setting Process

The *Dietitians and Community Mental Health: Setting the Research Agenda* project was a multi-step, collaborative consultation process that incorporated mixed methodology and generated comprehensive information aimed at the integrated development of a national nutrition and mental health research agenda (Figure 1). A dedicated nationally representative group of nutrition and mental health experts formed the steering and advisory committees (see Appendix A) and guided the project.

Figure 1: Overview of research agenda development process



2.2 Nutrition and Mental Health Scoping Review (Step I)

A scoping review was conducted by the Project Coordinator, with the assistance of a policy intern[13] working with Canadian Mental Health Association Ontario to obtain information about nutrition and mental health-related research and programs available across Canada and beyond. The literature search date limits were selected based on the nutrition and mental health role paper released by Dietitians of Canada (DC) in December 2012[14]. The DC role paper provided a synthesis of the research from over 800 nutrition and mental health research investigations published during 1980 to 2012. For this project, a literature search was conducted to find clinical and community-based nutrition and mental health articles published from January 2012 to July 2013. Keyword searches completed using academic databases (i.e., Google Scholar, Scopus, PubMed) utilized terms identified in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5)[15] autism, autism spectrum disorder, schizophrenia, psychosis, bipolar disorder, depression, disordered eating (anorexia nervosa, bulimia nervosa), and neurocognitive disorders (e.g., Alzheimers disease, dementia) in combination with appropriate key nutrition terms: diet, nutrition, food security, vitamins, minerals. In addition to published research, some information on studies in progress (i.e. not yet published) was provided by project steering and advisory team members to further inform the scoping review.

As part of the scoping review, an inventory of active and recently active nutrition and mental health community-based programs offered within Canada was also created to help formulate research topics for the online questionnaire. Programs that contained a nutrition component (e.g., food skills development, nutrition and health presentations) in combination with mental health were identified as relevant for the purposes of the review. To help locate relevant programs to include in the inventory, steering and advisory committee members provided a list of contacts from their extensive professional networks.

2.3 National Stakeholder Survey (Step II)

As the initial step in engaging stakeholders, a web-based nutrition and mental health survey (Appendix B) was nationally distributed in the fall of 2013. The extensive networks and connections provided by the steering group and advisory team members were utilized to disseminate the survey. A snowball approach encouraged participants to further extend outreach to a wide diversity of potential respondents. Calls for participation in the survey were distributed through national newsletters for Dietitians of Canada members, the Canadian Mental Health Association and affiliates, and workplaces and professional associations to which advisory team members belonged. Social media (Twitter and Facebook) were also engaged to encourage stakeholders to complete the online survey.

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[13] With appreciation: Tony Zhang, Policy Intern, CMHA-Ontario

[14] Davison, K.M., et al., (2012). *Promoting Mental Health through Healthy Eating and Nutritional Care*. Toronto: Dietitians of Canada, 2012.

[15] American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

The survey included questions that asked participants to review and prioritize a list of research topics identified through the scoping review and further refined by the advisory team. Participants were also offered an opportunity to submit additional nutrition and mental health research topics to consider beyond what was presented in the survey.

Survey Design

The format of the national stakeholder survey was based on examples of online research priority setting survey tools found through targeted literature reviews and Internet searches. In addition, the works of Palys & Atchison[16] provided guidance for survey question design and sequencing. Some of the layout details for the final version of the online survey were dictated by the software program (FluidSurveys) available for this project.

Members of the steering group and advisory team worked together to develop content for the online survey. Efforts were focused on creating a document suited for a diverse range of stakeholders. After multiple team discussions and survey tool modifications, the project coordinator conducted two in-depth stakeholder interviews (a person with lived experience and a social worker) to obtain user perspectives the survey. Once content adjustments were made based on the stakeholder feedback, the survey was pilot-tested with five individuals (allied health professionals and individuals lived experience). Information gathered from the pilot-testing helped to shape the flow of the survey, ensure appropriate word usage, and clarify the meaning of each research topic presented. A SMOG test for readability was conducted[17].The SMOG results for the full survey content = 11.9 and the SMOG result for the list of research topics = 10.84. (See Appendix B for the final version of the national stakeholder survey.)

The national electronic survey was published online on September 4, 2013 and remained open until October 11, 2013. A snowball method was used to disseminate the survey link. An invitation was distributed through the partner organizations' websites, newsletters and mailing lists, and followed via social media channels, including Twitter and Facebook. Steering and advisory committee members circulatedinvitations to key contacts. Collectively, the survey was advertised toa diverse audience, including:

- service providers and health professionals
- community members with lived experience
- family members of individuals with mental health conditions
- policymakers (provincial and federal)
- provincial and national community organizations (foundations, networks, societies, associations)
- researchers.

[16] Palys, T. and Atchison, C. (2014). *Research Decisions Quantitative, Qualitative, and Mixed Methods Appraoches*, 5th ed. Toronto, Ontario: Nelson Education Ltd.

[17] Readability Score.com. (2011-2014). Retrieved from https://readability-score.com/

2.4 Key-Informant Questionnaire and Interviews (Step III)

A list of more than 100 key informants was compiled from the national stakeholder survey (Step II). Respondents had been provided an opportunity to identify names and contact information of any nutrition and mental health stakeholders that may be interested in contributing further to the project. Each of the individuals identified was approached via email or telephone to complete a personal key-informant interview with the project coordinator and/or an additional questionnaire in order to:

- help identify priority-setting criteria to apply to nutrition and mental health research topics in Step IV of the project;
- identify possible researchers, research teams, institutions or community partners, and funders that could potentially carry the research agenda forward; and
- identify to whom and how best to disseminate the project results.

An electronic invitation to complete the questionnaire was distributed to the list of contacts obtained in Step II of this project. The questionnaire (Appendix C) was made available between December 15-23, 2013. A total of 63 individuals responded.

Nine in-depth key-informant interviews (Appendix D) were conducted by the project coordinator during December 2013 and January 2014 via telephone. Interviews were recorded (with consent) and transcribed by independent transcription service providers. A thematic analysis was completed from the data and information was compiled to help inform further steps of the agenda setting project.

Process for Determining Priority-Setting Criteria

Steps I and II of the nutrition and mental health project allowed for the development and refinement of key research topics. In accordance with Okello & Chongtrakul[18], assessing each research concept against a set of priority-setting criteria was an essential next step to develop a reliable agenda.

After reviewing reports and recommendations from a range of previous priority-setting exercises, the project team adopted a modified list of priority-setting criteria developed by the Council on Health Research for Development[18]. Feedback on these criteria was gathered through the key-informant questionnaire (Appendix C). Respondents were asked to identify which criteria they considered "important" for determining research priorities in nutrition and mental health. There were no limits imposed on the number of criteria that could be selected from the list. Furthermore, respondents were given an opportunity to add to the list of criteria.

The key-informant interviews included an open-ended question asking respondents to identify priority-setting criteria. This approach was intended to allow for original ideas to emerge. However, when necessary, the interviewer used the list of criteria from the questionnaire to probe for responses from the interviewee.

Results from the key-informant questionnaire and interviews were used to refine the list of criteria to carry forward to the stakeholder priority-setting workshop (Step IV).

[18] Okello, D., and Chongtrakul, P. *A Manual for Research Priority Setting using the ENHR Strategy*. Geneva: The Council on Health Research for Development. March 2000.

Final Priority-Setting Criteria (to be used in Step IV)

The project team agreed on eight priority-setting criteria grouped under four categories:

Appropriateness: *Should* we do it?

1) Is the research ethically, morally and culturally appropriate?
2) Do we need more research on this topic? (Does adequate evidence already exist? Can we avoid duplicating existing research?)

Relevancy: *Why* should we do it?

3) Will the research contribute to better equity in health? (Will it serve community concern/demand? Will it be broad in scope?)
4) Will the research reduce the burden of illness? (What is the magnitude of the issue? Will the research address the social determinants of health?)

Chance of Success: *Can* we do it?

5) Does our system have the capacity to undertake the research? (Do we have the competency, infrastructure, mechanisms, support system, and resources?)
6) Can we justify the cost of the research? (Is there a strong likelihood of partnership building? What is the funding potential? Is the research pragmatic and politically acceptable?)

Impact of the Research Outcome: *What* do the stakeholders get out of it?

7) What are the chances that recommendations emerging from the research will be implemented? (Is the research applicable to current practice? Does it represent forward/upstream thinking?
8) Will the research have a significant impact on mental health and quality of life within the population? (Will it have an economic impact?)

2.5 Stakeholder Workshop (Step IV)

A group of 16 individuals representing a cross-section of stakeholders were invited to attend a one-day workshop in February 2014. The events of the workshop focused on applying the priority-setting criteria (established in Step III) to the list of nutrition and mental health research topics (established in Step II) to help formulate the national research agenda. Furthermore, the workshop was a platform to foster potential partnerships that could move forward to address the priorities in future research proposals. Efforts were taken to include stakeholders at the workshop that would most likely be able to facilitate the implementation of the research agenda. Workshop participants came from the provinces of Ontario, Alberta, Manitoba, British Columbia, and Nova Scotia and included representatives from research, management, public policy, and service provision. (See Appendix E for a copy of the workshop agenda.)

Priority-setting Exercise

Workshop participants collaborated in small groups, each led by a project core team member, and systematically went through each research question derived from the results of the national online survey and by consensus applied the defined criteria that included appropriateness, relevancy, chance of success, and impact of the research outcome (Appendix F). Prior to commencing the group exercise, all participants were provided with a detailed explanation for each of the criteria categories, to assist with the process and prevent misinterpretation. After the completion of the group exercise, two workshop facilitators compiled and ranked the results. The findings were then presented to the large group and served as a catalyst for meaningful discussion about the process and priorities identified.

After the large group discussion, a second small-group activity was conducted. Four groups were formed to examine each of the research priorities identified during the previous small-group activity. Participants self-selected the group they participated in based on their interests and expertise. The second small-group activity was also led by a core project team member who facilitated discussion about the research priority, perceptions of what research had already been conducted in this area, the investigative gaps that exist, and potential steps to take from here to initiate research that would address the gaps. In the final stage of the workshop, a facilitated large-group discussion was conducted based on the small-group exercise.

3. Results

3.1 Summary of the Nutrition and Mental Health Scoping Review (Step I)

Findings from both the DC role paper and the initial scoping review were synthesized into a list of potential research directions (Table 1) to be considered during the multi-step, collaborative agenda-setting process. Results from the scan fell into two categories: research and community-based programming.

i) Research

Clinical scientific evidence exists to confirm that dietary intake and nutrient status for individuals with mental illness is compromised. However, these findings require movement forward from the clinical setting to community-based research that assesses the impact that nutrition and mental health programming has on the overall nutritional status and wellbeing of individuals living with mental health issues. In addition to the role of mental health condition-based nutrition interventions, it is necessary to determine the impact that good nutrition plays in promoting mental health and preventing the onset of mental health disorders.

ii) Community-Based Programming

Community level nutrition programming for individuals living with mental health issues is varied in structure, content and delivery method across Canada. Interventions are often embedded within a larger program aimed at overall wellbeing and may simply include a specific module or session on nutrition as it relates to mental health.

In Summary

Community-based research that provides specific benefits and ideal models would provide policymakers with evidence to support the implementation of effective nutrition and mental health programming and services across a large number of settings.

Formulation of Investigative Topics into Researchable Questions

The overall research directions derived from the scoping review were formulated into corresponding researchable questions for use on the national stakeholder survey (Table 1).

Table 1: Research Directions Derived from Scoping Review and National Stakeholder Survey

Research Directions Established from the Scoping Review	***Corresponding National Survey Research Questions***
Assessing and providing evidence of the extent of nutritional impact on mental health **promotion, prevention, and condition–based interventions**	• How does a healthy diet and/or access to healthy food promote mental health? • How do intakes of certain foods and/or nutrients prevent or delay the onset of mental health conditions? • How does food and/or nutrient intake affect specific mental health conditions? • What food-related policies would help people living with mental health conditions? • For people who live with both a mental health condition and other chronic physical disease(s) (e.g., diabetes, heart disease), how does diet and/or access to healthy food influence overall health?
Determining appropriate service levels **for dietitians working in mental health settings**	• How many dietitians would be required to meet nutrition service needs in community mental health settings in Canada?
Conducting epidemiological and intervention research **that defines diets and/or nutrients that promote mental health**	• What food-related policies could be implemented to promote mental health and/or prevent or delay the onset of mental health conditions?
Performing cost-effectiveness studies that quantify how specific nutritional interventions in mental health practice are economically beneficial	• What are the economic benefits associated with nutrition services in community mental health settings?
Examining new research questions utilizing large population databases to understand the role of nutrition and mental health, particularly within the context of the health determinants	• How do life situations (e.g., housing, income, education, employment) affect the type and amount of food that people eat and what impact does that have on their mental health?
Evaluating food skills of those living with mental illness	• For those people living with a mental health condition, does food skills training (e.g., food selection, cooking, and storage) have an impact on their mental health?
Examining the role of service providers in delivery and/or support of nutrition information to clients with mental health conditions	• What knowledge and skills are required for dietitians who provide service for individuals living with mental health conditions? • What are the roles of non-dietitian service providers (e.g., support workers, other health professionals) for providing nutrition information or support to clients who are living with mental health conditions?
Identifying gaps in community-based mental health nutrition services	• What are the gaps in community health and nutrition services for people living with mental health conditions? What programs or services do people living with mental health condition(s) need with respect to food access, nutrition, and/or cooking skills?
Determining perceived barriers to mental health nutrition program participation and program delivery	• What are the barriers to receiving nutrition services (e.g., counselling, cooking programs) for individuals living with mental health conditions?

3.2 National Stakeholder Survey Results (Step II)

Demographics

A total of 811 surveys were completed and analyzed using FluidSurveys basic software for response analysis. A description of participants is detailed in Table 2. Respondents provided representation on key demographics, all Canadian regions, and stakeholder groups. The number of responses obtained from First Nations, Métis, and Inuit (3.8%) is reflective of the percentage of the Canadian population that corresponds with this ethnic origin. More than half (56%) of the respondents reported living in metropolitan and large city locations. A higher proportion of women (89%) completed the survey compared to men. The majority of respondents (88%) were between 19 and 59 years of age.

Mental Health Condition-Specific and Population-Specific Research Priorities

Respondents were asked to identify specific mental health conditions that could benefit from nutrition-related research. Although the answers varied somewhat between stakeholder groups, the conditions most commonly identified included depression (n=712, 88%), anxiety (n=640, 79%), and disordered eating (n=628, 77%); pregnancy-related mental health conditions were added by many (n=28, 3%) as an additional area of priority for research (Figure 2).

The majority of respondents indicated that children and youth (n=470, 58%) were a top priority for nutrition and mental health research. However, more than half of the participants (n=411, 51%) also indicated that all population groups require equal priority (Figure 3). Individuals who live in poverty or low-income circumstances were added by about 3% of respondents (n=29) as a population group that requires higher priority for nutrition and mental health research.

Table 2: Characteristics of respondents to national stakeholder online survey

Characteristic	Total n (%) (811)	LE n (%) (244)	FM n (%) (344)
1. Sex			
Male	79 (10)	18 (7)	26 (8)
Female	718 (89)	224 (92)	314 (91)
2. Age (years)			
18 to 29	148 (18)	50 (20)	58 (17)
30-39	190 (23)	60 (25)	74 (22)
40-49	203 (25)	65 (27)	81 (24)
50-59	181 (22)	46 (19)	87 (25)
≥ 60	72 (9)	20 (8)	38 (11)
3. Regions			
Region 1: British Columbia plus Yukon	134 (17)	56 (23)	65 (19)
Region 2: Alberta, Saskatchewan, Manitoba, Northwest Territories, and Nunavut	177 (22)	50 (20)	76 (22)
Region 3: Ontario	414 (51)	113 (46)	158 (46)
Region 4: Quebec, New Brunswick, Newfoundland and Labrador, Nova Scotia, and Prince Edward Island	68 (8)	19 (8)	34 (10)
4. Community Size			
Metropolitan: population 500,000+	218 (27)	66 (27)	93 (27)
Large city: population 100,000 to 499,999	231 (28)	77 (32)	98 (28)
Medium city: population 30,000 to 99,999	157 (19)	44 (18)	67 (19)
Small city: population 1,000 to 29,999	100 (12)	25 (10)	42 (12)
Rural area, town or village: population less 1,000 and rural areas	101 (12)	29 (12)	40 (12)

continued...

Characteristic	*Total n (%) (811)*	*LE n (%) (244)*	*FM n (%) (344)*
5. Stakeholder Groups[a]			
Service provider: Working or have worked as a service provider for individuals with a mental health condition(s)[b]	433 (53)	138 (57)	186 (54)
Registered dietitian: includes community, clinical, administrative	299 (37)	55 (23)	116 (34)
Advocacy: working or have worked in advocacy related to mental health	135 (17)	59 (24)	92 (27)
Volunteer: working or have worked as a volunteer in a nutrition and/or mental health setting	120 (15)	61 (25)	77 (22)
Researcher: working or have worked in nutrition and/or mental health research	109 (13)	36 (15)	53 (15)
Manager/director: working or have worked as manager/director of a mental health program or organization[c]	70 (9)	23 (9)	36 (10)
Public policy: working or have worked in public policy; roles included public health professional, health promoter, policy analyst, health advisor	48 (6)	17 (7)	27 (8)
Lived experience of a mental health condition	244 (30)	--	154 (45)
Family member of someone with a lived experience of a mental health condition(s)	344 (42)	154 (63)	--

[a] Note: there were 17 respondents who indicated their stakeholder role was as a post-secondary student; due to the small sample size subgroup analysis was not conducted on this group.

[b] Respondents indicated their service provider roles included nurse (RN, LPN, NP), support/peer support worker, counsellor, psychologist, psychometrist, social worker.

[c] Respondents indicated their manager/director roles included programs and services, executive director, patient/client care, social worker, behavioural therapy.

Figure 2: Mental Health Condition-Specific Research Priorities

Selected National Survey Respondent Feedback:

"Disordered Eating (broad definition), not just eating disorders (such as anorexia and bulimia)."
– Dietitian, service provider, research, advocate and volunteer

"Post-partum depression and depression during pregnancy, considering the nutrient demands on the mother during this time, perhaps there is a nutrition link?"
– Public health dietitian

Figure 3: Mental Health Population-Specific Research Priorities

Selected National Survey Respondent Feedback:

Kids are the priority for me because of their general developmental needs."
– Family member of an individual with lived experience

"I think if we start education for children and parents of young children, this will benefit them and society most as this is when habits begin!"
– Survey participant working in nutrition and mental health research

"I feel all mental health conditions require appropriate nutrition related research to support a healthy mind and healing."
– Lived experience, family member, service provider

"I live on a low income and find it a challenge to eat healthy food. When I am doing the worst with my illness, it's the hardest to feed myself well, but probably when I need it the most."
– Lived experience

Top Three Research Priorities Emerging from the National Stakeholder Survey

The top three research priorities, ranked by the respondents of the survey that was disseminated across Canada in Step II of the collaborative agenda-setting process, are outlined in Table 3. For a summary of the overall ranking of all research priorities established from the results of the stakeholder survey see Appendix G.

Table 3: Top Three Research Priorities From National Stakeholder Survey

Top Three Research Priorities	***Supporting Quotes from Survey Participants***
Research Question: ***How does food and/or nutrient intake affect specific mental health conditions?***	*"Nutrition is an important influencing factor for people with mental health issues. Good nutrition can support people in their recovery; poor nutrition can do the opposite."* – Survey respondent involved with mental health knowledge exchange *"There is definitely a connection between mental health and nutrition and more research needs to be done in this area. We also need to know how to nutritionally support people who have mental health conditions…"* – Dietitian and family member
Research Question: ***How do life situations (e.g., housing, income, education, employment) affect the type and amount of food that people eat and what impact does that have on their mental health?***	*"Many [of my clients] use the food bank but that is limited, often rent, other bills and any addictions whether it's smoking, drinking or something else are often looked at first, food seems to be last on the priority list. It can be hard to work with people…if they are constantly hungry or sick because of lack of nutrition."* – Mental health service provider
Research Question: ***What programs or services do people living with mental health condition(s) need with respect to food access, nutrition, and/or cooking skills?***	*"Better to funnel research dollars into programs, services and policies that will have tangible benefits.* – Survey respondent involved with mental health knowledge exchange *"I know about the importance of nutrition, I can afford food, and I can cook, but I don't eat well, because meal preparation takes too much effort when I'm depressed."* – Lived experience survey participant

The top three research priorities were similar when analyzed by:

- province
- ethnicity
- duration of time in Canada, and
- community size

There was some variation in the ordering of these top three priorities for the individual stakeholder and special interest (i.e., newcomers to Canada) groups. Where differences occurred the priorities were in agreement on at least two of the top three investigative topics (see Appendix H).

3.3 Key-Informant Questionnaire and Interview Results (Step III)

The key-informant questionnaire (Appendix C) and interview (Appendix D) were used to create a working list of research priority-setting criteria that would be carried forward and applied at the stakeholder workshop (Step IV).

Questionnaire Results

A total of 63 questionnaires were completed and analyzed using FluidSurveys basic software for response analysis. The response rate of the key informant questionnaire was approximately 60%. Participants were primarily from Ontario and British Columbia (Table 4) and included representation of individuals with lived experience of mental illness. More than 70% of respondents agreed that "impact on health" and "community concern/demand" were key criteria for setting research priorities in nutrition and community mental health. No new criteria were suggested that extended beyond the items proposed on the questionnaire.

Table 4: Characteristics of key informant online questionnaire respondents

Characteristic	Total n (%) (63)	LE n (%) (30)	FM n (%) (36)
1. Regions			
Region 1: British Columbia plus Yukon	16 (25)	10 (33)	11 (31)
Region 2: Alberta, Saskatchewan, Manitoba, Northwest Territories, and Nunavut	9 (14)	7 (23)	6 (17)
Region 3: Ontario	32 (51)	12 (40)	17 (47)
Region 4: Quebec, New Brunswick, Newfoundland and Labrador, Nova Scotia, and Prince Edward Island	5 (8)	2	2 (6)
2. Community Size			
Metropolitan: population 500,000+	23 (37)	10 (33)	14 (39)
Large city: population 100,000 to 499,999	15 (24)	5 (17)	6 (17)
Medium city: population 30,000 to 99,999	10 (16)	7 (23)	7 (19)
Small city: population 1,000 to 29,999, rural area, town or village: population less 1,000 and rural areas	15 (24)	8 (27)	9 (25)
3. Stakeholder Groups			
Service provider: Working or have worked as a service provider for individuals with a mental health condition(s)[a]	37 (59)	16 (53)	22 (61)
Registered dietitian: includes community, clinical, administrative	25 (40)	8 (27)	13 (36)
Advocacy: working or have worked in advocacy related to mental health	14 (22)	9 (30)	11 (31)
Volunteer: working or have worked as a volunteer in a nutrition and/or mental health setting	16 (25)	14 (47)	12 (33)
Researcher: working or have worked in nutrition and/or mental health research	18 (29)	10 (33)	11 (31)
Manager/director: working or have worked as manager/director of a mental health program or organization[b]	2 (3)	2 (7)	2 (6)
Public policy: working or have worked in public policy; roles included public health professional, health promoter, policy analyst, health advisor	4 (6)	3 (10)	3 (8)
Lived experience of a mental health condition	30 (48)	--	22 (61)
Family member of someone with a lived experience of a mental health condition(s)	36 (57)	22 (73)	--

[a] Respondents indicated their service provider roles included nurse (RN, LPN, NP), support/peer support worker, counsellor, psychologist, psychometrist, social worker
[b] Respondents indicated their manager/director roles included programs and services, executive director, patient/client care, social worker, behavioural therapy
Notes: LE: lived experience; FM: family member

Key Informant Interview Results

Nine key informants from British Columbia, Alberta, Saskatchewan, Manitoba, and Ontario were interviewed. The informants included service providers, managers and directors, as well as public policy developers. Key-informant interviewees responded to an open-ended question asking for criteria that should be used to establish research priorities in nutrition and mental health. Responses were compiled and categorized into the criteria groupings identified by Okello & Chongtrakul (2000). The top four most "important" criteria, based on frequency of response, are consistent with the results from the key-informant questionnaire: impact of the research outcome, relevancy, appropriateness and chance of success.

Additional Research Questions Identified by Stakeholders

During the survey, key-informant questionnaire and interviews, stakeholders were invited to suggest further research directions in addition to the list presented from the results of the scoping review (Step I). A thematic analysis was applied to group these new suggestions under four main categories (Table 5).

Table 5: Results of Thematic Analysis of Stakeholder Feedback on Additional Research Directions

Research Directions	***Details***
Medication-Related Research	• Determining the effects of mental health medications on appetite, metabolism (weight gain in particular), and brain health • Establishing practice-based evidence to develop intervention strategies for health care workers to utilize with mental health clients to assist with preventing or managing weight gain at the time of medication commencing
Determine the Impact of Geographical Location on Community-Based Nutrition and Mental Health Prevention and/or Management	• Assessing the influence that geography (i.e. rural, Northern, remote locations) has on mental health populations re: food security, programming needs and access
Determine the Nutrition Skill Needs of Non-Dietitian Mental Health Service Providers	• Establishing the required nutrition knowledge and skill set needed for frontline mental health service providers • Determining how best to provide nutrition and mental health knowledge transfer to these care providers
Evaluation and Establishment of Effective Approaches to Addressing Mental Health Nutrition Issues	• Formalizing an evaluation of current nutrition and mental health programs, to establish best-practice across Canada • Investigating the effectiveness of programs with multi-faceted approaches (ex. nutrition and physical activity) to addressing mental health conditions • Evaluating the effects of alternative nutrition and mental health programming delivery to clients (i.e. internet usage, social media, collective cooking) • Determining best practices for delivering nutrition education to specialized groups (i.e. newcomers to Canada, First Nations, Metis, Inuit)

3.4 Workshop Results (Step IV)

The face-to-face workshop participants included stakeholders that would mostly likely be in a position to carry the research agenda forward post-workshop. Workshop participants (n=16) included policy analysts, service providers, researchers, managers, directors, and dietitians.

The collaborative workshop exercise determined a priority rating for each of the 15 nutrition and mental health research questions (Appendix I). The following four research questions emerged as the top priorities:

- What are the barriers to receiving nutrition services (e.g., counselling, cooking programs) for individuals living with mental health conditions?
- What food-related policies would help people living with mental health conditions?
- What programs or services do people living with mental health condition(s) need with respect to food access, nutrition, and/or cooking skills?
- What are the roles of non-dietitian service providers (e.g., support workers, other health professionals) for providing nutrition information or support to clients who are living with mental health conditions?

Through small- and large-group discussions, participants reflected on the priority-setting exercise and provided feedback on the process. The group made the following suggestions:

1. Adjust the phrasing of some research topics to improve uptake by diverse stakeholders.
2. Acknowledge the complexity of the research ideas and their implementation.
3. Apply the priority-setting criteria in different contexts (e.g., practice, policy).
4. Identify potential barriers to completing the research.
5. Encourage implementation of research approaches that would enable individuals with lived experience of mental illness to participate as co-investigators and/or knowledge users.

Participants also helped to identify mechanisms for moving the research agenda forward, as well as potential barriers:

- Knowledge translation: Many workshop participants acknowledged that a significant body of evidence from nutrition and mental health research already exists but is not being utilized to full capacity in policy development and everyday practice. More effective knowledge translation is required to help the sectors act on what we already know and avoid unnecessary duplication of research.
- Funding limitations: In the context of intense competition for research funds, it was acknowledged that limited monies have been directed to nutrition and mental health research. To help overcome this barrier, participants identified that funding should still be sought from the tricouncil agencies but to also explore other sources such as international sources, government and non-government agencies, and private industry. There was also agreement that pre-existing sources of data (e.g., national and provincial data sources) should be capitalized on to help address the research priorities.
- Fostering continued collaborations: Participants acknowledged that being brought together in the workshop forum was immensely helpful in bridging the distance between nutrition and mental health stakeholders. They would have welcomed an even longer workshop to allow for in-depth discussion of possible research projects. The stakeholders also expressed interest in continuing to collaborate around the priorities after the project's completion.

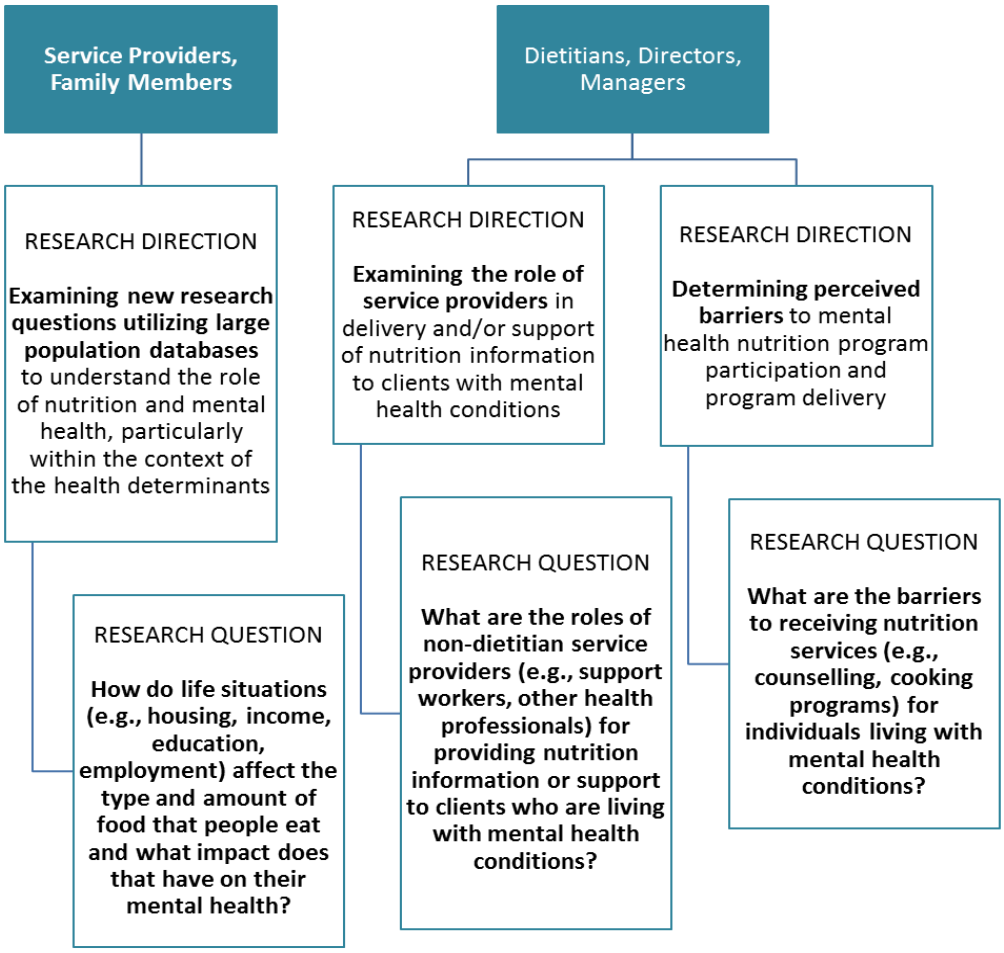
3.5 Emerging Directions and Stakeholder Preferences (Step V)

The most widely supported research directions that emerged from the multi-step collaborative processes are outlined in Figure 4. The corresponding investigative questions selected to address the overall areas may be different, depending on the stakeholder group.

There were distinct differences in the research direction and questions when filtering the results by stakeholder groupings, from Step II and III of the agenda-setting process.

The remaining research directions analyzed by stakeholders during the multi-step process were not identical in priority value between the national survey and the workshop stakeholders. This may be reflective of the specific lens that was applied when assessing the research ideas. Specifically, service providers (54%) and family members (43%) were the most prevalently identified stakeholders from the national survey. The workshop participants included 44% dietitians and 31% managers/directors.

Figure 4: Flow Chart of Research Directions Defined By All Stakeholders and Specified Stakeholder Groups



4. Synthesizing the Research Priorities (Step V)

4.1 Synthesizing the Results of the Collaborative Process

Each step of the collaborative process used to establish a national nutrition and mental health research agenda provided valuable information that helped shape the final results. A preliminary list of possible research directions was developed from the scoping review and the DC nutrition and mental health role paper. With input from the project Advisory Committee, the research directions were fleshed out and expressed as specific research questions. This list was ranked by a large and broadly representative sample of stakeholders (n=811) via online survey. Survey respondents were first asked to rate each question independently, using a five-point scale (from "not important" to "very important"), and then asked to select their top three priorities from the full list. No ranking criteria were provided, and respondents were not asked to explain their choices. Findings from the survey were reviewed by the project team, with input from the Advisory Committee, and followed by a round of key informant interviews and questionnaires to identify remaining gaps and establish priority-setting criteria in preparation for the face-to-face workshop. The resulting list of research questions was reviewed and discussed in the face-to-face workshop by a representative group of invited experts (n=16). Priority-setting criteria (Appendix F) were used to guide the discussion and participants were invited, in a series of small-group exercises, to apply the criteria and rank each research question using a point system. The full group then reconvened to discuss the ranking process, review the top-ranked questions, and identify barriers and facilitators to moving the research agenda forward.

4.2 Final Research Priorities

The research team reviewed and synthesized all input gathered during the consultation process. Based on the integrated analysis of this national multi-step initiative, four nutrition and mental health research priorities were identified.

Nutrition and Mental Health Programs and Services

- **Research Priority:** Identify nutrition program/service needs, gaps and barriers for people living with mental health conditions with respect to healthy diet, food access and skills development.
- **Research Use:** Identify and implement effective models of care to address nutrition and mental health needs in community settings.

Service Provider Roles in the Provision of Nutrition Care

- **Research Priority:** Explore and define roles and responsibilities of mental health service providers, including dietitians, in the effective provision of nutrition care to individuals living with mental health conditions in the community.
- **Research Use:** Enhance collaboration and cross-training among service providers, and improve access to nutrition care at the most effective points of intervention.

Informing Policy through Determinants of Health

- Research Priority: Investigate the impact of social determinants (housing, income, education, employment, etc.) on diet, food security and mental health.
- Research Use: Advocate for and establish effective systems-level policies to benefit people living with mental health conditions.

Knowledge Translation and Exchange

- Research Priority: Explore and evaluate methods of knowledge translation and exchange to effectively mobilize evidence from nutrition and community mental health research.
- Research Use: Improve dissemination and uptake of new and existing knowledge to strengthen the impact of community services, inform policy and program decision-makers, and increase food literacy in the target population.

5. Moving the Research Agenda Forward

5.1 Perceived Barriers

Key-informant stakeholders involved with Step III and workshop participants in Step IV were asked to identify perceived barriers that could potentially interfere with moving the nutrition and mental health research agenda forward. Several barriers that were consistently identified are presented below with supporting narratives from key informants.

Lack of funding

- Specifically, lack of funding available for community-based and qualitative research approaches as opposed to clinical, nutrient-specific quantitative research.

Trouble finding participants and partners

- There may be difficulty with:
    1. recruiting research participants with lived experience of mental illness;
    2. locating dietitians with specific training in mental health nutrition; and
    3. finding motivated partners to engage in research.

Low interest

- Addressing nutrition and mental health may not be a high priority for national and provincial governments, funding bodies, or stakeholder organizations.
- Indirect barriers may exist due to lack of interest among the media (no coverage to help increase awareness), pharmaceutical companies (no desire to shift focus from medication to food for mental health management), and other health professionals (who may be skeptical of the impact that nutrition can have on mental health).
- A still-present stigma related to mental health may partially account for apparent low interest among various groups.

Complexity of following through with research results

- The potential that research findings might result in an increased demand for social funding, program funding, etc., may deter support for research endeavours.
- Once research has been completed, policy support may be lacking, which could deflate interest.

Stakeholder Comments

"Lack of funding when the project does not involve pharmaceuticals."

– Service provider and family member

"And you know sometimes patients, they're not always easy to engage, depends on the nature of their illness so it would have to be something that is interesting to them that they would want to come forward in and volunteer their time."

– Service provider

"Stigma, preconceived notion that people with mental [illness] are not able to do what is needed to help themselves."

– Lived experience, family member, dietitian, service provider

"[L]ooking at the social determinants of health it's just sometimes overwhelming right? I think people shy away from it because how do you tackle all that, right?"

– Policy analyst

5.2 Dissemination of the Project Results

Table 8 provides a list of the preliminary dissemination activities that have taken place since completion of the multi-step consultation process. Each activity was attended by a member of the steering group or by the project consultant.

The final project report will be widely disseminated. The document will be posted on each partner's website and promoted through their existing newsletters and organizational mailing lists. Advisory Committee members will be encouraged to disseminate the results through their own networks, and all project participants will be notified by email, as will the many individuals who contacted the project coordinator throughout the project to request information about the research agenda.

Table 8: Initial Dissemination Activities from "Dietitians and Community Mental Health: Setting the Research Agenda" Project

Dates	Activities
April 2014	• Webinar • Host: Community Food Centres Canada • Location: National • Citation: McKay T, Dunnion K, Davison KM (2014). *Food on Our Minds: Diet, Mental Health and the role of Community Food Programs* (webinar). Community Food Centres Canada. Link: http://thepod.cfccanada.ca/issues-modules
April 2014	• Oral Presentation: *Nutrition and Mood Disorders: Defining Relationships* • Host: Nutrition and Mental Health Symposium, University of Alberta • Location: Edmonton, Alberta
May 2014	• Poster Presentation • Host: Canadian Association for Health Services and Policy Research • Location: Toronto, Ontario • Citation: Mitchell S (2014). *Dietitians and Community Mental Health: Setting the Research Agenda*. The Canadian Association for Health Services and Policy Research (CAHSPR) 2014 • Conference. Link: www.cahspr.ca/en/conferences/past/2014/abstracts/poster • Seminar Presentation: Nutrition and Mental Health: Research Profile with Links to Health Sciences. • Host: University of Ontario Institute of Technology, Faculty of Health Sciences • Location: Oshawa, Ontario
June 2014	• Paper Presentation: • Host: Canadian Collaborative Mental Health Care Conference • Location: Toronto, Ontario • Citation: Mitchell S (2014). *Dietitians and Community Mental Health: Setting the Research Agenda*. The Canadian Collaborative Mental Health Conference.
June 2014	• Oral Presentation • Host: Dietitians of Canada National Conference • Location: Ottawa, Ontario • Citation: D'Andreamatteo C, Davison KM, Mitchell S, Vanderkooy P (2014). *Prioritizing a Canadian research agenda for nutrition and community mental health.* Canadian Journal of Dietetic Practice and Research Sep;75(3):e348.
October 2014	• Poster Presentation • Host: Food and Nutrition Conference and Expo, American Academy of Nutrition and Dietetics • Location: Atlanta, Georgia • Citation: D'Andreamatteo C, Mitchell S, Vanderkooy P, Davison KM (2014). *Nutrition Research and Community Mental Health: Defining a Canadian Agenda.* Journal of the American Academy of Nutrition and Dietetics Sep;114(9):A64. DOI: 10.1016/j.jand.2014.06.211
November 2014	• Executive Summary Distribution • Host: Food Secure Canada's National Assembly • Location: Halifax, Nova Scotia *continued…*

Dates	Activities
March 2015	Scientific journal article submissions - two **Citations:** 1. **Davison KM, D'Andreamatteo C, Mitchell S, Vanderkooy P. *Defining research priorities for nutrition and mental health: Insights from dietetics practice.*** Canadian Journal of Dietetic Practice and Research (submitted March 2015). **Abstract** In 2014, a national initiative aimed at defining a research agenda for nutrition and mental health among diverse stakeholders was completed and included insights from more than 300 registered dietitians. This study explores the data from dietitians based on their years of practice, mental health experiences, and community of practice in relationship to identified mental health and nutrition research priorities. Analysis of numerical data (n=299) and content-analysis of open-ended responses (n=269) revealed that respondents desired research for specific mental health conditions (MHCs), emotional eating, food addiction, populations with special needs, and people encountering major life transitions (e.g., recovery from abuse, refugees). Findings from the quantitative and textual data suggested that dietitians want research aimed at addressing community concern, fostering consumer nutrition knowledge and skill acquisition, and developing services that will impact quality of life. Subgroup analysis indicated that dietitians: 1) in early years of practice want information about specific MHCs; 2) living in smaller towns and rural areas want data about the cost-benefits of dietetics practice; and 3) with additional stakeholder roles (e.g., service provider) selected priorities that address gaps in mental health services. This study highlights opportunities to tailor nutrition and mental health research that advance dietetics practice. 2. **Davison KM, D'Andreamatteo C, Mitchell S, Vanderkooy P. *Establishing an integrated, multi-stakeholder and citizen-engaged Canadian research agenda for nutrition and mental health.*** (to be submitted in April/May 2015 to psychiatry-focused journal). **Abstract** (draft) *Background:* Although multiple intersections between nutrition and mental health exist, no investigative agendas to guide research, policy, and practice currently exist. Based on evidence that mixed approaches involving stakeholders with experiential knowledge generate meaningful action plans, we utilized integrated, citizen-engaged processes to structure a Canadian research agenda for nutrition and mental health. *Methods:* The mixed methods participatory initiative involved five stages: 1) a scoping review to contextualize knowledge; 2) a national online stakeholder survey to prioritize research topics; 3) key informant consultations to define prioritizing criteria; 4) a workshop involving representatives from research, policy, and practice to further define priorities; and 5) triangulation of textual, descriptive, and inferential data to formulate the agenda and test hypotheses about stakeholder influences on decision-making. *Results:* The scoping review identified that qualitative, epidemiological, economic, and intervention studies are needed to derive findings that reduce mental health inequities, inform mental health promotion and disease prevention, and establish appropriate models of treatment services provision. Respondents to the national online survey (n=811) specified priorities in defining food and/or nutrient intakes, life situations, and nutrition-related services that foster mental health. Results from nine interviews and 63 online surveys targeting key informants specified that appropriateness, relevancy, chance of success, and impact be research priority defining criteria. Sixteen diverse stakeholders utilized this criteria and identified research priorities related to defining policies, accessible services, and roles of non-dietitian service providers. Results of the integrated analysis: 1) defined five priority research areas: mental health promotion, prevention, intervention, policy, and service provision; 2) indicated no significant differences between those with and without lived realities in establishing top priorities, however, those with lived realities placed emphasis on prevention and mental health promotion; and 3) specified that research and knowledge translation be interdisciplinary, applied, inclusive and equity focused, and foster mental health literacy. *Conclusions:* The research agenda formulated from this mixed methods synthesis reflects the perspectives across a spectrum of stakeholders. Considering scientific and social realities, an ongoing challenge will be to foster continued engagement in the implementation of the research agenda.

5.3 Next Steps

The collaborative, multi-step consultation process fostered a great deal of engagement and discussion among nutrition and mental health stakeholders. Individuals that participated were generous enough to offer a wealth of experiential knowledge to apply to the agenda-setting process. The inclusive nature of this process, in some cases, allowed for stakeholders to meet and begin to think about possible research partnerships to carry the agenda forward.

As interest groups begin to embark on new research directions, they are encouraged to consider the following feedback from stakeholders:

> *"There is a strong need for a coordinated provincial and/or national approach to evaluating current or newly developed nutrition and physical activity programs and the effects that these initiatives have on the lives of clients with mental health conditions. Ideally this process will lead to best practices for nutritional management of mental health conditions based on evidence."*

> *"The examination of the required skill sets and knowledge needed for all health care providers to effectively address nutrition and food issues with mental health clients should be utilized to help shape post-secondary education and on-the-job training for all mental health care providers."*

> *"While research evidence exists related to specific nutrients and connections with mental health, the responses received from this project indicate that this knowledge perhaps has not been transferred to many of those working in the mental health sector, and/or the research completed to-date does not offer evidence related to the needs of the population or it is presented in a way that is not pragmatic for use on the front line."*

Many stakeholders expressed appreciation for the collaborative process, gratitude for the efforts to establish a research agenda in this area, and anticipation of the final results. Great enthusiasm was expressed to begin working towards creating effective nutrition and mental health research to better the lives of all stakeholders.

Stakeholder Comments

"This is a major new frontier in mental health that is long overdue, and I think the survey is an excellent step."

– Family member, researcher, advocate

"I think this is really important research and I'm glad to be asked for input."

– Lived experience, service provider

"Thanks for asking. Focus on actionable research that will impact the quality of life of people living with mental illness." – Dietitian

"I want to commend you on this much needed research agenda. As an advocate for both food security and mental illness, I look forward to exciting new research in this field."
– Lived experience, student, volunteer

"A very important yet overlooked area of study." – Dietitian, service provider

"Very interesting and far eager to see results." – Family member, service provider

Current evidence indicates that optimal nutrition is an important factor in supporting the mental health of Canadians. The national research priorities identified through the *Dietitians and Community Mental Health: Setting the Research Agenda* project establish a foundation that will help direct multiple stakeholders in formulating studies, policies, and knowledge products aimed at the optimization of population nutrition and mental health.

Since the completion of the CIHR-funded consultation, project team members have done preliminary work presenting the findings at various conferences and in scientific publications. However, more targeted work is required to fully disseminate the results and effectively engage investigators and knowledge users to act on the findings in research, practice, decision-making, and policy. Specifically, a targeted knowledge mobilization plan needs to be developed that is centered on developing and disseminating tailored knowledge translation products and tools related to the four research priorities and that reach diverse audiences including researchers, policymakers, practitioners, funding agencies, administrators, non-profit organizations, private industry, and consumers.

Identifying and prioritizing research topics in consultation with a broad spectrum of stakeholders has been a critical element in defining nutrition and mental health investigative targets, particularly in the context of increased competition for funds. In alignment with evidence that indicates that the best predictor of research uptake is early and continued involvement of relevant stakeholders, a sustained and deliberate effort must now be made to engage stakeholders in meaningful dialogue about the research priorities and initiate investigations that represent a true collaboration between researchers and knowledge users. Actively engaging stakeholders from research, policy, practice, and those with experiential understanding will require focused and proactive facilitation. The investment in a process that mediates and directs diverse stakeholders to engage in identified national research priorities will ultimately lead to the optimization of nutrition and mental health-related outcomes.

Appendices

Appendix A: Committee Members

STEERING COMMITTEE	
Karen Davison	Researcher University of British Columbia
Scott Mitchell	Director, Knowledge Transfer Canadian Mental Health Association, Ontario
Pat Vanderkooy	Public Affairs Dietitians of Canada
Carla D'AndreaMatteo	Project Coordinator Winnipeg, Manitoba

ADVISORY COMMITTEE	
Shana Calixte	Executive Director Northern Initiative for Social Action
Mike Gawliuk	Director of Service Delivery and Program Innovation Canadian Mental Health Association, Kelowna
Linda Greene-Finestone	Nutrition Advisor and Epidemiologist Public Health Agency of Canada
Nick Kates	Chair and Professor, Psychiatry and Behavioural Neurosciences Associate Member, Department of Family Medicine McMaster University Director of Programs, Hamilton Family Health Teams
Craig Larsen	Executive Director Chronic Disease Prevention Alliance of Canada
Vikki Madden	Occupational Therapist Guelph ACT Team, Homewood Health Centre
Lynette McGarrell	Dietitian Mental Health Program: Eating Disorders Clinic Halton Healthcare Services
Eric Ng	Dietitian Public Health Ontario
Nandini Saxena	Manager, Knowledge Exchange Centre for Addiction and Mental Health

Appendix B: National Stakeholder Survey – Web-based (Step II)

Nutrition and Mental Health Research Priorities

Survey on Nutrition and Mental Health Research Priorities

"Dietitians and Community Mental Health: Setting the Research Agenda" is a one-year project funded by the Canadian Institutes of Health Research. In partnership, Dietitians of Canada, the Canadian Mental Health Association Ontario and the University of British Columbia are working together to establish research priorities in nutrition and mental health, especially in community settings.

WHY is this survey being conducted?

The information from this survey will help to identify research topics that will contribute to improving community-based nutrition services for people with mental health conditions.

WHO should respond to this survey?

You are a "stakeholder" in this project if you have an interest in nutrition and mental health in Canada. Stakeholders may include:

- anyone living with a mental health condition(s);
- family members of someone living with a mental health condition(s);
- anyone who is a Registered Dietitian;
- providers of mental health services, whether an employer, employee or volunteer e.g., case workers, support workers, nurses, occupational therapists, dietitians, social workers, psychiatrists;
- anyone working or volunteering in nutrition and/or mental health program development, policy making, research, advocacy.

Start of Survey

The survey questions are designed to give all respondents an opportunity to have their say in choosing research priorities for future nutrition and mental health research. *Your individual responses and any identifying information will be kept confidential.*

1. Which of the following statements describes your interest in nutrition and mental health?

(check all that apply)

I have lived experience of a mental health condition(s).

I am a family member of someone with a lived experience of a mental health condition(s).

I am a Registered Dietitian. How many years have you worked as a dietitian?

I am working or have worked as a service provider for individuals with a mental health condition(s). Job title or profession: _____

I am working or have worked as a manager/director of a mental health program or organization. Job title or profession: _____

I am working or have worked in nutrition and/or mental health research.

I am working or have worked in public policy. Job title or profession:

I am working or have worked in advocacy related to mental health.

I am a student (post-secondary) in a program of study related to nutrition and/or mental health.

I am working or have worked as a volunteer in a nutrition and/or mental health setting.

Other (please describe): _____

2. Briefly describe why you are interested in nutrition and mental health.

3a. For which of the mental health condition(s) listed below do you think there could be a benefit from more nutrition-related research?

Select all that apply. *With each selection you make, a text box will allow you to make additional comments, suggest research questions, or explain why you have identified the condition as a priority.*

Anxiety
Autism, autism spectrum disorder
Attention deficit hyperactivity disorder (ADHD)
Bipolar disorder or manic depression
Depression
Disordered eating (anorexia nervosa, bulimia nervosa)
Neurocognitive disorders (e.g., Alzheimers disease, dementia)
Neurodevelopment disorders (e.g., Tourette's syndrome)
Obsessive-compulsive disorder
Schizophrenia, psychosis
Substance use, addictions
Trauma and stressor related disorders (e.g., post-traumatic stress disorder)
All of the above
None of the above
Don't know

3b. Please describe any other mental health conditions that you think need nutrition-related research.

4a. Select the group(s) of people for whom you think nutrition and mental health research should be a priority.

Select all that apply. *With each selection you make, a text box will allow you to make additional comments, suggested research questions, or explain why you have identified the group as a priority.*

- Children and youth
- First Nations, Inuit, and Metis
- Homeless or marginally housed
- Newcomers to Canada
- Older adults
- Persons living in remote locations
- Persons living in rural locations
- Persons living in a group setting (home or institution)
- Persons living with a developmental disability
- Pregnant women (including prenatal and post-partum)
- All of the above
- None of the above
- Don't know

4b. Please describe any other groups of people for whom you think nutrition and mental health research should be a priority.

5a. In order to **improve the health of people living with mental health conditions**, how important do you think it is for researchers to answer the following research questions?
Consider each question on its own - you are not being asked to rank the questions against each other.

Rate each question on a scale of importance:

VERY important
Important
Moderately important
Of little importance
NOT important
No opinion

How does food and/or nutrient intake affect specific mental health conditions?
For those people living with a mental health condition, does food skills training (e.g., food selection, cooking, and storage) have an impact on their mental health?
How do life situations (e.g., housing, income, education, employment) affect the type and amount of food that people eat and what impact does that have on their mental health?
For people who live with both a mental health condition and other chronic physical disease(s) (e.g., diabetes, heart disease), how does diet and/or access to healthy food influence overall health?
What food-related policies would help people living with mental health conditions?

5b. From the list below, please select the ONE research question you think is the most important in order to **improve the health of people living with mental health conditions**.

How does food and/or nutrient intake affect specific mental health conditions?
For those people living with a mental health condition, does food skills training (e.g., food selection, cooking, and storage) have an impact on their mental health?
How do life situations (e.g., housing, income, education, employment) affect the type and amount of food that people eat and what impact does that have on their mental health?
For people who live with both a mental health condition and other chronic physical disease(s) (e.g., diabetes, heart disease), how does diet and/or access to healthy food influence overall health?
What food-related policies would help people living with mental health conditions?

5c. Please suggest any other research questions that YOU think should be answered in order to **improve the health of people living with mental health conditions**.

6a. In order to **improve community nutrition and mental health programs and services**, how important do you think it is for researchers to answer the following research questions?

Consider each question on its own - you are not being asked to rank the questions against each other.
Rate each question on a scale of importance:
VERY important
Important
Moderately important
Of little importance
NOT important
No opinion

What programs or services do people living with mental health condition(s) need with respect to food access, nutrition, and/or cooking skills?
What are the barriers to receiving nutrition services (e.g., counselling, cooking programs) for individuals living with mental health conditions?
What knowledge and skills are required for dietitians who provide service for individuals living with mental health conditions?
What are the roles of non-dietitian service providers (e.g., support workers, other health professionals) for providing nutrition information or support to clients who are living with mental health conditions?
What are the gaps in community health and nutrition services for people living with mental health conditions?
How many dietitians would be required to meet nutrition service needs in community mental health settings in Canada?
What are the economic benefits associated with nutrition services in community mental health settings?

6b. From the list below, please select the ONE research question you think is the most important in order to **improve community nutrition and mental health programs and services**.

What programs or services do people living with mental health condition(s) need with respect to food access, nutrition, and/or cooking skills?
What are the barriers to receiving nutrition services (e.g., counselling, cooking programs) for individuals living with mental health conditions?
What knowledge and skills are required for dietitians who provide service for individuals living with mental health conditions?
What are the roles of non-dietitian service providers (e.g., support workers, other health professionals) for providing nutrition information or support to clients who are living with mental health conditions?
What are the gaps in community health and nutrition services for people living with mental health conditions?
How many dietitians would be required to meet nutrition service needs in community mental health settings in Canada?
What are the economic benefits associated with nutrition services in community mental health settings?

6c. Please suggest any other research questions that YOU think should be answered in order to **improve community nutrition and mental health programs and services.**

7a. In order to **promote mental health and/or prevent or delay the onset of mental health conditions**, how important do you think it is for researchers to answer the following research questions?
Consider each question on its own - you are not being asked to rank the questions against each other.

Rate each question on a scale of importance.
VERY important
Important
Moderately important
Of little importance
NOT important
No opinion

How does a healthy diet and/or access to healthy food promote mental health?
How do intakes of certain foods and/or nutrients prevent or delay the onset of mental health conditions?
What food-related policies could be implemented to promote mental health and/or prevent or delay the onset of mental health conditions?

7b. From the list below, please select the ONE research question you think is the most important in order to **support mental health promotion and/or prevent onset of mental health conditions.**

How does a healthy diet and/or access to healthy food promote mental health?
How do intakes of certain foods and/or nutrients prevent or delay the onset of mental health conditions?
What food-related policies could be implemented to promote mental health and/or prevent or delay the onset of mental health conditions?

7c. Please suggest any other research questions that YOU think should be answered in order to **support mental health promotion and/or prevent onset of mental health conditions.**

8a. Below, you will see all the research questions you've rated for importance. Please select the top 3 research questions YOU believe would have the greatest impact on nutrition and mental health in the community.

How does food and/or nutrient intake affect specific mental health conditions?
For those people living with a mental health condition, does food skills training (e.g., food selection, cooking, and storage) have an impact on their mental health?
How do life situations (e.g., housing, income, education, employment) affect the type and amount of food that people eat and what impact does that have on their mental health?
For people who live with both a mental health condition and other chronic physical disease(s) (e.g., diabetes, heart disease), how does diet and/or access to healthy food influence overall health?
What food-related policies would help people living with mental health conditions?
What programs or services do people living with mental health condition(s) need with respect to food access, nutrition, and/or cooking skills?
What are the barriers to receiving nutrition services (e.g., counselling, cooking programs) for individuals living with mental health conditions?
What knowledge and skills are required for dietitians who provide service for individuals living with mental health conditions?
What are the roles of non-dietitian service providers (e.g., support workers, other health professionals) for providing nutrition information or support to clients who are living with mental health conditions?
What are the gaps in community health and nutrition services for people living with mental health conditions?
How many dietitians would be required to meet nutrition service needs in community mental health setti Canada?
What are the economic benefits associated with nutrition services in community mental health settings?
How does a healthy diet and/or access to healthy food promote mental health?
How do intakes of certain foods and/or nutrients prevent or delay the onset of mental health conditions?
What food-related policies could be implemented to promote mental health and/or prevent or delay the onset of mental health conditions?

8b. If possible, briefly explain WHY you think the 3 questions you selected are the most important.

9. Please share ANY final comments you have about nutrition and mental health research priorities.

You're almost done. Just a few questions about you.

10. I am: (check one)

- Female
- Male
- Prefer not to answer

11. My age category is: (check one)

- Under 18 years of age
- 18 – 29 years
- 30 – 39 years
- 40 – 49 years
- 50 – 59 years
- 60 years or older
- Prefer not to answer

12. I currently live in:

- Alberta
- British Columbia
- Manitoba
- New Brunswick
- Newfoundland and Labrador
- Northwest Territories
- Nova Scotia
- Nunavut
- Ontario
- Prince Edward Island
- Quebec
- Saskatchewan
- Yukon
- International
- Prefer not to answer

13. I consider myself to be (ethnic or cultural group):

- First Nations, Metis, Inuit (including Status and Non-Status)
- A newcomer to Canada within the past 10 years
- None of the above
- Prefer not to answer

14. The community I live in is best described as:

metropolitan (500, 000 people or more)
large city (100, 000 - 499,999 people)
medium city (30,000 – 99,999 people)
small city (more than 1,000 – 29,999 people)
town or village (less than 1,000 people)
rural
don't know

15. My community is considered to be remote northern.

yes
no
don't know

The Dietitians and Community Mental Health project team will be conducting interviews with selected stakeholders for more detailed discussion about research priorities. If you are interested in this interview opportunity, or would like to nominate someone else with mental health and nutrition expertise as a potential interviewee, provide names and contact information below.

One final step! To complete this survey please click on "SUBMIT" below.

Thank you for completing this survey!

HOW else can you help?
Share this survey with other people or groups of people who are stakeholders.
Copy and paste this link to share the survey with others.
http://fluidsurveys.com/surveys/dietitians-of-canada/nutrition-and-mental-health-research-priorities/

WHERE will the final results of this project be made available?
Results of this project will be posted on the project webpage at www.dietitians.ca/MHSurvey

Note: Your personal information will not be connected to the survey responses you just provided.

Appendix C: Key-Informant Questionnaire – Web-based (Step III)

Nutrition and Mental Health Research Priorities

Stakeholder Questionnaire: Nutrition and Mental Health Research Priorities

On behalf of the project steering group, we thank you for taking the time to complete this online questionnaire. Your additional feedback will be a very helpful contribution to the process of setting research priorities for nutrition and mental health. Individual responses to the questions and any identifying information will be kept confidential.

The survey will be open until **midnight Monday December 23, 2013.**

Start of Questionnaire

The questionnaire is designed to give all respondents an opportunity to have their say in the criteria setting for future nutrition and mental health research priorities. Additionally, respondents will have the opportunity to provide feedback on the dissemination of the results from this national project.

1. Which of the following statements describes your interest in nutrition and mental health? (select all that apply)

I have lived experience of a mental health condition(s).
I am a family member of someone with a lived experience of a mental health condition(s).
I am a Registered Dietitian. How many years have you worked as a dietitian?
I am working or have worked as a service provider for individuals with a mental health condition(s). Job title or profession: _____
I am working or have worked as a manager/director of a mental health program or organization. Job title or profession: _____
I am working or have worked in nutrition and/or mental health research.
I am working or have worked in public policy. Job title or profession:
I am working or have worked in advocacy related to mental health.
I am a student (post-secondary) in a program of study related to nutrition and/or mental health.
I am working or have worked as a volunteer in a nutrition and/or mental health setting.
Other (please describe): _____

2a. Thinking of criteria that can be used to establish research priorities for nutrition and mental health, which of the following criteria do you think are <u>important</u> to use?
Select all that apply – if you think an item is useful but not really that important, you do NOT need to select that option.

Adequacy of the current knowledge base (avoidance of duplication)
Applicability of research outcome
Feasibility
Community concern/demand
Economic impact
Ethical acceptability
Partnership building
Funding support potential
Impact on health
Magnitude of the problem
Political acceptability
Urgency
Relevance
Equity focus
All of the above are equally important
None of the above

2b. Please describe any other criteria you think should be considered in order to establish research priorities in the area of nutrition and mental health?

3. Are there areas of nutrition and mental health research that you believe are missing in current research, but should be addressed?

Please comment:
Don't know / Prefer not to answer

4. What barriers might prevent researchers, research partners, and/or funders from acting on the recommendations produced by this project?

Response:
Don't know / Prefer not to answer

5. Please identify any specific researchers, research teams, institutions or community partners you think would be key to engage in nutrition and community mental health research in Canada.

Response:
Don't know / Prefer not to answer

6. Please identify any funders you believe might support nutrition and community mental health research in Canada?

Response:
Don't know / Prefer not to answer

7. Do you have recommendations regarding who should receive the results of our project (so we can be sure to share with them, during dissemination)?

Response:
Don't know / Prefer not to answer

8. In your opinion, HOW should the results of this project be shared with nutrition and mental health stakeholders? (e.g., people with lived experience of mental health conditions, dietitians, service providers, policy makers, academics, funders etc.)

Response:
Don't know / Prefer not to answer

9. How might YOU use the nutrition and community mental health research recommendations emerging from this project? (e.g., advocate, apply for grant, share with colleagues)

Response:
Don't know / Prefer not to answer

10. Please share ANY final comments you have about nutrition and mental health research priorities.

Just a few more questions to ask that will help to categorize the information you have provided.

11. I currently live in:

Alberta
British Columbia
Manitoba
New Brunswick
Newfoundland and Labrador
Northwest Territories
Nova Scotia
Nunavut
Ontario
Prince Edward Island
Quebec
Saskatchewan
Yukon
International
Prefer not to answer

12. I consider myself to be: ***select all that apply***

First Nations, Metis, Inuit (including Status and Non-Status)
a newcomer to Canada within the past 10 years
a person that has experienced racial marginalization
None of the above
Prefer not to answer

13. The community I live in is best described as:

metropolitan (500, 000 people or more)
large city (100, 000 - 499,999 people)
medium city (30,000 – 99,999 people)
small city (1,000 – 29,999 people)
town or village (less than 1,000 people)
rural
don't know

14. My community is considered to be remote northern.

yes
no
don't know

That completes all of the questions. If you have any other information or comments you would like to share please provide in the space below.

Thank you for taking the time to complete this questionnaire!

The results of this study will be publicly available on the Dietitians of Canada website some time during mid-2014. If you would like us to send you an individual copy of the report by email please provide an email address in the space provided below:

One final step! To complete this survey please click on "SUBMIT" below.

Thank you for completing this questionnaire!

Appendix D: Key-Informant Interview Tool – Used to Guide Interviewer (Step III)

Initial invitation by email/phone:

I'm [insert name], a member of the steering group for a national project called "Dietitians and Community Mental Health: Setting the Research Agenda". This is a one-year project funded by the Canadian Institutes of Health Research and is a collaboration among Dietitians of Canada, the Canadian Mental Health Association Ontario and the University of British Columbia. This project aims to identify and recommend research priorities to improve policy and practice in the area of nutrition and community mental health across Canada. An important step in our effort is to conduct interviews with key stakeholders to gather experiential knowledge in order to inform our priority-setting process as well as our knowledge translation strategy.

We invite you to participate in a telephone interview as a key informant based on your expertise and dedication to the field of nutrition and/or community mental health.

The interview appointment could be as brief as half an hour or as long as one hour, depending on the amount of information you can contribute. All individuals and organizations will remain anonymous in the reporting of results. You will be identified only in the list of interviewees.

Your contribution of expertise will be valuable for this work. We hope you can be available for an interview. If you are interested in completing an interview please respond to this email and indicate your availability for someone to conduct the interview with you over the next few weeks. We will follow up to confirm a date and time that works best for you.

Sincerely,
Project team

Date: _____ **Name of Interviewer:** _____
Start Time: _____ **End Time:** _____

Interviewee Details:

First name: _____
Province of residence: _____

Interview introduction:

I'm [insert name] calling for your key informant interview today. I am a member of the steering committee for the Dietitians and Community Mental Health project.

Our goal is to identify and recommend research priorities to improve policy and practice in the area of nutrition and community mental health across Canada. Our final recommendations will be based on input from a broad array of stakeholders, including researchers, dietitians, policy makers, mental health service providers, and people with lived experience of mental health conditions.

You have been identified as a key stakeholder based on your expertise and dedication to the field of nutrition and/or community mental health.

Thank you for accepting the invitation to participate in a key informant interview. Before we conduct the interview, I need your consent to audio record during the interview to use in our analysis.

Yes: _____ No: _____

If "yes", turn on recording devise.

If "no", continue with interview and record all information directly on interview tool.

Did you complete the online nutrition and mental health survey that was available during September/October 2013?

Yes: _____ No: _____

Start of the interview:

Note: Questions in italics are "prompts" for the interviewer.

1. Could you briefly describe your current role and/or interest in nutrition and mental health?

Do you work, volunteer, have lived experience with nutrition and/or mental health?
How would you describe this work/volunteer/lived experience?
How long have you been involved with this type of work/volunteering/experience?

2. Based on your knowledge of nutrition and mental health, are there any gaps in the area of nutrition and community mental health research?

Are there areas of nutrition and mental health research that you believe are not presently being considered but should be?
What nutrition and mental health research questions would be of interest to you based on your current role or experience?
Why do you think these issues should be researched?

3. Are there any priority-setting criteria that you feel are important?

4. What barriers might prevent researchers, research partners, and/or funders from acting on the recommendations produced by this project?

Are there sensitive issues that should be considered?

5. Can you identify any specific researchers, research teams, institutions or community partners that would be key to engage in nutrition and community mental health research in Canada?

How these partnerships be fostered to implement nutrition and community mental health research projects?

6. Who are some of the funders that you think would be most likely to support nutrition and community mental health research in Canada?
Provincial funders?
National funders?
Private funders?

7. Who do you think needs to know about the results of our project?

Who is the audience? (researchers, funders, service providers (including dietitians), policy makers, advocates, any other interested individuals (those with lived experience of mental health condition, family, volunteer, etc.)

8. Do you have any suggestions about how the results from this project could best be shared with nutrition and mental health stakeholders? (ex. those with lived mental health experience, dietitians, service providers, policy makers, etc.)

What approaches to knowledge dissemination would work best?
Are there any approaches you would avoid based on your experiences?
How can we increase the chances of uptake of our research recommendations?
Can you recommend any individuals or organizations that could help us spread the results?

9. How would you see yourself using the nutrition and community mental health research recommendations emerging from this project?

10. That completes all of the questions I have for you today. Do you have any other information or comments you would like to share?

Thank you for taking the time to complete this interview with me today. The results of this study will be publicly available on the Dietitians of Canada website some time during mid-2014.

Would you like us to send you an individual copy of the report by email?
If "yes", obtain email contact: _____

Appendix E: Stakeholder Workshop Agenda (Step IV)

February 10, 2014
9:00am – 4:00pm
Location: Toronto, Ontario

AGENDA

8:30am	Mix and mingle
9:00am	Roundtable introductions and housekeeping items
9:30am	Overview of the Nutrition and Community Mental Health: Setting the Research Agenda project
9:45am	Results of the consultation processes utilized for the project
10:15am	Introduction to the workshop exercises
10:30am	Break
10:45am	Priority Setting exercise
12:00pm	Lunch
12:45pm	Results of priority setting exercise Discussion and revision
1:00pm	Review of recommendations outlined in Dietitians of Canada role paper
1:15pm	Improving Access exercise
2:30pm	Break
2:45pm	Research Proposal exercise
3:15pm	Next steps: project dissemination strategies and ongoing advocacy for nutrition and MH research in the community
4:00pm	Workshop concludes

Appendix F: Priority-Setting Exercise (Step IV)

Criteria Category[19]	*Asks*[1]...	*Factors to Consider*	
APPROPRIATENESS	*Should* we do it?	Ethical and cultural issues • Ethically and morally acceptable • Culturally appropriate • (Non-reliance on food industry)	Availability & adequacy of current information • Adequacy of current research-based information (avoid duplication) • Availability of pre-existing data
RELEVANCY	*Why* should we do it?	Equity-focused & community concern/demand • Contribution to better equity in health • Serves community concern/demand • Broad in scope	Burden of illness (size & severity of problem) • Burden of illness • Magnitude of the issue • Inter-connected with social determinants of health (poverty, food insecurity, housing)
CHANCE OF SUCCESS	*Can* we do it?	Capacity of the system to undertake the research • Competency • Infrastructure, mechanisms • Support system • Resources	Cost justification • Likelihood of partnership building • Reasonable approach • Funding potential • Political acceptability • Pragmatic
IMPACT OF THE RESEARCH OUTCOME	*What* do the stakeholders get out of it?	Chances of implementation of research recommendations • Applicability to current practice • Forward/upstream thinking	Reduction of the burden, including costs & quality of life • Impact of research on mental health & quality of life within the population • Economic impact • Fiscal rewards for balancing healthy living and healthy mind

[19] Okello, D., and Chongtrakul, P. *A Manual for Research Priority Setting using the ENHR Strategy*. Geneva: The Council on Health Research for Development. March 2000.

Appendix G: National Survey – Top Research Questions (Step II)

OVERALL TOP RESEARCH QUESTIONS TO ADDRESS

Researchable Question	%
How does food and/or nutrient intake affect specific mental health conditions?	42
How do life situations (e.g., housing, income, education, employment) affect the type and amount of food that people eat and what impact does that have on their mental health?	35
What programs or services do people living with mental health condition(s) need with respect to food access, nutrition, and/or cooking skills?	31
What are the barriers to receiving nutrition services (e.g., counselling, cooking programs) for individuals living with mental health conditions?	24
What are the gaps in community health and nutrition services for people living with mental health conditions?	22
How does a healthy diet and/or access to healthy food promote mental health?	21
For those living with a mental health condition, does food skills training (e.g., food selection, cooking, and storage) have an impact on their mental health?	20
How do intakes of certain foods and/or nutrients prevent or delay the onset of mental health conditions?	19
For people who live with both a mental health condition and other chronic physical disease(s) (e.g., diabetes, heart disease), how does diet and/or access to healthy food influence overall health?	19
What food-related policies could be implemented to promote mental health and/or prevent or delay the onset of mental health conditions?	17
What food-related policies would help people living with mental health conditions?	16
What knowledge and skills are required for dietitians who provide service for individuals living with mental health conditions?	13
What are the economic benefits associated with nutrition services in community mental health settings?	11
What are the roles of non-dietitian service providers (e.g., support workers, other health professionals) for providing nutrition information or support to clients who are living with mental health conditions?	6
How many dietitians would be required to meet nutrition service needs in community mental health settings in Canada?	3

Appendix H: Research Priorities – By Stakeholder Groups (Step II)

INDIVIDUAL STAKEHOLDER AND SPECIAL INTEREST GROUPS

The top 3 research priorities that surfaced from Step II (national survey) were consistently supported by stakeholder and special interest groups for at least 2, and most often on all 3, of the top priorities.

Stakeholder Group	Research Priority		
	How does food and/or nutrient intake affect specific mental health conditions?	How do life situations (e.g., housing, income, education, employment) affect the type and amount of food that people eat and what impact does that have on their mental health?	What programs or services do people living with mental health condition(s) need with respect to food access, nutrition, and/or cooking skills?
Lived Experience	1	2	3
Family Member	1	2	3
Service Provider	1	2	3
Registered Dietitian	2		1
Advocate	2	1	3
Volunteer	1	3	2
Researcher	1	3	2
Manager/Director	1	2	
Public Policy		1	3
Student (Post-Secondary)	1	2	3

Appendix I: Stakeholder Workshop – Priority Ranking of Research Questions (Step IV)

RESEARCH QUESTIONS TO ADDRESS BASED ON OVERALL PRIORITY-SETTING SCORE

Research Questions	Priority Score (24)
What are the barriers to receiving nutrition services (e.g., counselling, cooking programs) for individuals living with mental health conditions?	23
What food-related policies would help people living with mental health conditions?	23*
What programs or services do people living with mental health condition(s) need with respect to food access, nutrition, and/or cooking skills?	22.5
What are the roles of non-dietitian service providers (e.g., support workers, other health professionals) for providing nutrition information or support to clients who are living with mental health conditions?	22.5
How does food and/or nutrient intake affect specific mental health conditions?	22
What knowledge and skills are required for dietitians who provide service for individuals living with mental health conditions?	21
What food-related policies could be implemented to promote mental health and/or prevent or delay the onset of mental health conditions?	21*
How do life situations (e.g., housing, income, education, employment) affect the type and amount of food that people eat and what impact does that have on their mental health?	20.3
For people who live with both a mental health condition and other chronic physical disease(s) (e.g., diabetes, heart disease), how does diet and/or access to healthy food influence overall health?	20
How many dietitians would be required to meet nutrition service needs in community mental health settings in Canada?	18
How does a healthy diet and/or access to healthy food promote mental health?	18*
What are the economic benefits associated with nutrition services in community mental health settings?	15
What are the gaps in community health and nutrition services for people living with mental health conditions?	13*
How do intakes of certain foods and/or nutrients prevent or delay the onset of mental health conditions?	10*
For those living with a mental health condition, does food skills training (e.g., food selection, cooking, and storage) have an impact on their mental health?	n/a*

**Value based on one group score.*

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