Dietitians of Canada
Les diététistes du Canada
Gerontology Network

National Long Term Care Standards Project: Recommended Food & Nutrition Standards

Background Document

PREPARED FOR DIETITIANS OF CANADA
GERONTOLOGY NETWORK EXECUTIVE

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Executive Summary

- Dietitians of Canada's Gerontology Network commissioned a set of recommended long term care (LTC) food and nutrition standards that could be adopted across Canada to provide consistent expectations for LTC homes.
- An electronic survey was widely distributed through national professional associations and social media, to obtain perspectives on importance and feasibility of several concepts found in existing best practices and guidelines.
- There was limited input from Northern and remote areas, as well as the provinces of Manitoba, New Brunswick, and Newfoundland and Labrador. Further engagement particularly with these areas is needed to ensure issues specific to these regions will be addressed.
- Current literature (2017-2022) was reviewed for evidence on the topic areas.
- The process resulted in 57 recommended standards, organized in 7 topic areas.
- Many of the recommended standards did not reach consensus levels for feasibility despite being rated as important for providing high quality nutrition care and foodservices. These should be prioritized in future work on the standards to improve feasibility.
- Major concerns affecting feasibility reported by participants are lack of resources, specifically staff, time, and budget.
- There is a great deal of research ongoing in LTC settings, and in nutrition care and aspects of foodservice. There are major gaps in the evidence for staffing levels and nutrition care outcomes, and several of the systematic reviews cited characterize the available evidence as low certainty. Several of the concepts in all topic areas are based on expert consensus.
- An advocacy campaign for National LTC Food and Nutrition Standards could be based on these recommended standards in their entirety or selected components.

For more information

A summary document of the standards can be found on the Dietitians of Canada website.

The full literature review conducted as part of this project can be accessed by Gerontology Network members in the Network community or by contacting advocacy@dietitians.ca.

Acknowledgements

We would like to thank all the people who previewed the survey statements, as well as those who provided feedback on the standards and process.

Thank you to the Gerontology Network Executive members who provided guidance throughout the project.

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Recommended Standards Summary

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RECOMMENDED STANDARDS	
1.1	Minimum required spending/budget for resident meals is set at provincial/territorial level and adjusted annually for changes in the Consumer Price Index across regions.
1.2	The food budget is dedicated and protected from being spent on other factors.
1.3	Tube feeding and supplement budgets are established at provincial/territorial level and separated from the food budget.
1.4	Menu changes based on financial analysis and meeting budget goals are reviewed and approved by a Registered Dietitian or member of Canadian Society of Nutrition Management (CSNM).
1.5	Housekeeping and sanitation programs are monitored to ensure the provision of safe food in a safe, sanitary environment.
1.6	A Preventative Maintenance Program is in place for all equipment used in meal preparation and nutrition care.
1.7	Emergency preparedness plans for loss of electricity, natural disasters, water contamination, pandemics, and other emergencies, includes alternative methods for food provision.

2.0 Staffing and Administration

RECOMMENDED STANDARDS	
2.1	Minimum dietitian time per LTC home is set at provincial/territorial level (including clinical/administrative responsibilities).
2.2	Nutrition care is part of multidisciplinary interventions to support nutritional status, clinical outcomes, and prevent dehydration.
2.3	Dietitians are core members of the care team developing and monitoring resident care plans and participating in care conferences.
2.4	Adequate numbers of appropriately trained cooking staff are scheduled to prepare high-quality nutrient-dense products.
2.5	All LTC staff receive orientation to food and nutrition services upon hire.
2.6	Staff involved in meal and snack service receive education/training on nutrition, texture modification and hydration.

3.0 Menu Planning and Analysis

RECOMMENDED STANDARDS	
3.1	Standardized cycle menus are planned and revised on a regular basis, at least annually.
3.2	The standardized menu is minimum three to four weeks per cycle for optimal variety.
3.3	All cycle menus for meals and snacks include therapeutic and texture modified food and fluid options.
3.4	All cycle menus include choices of at least two entrees at each midday and evening meal.
3.5	Therapeutic and texture modified menus follow the regular menu as closely as possible to provide similar choice, variety, and palatability.
3.6	Menus are planned by a professional, such as a Registered Dietitian or member of the Canadian Society of Nutrition Management, with the education, knowledge, and skills to plan a nutritious and varied menu that meets the needs of residents.
3.7	The master menu includes a minimum of three meals, three additional beverage opportunity passes and two snacks daily.
3.8	The planned meal and snack menus are composed primarily of nutrient-dense foods tailored to residents' needs and preferences.
3.9	The menu is planned and posted at least a week in advance in a manner accessible for viewing by residents, staff, and visitors.
3.10	The planned snack menu is based on nutrient-dense foods and beverages.
3.11	The menu is composed primarily of nutrient-dense foods tailored to residents' needs and preferences.
3.12	There is a policy and procedure to address development of an individualized menu when the needs of a resident cannot be met by the standard, therapeutic or texture modified menus.
3.13	There is a policy and procedure that supports the needs of residents who request cultural or religious-specific food choices.
3.14	Residents, family members, Substitute Decision Maker/Power of Attorney, other designated parties, and appropriate team members are consulted in the menu planning and review process to ensure menus reflect current residents' social, ethnic, cultural, and religious practices and needs.
3.15	The menu assessment relative to dietary guidelines is completed under the supervision of a Registered Dietitian or member of Canadian Society of Nutrition Management.
3.16	Menu reviews and nutrient analyses are based on actual food production (recipes and purchased products) and dining service practices in the LTC home under the supervision of a Registered Dietitian or member of Canadian Society of Nutrition Management.
3.17	The LTC home regular and texture-modified menus can be demonstrated to provide >75% of the Recommended Dietary Allowance/Adequate Intake (RDA/AI) on any specific day, while achieving an average of 100% of the RDA/AI over the duration of the menu for energy, protein, calcium, dietary fibre, and fluid.
3.18	A nutritional analysis is completed each time a new or updated menu is introduced and at a minimum, on an annual basis.
3.19	Menus are kept up to date with revisions to Dietary Reference Intakes and evidence-based best practices or guidelines on the nutritional needs of LTC residents.
3.20	For nutrients that are difficult to meet through diet alone, supplementation is considered (e.g., Vitamin D).

4.0 Food Production

RECOMMENDED STANDARDS	
4.1	LTC homes have a valid food establishment permit from provincial/territorial authorities.
4.2	Standardized recipes and portion sizes are developed and used consistently for palatable and acceptable nutrient-dense foods, including food and fluids modified in texture or consistency.
4.3	Food and beverages appropriate to residents' diet and texture requirements are available for residents on a 24-hour basis or outside of regular mealtimes.

5.0 Meal Experience

RECOMMENDED STANDARDS	
5.1	Food intake and quality of life of residents is supported by a pleasant dining environment.
5.2	There are adequate staff and trained volunteers available to provide eating assistance for all residents who require assistance.
5.3	Adaptive feeding aids are provided as indicated in the nutrition care plan.

6.0 Nutrition Care

RECOMMENDED STANDARDS	
6.1	The organizational leaders ensure that assessment tools include assessment of the resident's nutritional status, food preferences, swallowing and independent eating capacity.
6.2	A standardized dysphagia screening tool is used to identify and determine resident risk of dysphagia.
6.3	Residents are screened routinely for malnutrition and low-intake dehydration to identify those at nutritional risk, whenever there has been a change in health or every 3 months.
6.4	The team uses comprehensive, evidence-informed practices for the prevention and management of malnutrition and dehydration.
6.5	Food and fluid provision should meet personal preferences and be individualized; any dietary restrictions are based on a comprehensive individual nutrition assessment by a dietitian.
6.6	Standard operating procedures are used for nutrition and hydration care including: to guide screening, assessment, development of nutrition care plans, evaluation, and documentation.
6.7	An individual nutrition assessment and nutrition care plan is completed by a dietitian if risk is identified in screening.
6.8	Every resident has an individual nutrition care plan completed by a dietitian upon admission and reviewed at least annually.
6.9	Nutrition care plans are developed with input of the resident/Substitute Decision Maker/Power of Attorney.
6.10	Adequate nutrient, energy, and protein intake is supported through the use of fortified or enhanced foods, additional snacks, finger foods, or texture-modified enriched foods as indicated in an individual's nutrition care plan.
6.11	There is a process in place to ensure staff are up-to-date on current resident nutrition care plans.

7.0 Quality Improvement and Data Collection

RECOMMENDED STANDARDS	
7.1	Consistent provincial inspection or audit processes are in place to regularly and consistently evaluate all aspects of LTC homes including nutrition care and food services and results are used for individual home quality improvement and provincial/territorial benchmarking.
7.2	Regular feedback is obtained from residents on satisfaction with food, mealtime, and snack services.
7.3	There is a Continuous Quality Improvement program for nutrition care and foodservices.
7.4	LTC organizations support implementation of common electronic health records across local/regional healthcare organizations.
7.5	LTC organizations collect common core data elements in electronic health records related to nutrition care.
7.6	All LTC facilities contribute nutrition-related data to the Canadian Institute for Health Information, including the critical inter-RAI indicators.
7.7	All LTC facilities collect and contribute accurate and timely information on dietitian staffing in LTC to the Canadian Institute for Health Information.
7.8	Agreements with contracted food service management companies and dietitians or dietitian services companies include applicable requirements for monitoring and reporting of: • spending on food, beverages, tube-feeding, oral nutritional supplements, • monitoring and reporting resident satisfaction, • nutrition related data, including inter-RAI critical indicators, and • staffing levels.

Abbreviations

AI	Adequate intake
CIHI	Canadian Institute for Health Information
CNA	Certified Nursing Assistant (United States)
CQI	Continuous Quality Improvement
CSNM	Canadian Society for Nutrition Management
DRI	Dietary Reference Intakes
EAR	Estimated Average Requirement
EFSA	European Food Safety Authority
EQ-5D	EuroQol Health Questionnaire, a generic quality of life questionnaire
ESPEN	European Society for Clinical Nutrition and Metabolism
EWCFG	2007 Eating Well with Canada's Food Guide
HEHP	High Energy High Protein
HSO	Health Standards Organization
ICDEP	Integrated Competencies for Dietetic Education and Practice
IDDSI	International Dysphagia Diet Standardisation Initiative
IOM	Institute of Medicine
LTC	Long term care
M3	Making the Most of Mealtimes study
MNA	Mini Nutritional Assessment
MNA-SF	Mini Nutritional Assessment-Short Form
MTS	Meal Time Scan
NAR	Nutrient Adequacy Ratio
ONS	Oral Nutrition Supplement
QI	Quality Improvement
Qindex	A composite quality improvement score created by averaging the z scores of each of the nine QI variables
PCC	Person-Centred Care
PDEP	Partnership for Dietetic Education and Practice
PDSA	Plan-Do-Study-Act
PEN	Practice-Based Evidence in Nutrition
PG-SGA	Patient-Generated Subjective Global Assessment
PROM	Patient-reported outcome measures
QOL	Quality of Life
RAI-MDS	Resident Assessment Instrument—Minimum Data Set is a widely used measurement tool in Canadian long term care homes
RCC	Relationship-Centred Care
RDA	Recommended Dietary Allowance
SF-36	Generic quality of life questionnaire

SGA	Subjective Global Assessment
SMD	Standardized mean difference is a measure of effect size - the mean difference divided by a measure of the variance
TMD	Texture modified diet
TMF	Texture modified foods
UL	Tolerable Upper Limit

Introduction

Long term care (LTC) homes in Canada are governed by provincial/territorial standards and regulations, leading to a wide range of funding methods, licensing requirements, and accountability mechanisms. Food and nutrition standards are highly variable across the country. Although this has been known for some time, the COVID-19 pandemic highlighted many issues within LTC, including foodservices and nutrition care concerns across the country. National standards for LTC homes across the country have been proposed as one way of improving care, and the Health Standards Organization (HSO) released a draft LTC standard for public review in January 2022 and publication of the final standard is expected by December 2022. There are limited food and nutrition components included in the draft HSO LTC standard.

Although the role of the dietitian in LTC varies across Canada, the most common clinical responsibilities are nutrition assessment and development of individualized nutrition care plans. The dietitian collaborates with the multidisciplinary team to deliver nutrition care, including dysphagia management and wound care. Dietitians plan and evaluate menus to meet nutrient needs as well as cultural preferences and operational capacity of the home. Many dietitians develop policies and procedures for nutrition care and foodservices and are active in clinical and management committees. Staff education on topics including nutrition, hydration, food production, and feeding assistance is also part of the dietitian's role in many LTC homes.

Rationale for Delphi Process

Multiple sets of guidelines and best practices have been produced for LTC settings, with no national set of standards or guidelines specific to nutrition care and foodservices. The Health Standards Organization (HSO) standard for LTC is expected to be finalized this year; the draft reviewed in January 2022 included some content on food and nutrition at a high level only. Of particular concern in the draft HSO standard is the use of the term "nutrition subject matter expert", with no reference to dietitians. Dietitians are the only regulated health profession in Canada with a sole focus on managing food and nutrition services.

As a first step to developing consensus standards and an advocacy agenda (national and provincial/territorial), the opinions of interested professionals on the importance and feasibility of possible LTC food and nutrition standards were gathered.

Feasibility

Participants' perspectives on feasibility of a proposed standard are key to planning future advocacy. If dietitians and other stakeholders feel that a standard is important to providing high quality care, but is not feasible, then it indicates there is a deficit in resources needed to achieve the standard. This could be a lack of financial resources, staffing, or expertise, or a systemic process issue that doesn't allow LTC homes to meet the proposed standard with the current resources available. For example, the expertise of a dietitian is needed to accurately plan individualized care plans for all residents but if the dietitian is not scheduled at the home for sufficient time, this goal is not feasible. Systemic processes might include such things as communication with transferring facilities, or lack of data to benchmark performance.

Development of First Draft

The individual statements were developed or adapted from a variety of LTC documents, including regulations, standards, and best practice documents from across Canada provided by the Dietitians of Canada Gerontology Network executive and members in February 2022 (see Nutrition and Foodservices in Long-Term Care Scoping Review 2017-2022). A separate review of provincial/territorial regulations was completed that generated 24 statements, and additional documents and papers sourced through keyword searches were reviewed. The draft statements were organized into eight sections, following the system developed by Bunn, Hooper, & Welch, 2018. The categories are:

1. Regulation (provincial, national) – focus on topics that apply specifically to nutrition services
2. Commissioning/Contracting – focus on topics that apply specifically to nutrition services
3. Dietary Guidelines
4. Menu Planning, Food Production and Catering Issues
5. Residents Eating and Drinking Experience; Meal Service
6. Screening and Monitoring; Nutrition Care
7. Implementing and Auditing Change; Quality Improvement
8. Staff Training; Team Functions

The draft statements were reviewed by the project consultant group and invited members of the Dietitians of Canada Gerontology Network in March - April 2022, revised based on feedback, and set up as an online survey in Qualtrics.

Delphi Process Methods

The online Survey 1 consisted of 77 statements developed after extensive review. Survey respondents were asked to rate each statement on a 9-point scale, for importance to providing high quality nutrition care and food service in LTC, and then on feasibility of implementing the statement or meeting the standard in their practice setting. A "don't know" option was also provided, and space for open text responses for additional comments. To obtain the voices of professionals across the country, efforts were made to promote the invitation to participate in the survey at the national level. Information about the project with a link to the Delphi survey was emailed to several organizations related to LTC (see the Appendix for a list of organizations) as well as 85 key informants identified by the Gerontology Network and the contractor group. The Dietitians of Canada Weekly Newsletter was also used to promote the survey. The federal/provincial/ territorial group on nutrition was also made aware of the project. The survey was available in English only.

Survey 1 was distributed May 10 via email to 85 individuals identified by the Gerontology Network and project consultant group, and 7 groups/organizations related to LTC. Reminder emails were sent twice before the survey closing date of May 30. Social media promotion of the survey was also used by the project team and shared by several individuals.

One hundred and fifteen (115) complete and partial responses were submitted. The data was cleaned for double entry and for responses with minimal completion, leaving 102 for calculation of median and inter-quartile range. Only 64 participants completed the questionnaire to the end.

Each respondent (of 102) received a spreadsheet showing their own ratings of each statement as well as the median, 25th-75th percentile of the group's responses. Three Zoom meetings (May 2022) were held to review the statements that did not reach consensus on importance and/or feasibility, and to provide opportunity for discussion. A video of the survey results was also provided on YouTube for respondents who were unable to attend any of the Zoom meetings.

Survey 2 was sent June 10 to the 102 people who completed at least a portion of Survey 1.

To decrease respondent burden Survey 2 included only those statements that did not reach consensus in Survey 1. Reminder emails were sent three times before the survey closing date of June 22.

Sixty-one (61) responses were submitted, with 44 complete responses submitted. Two Zoom meetings (June 2022) were held to review the results with participants and provide opportunity for discussion. A video of the survey results was also provided on YouTube for respondents who were unable to attend either of the Zoom meetings.

Due to response rates and distribution by jurisdictions, it was only possible to compare Ontario respondents with all other respondents. For each statement differences in medians between the two groups were assessed by non-parametric methods with 0.05 set for significance. In Round 1 five statements differed, whereas in Round 2 no differences were detected. The main differences were related to stronger support for use of IDDSI texture categories outside of Ontario.

Development of Recommended Standards

Concurrent with the Delphi process, a search for evidence in LTC food and nutrition topics was undertaken, limited to the past 5 years (2017-2022). The complete literature review is a separate document, and search methodology is reported there. Following the 2 rounds of surveys and debriefing meetings, the evidence found in the literature review was compared to the survey statements.

It is important to note that many of the standards have not been specifically researched in terms of outcomes but are the result of expert consensus. In some cases, it means that well-designed studies should be commissioned to verify the expert consensus, however for other concepts it may mean that the expert consensus on importance of the standard is sufficient.

Survey statements were pre-tested for clarity, however, feedback from participants showed the need for rewording in some cases. Minor rewording was also done where needed to use similar tense and grammar throughout the standards.

Survey statements were reviewed for duplication of concepts and opportunities to condense multiple statements into one standard. As a result, the original 77 survey statements have been reduced to 57 recommended standards.

Characteristics of Participants

	Round 1		Round 2	
	N	%	N	%
Jurisdiction				
BC	9	14%	7	11%
AL	11	17%	6	9%
SK	4	6%	3	5%
MN	0	0%	0	0%
ON	29	45%	21	33%
QB	3	5%	2	3%
NB	0	0%	0	0%
NS	5	8%	4	6%
PEI	1	2%	0	0%
NL	0	0%	0	0%
Y, N, NW	1	2%	0	0%
National	1	2%	0	0%
Other	0	0%	0	0%
Length of time working in LTC				
0 to 2 years	4	6%	2	5%
More than 2 to 5 years	8	13%	3	7%
More than 5 to 10 years	13	20%	8	19%
More than 10 years	39	61%	30	70%

Role (multiple choices allowed)	**N=64**		**N=44**	
Patient, Caregiver or SDM	2	3%	1	2%
Registered Dietitian	51	80%	34	77%
Nutrition Manager	0	0%	0	0%
Researcher	10	16%	6	14%
Organization or Facility Administrator	2	3%	3	7%
Physician	4	6%	0	0%
Registered Nurse, Nurse Practitioner, Registered or Licensed Practical Nurse	0	0%	0	0%
Government employee	2	3%	0	0%
Food Services Manager or Cook	5	8%	4	9%
Other	6	9%	7	16%

Although efforts were made to have representation from across the country, no survey responses included identifying information from Manitoba, New Brunswick, or Newfoundland and Labrador. Only one participant identified as being from PEI, and one from Yukon/Northwest Territories/Nunavut. Further work will require considerable effort to gain insight from practitioners in those areas. The largest proportion of responses came from Ontario (45% in Round 1, 33% in Round 2), followed by Alberta and British Columbia.

Dietitians made up the majority of respondents (80% in Round 1, 77% in Round 2). There were no survey responses that identified the role as Nutrition Manager. This important group of practitioners in LTC were invited to participate, and it is possible that some survey responses without demographic information were included. A total of 9 participants identified as Food Services Manager or Cook. Advocacy efforts in future should include managers/supervisors of nutrition and foodservices as well as other stakeholders.

Recommended Standards

1.0 Budget and Administration

RECOMMENDED STANDARDS	
1.1	Minimum required spending/budget for resident meals is set at provincial/territorial level and adjusted annually for changes in the Consumer Price Index across regions.
1.2	The food budget is dedicated and protected from being spent on other factors.
1.3	Tube feeding and supplement budgets are established at provincial/territorial level and separated from the food budget.
1.4	Menu changes based on financial analysis and meeting budget goals are reviewed and approved by a Registered Dietitian or Member of Canadian Society of Nutrition Management (CSNM).
1.5	Housekeeping and sanitation programs are monitored to ensure the provision of safe food in a safe, sanitary environment.
1.6	A Preventative Maintenance Program is in place for all equipment used in meal preparation and nutrition care.
1.7	Emergency preparedness plans for loss of electricity, natural disasters, water contamination, pandemics, and other emergencies, includes alternative methods for food provision.

Context

Survey Results

These three statements reached consensus on both importance and feasibility.

- Minimum required spending/budget for resident meals is set provincially and adjusted annually for changes in the Consumer Price Index.
- The food budget is dedicated and protected from being spent on other factors.
- Tube feeding and supplement budgets are established provincially and separated from the food budget.

The survey statement "Financial analysis of menus is conducted under the supervision of a Registered Dietitian or Certified Nutrition Manager" did not reach consensus on importance or feasibility in the original survey. The wording has been changed based on feedback from participants.

Changed to:

- Menu changes based on financial analysis and meeting budget goals are reviewed and approved by a Registered Dietitian or member of CSNM for nutritional adequacy.

For most jurisdictions in Canada there are no requirements for spending on food in LTC. The exception is Ontario, which has had a specified Raw Food Cost (RFC) funding per diem since 1993. The funding provided for food cannot be used for other purposes except food (including therapeutic foods such as gluten-free items and modified texture foods), beverages, oral nutrition supplements, and enteral nutrition formula. The 2019 Ontario Auditor-General Report stated that an average of $0.68 of the 2018/19 funding (7% of the $9.54 per diem) was spent on supplements. Without a mandated minimum spend and protection of the budget for food, Nutrition Managers and dietitians may struggle to provide a nutritionally adequate menu that meets resident cultural and personal preferences. Many survey respondents indicated that they do not have access to financial information to track food or supplement costs; this was also found in a Dietitians of Canada 2015 survey of Ontario LTC dietitians where ⅓ of respondents did not have information on or timely access to the costs of food or supplements in their homes.

Minimum spending on food that is consistent across a province/territory helps to ensure that an appropriate menu can be provided to meet nutrition and quality of life goals for residents. Survey respondents suggested that a regional approach rather than provincial approach be taken, as food costs can vary substantially between different areas in the same province. As such, when establishing a base level across the country for each province/territory, disparities between different regions should be included.

Research is needed to obtain accurate information in all provinces/territories on LTC costs for food, supplements, enteral formulae, and specialty products such as gluten-free foods. Self-reported data through surveys has limited usefulness and we recommend seeking actual spending reported to government funders (where available) or financial statements. If surveys for this information are used, we recommend targeting administrators or those responsible for overall LTC home budgets and reporting, rather than dietitians or nutrition managers who may not have access to complete information.

Highlights of Relevant Evidence

Provincial differences in LTC menu variety have been linked with regulatory requirements on food funding and protection of the food budget (Lagacé et al., 2019). An Australian study on cost per meal day in residential aged care facilities found that spending had decreased even during inflation of prices, and that decreased spending on food was offset by increasing spending on supplements (Hugo et al., 2018). The authors recommended that the Australian government mandate minimum food budgets in residential aged care facilities.

Wang et al. (2020) explored perspectives of residents and staff regarding food choice. Organizational barriers to offering choice included budget constraints and staff time to prepare individualized items. Duizer and Keller's (2020) analysis of a menu fortified to meet DRI levels of micronutrients reported increased menu costs of 11 - 49%. Cost-effectiveness of fortified foods and of oral nutrition supplements has been shown by Hugo (2018) and Elia (2018). Further research to confirm these findings is needed.

Context

Survey Results

These three statements reached consensus on both importance and feasibility.

- Housekeeping and sanitation programs are monitored to ensure the provision of safe food in a safe, sanitary environment.
- A Preventative Maintenance Program is in place for all equipment used in meal preparation and nutrition care.
- Emergency preparedness plans for loss of electricity, pandemics, and other emergencies include alternative methods for food provision.

Highlights of Relevant Evidence

No specific studies were captured in the literature review on these concepts. Expert consensus on previous work by Dietitians of Canada's provincial Long Term Care Action Groups has determined that sanitation, preventive maintenance, and emergency preparedness are necessary for safe provision of food and nutrition care.

KEY MESSAGES: BUDGET AND ADMINISTRATION

- There is consensus among survey respondents that LTC homes would benefit from provincial/territorial mandated minimum spending on food, and that provincial benchmarks for spending on oral nutrition supplements and enteral nutrition (tubefeeding) would be helpful.
- Food budgets should be protected from being spent on other expenses, and operators should be accountable for spending on food.
- More high-quality data is needed to establish actual spending on food, supplements, and enteral formulae in LTC.
- More research is needed to identify potential correlation of food spending with nutrient value and resident satisfaction with menus, and health outcomes.

2.0 Staffing and Administration

RECOMMENDED STANDARDS	
2.1	Minimum dietitian time per LTC home is set at provincial/territorial level (including clinical/administrative responsibilities).
2.2	Nutrition care is part of multidisciplinary interventions to support nutritional status, clinical outcomes, and prevent dehydration.
2.3	Dietitians are core members of the care team developing and monitoring resident care plans and participating in care conferences.
2.4	Adequate numbers of appropriately trained cooking staff are scheduled to prepare high-quality nutrient-dense products.
2.5	All LTC staff receive orientation to food and nutrition services upon hire.
2.6	Staff involved in meal and snack service receive education/training on nutrition, texture modification and hydration.

Context

Survey Results

This concept reached consensus on both importance and feasibility.

- Minimum dietitian time per LTC home is set provincially.

Related survey statements with specified times for dietitian staffing (15 minutes and 30 minutes) did not reach consensus on importance nor feasibility. The survey statement for 45 to 60 minutes per resident per month reached consensus for importance but not feasibility.

Extensive feedback and discussion led to the recommendation that the standard should not include a specific time for dietitian staffing, to provide flexibility in variable contexts. It would then allow for a "level playing field" across a specific province, while reducing risk of cutbacks in areas of higher staffing.

The wording also allows flexibility for provinces to decide on the basis for calculating the minimum dietitian staffing (e.g., a full-time equivalent (FTE) allotment, minutes/resident/month, based on the number of beds in the LTC home, or another method).

Clarifying the responsibilities that are expected to be included within a minimum mandated time provides a basis for dietitians to negotiate additional time for additional responsibilities.

ROLE OF THE DIETITIAN

These concepts reached consensus on both importance and feasibility.

- Nutrition care is part of multidisciplinary interventions to support nutritional status and clinical outcomes and prevent dehydration.
- Dietitians are core members of the care team developing and monitoring resident care plans and participating in care conferences.

Highlights of Relevant Evidence

There was one systematic review of 21 cross-sectional descriptive studies on the current role of the dietitian in managing malnutrition in the elderly, that included 5 studies from Canada and 6 in LTC (4 in Canada, 1 Austria, 1 Netherlands and Germany) (Fleurke, Voskuil, & Beneken Genaamd Kolmer, 2019). That article concludes by observing that the role of dietitians in managing age-related malnutrition is not always clear and coherent, especially since management of malnutrition requires a team approach.

There were no studies found in the literature review for the past 5 years that outline an optimal method for calculating dietitian staffing, and none that correlated changes in nutrition outcomes with changes in dietitian staffing. Earlier work by Dietitians of Canada to develop the one-page LTC advocacy handout found limited evidence: In the United States, higher levels of staffing for dietitians, along with higher staffing levels for dietary staff and nursing assistants, were found to decrease the risk of a facility receiving a citation for deficiency in dietary services (Smith et al., 2017). Meal satisfaction was positively associated with the presence of foodservice dietitians, and nutritional status was positively associated with the availability of clinical dietitians in a study of LTC homes in Sweden (Skinnars et al., 2017). Beck et al. (2015) studied an intervention in homecare and residential care and found the provision of multidisciplinary nutrition support including a dietitian, physiotherapist, and occupational therapist, was cost-effective and resulted in improved quality of life and small weight gain.

Through interviews with a variety of aged care home staff in Australia (including dietitians, foodservice managers, foodservice workers, care staff and other managers), Cave, Abbey, and Capra (2021) identified three themes about foodservices: "the role of foodservices is more than just serving food, teamwork between all staff to champion nutrition, and workplace culture that values continuous improvement" (Cave, Abbey & Capra, 2021 pg. 9). Foodservices involves care staff as well as foodservices staff to be sure that food is both received and consumed by residents (Cave, Abbey & Capra, 2021). Dietitians involved in the study usually worked in the capacity of a consultant external to the home and hence are not on-site on a daily basis, making it a challenge to be a champion of change. Ideally, RDs would work as a team member with staff being a champion for nutrition and advocating for resident-centred care (Cave, Abbey & Capra, 2021). To realize long-term and sustainable change within foodservices in LTC, the authors conclude that "a team with an identified leader should be established to champion nutrition. There should be a strong and explicit focus on resident-centred care using a food-first approach" (Cave, Abbey & Capra, 2021 pg. 10). Continuous improvement supported by leadership and staff training is important (Cave, Abbey & Capra, 2021). Training aids in skill development helps staff to feel supported (Cave, Abbey & Capra, 2021).

Dabbous et al. (2021) completed a systematic review of non-dietetic healthcare professionals providing nutritional care to individuals who are malnourished or at risk of malnutrition in hospitals and LTC homes. Healthcare providers included nurses, nurse assistants, healthcare assistants, general practitioners, foodservice staff, physiotherapists, and social work assistants, with nurses being the largest group. Interventions were categorized as multifactorial interventions, interventions associated with feeding assistance, and the nutrition care plan (Dabbous et al., 2021). The authors concluded that it is difficult to make recommendations on the effectiveness of non-dietetic healthcare providers delivering nutrition care on the management of malnutrition because the quality of the evidence was low or very low (Dabbous et al., 2021). Limited evidence may not reflect the lack of effect, but rather the lack of current high-quality studies. (Dabbous et al., 2021).

COOK STAFFING

This concept reached consensus on importance but not feasibility.

- Adequate numbers of appropriately trained cooking staff are scheduled to prepare high-quality nutrient-dense products.

The survey statement used the term "qualified", which has been changed to "appropriately-trained" to reflect feedback. Discussions revealed that "qualified" could be interpreted as different qualifications (e.g., Red Seal Chef or Journeyman Cook), and that the qualifications of those trades are not necessarily the most important for preparing nutrient-dense foods in the LTC environment. Previous work in Ontario developed an Institutional Cook qualification that is offered through various community colleges and an apprentice program. This does not appear to be broadly available in Canada. Many participants noted that hiring any staff is difficult, and individuals with Chef/Cook qualifications are rare in rural/remote areas. It was also discussed that training foodservice staff in-house has been successful in many cases.

STAFF ORIENTATION AND EDUCATION

Recommended Standards

- All LTC staff receive orientation to food and nutrition services upon hire.
- Staff involved in meal and snack service receive education/training on nutrition, texture modification and hydration.

Context

Survey Results

This concept reached consensus on both importance and feasibility.

- All LTC staff receive orientation to food and nutrition services upon hire.

These concepts reached consensus on importance but not feasibility.

- Nutrition education should be offered to all staff to raise awareness of nutritional problems.
- Staff involved in meal and snack service receive education/training on nutrition, texture modification, and hydration, and feeding assistance.

The statement on nutrition education can be encompassed in the more detailed statement on training so the decision was made to delete the nutrition education statement.

Highlights of Relevant Evidence

Elements of staff training and team functions include staff training and education, the multidisciplinary or team approach to foodservices and nutrition care, healthcare provider skills that are important to providing mealtime care and the importance of organizational culture that values staff empowerment. Through focus groups, CNAs expressed desire for training on how to care for residents with dementia (Douglas et al., 2021). Blumberg et al. (2018) also noted that staff training "could also lead to improved nutrition outcomes for residents'' (Blumberg et al., 2018 pg. 154).

Staff training helps staff to feel supported, aids in skill development and supports continuous improvement (Cave, Abbey & Capra, 2021). Staff education and training that is multidisciplinary in nature was identified for nutrition, hydration, and approaches to nutrition care (Lea et al., 2017).

Cave, Abbey and Capra (2021) argue that foodservices involves both care staff as well as foodservice staff. RDs can champion nutrition and resident-centred care by working as a team member with care staff and foodservices staff.

A cross-sectional mixed methods study in New Zealand in 5 LTC homes revealed several issues with production of texture modified foods, including "inconsistent texture, bland taste, limited variety, and poor appearance."

Investigation of texture modified diets in New Zealand aged care facilities showed that 23% of residents were prescribed some type of texture modification. Detailed observations at 10 sites showed that pureed diet texture provided was consistent with International Dysphagia Diet Standardization Initiative (IDDSI) parameters, but soft and bite-sized meals did not meet IDDSI criteria. The study also found that portion sizes of carbohydrate and protein foods in the texture modified meals were low, primarily due to inaccurate serving scoops (Miles, Liang, Sekula et al., 2020).

Hill et al. (2022) investigated barriers and facilitators to texture-modified foods (TMF) provision in a 100-bed residential aged care facility in rural Australia. Mealtime audits identified a high rate of errors, with 54.8% of the food modification requirements documented incorrectly in the kitchen, and 64.3% of meal trays containing foods inappropriate for the residents' dysphagia management plan.

KEY MESSAGES: STAFFING AND ADMINISTRATION

- Dietitians are well-accepted as a specialized area of practice in healthcare, and in most settings their presence is expected as part of the integrated/multidisciplinary care team.
- Targeted research is needed to define the cost-benefits of the dietitians' role in LTC.
- Current literature is very limited on the specific effect of dietitian care on nutrition, overall health, and quality of life outcomes in LTC settings.
- Identification and treatment of malnutrition and other nutrition-related conditions requires a team approach; the dietitian is the champion for food and nutrition management.
- Staff orientation and education specific to food and nutrition are essential to providing optimal nutrition care and foodservices.

3.0 Menu Planning and Analysis

RECOMMENDED STANDARDS	
3.1	Standardized cycle menus are planned and revised on a regular basis, at least annually.
3.2	The standardized menu is minimum three to four weeks per cycle for optimal variety.
3.3	All cycle menus for meals and snacks include therapeutic and texture modified food and fluid options.
3.4	All cycle menus include choices of at least two entrees at each midday and evening meal.
3.5	Therapeutic and texture modified menus follow the regular menu as closely as possible to provide similar choice, variety, and palatability.
3.6	Menus are planned by a professional, such as a Registered Dietitian or member of the Canadian Society of Nutrition Management, with the education, knowledge, and skills to plan a nutritious and varied menu that meets the needs of residents.
3.7	The master menu includes a minimum of three meals, three additional beverage opportunity passes and two snacks daily.
3.8	The planned meal and snack menus are composed primarily of nutrient-dense foods tailored to residents' needs and preferences.
3.9	The menu is planned and posted at least a week in advance in a manner accessible for viewing by residents, staff, and visitors.
3.10	The planned snack menu is based on nutrient-dense foods and beverages.
3.11	The menu is composed primarily of nutrient-dense foods tailored to residents' needs and preferences.
3.12	There is a policy and procedure to address development of an individualized menu when the needs of a resident cannot be met by the standard, therapeutic or texture modified menus.
3.13	There is a policy and procedure that supports the needs of residents who request cultural or religious-specific food choices.
3.14	Residents, family members, Substitute Decision Maker/Power of Attorney, other designated parties, and appropriate team members are consulted in the menu planning and review process to ensure menus reflect current residents' social, ethnic, cultural, and religious practices and needs.
3.15	The menu assessment relative to dietary guidelines is completed under the supervision of a Registered Dietitian or member of Canadian Society of Nutrition Management.
3.16	Menu reviews and nutrient analyses are based on actual food production (recipes and purchased products) and dining service practices in the LTC home under the supervision of a Registered Dietitian or member of Canadian Society of Nutrition Management.
3.17	The LTC home regular and texture-modified menus can be demonstrated to provide >75% of the Recommended Dietary Allowance/Adequate Intake (RDA/AI) on any specific day, while achieving an average of 100% of the RDA/AI over the duration of the menu for energy, protein, calcium, dietary fibre, and fluid.
3.18	A nutritional analysis is completed each time a new or updated menu is introduced and at a minimum, on an annual basis.
3.19	Menus are kept up to date with revisions to Dietary Reference Intakes and evidence-based best practices or guidelines on the nutritional needs of LTC residents.
3.20	For nutrients that are difficult to meet through diet alone, supplementation is considered (e.g., Vitamin D).

MENU PLANNING

Context

The menu is the basis for all nutrition care and foodservice activity, affecting resident satisfaction, food and nutrient intake, staff workload, and financial outcomes. A well-planned menu is the essential foundation on which to build further nutrition interventions as needed for individual care. Meals are an important daily social activity and focus that contribute to resident quality of life, beyond nutrient needs.

Survey Results

These statements reached consensus on both importance and feasibility.

- Menus are planned by a professional, such as a Registered Dietitian or member of the Canadian Society of Nutrition Management, with the education, knowledge, and skills to plan a nutritious and varied menu that meets the needs of residents.
- The master menu includes a minimum of three meals, three additional beverage opportunity passes and two snacks daily.
- Standardized cycle menus are planned and revised on a regular basis, at least annually.
- The standardized menu is a minimum of 3 to 4 weeks per cycle for optimal variety.
- All cycle menus for meals and snacks include therapeutic and texture modified food and fluid options.
- All cycle menus include choices of at least 2 entrees at each mid-day and evening meal.
- Therapeutic and texture modified menus follow the regular menu as closely as possible to provide similar choice, variety, and palatability.
- The menu is prepared and posted at least a week in advance.
- The menu is posted in advance in an accessible manner for viewing by residents, staff, and visitors.

The last two statements were combined into one recommended standard, changing “prepared” to “planned” based on feedback.

These two statements reached consensus on importance but not feasibility.

- The planned snack menu is based on nutrient-dense foods and beverages.
- The menu is composed primarily of nutrient-dense foods tailored to residents’ needs and preferences.

Feedback from survey participants noted that current budgets make it difficult to plan a varied menu based primarily on nutrient-dense foods. As well, incorporating resident preferences into the menu often means adding foods that may have favourable hedonic properties but are of lower nutrient density. Some participants raised concerns that between-meal snacks may not be consumed as intended, with challenges in delivery and/or resident assistance to eat them. These participants felt it important to concentrate the nutritional value of the menu into meals rather than snacks. This is an important consideration for the operation of a LTC home and individual nutrition care, however providing multiple opportunities to consume

nutrient-dense foods provides a better foundation for maintaining resident nutritional status and quality of life compared to having no standard that addresses the nutritional quality of the menu.

We recommend combining the meal and snack menus into one statement as it emphasizes that the meals and snacks should be planned and assessed simultaneously. Use of the word "primarily", while not quantifiable, recognizes that some food and fluids of lower nutrient density are important to resident satisfaction and quality of life and can be included in the LTC menu.

Recommended standard: The planned meal and snack menus are composed primarily of nutrient-dense foods tailored to residents' needs and preferences.

Highlights of Relevant Evidence

There were no studies found in the evidence review (2017- April 2022) that specifically looked at menu pattern, frequency of revision, or length of cycle as it affects resident satisfaction or intake. Most of the recommended standards are based on expert consensus.

A 2022 scoping review of menu choice in residential aged care (Wheeler, Abbey, Capra 2022) found that "choice" was discussed broadly with few specific requirements. Two texts specified that choice of two hot options (entrees) must be provided at meals, and 6 texts required an "alternate choice", with 3 of those specifying that the alternate choice should be of similar nutrient value as the original menu choice. The authors discussed the concept of "token choice", where providing an alternative is not the same as providing a true choice between two or more equal meals. A review of foodservice in Australian residential aged care found over half the 204 respondents reported providing two hot and two cold menu choices for the main meal of the day. (Milte, Bradley, et al., 2018). Budget constraints and lack of sufficient staff time have been identified as barriers to offering menu choice (Wang et al. 2020).

Menus for texture-modified diets have been found to be lacking in variety, particularly for between-meal snacks (Miles, Liang, Sekula et al., 2020; Shune & Barewal, 2022; X. Wu et al., 2022a). Residents prescribed texture-modified diets may have lower satisfaction with meals and lower energy and protein intake (Painter et al, 2017; X. S. Wu, Miles, Braakuis, 2021).

Sossen et al. completed a systematic review to determine the effect of nutrition interventions using fortification, nutrient-dense or enriched food and/or drinks on energy and protein intake in residents living in nursing homes, compared to a regular menu with or without oral nutrition supplements. Fortified nutrition interventions (which could be delivered through the menu planning process to the entire resident population) showed promising results, particularly for enhanced nutrient dense meals at breakfast and lunch (Sossen, Bonham, & Porter, 2021a).

INDIVIDUALIZED MENUS AND CULTURAL/RELIGIOUS FOODS

- There is a policy and procedure to address development of an individualized menu when the needs of a resident cannot be met by the standard, therapeutic or texture modified menus.
- There is a policy and procedure that addresses the needs of residents who request cultural- or religious-specific food choices.

Both of these statements reached consensus on importance but not feasibility. Feedback from survey participants showed a disconnect between those who interpreted the feasibility aspect of these two statements on development/availability of the policy and procedure, and those who based their feasibility rating on the actual provision of individualized menus and cultural or religious food choices. Lack of resources (budget, kitchen equipment, and staff time and training) to prepare multiple individualized choices outside of the planned menu was noted by many participants.

Highlights of Relevant Evidence

Many sources recommend individualized nutrition care and tailoring food preferences to increase satisfaction and intake (Wang 2020; Faraday et al. 2021; Volkert 2021).

Emerging shifts to a focus on relationship-centred care in managing food intake may have an impact on menu planning and costs of food services over time (as reviewed by Keller, Syed et al. 2022). More research is needed to quantify the costs and benefits of these individualized approaches for menu planning and foodservice operations as well as benefits to residents and family members in terms of quality of life and resident nutritional status. Possible adverse effects must also be assessed to determine the best balance of approaches.

STAKEHOLDER INVOLVEMENT IN MENU PLANNING

- Residents, family members or care partners, Substitute Decision Makers/Power of Attorney, other designated parties and appropriate team members are consulted in the menu planning and review process to ensure menus reflect current residents' social, ethnic, cultural, and religious practices and needs.

Context

Survey Results

This concept reached consensus on importance but not feasibility; wording has been changed based on feedback, to change "consulted and involved" to "consulted". Participants expressed concern regarding time commitment and logistics to have a wide range of stakeholders participating in the menu planning and review, however consulting stakeholders for opinions on preferred menu items and other aspects of the menu was deemed feasible.

Highlights of Relevant Evidence

No studies were found that directly investigated the effect of stakeholder involvement in menu planning. Two studies (Wang et al., 2020 and Miles et al., 2020) found that residents and staff expressed desire for more involvement in menu planning. There is indirect evidence from multiple studies that the meal quality affects the meal experience, as reviewed by Watkins, Goodwin, Abbott, Backhouse et al (2017) in their systematic review of the literature on mealtime experience from the perspective of care home residents and staff. A number of important factors interact to form residents' mealtime experience. These factors include: "care provision, resident agency, mealtime culture and meal quality and enjoyment" (Watkins, Goodwin, Abbott, Backhouse, et al., 2017 pg. 7). To quote: "although all four themes are important and independent experiential components of the mealtimes, they have a knock-on or cumulative effect on meal quality and enjoyment" (Watkins, Goodwin, Abbott, Backhouse, et al., 2017 pg. 8).

We recommend that consultation with stakeholders has value in promoting relationship-centred care, as meal and food are a centrepiece of daily life and that this standard be adopted as written above.

MENU REVIEW AND ASSESSMENT

Recommended Standards

- The menu assessment relative to dietary guidelines is completed under the supervision of a Registered Dietitian or member of CSNM.
- Menu reviews and nutrient analyses are based on actual food production (recipes and purchased products) and dining service practices in the LTC home under the supervision of a Registered Dietitian or member of CSNM.

Context

Survey Results

These two statements reached consensus on importance and feasibility. The survey statements used "Certified Nutrition Manager" has been replaced by "Member of the Canadian Society of Nutrition Management" in the recommended standards above. The basis of this standard is to ensure menu review is completed by a professional with appropriate training and background for LTC. In Canada, the Certified Nutrition Manager title is earned through a certification program developed and administered by the Canadian Society for Nutrition Management and requires a minimum of 4000 employment hours and a specified number of continuing education credits for initial certification, and annual renewal with proof of minimum number of continuing education credits. The basic requirements for becoming a member of CSNM are based on graduation from a CSNM-accredited program, or graduation from a post-secondary program with demonstrated essential elements of food and nutrition management and passing an entrance examination. Graduates of CSNM-accredited programs must apply for membership within two years of graduation, or they are also required to write the entrance examination. Meeting the entrance requirements for CSNM will prepare Nutrition Managers for the responsibilities in these menu assessment standards. Including the additional

certification requirement is not being recommended as the standards are likely to be unattainable for some LTC homes and beyond the background needed to complete the reviews and assessments.

The specific standard that menus be reviewed and assessed relative to the actual food products and portion sizes typically served, as well as the cultural preferences of the LTC home population is made to ensure assessment is as accurate as possible, when menus are compared to population nutrient recommendations (next section). Menu reviews and analysis based on generic products or practices may not reflect the actual nutrient content of the menu or the potential acceptance of food products by a specific population of residents. It is important to ensure that cultural foods contribute positively to meeting nutrient recommendations.

Highlights of Relevant Evidence

No direct evidence was found specific to these concepts. Recommendations are based on knowledge of the competencies and accreditation standards of the two professions (dietetics – Integrated Competencies for Dietetic Education and Practice (ICDEP) and nutrition management – Canadian Society of Nutrition Management). Menu assessment relative to dietary guidelines (Dietary Reference Intakes) is covered in the section below.

MENU NUTRIENT ANALYSIS

Recommended Standards

- The LTC home regular and texture-modified menus can be demonstrated to provide >75% of the Recommended Daily Allowance/Adequate Intake on any specific day, while achieving an average of 100% of the RDA/AI over the duration of the menu for energy, protein, calcium, dietary fibre, and fluid.
- A nutritional analysis is completed each time a new or updated menu is introduced and at a minimum, on an annual basis.
- Menus are kept up to date with revisions to Dietary Reference Intakes and evidence-based best practices or guidelines on the nutritional needs of LTC residents.
- For nutrients that are difficult to meet through diet alone, supplementation is considered (e.g., Vitamin D).

Context

Survey Results

The first three concepts reached consensus on importance but not feasibility; wording has been changed based on feedback. The LTC home regular and texture-modified menus can be demonstrated to provide >75% of the RDA/AI on any specific day, while achieving an average of 100% of the RDA/AI over the duration of the menu for energy, protein, calcium, dietary fibre, and fluid.

Original survey statements separated regular, texture-modified, and therapeutic diet menus; and based on feedback from participants, therapeutic menus were removed from the statement as there may be a clinical

rationale for therapeutic menus to not meet general DRI levels for healthy adults. Regular and modified-texture menus were combined into one statement to reduce the number of separate standards.

Survey statements did not specify nutrients but used the phrase "specific nutrients of concern". It is understood that a complete nutrient analysis is preferable, however gaps in nutrient databases and manufacturer nutrient information of prepared products affect the accuracy of some micronutrient amounts in menu analysis. Older approaches focusing on a few indicator nutrients that are readily available may still be justified but needs to be balanced with new evidence for a larger list of nutrients to be considered.

There was significant discussion of the third survey statement about revisions to DRIs and new evidence. Feedback from participants noted that "new evidence" was a vague term that could imply that menus should be updated based on publication of an individual study. The intent of the statement was to capture major shifts in practice guidance, so revised wording of "evidence-based best practices or guidelines" was used.

There are major concerns for the feasibility of completing any nutrient analysis of the menu without support with appropriate software, training, and resources. Corporate offices of LTC home chains, and some food suppliers, do provide nutrient analysis of the core menu. However, changes to customize the menu at the individual home level may not be reflected in the analysis, and differences in ingredients, recipes, or portion sizes may also render the nutrient analysis inaccurate. Such software has a cost and should be considered a basic requirement for practice in the LTC setting.

This statement reached consensus on importance and feasibility.

- For nutrients that are difficult to meet through diet alone, supplementation is considered (e.g., Vitamin D).

Highlights of Relevant Evidence

Review of regular and pureed texture menus in the M3 project by Keller and colleagues revealed deficits in dietary fibre and nine micronutrients (vitamins B6, vitamin D, vitamin E, vitamin K, folate, calcium, magnesium, potassium, and zinc) (Vucea et al., 2017). Duizer and Keller found that a menu planned to meet all micronutrient levels would increase costs and may impact taste and acceptability of menu items (Duizer & Keller, 2020). Interviews with menu planners identified priority nutrients to be protein, carbohydrate, fat, dietary fibre, calcium, and sodium (Duizer & Keller, 2020).

While there was no recent evidence comparing the utility of different approaches to nutrient analysis, Dietitians of Canada's Practice-based Evidence in Nutrition® (PEN) database (2013) concluded that menu nutrient adequacy should be determined by detailed analysis compared to Dietary Reference Intakes, rather than comparison to more general standards such as food groups of the former Canada's Food Guide. The DRI's are the best available evidence to measure nutrient adequacy of the menu plan compared to the Estimated Average Requirement or Adequate Intake for adults > 70 years of age.

With respect to keeping up to date with evidence from practice guidelines, current work is ongoing to assess protein, fluid, and possible effects of Vitamin D in the elderly. Vitamin D supplementation in LTC has been controversial, with different groups coming to different conclusions, based on the incomplete evidence to date. The current DRI recommend intakes of 800 IU or 20 micrograms/day for people over 70 years of age, based on the assumption of no sunlight exposure (Institute of Medicine Committee to Review Dietary Reference

Intakes for Vitamin & Calcium, 2011). Serum Vitamin D levels were not reduced in older Canadians in the community compared to younger adults (Sarafin et al., 2015). Based on this and other data, Health Canada currently recommends Vitamin D supplementation of 400 IU or 10 micrograms for adults older than 50. There are no guidelines specific to the LTC setting. Cammer and Whiting recently provided a brief review of different population and high risk guidelines for vitamin D supplementation; for example, the American Geriatric Society has recommended 100 micrograms/day or 4000 IU for persons >65 years (Cammer & Whiting, 2022).

There are fundamental challenges in assessing the need for supplementation of vitamin D. Firstly, what cutpoint for serum levels of 25-hydroxyvitamin D (25(OH)D) is appropriate, as the main indicator of vitamin D status from both dietary sources and sunlight exposure and skin conversion? Desirable serum levels of Vitamin D are thought to be in the range of 50-75 nmol/L (Cammer & Whiting, 2022). For example, Robbins et al. assessed the effects of Vitamin D supplementation in a LTC study in Texas. Serum 25-Vitamin D was assessed in 173 residents, 62% took Vitamin D supplements and 38% did not (Robbins et al., 2022). Serum levels <75 nmol/L were considered insufficient in their study. Achieving consensus on assessment methods to determine the need for supplementation is an important first step.

Linking serum levels to clinically relevant outcomes has also been challenging. A 2016 rapid review by the Canadian Agency for Technology Assessment, the major technology assessment agency in Canada, concluded that supplementation was NOT warranted, based on data that showed supplementation did not reduce falls (Canadian Agency for Drugs and Technologies in Health, 2016). More recently, Whiting et al completed a large cohort study in over 23,000 people in LTC in Saskatchewan, using health care administrative data (Whiting et al., 2020). They compared people who received >=800 IU of Vitamin D daily vs those who did not, on hip fracture and mortality. They did not measure serum Vitamin D levels. Hip fracture was NOT reduced, but mortality was reduced in women only. This novel result needs to be confirmed and more work is warranted. The Vitamin D story is illustrative of the challenges faced by RDs in assessing menus and keeping up with the evidence.

KEY MESSAGES: MENU PLANNING AND ANALYSIS

- Nutrient analysis of menus to determine levels of macro and micronutrients offered continues to be recommended to determine nutrient content of the menu.
- Resources (technology, time, expertise) to complete accurate nutrient analysis are needed.
- Further research is needed to determine the most appropriate subset of nutrients that could be used as a proxy for overall nutrient adequacy of the menu.
- Major concerns exist with the current feasibility of full nutrient analysis, as many homes do not have the in-house technology or resources to complete the analysis, and the analysis from corporate offices may not fully reflect the menu and ingredients used at the home level.
- Accurate nutrient menu analysis is possible only when there are documented standardized recipes and nutrient profiles of purchased products. Some homes do not yet have consistent food production processes or documented recipes for all menu items, making nutrient analysis of the menu a rough estimate.

4.0 Food Production

RECOMMENDED STANDARDS	
4.1	LTC homes have a valid food establishment permit from provincial/territorial authorities.
4.2	Standardized recipes and portion sizes are developed and used consistently for palatable and acceptable nutrient-dense foods, including food and fluids modified in texture or consistency.
4.3	Food and beverages appropriate to residents' diet and texture requirements are available for residents on a 24-hour basis or outside of regular mealtimes.

Context

Survey Results

FOOD ESTABLISHMENT PERMIT

This concept reached consensus on both importance and feasibility.

- LTC homes have a valid food establishment permit from provincial authorities.

Food premises operation regulations are generally handled by local public health authorities. No evidence was specifically sought, and none was found in the literature review, specific to this concept as it is already regulated in most jurisdictions under various statutes.

STANDARDIZED RECIPES

This concept reached consensus on both importance and feasibility; wording has been changed from the statements used in the survey.

Two separate survey statements were used, which have been combined into one recommended standard that encompasses the concepts. Reasonable cost has not been addressed in this recommended standard as the elements of budget and food cost are addressed in other standards.

- Standardized recipes for palatable and nutrient-dense foods with reasonable cost are used in food production
- Standardized recipes and portion sizes are developed and used consistently for palatable and acceptable nutrient-dense foods, including foods and fluids modified in texture or consistency.

Recommended standard: Standardized recipes and portion sizes are developed for palatable and acceptable products and used consistently for each menu item. This includes foods and fluids modified in texture or consistency.

IDDSI

This concept did not reach consensus on importance nor feasibility in the Delphi survey.

- The International Dysphagia Diet Standardization Initiative (IDDSI) is used to standardize food textures and fluid consistencies to maintain safety for individuals with dysphagia.

IDDSI standardization can improve safety of LTC residents who are transferred to hospital or other settings if all healthcare facilities in the region are using the standardized terminology. The current evidence does not show improvements in nutrition outcomes or quality of life with the implementation of IDDSI in LTC homes, for many complex reasons including food production issues and resident acceptance. Texture-modified foods and beverages of altered consistency should have standardized processes and testing methods within the LTC home. The concept of relationship-centred care dictates that individuals requiring texture modification should have those modifications individualized to their personal and often changing abilities rather than standardized to a particular level on the IDDSI framework. This is a very active area of research which could yield future evidence to inform standards.

FOOD AND BEVERAGE AVAILABILITY

This concept reached consensus on importance but not feasibility.

- Food and beverages appropriate to residents' diet and texture requirements are available for residents on a 24-hour basis or outside of regular mealtimes.

Concerns for feasibility are related to staffing and resources available. Participants commented that even if food is available, there are often not sufficient staff on site overnight to safely provide feeding assistance or supervision. Potential for issues with cost increases were also noted. The concept of individualized care supports provision of food and fluids when the resident desires or requires them, however the feasibility aspects must be considered.

Highlights of Relevant Evidence

Texture-modified foods (TMF) including minced and pureed foods, and/or thickened liquids, are commonly prescribed for residents with difficulty chewing or swallowing. However, the published literature does not have strong support for this practice, based on recent reviews (Painter et al., 2017, O'keeffe, 2018, Beck et al., 2018, Flynn et al., 2018). Recent reviews have also highlighted poorer nutritional status and lower satisfaction with these diets (X. S. Wu, Miles, Braakuis, 2021).

The International Dysphagia Diet Standardization Initiative (IDDSI) is one effort to provide preparation and testing methods to classify foods and fluids on an 8-level continuum. The common terminology is intended to improve safety for individuals with dysphagia. Use of IDDSI is supported by several Canadian professional associations and manufacturers, however there is limited research on the extent of its adoption by healthcare organizations.

Current research on use of TMF in LTC has documented multiple challenges in providing TMF diets. Hill et al. (2022) investigated barriers and facilitators to TMF provision in a 100-bed residential aged care facility in rural Australia. Mealtime audits identified a high rate of errors, with 54.8% of the food modification requirements documented incorrectly in the kitchen, and 64.3% of meal trays containing foods inappropriate for the residents' dysphagia management plan. Focus groups with foodservice and nursing staff uncovered issues with the manual process to change diets, communication breakdowns, lack of dysphagia-specific knowledge or training, time pressures, limited variety of menu items for TMF, and workplace culture that results in perception of foodservice staff being undervalued.

A cross-sectional mixed methods study in New Zealand in 5 LTC homes revealed several issues with production of texture modified foods, including "inconsistent texture, bland taste, limited variety, and poor appearance." Pureed foods were molded in some instances, and staff reported increased intake when the molded foods were used. Meal service observations noted inconsistent portion sizes and staff not using appropriate serving utensils (i.e., scoops to serve specific amounts). The planned menu for regular texture was not consistently offered in modified textures, and the researchers also stated that there were no planned menus for vegetarian or vegan pureed diets, and a resident was observed being served no protein choice. In addition, the planned texture modified menus did not have planned alternate meal choices. Although the homes in this study had implemented IDDSI, and offered three levels of texture-modified diets, the menus did not specify the different levels, and foods and fluids delivered for meal service were often lacking labelling (X. Wu et al., 2022a).

An Australian study investigated consumer satisfaction with commercially prepared pureed meals in 12 aged care facilities. Appearance, smell, and temperature of the food were all important aspects related to satisfaction, as well as taste. Many residents in the study expressed preference for sweet flavours. Having consistent texture that was easy to eat was also important to the residents, and the authors suggest that it may decrease anxiety around mealtimes for individuals with dysphagia (Miles, Dennison, Oad, Shasha, Royal, 2020).

Investigation of texture modified diets in New Zealand aged care facilities showed that 23% of residents were prescribed some type of texture modification. Detailed observations at 10 sites showed that pureed diet texture provided was consistent with IDDSI parameters, but soft and bite-sized meals did not meet IDDSI criteria. The study also found that portion sizes of carbohydrate and protein foods in the texture modified meals were low, primarily due to inaccurate serving scoops. Fortification of texture modified foods was used only in four of the 10 facilities. Snacks appropriate for texture modified diets were severely lacking in variety, and only half the facilities specifically had snacks on the menu for texture modified diets (Miles, Liang, Sekula et al., 2020).

Tailored staff education for IDDSI standardization was developed and evaluated in New Zealand (Wu, Miles, and Braakhuis, 2022). A total of 85 staff across 5 aged care homes participated in the pre-intervention survey, and 51 staff completed the post survey. Education resources were developed based on staff knowledge and preferences, including a workshop, online resources, handouts, and posters. Respondents scored significantly higher post-intervention on knowledge of dysphagia and IDDSI. Although total correct answers did not vary significantly between workshop attendees and non-attendees, the level of improvement of workshop attendees was higher. Foodservice practice changes were reported by participants to make menu items more

compliant with IDDSI criteria, and an audit of texture modified foods and thickened fluids found improvement at 6 months post-intervention. Web-based training was well received, and the authors recommend this type of training in the future. Multidisciplinary collaboration and continuous staff training are also recommended.

KEY MESSAGES: FOOD PRODUCTION

- Food production relies on standardized processes and staff training to get consistent taste, quality, cost, and nutrient content.
- Studies show staff have difficulties in consistent preparation of texture modified foods and thickened fluids.
- Menus for texture modified diets need careful planning by a dietitian to meet resident preferences, variety and nutrient needs.

5.0 Meal Experience

RECOMMENDED STANDARDS	
5.1	Food intake and quality of life of residents is supported by a pleasant dining environment.
5.2	There are adequate staff and trained volunteers available to provide eating assistance for all residents who require assistance.
5.3	Adaptive feeding aids are provided as indicated in the nutrition care plan.

Context

Survey Results

MEAL EXPERIENCE

This concept reached consensus on both importance and feasibility.

- Food intake and quality of life of residents is supported by a pleasant dining environment.

EATING ASSISTANCE

These concepts reached consensus on importance but not feasibility.

- There are adequate staff and trained volunteers available to provide eating assistance for all residents who require assistance.
- Adaptive feeding aids are provided as indicated in the nutrition care plan.

Many participants noted the lack of staff and/or volunteers at meal and snack occasions to provide eating assistance. This echoes the concerns around limited resources to provide other aspects of care and is exacerbated by time pressures at set meal and snack times.

There was limited discussion on the lack of feasibility of providing adaptive feeding aids, however one participant noted that assessment and prescription of feeding aids may depend on availability of an appropriate professional such as an Occupational Therapist or dietitian. The cost of specialized utensils or other feeding aids was also mentioned.

Highlights of Relevant Evidence

Expert consensus and published literature confirm the importance of a pleasant dining environment. The literature review provides a summary of the recent body of literature. Mealtimes are multifaceted and complex, requiring the interaction of many factors to support a pleasant mealtime experience. Mealtime has been reported to be a time for social interaction including socialization among residents as reported by residents, families and/or staff (Watkins, Goodwin, Abbott, Hall et al., 2017; Milte, Shulver, et al., 2017; Blomberg et al., 2021; Shune & Linville, 2019) as well as between residents and staff at mealtime (Faraday, et al., 2021).

Positive social interaction at mealtime may have the potential to impact resident quality of life for residents who experience challenges (cognitive and functional) at mealtime (Morrison-Koechl, et al., 2021). The concept of resident choice/preference during mealtime care has been identified as important (Li et al., 2021; Faraday et al., 2021) by staff (Blomberg et al., 2021) and residents (Watkins, Goodwin, Abbott, Hall & Tarrant, 2017). Challenges to supporting individualization regarding choice in a communal setting were realized by residents and/or family (Milte, Shulver et al., 2017; Watking, Goodwin, Abbott, Hall & Tarrant, 2017). Adequate staffing levels to support eating assistance that is individualized is important (Keller, Syed et al., 2022). Physical aspects of the dining environment may impact the dining experience (Lowndes et al., 2018). Physical aspects of the dining environment may impact oral intake but authors note caution in interpreting results due to a small number of studies and various designs (Borders et al., 2020). After adjusting for eating challenges, physical and functional aspects of the environment affected energy intake for residents on general care units (Slaughter et al., 2020). A Cochrane review was unable to conclude whether the design of the dining space affects "quality of life, function or rate of falls because the certainty of evidence was very low" (Harrison et al., 2022 pg. 30). Teamwork is an important aspect of promoting care at mealtimes (Li et al., 2021) and information sharing was reported as being important (Shune & Linville 2019). Organizational factors including adequate staffing and sufficient time to provide mealtime care are important (Lowndes et al., 2018; Watkins, Goodwin, Abbott, Backhouse et al., 2017; Shune & Linville, 2019). The concept of routine and aspects of familiarity within the day may impact mealtime experience but residents welcome an occasional departure from routine (e.g., celebrating special occasions) which provides a venue for conversation and the opportunity to connect over shared experiences (Watkins, Goodwin, Abbott, Hall & Tarrant, 2017). There is expert consensus on the aspects of the dining environment that support a pleasant dining experience. More research is needed on sufficient staffing levels to provide a pleasant dining environment. Continuing development of this body of literature will help to elicit aspects of the mealtime experience that are most supportive of quality of life.

KEY MESSAGES: MEAL EXPERIENCE

- A pleasant dining environment positively affects quality of life and food/beverage intake.
- Physical aspects of the dining location and individualized person-centred care are determinants of the pleasantness of the dining environment.
- Limited staff and volunteer resources are a major concern for providing the necessary feeding assistance at meal and snack occasions.
- Availability of feeding aids to promote independence should be a high priority advocacy issue at the individual home and provincial/national level.

6.0 Nutrition Care

RECOMMENDED STANDARDS	
6.1	The organizational leaders ensure that assessment tools include assessment of the resident's nutritional status, food preferences, swallowing and independent eating capacity.
6.2	A standardized dysphagia screening tool is used to identify and determine resident risk of dysphagia.
6.3	Residents are screened routinely for malnutrition and low-intake dehydration to identify those at nutritional risk, whenever there has been a change in health or every 3 months.
6.4	The team uses comprehensive, evidence-informed practices for the prevention and management of malnutrition and dehydration.
6.5	Food and fluid provision should meet personal preferences and be individualized; any dietary restrictions are based on a comprehensive individual nutrition assessment by a dietitian.
6.6	Standard operating procedures are used for nutrition and hydration care including: to guide screening, assessment, development of nutrition care plans, evaluation, and documentation.
6.7	An individual nutrition assessment and nutrition care plan is completed by a dietitian if risk is identified in screening.
6.8	Every resident has an individual nutrition care plan completed by a dietitian upon admission and reviewed at least annually.
6.9	Nutrition care plans are developed with input of the resident/Substitute Decision Maker/Power of Attorney.
6.10	Adequate nutrient, energy, and protein intake is supported through the use of fortified or enhanced foods, additional snacks, finger foods, or texture-modified enriched foods as indicated in an individual's nutrition care plan.
6.11	There is a process in place to ensure staff are up-to-date on current resident nutrition care plans.

Context

Survey Results

These concepts reached consensus on both importance and feasibility.

- The organizational leaders ensure that assessment tools include assessment of the resident's nutritional status, food preferences, swallowing and independent eating capacity.
- The team uses comprehensive, evidence-informed practices for the prevention and management of malnutrition and dehydration.
- Food and fluid provision should meet personal preferences and be individualized; any dietary restrictions are based on a comprehensive individual nutrition assessment by a dietitian.
- Standard operating procedures are used for nutrition and hydration care including: to guide screening, assessment, development of nutrition care plans, evaluation, and documentation.

- Residents shall be screened routinely for malnutrition and low-intake dehydration to identify those at nutritional risk, whenever there has been a change in health or every 3 months.
- Individual nutrition assessment and nutrition care plan is completed by a dietitian if risk is identified in screening.
- Every resident has an individual nutrition care plan completed by a dietitian, upon admission and reviewed at least annually.
- Nutrition care plans are developed with input of the resident/POA/SDM.

This concept reached consensus on both importance and feasibility; wording has been changed from that used in the surveys to combine previously separate statements (no new concepts introduced with re-wording).

Survey Statements:

- Fortified or enhanced foods are offered as indicated in the nutrition care plan to support adequate nutrient, energy, and protein intake.
- Additional snacks and finger foods are offered as indicated in the nutrition care plan to support adequate intake.

Recommended Standard

- Adequate nutrient, energy, and protein intake is supported through the use of fortified or enhanced foods, additional snacks, finger foods, or texture-modified enriched foods as indicated in an individual's nutrition care plan. Note: the presence of a nutrition care plan implies that there has been a dietitian assessment.

These concepts reached consensus on importance but not feasibility.

- There is a process in place to ensure staff are up to date on current resident nutrition care plans.
- An approved, standardized dysphagia screening tool is used to identify and determine resident risk of dysphagia.

The word "approved" was removed from the dysphagia statement based on discussion regarding what organization would be responsible for approving the tool. There are a variety of screening tools available with similar constructs that may be used. Standardization within the individual home or region is likely more feasible than on a national or provincial/territorial basis, although broad standardization would be beneficial to data collection and benchmarking.

The failure to reach consensus on the feasibility of a process to ensure staff are up to date on current nutrition care plans is very concerning for overall nutrition care. Interventions developed following identification of nutrition risks and nutrition-related problems are of very limited use without the ability of staff to put the interventions into practice. This issue is related to the overall staffing crisis in LTC, as well as the high proportion of part-time staff and short shifts which make it difficult to share information consistently, and for staff to become proficient.

Highlights of Relevant Evidence

The main clinical nutrition issues in LTC are protein-energy malnutrition and dehydration associated with frailty, cognitive decline, and dysphagia, as well as a range of other clinical issues like diabetes and heart disease. Evidence on clinical management continues to evolve with significant international work to develop better screening and treatment approaches. To the extent that malnutrition can be reversed, there can be improvements in quality of life, immune system function, and functional abilities.

Screening is a well-established approach for identifying those most at risk, when it is not possible to provide an individual assessment and care plan for every resident in LTC. Screening in Canadian LTC is variable. Currently, Ontario RD practice guidelines focus on detailed nutrition assessment by RDs (Ontario LTC Action Group, 2019). Only one paper was found on current RD practice in Saskatchewan. Johnson et al. interviewed nine RDs related to nutrition screening, nutrition assessment, and follow-up within the LTC context (Johnson et al., 2018). The number of LTC facilities the RDs were employed at ranged from 1 to 10, with four RDs covering four or five LTC facilities, four RDs covering three or less LTC facilities, and one covering more than six LTC facilities. The study revealed very different processes for screening, if conducted, and limited follow-up. Several different types of screening forms were used. High risk patients were followed-up at three months. Dependence on other healthcare workers to identify residents for assessment and follow-up, was evident.

Nutrition screening in LTC is often completed by a nurse and several types of tools exist. Among the most popular is the Minimum Data Set of the Resident Assessment Instrument (MDS-RAI), a comprehensive review of functional and health issues. With respect to nutrition, questions are asked about swallowing, weight loss (loss of 5% or more in the last month or loss of 10% or more in the last 6 months), enteral or parenteral feeding, or texture-modified diet (Centers for Medicare and Medicaid Services, 2022).

Screening and monitoring of nutrition care was not explicitly addressed in the guidelines of the European Society for Clinical Nutrition and Metabolism (ESPEN), when they proposed evidence-based recommendations regarding the organization of food catering, mainly in hospitals (Thibault et al., 2021). There is no specific recommendation on nutrition screening, but it was implied that it was being done.

Another European initiative (Corish & Bardon, 2019), the Healthy Diet for a Healthy Life, had Malnutrition in the Elderly (MaNuEL) as one focus. MaNuEL researchers performed a systematic literature review and meta-analysis of prevalence rates of malnutrition risk and focused on 22 malnutrition screening tools with acceptable validity for older adults (Volkert et al., 2020). Better and more consistent screening in Canadian LTC homes needs to be highly encouraged, especially where RD resources are limited and the standard of an individual care plan for every resident is not yet achievable.

A key new initiative is the Global Leadership Initiative on Malnutrition which has produced consensus criteria for diagnosing malnutrition (Cederholm et al., 2019). This is necessary work, as frequently treatment of malnutrition does not result in measurable health outcomes. The results of multiple systematic review studies have been highly variable.

Recent work by Reinders et al has aimed to determine more precisely which interventions work best in which settings by reviewing and combining individual level data from previous randomized controlled studies of nutritional interventions among people who were already malnourished or at risk (Reinders et al., 2019).

Only 2 of the studies were completed in nursing home settings (n=214) and mainly employed oral nutrition supplements (ONS). Among the LTC patients 43% (58/135) of the intervention group increased body weight by at least 1.0 kg, compared to 25% (20/79) in the control groups, confirming the value of ONS. Other meta-analyses have also observed average weight gains in the range of 1.0-1.5 kg. In recent studies there has been increasing interest in assessing gains in function and quality of life, since weight seems to be an insensitive indicator of response to treatment, using a variety of different approaches, such as nutrient dense meals at breakfast and lunch (Sossen, Bonham, & Porter, 2021a).

In 2015, ESPEN produced guidelines for nutrition management in dementia and used the GRADE process to develop the recommendations. The evidence was most often very weak (Volkert et al., 2015). They concluded that most individual nutrient supplements have not demonstrated positive effects, high energy high protein oral nutrition supplements may have impact on weight, dietary restrictions should be avoided, tube feeding should be used cautiously, balancing possible benefits with recognition of the stage of the condition.

Movement to relationship-centred care is prominent in dementia care, and research is ongoing, but with a focus on eating problems. Li et al. completed an umbrella review of reviews on the effectiveness of non-pharmacological interventions for eating difficulties in dementia (Li, Zhao, Wang, & Wang, 2020). Eighteen systematic reviews were included. Interventions ranged from companion animals, to music, to nursing approaches and other factors. Overall, they concluded that some evidence showed that environmental modifications, education/training, and oral nutrition supplements (ONS) were beneficial to improving eating difficulties in persons with dementia, but the current evidence failed to support the effectiveness of other interventions.

With respect to diabetes, an international scoping review of best practice guidelines for dietary management of diabetes in LTC was completed by Farrer et al. in Australia (Farrer, Yaxley, Walton, & Miller, 2019). This study appraised 11 available guidelines using the AGREE II tool. Canadian guidelines were not included. A wide range of nutrition interventions were mentioned, demonstrating the lack of consistency in diet recommendations. The authors noted that some physician-developed guidelines were discordant in their recommendations compared to guidelines developed by others, particularly regarding the use of therapeutic and weight loss diets. The Academy of Nutrition and Dietetics in the U.S. has long advocated for liberalized diets in diabetes, beginning in 2002 (Dorner, 2002) and continuing with the most recent Position Paper (Dorner & Friedrich, 2018). Interestingly, the American Diabetes Association and Diabetes Canada guidelines are still quoting 20–30-year-old studies to justify this liberalized approach (Coulston, Mandelbaum, & Reaven, 1990; Tariq et al., 2001). There may be a need for an update on best practices for diabetes diet management.

KEY MESSAGES: NUTRITION CARE

- All LTC residents should have an individualized nutrition care plan to address their specific risk factors, interventions, and goals. A dietitian has the training and knowledge to complete these plans.
- Research is needed to identify the best mix of approaches to ensure that all residents meet their nutrition needs, preferences, and goals.
- Processes to inform staff of current nutrition care requirements are essential to delivering nutrition care.
- National consensus for consistent screening tools, nutrition care processes and outcome measures that reflect current and emerging evidence are needed to ensure all LTC residents receive the best nutrition care.

7.0 Quality Improvement and Data Collection

RECOMMENDED STANDARDS	
7.1	Consistent Provincial inspection or audit processes are in place to regularly and consistently evaluate all aspects of LTC homes including nutrition care and food services and results are used for individual home quality improvement and provincial/territorial benchmarking.
7.2	Regular feedback is obtained from residents on satisfaction with food, mealtime, and snack services.
7.3	There is a Continuous Quality Improvement Program for nutrition care and foodservices.
7.4	LTC organizations support implementation of common electronic health records across local/regional healthcare organizations.
7.5	LTC organizations collect common core data elements in electronic health records related to nutrition care.
7.6	All LTC facilities contribute nutrition-related data to the Canadian Institute for Health Information, including the critical interRAI indicators.
7.7	All LTC facilities collect and contribute accurate and timely information on dietitian staffing in LTC to the Canadian Institute for Health Information.
7.8	Agreements with contracted food service management companies and dietitians or dietitian services companies include applicable requirements for monitoring and reporting of: spending on food, beverages, tube-feeding, oral nutritional supplements, monitoring and reporting resident satisfaction, nutrition related data, including inter-RAI critical indicators, and staffing levels.

Context

Survey results

PROVINCIAL INSPECTION PROCESS

This concept reached consensus on both importance and feasibility.

- There is a policy for Continuous Quality Improvement Programs for nutrition care and foodservices and data reporting for benchmarking purposes.

The wording was changed from statements used in surveys, adding “consistent” to emphasize the need for standardized processes, and additional phrase about “use of results” to emphasize that the information needs to be reported and acted on.

- Consistent Provincial inspection or audit processes are in place to regularly and consistently evaluate all aspects of LTC homes including nutrition care and food services and results are used for individual home quality improvement and provincial benchmarking.

QUALITY IMPROVEMENT

This concept reached consensus on both importance and feasibility.

- Regular feedback is obtained from residents on satisfaction with food, mealtime, and snack services.

This concept reached consensus on importance but not feasibility

- There is a Continuous Quality Improvement program for nutrition care and food services.

DATA COLLECTION FOR BENCHMARKING AND QUALITY IMPROVEMENT

These concepts all reached consensus on importance but not feasibility.

- LTC organizations support implementation of common electronic health records across local/regional healthcare organizations.
- LTC organizations collect common core data elements in electronic health records related to nutrition care.
- All LTC facilities contribute nutrition-related data to the Canadian Institute for Health Information, including the critical interRAI indicators.
- All LTC facilities collect and contribute accurate and timely information on dietitian staffing in LTC to the Canadian Institute for Health Information.

AGREEMENTS WITH CONTRACT SERVICES

This concept reached consensus on importance and feasibility for a. and b. but importance only for c. and d.

- Agreements with contracted food service management companies and dietitians or dietitian services companies include applicable requirements for monitoring and reporting of:

  a. spending on food, beverages, tube-feeding, oral nutritional supplements,
  b. nutrition related data, including inter-RAI critical indicators,
  c. monitoring and reporting resident satisfaction, and
  d. staffing levels.

Quality improvement programs are generally accepted as integral to providing high quality care. In the Delphi process, consensus was reached on the importance of these standards but not on feasibility. Comments provided on the surveys and during the debriefing meetings indicated that the time and resources to implement a comprehensive Continuous Quality Improvement (CQI) program are barriers, but that there is a great need for benchmarking and for accountability.

A provincial or national CQI program with minimum standards or core elements that must be included in a home CQI program received support from participants, however participant comments indicated that it is important to retain flexibility for individual homes to tailor a program to their needs.

A Continuous Quality Improvement Program includes established processes for gathering data, analyzing and reporting, taking corrective action, and evaluating results. Survey participants reported that collecting feedback on resident satisfaction is feasible, suggesting that most LTC homes are already doing this aspect of CQI. Within the context of LTC nutrition care and foodservices, a comprehensive set of indicators and audits could be created by expanding on previous work (e.g., British Columbia Audits and More Manual, or programs established by various health regions).

Accurate and timely information is essential to measuring quality and planning changes then evaluating and sustaining improvements. Electronic health records facilitate communication within the LTC home and externally, improving the flow of health information between healthcare settings with the potential to improve safety and timeliness of care. Although work has been done to improve interoperability of various electronic health records systems, further work is needed to ensure that important nutrition-related data elements are consistently recorded. The Nutrition Care Process terminology (NCPT) Advocacy for continued mapping of NCPT to standardized languages used in electronic health records (e.g., SNOMED) and inclusion of NCPT in electronic health record systems across settings should continue at the association level, and by individual dietitians within their organizations where possible. Collection and analysis of this data will provide evidence of the impact of nutrition care and dietitians within the health system.

The Canadian Institute for Health Information (CIHI) collects health system data to fulfill their mandate to "Deliver comparable and actionable information to accelerate improvements in health care, health system performance and population health across the continuum of care." Accurate data on health indicators and staffing levels is essential to building the evidence base for future practice and advocacy for the profession. Current LTC indicators published by CIHI include newly acquired and worsening Stage 2 - 4 pressure ulcers, pain, restraint use, depression, physical functioning, falls, antipsychotic medication use, bladder incontinence, behavioural symptoms, and LTC residents who could potentially be cared for at home. A more detailed set of indicators unveiled by CIHI in 2022 include % of residents with a feeding tube and % of residents with unexplained weight loss. The collection of this data and further analysis will be of use to further research into nutrition status and outcomes in LTC.

Highlights of Relevant Evidence

Overall evidence of improvement in healthcare due to CQI or other quality initiatives has been characterized as uncertain (Hill et al., 2020), mainly due to poor evaluations and complexity of healthcare systems. Instruments such as surveys or checklists used in QI are not consistently tested for validity and reliability (Pankhurst et al., 2021; Lorini et al., 2018; Moick et al., 2019) which may limit the usefulness of the program.

Structural, process, and outcome indicators are used to measure quality; one review found that most indicators in LTC are process type, with outcome indicators least used. Structural elements such as staffing levels, budgets, and policies, have been found to be weakly associated with overall satisfaction with care; the researchers did find a "small statistically significant positive relationship between budget per capita and overall satisfaction with care in nursing homes" (Kajonius et al., 2016). The same review found that process indicators were moderately to strongly related to overall satisfaction with care. In a review by (Lorini et al., 2018), structure indicators were found to be associated with outcomes of malnutrition or weight loss, although it was not consistent. A common theory of quality in healthcare uses structure-process-outcome and notes

that structural elements generally need to be in place before process indicators can be realized, but the relationship between structure/process/outcomes is not necessarily linear.

Elements of successful quality improvement initiatives and change management identified in the literature include:

- Engaging and educating/training staff (Wu et al. 2018, Torma et al. 2018, Keller, Matwiejczyk et al. 2018, Hollingsworth et al., 2018)
- Leadership support (Wu et al. 2018, Torma et al., 2018)
- Audit, evaluation, and feedback (Simmons et al. 2018, Backlund et al, 2017, Torma et al., 2018, Hollingsworth et al. 2018)
- Champions among the staff (Wu et al. 2018)
- Sensitivity to context (Iuglio et al. 2017 and 2018)

KEY MESSAGES: QUALITY IMPROVEMENT AND DATA COLLECTION

- A comprehensive continuous quality improvement (CQI) program for nutrition and foodservices is needed for benchmarking and accountability as well as improvements to care and services, at the local and provincial/federal level.
- Resources are needed to implement CQI programs for LTC foodservice departments (for data gathering, analysis, planning and implementing change, and evaluation).
- The most efficient use of resources may be the development of a national/provincial CQI program, with flexibility to tailor at individual home level as needed.
- Benchmarking reports using consistent data elements can be instrumental in improving quality of LTC nutrition and foodservices across the country; this can be accomplished by collecting and reporting nutrition-related data.
- Structural, process, and outcome indicators are all important to measure; generally structural components (e.g., staffing levels) need to be in place for success of process and outcomes.
- Key components of successful CQI programs include staff involvement and champions among the staff, leadership support, evaluation, and feedback.

Summary and Opportunities

This project has identified many areas of consensus across nutrition care and foodservices in LTC. Funding for food and staff have been identified as priority areas to provide appropriate care.

Gaps

Gaps have been identified in both the published literature and through the input of some Canadian jurisdictions and stakeholders. Further work to engage these groups, and to support targeted study of nutrition care processes and outcomes, and the effect of menu planning and food production on resident satisfaction, is warranted.

Opportunities

Opportunities exist for further research and development of dietitians' role in LTC to ensure that all LTC residents, regardless of where they are located, are able to enjoy the highest possible quality of life.

Data collection and sharing to support quality improvement and benchmarking will be helpful to improving care for LTC residents. Opportunities for advocacy should be identified and plans made to promote either the full package of standards, or specific high priority standards for adoption by individual homes and provincial/territorial, and federal stakeholders.

Appendix

Delphi Survey Distribution to Organizations

Accreditation Canada
Advantage Ontario
British Columbia Health Coalition
Canadian Association for Long Term Care
Canadian Malnutrition Task Force Long Term Care and Food Working Group
Canadian Nutrition Society
Canadian Seniors Association
Canadian Society of Nutrition Management
CanAge
Colleges of Dietitians
Concerned Friends
Dietitians of Canada Gerontology Network
Dietitians of Canada Membership
Family Councils Ontario
Food and Nutrition Advisory Team
Licensing departments - inspections of Long Term Care Homes
Long Term Care Inspections Branch Ontario
Ontario Long Term Care Association
Ontario Seniors Nutrition Advocacy Committee
Seasons Care
Yukon government - Continuing Care Dietitians

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