Canadian Home Care Association

# HIGH IMPACT PRACTICES

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## COMMUNITY CARE DIETITIAN PROJECT

**Nutritional Care Improves Client Outcomes and Reduces Hospital Admissions**

**High Impact Practices, as defined by the Canadian Home Care Association (CHCA) are evidence-informed, innovative practices within the home and community care sector that enhance the quality and effectiveness of service and result in improved quality of life for clients and their families. By identifying and sharing High Impact Practices, the CHCA facilitates sharing and transferring of knowledge, expertise and experience.**

This High Impact Practice describes the impact of Registered Dietitians (RD) as members of the Community Care (home care) Health Care Team in the Okanagan Health Service Area within Interior Health in British Columbia.

Nutrition plays an important role throughout an individual's life span affecting the growth and development during childhood, the risk of acute and chronic diseases, and the maintenance of the physiological and biological processes of aging. While good nutrition is vital to ensuring health and wellness, it is estimated that in Canada, the prevalence of inadequate nutrition (including malnutrition) in the elderly population ranges from 25 to 60 percent.[1]

As the health system shifts to providing more care to individuals at home, it is recognized that there is a greater need for the services of Registered Dietitians (RDs) but currently, their presence on the home care team is limited. The goal of a dietitian in the home care setting is to teach clients, their families and other caregivers to provide for the individual's fundamental dietary needs. This is achieved through assessment, consultation and education to improve nutrition to maintain health.[2] Dietitians work individually with clients of all ages focusing their skills, professional knowledge and expertise on optimizing client nutrition intake; individualizing food intake to meet specific nutrition, dietary and/or functional needs; promoting overall health and well-being; and maintaining client independence.[3]

In the *Community Care Dietitian Project*, 2.2 full-time equivalent RDs in three sites in the Okanagan - Penticton, Kelowna and Vernon - provided medical nutrition therapy and care to community care clients by conducting over 400 home visits and over 300 phone consultations. In addition, over 600 consultations with other clinicians regarding clients were provided. The result of the *Project* was an improvement in client outcomes, provider satisfaction and a reduction in hospital admissions.

## Background

The consequences of poor nutrition can range from profound (death) to subtle (reduced immunity to functional problems such as, confusion, apathy, depression, and memory loss).[4] Malnutrition can diminish one's ability to recover from surgery[5] and can prolong recovery from an illness by about 40%.[6] Inadequate nutritional status has been found to predispose people to increased health care utilization.[7]

The prevalence of inadequate nutrition (including malnutrition) in the elderly population has been estimated to range from 25 to 60 percent.[8] Malnutrition is a serious risk, particularly for older Canadians living at home that may not have the ability, resources or motivation to provide for their own proper nourishment.

While the need for nutrition services for individuals at risk has been recognized, access to nutritional services in the community has been limited and sporadic. A 2008 review by the Dietitians of Canada estimated 50,500 to 54,000 British Columbians (42,000-46,000 adults; 8,500-9,000 children) were at nutritional risk with minimal or no home based nutrition services.[9]

### Some Risk Factors for Malnutrition:

- Food security - the availability of food and one's access to it
- Social isolation
- Frailty – loss of function and inability to prepare nourishing meals
- Disease causing anorexia or increased needs
- Inability to swallow
- Multiple medications

**The Canadian Home Care Association proudly acknowledges the decision of the Summit delegates who selected this High Impact Practice as the best poster presentation at the 2009 Home Care Summit. The theme, Connections, explored how stakeholders can work together in an interconnected way to achieve responsive, accessible client-centred care. CHCA Summits bring home and community care stakeholders together from across Canada to learn, share ideas and develop strategies to advance home care in Canada.**

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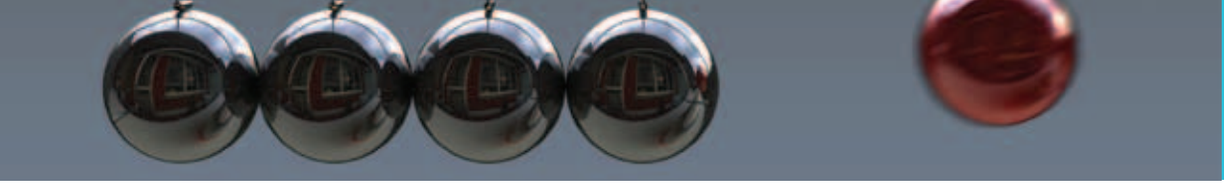

Home care nutrition services range from individual patient counseling to managing and monitoring nutrition support (enteral and parenteral). Registered Dietitians' (RD) knowledge of nutrition, sources of funding reimbursement, and nutrition support technologies enables them to improve client care in a cost effective manner and expand their services and value within home care.

In 2002, 59 percent of home care clients in North Okanagan were identified to be at nutrition risk.[10] The major communities (Kelowna and Penticton) did not have access to a Community Care RD and there was only limited access (3.5 hours per week) to RD support in Vernon (South Okanagan). As a consequence, elderly housebound clients were not receiving adequate nutritional care and it was reported that some individuals were required to stay in the hospital because of the inability to support a clinical nutrition plan at home. Short stay acute patients who were malnourished on hospital admission were being discharged still malnourished and with no support to improve their nutritional status in the community. The opportunity existed to (a) reduce acute hospital stays while better supporting people in the community both pre and post surgery, and (b) promote increased health and wellbeing through better nutrition within the senior population.

## Implementation

The goals of the *Community Care Dietitian Project* were to:

- Improve the nutritional status of those currently receiving home care services, allowing them to maintain their independence and reduce / delay / shorten admissions to residential or acute care services.
- Support the health care team by providing nutrition knowledge and expertise.
- Provide education to the health care team regarding identification of clients at nutrition risk and associated interventions.
- Promote better health through better nutrition.

2.2 full-time equivalent Registered Dietitians (RDs) were introduced to the home care program and shared across Kelowna, Penticton and Vernon. The home care team was informed about the *Project* and instructed in nutritional care and screening, appropriate referrals and the impact of nutrition care on client health outcomes.

**Interior Health**
**Interior Health (IH) is one of five geographically-based health authorities responsible for ensuring publicly funded health services are provided to the people of the Southern Interior of British Columbia. Interior Health's geographic area covers almost 215-thousand square kilometres. The Region is divided into four Health Service Areas-the Thompson Cariboo Shuswap, East Kootenay, Kootenay Boundary, and the Okanagan. The Okanagan includes larger cities such as Kelowna, Kamloops, Cranbrook, Penticton and Vernon. The population of Interior Health is 732,000 with 18% over the age of 65 years.**

http://www.interiorhealth.ca/index.aspx

The Community Care team was advised that nutrition screening should occur with every admission and that triggers for referral to dietitian would include:

- Unintentional weight loss
- Gastrointestinal problems (diarrhea, constipation, malabsorption etc)
- Inappropriate food intake/poor appetite/anorexia
- Nutrition support (tube feeding or TPN)
- Dysphagia (difficulty swallowing)
- Poor wound healing/pressure ulcers
- Chronic disease or conditions (particularly those that kept people homebound).

In order to manage the flow of referrals and establish priorities for assessment and treatment by the RDs, the members of the health team were asked to assign a simple risk and urgency ranking (low, medium, high). The RD typically conducted a telephone consultation within 24 hours of the referral and most clients received at least one home visit. The Mini Nutritional Assessment (MNA) was used by the RD to provide a single, rapid assessment of each client's nutritional status.

The MNA is a validated tool composed of simple measurements and brief questions. It involves:

- Anthropometric assessment (weight, height, mid-arm and calf circumference)
- General assessment (lifestyle, medication and mobility)
- Dietary assessment (number of meals, food and fluid intake)
- Autonomy of eating self-assessment
- Self-perception of health and nutrition

### The sum of the MNA score provides a "Malnutrition Indicator Score"

- < 17= Protein Calorie Malnutrition
- 17-23.5= At Risk for Malnutrition
- 23.5= Satisfactory Nutrition Status

Using the tool enables identification of people at risk for malnutrition before severe changes in weight or protein status occur.[11]

321 referrals[12] (approximately one percent of the community care caseload) were made to the community RD program within a 6-month period. The clients were an average of 70 years of age with three known co-morbidities (cancer, arthritis, and neurological conditions). Approximately 86% of the clients seen were at moderate or high nutritional risk. The most common reasons for referral were:

**1.** Malnutrition (17%)
**2.** Unintentional weight loss (13%)
**3.** Gastrointestinal Issues (11%)
**4.** Dysphagia/Swallowing Problems (9%)
**5.** Diabetes (9%)
**6.** Enteral feeding (8%).

Four hundred home visits and 300 phone consultations were conducted with clients and caregivers. Additionally, over 600 telephone consultations were made to other members of the health care team regarding client assessments and to provide advice and direction for their care of 'low risk nutrition' clients.

# Community Care Dietitian Project: Nutritional Care Improves Client Outcomes and Reduces Hospital Admissions

Through the *Community Care Dietitian Project*, a greater understanding of, and appreciation for, the role and scope of the RD was realized. Dietitians work closely with community partners and home care provider teams to provide services that include, but are not limited to:

- Assessment of nutritional *needs* and interpretation of biochemical and anthropometric data
- Development, implementation and evaluation of treatment/nutrition care plan
- Counselling/teaching clients, families and caregivers
- Recommendations and education regarding oral nutrition supplements; enteral feeding products, schedules & equipment; complications and managing long term
- Addressing issues of food access and food security, finances, meal planning, food preparation, storage and handling
- Assessment of nutrient/diet/drug interactions, and counselling to minimize related adverse implications
- *Paediatric* nutrition care services at home
- Consultation with the health care team and written documentation of activities
- Identification of nutrition-related community services and resources.[13]

**Client Case Studies**

These case studies are included to demonstrate not only the complexity of the clients being maintained in the community, but also the impact that RD intervention has on the outcomes for the clients and on the health care system.

**1. Prevention of Hospital Readmission**

Mr. T had pancreatic cancer and required a g-tube in order to meet his nutrition needs. He had initial instruction regarding the tube feeding but had several problems after discharge with the timing of his feedings, reflux and low energy. With several adjustments by the RD to his feeding, he was able to increase his weight and ultimately his intake resulting in the discontinuation of his tube feeding.

**2. Optimized Home Care Nursing Services**

Mrs. S is an elderly client who lives in a senior's facility and has had a chronic ulcer on her leg for years necessitating community nursing. After several visits by the RD and phone consultations to emphasize the importance of nutrition and the use of enteral supplements, her ulcer has cleared to the point of no longer requiring home nursing care.

**3. Improved Integration at School**

Seven year old "TP" with episodic ataxia type 1 and seizure disorder has periods of limb paralysis and difficulty swallowing; he has a G-tube. His family wants "T" to 'fit in' at school. The RD was able to observe "T's" progress at meals and recognize improvement in swallowing which were confirmed through a repeat 'swallow study'. The CC RD then educated "T's" caregivers as to how to assist him with his oral intake and normalize his meal time.

**4. Improved Quality of Life**

Mrs. C is long term client with ALS. She is totally tube fed but through the close monitoring of the RD has been able to maintain her body weight to 90% of normal which has aided her ability to enjoy her family and friends in her remaining time.

**5. Caregiver Support and Delayed Admission to Long Term Care**

Mr. M is an 87 year old client primary caregiver for his wife who suffers from dementia. He was referred by the community Speech Language Pathologist for dysphagia. He had a recent weight loss of 30 pounds and was experiencing other health issues. The support from the SLP and Community Care RD resulted in weight gain, dramatic improvement in his dysphagia and increased energy. He is better able to care for his wife and feels more confident that the couple will be able to stay in their home longer.

**6. Early Hospital Discharge**

Mr. EW is an 82 year old male with diabetes admitted to hospital with pancreatitis and delayed gastric emptying. Enteral feeding was attempted, but due to intolerance of the tube feeding, he was placed on total parenteral nutrition (TPN). His discharge from hospital was dependent on follow-up by the home care RD. The initial assessment at home confirmed poor appetite; and limited ability to ingest liquids and solids. MNA score was 16/30. Additionally Mr. EW complained of nausea/vomiting and was confused about dosage of diabetic meds. Two home visits, four patient phone interventions, four consultations with the health team achieved an improvement in oral intake, MNA score, and weight. TPN was discontinued.

**7. Prevention of Hospital Admission**

Ms. LB is a 77 year old female with COPD, CHF, HTN, colitis and chronic pancreatitis. Consult to the RD was made to address poor intake and persistent diarrhea. At the home visit the client appeared very malnourished with a MNA score of 9/30. Ms. LB's intake over previous three days was low and she appeared dehydrated. Orders for oral rehydration solution and medication adjustment were received from the physician. The RD provided a meal plan which Ms. LB was able to tolerate and her GI symptoms reduced. Over two months the client advanced to normal diet, weight gain and improved MNA.

**8. Wound Healing**

Mr. VP is a 49 year old paraplegic with frequent pressure ulcers and an unhealed wound. He had a history of irritable bowel syndrome and was on multiple vitamins. The RD was asked to review the client's diet to improve wound healing without excess weight gain. His finances were limited. The RD secured Ministry funding for short term nutrition supplements and calculated a meal plan high in affordable protein sources, and moderate in carbohydrates to limit weight gain. With a team approach that included Community Ambulatory Clinic (CAT) follow-up and Occupational Therapy assessed seating, the client was able to fully heal in two months without weight gain.

## Outcomes

As the variety and impact of the client case studies illustrate, the Okanagan HSA *Community Care Dietitian Project* was successful at identifying and responding to nutritional risk among home bound clients. Of the 321 clients who participated in the initiative, 76% of established treatment goals were either achieved or partially achieved and 78% showed improvements in their nutrition risks scores (using the MNA).

The majority (88%) of Home and Community Care clinicians surveyed felt that the RD was a valuable member of the home care team positively impacting the care they provide to their clients. 91% of the 51 clients surveyed were either "satisfied" or "very satisfied" with the services provided by the CC RD.

During a six-month period when the RD position was vacant, 32% of the referred clients were admitted to hospital. This was in stark contrast to the admission rate of 3% during the RD involvement through the *Community Care Dietitian Project*.

Through extrapolation[14] and utilizing IH bed costs (2007) and population data, it was estimated that the *Community Care Dietitian Project* saved the Okanagan HSA health system 98 acute care days – an estimated $70,168. Future evaluation of the direct impacts on hospital admissions, emergency room visits, and length of stay will assist in better understanding the contribution of the RD to the team.

### Key Success Factors of Implementing RD into CC team

- Experienced and qualified dietitians requiring minimal supervision and having good problem solving abilities
- Engagement of the community care team to generate referrals and support collaboration
- Senior management support to facilitate change management and adoption of new programs
- Pharmacist availability to help address nutrition related medication side effects
- Support from the primary care physicians
- Leveraging previous successes – this initiative being modeled on work on Vancouver Island
- Wide variety of literature (evidence) supporting nutrition intervention
- Having a validated screening tool to facilitate understanding of outcomes.

Interior Health has recognized the need for home based nutrition services and retained the complement of RDs in the Okanagan as well as adding positions across the Region. In the 2008-09 the Okanagan RDs received referrals for over 600 clients.

The RDs continue to maintain critical connections with other members of the health care system and are actively involved in Interior Health professional practice committees working collectively to develop more standardized evidence based education tools

## Conclusions

Adequate nutrition can improve the quality of life and reduce the severity of disease.[15] By introducing RDs to the home care team, clients are able to improve or maintain their health status; improve their functional abilities and quality of life. The support of the RD helps to prevent avoidable hospital presentations and facilitate earlier hospital discharges. Home-based nutrition services must arguably be an integral component of health services delivered across the continuum of care to all populations.

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ENDNOTES

1 Cunningham, D., 2002. Nutrition in Home Care: Prevalence of Nutritional Risk in Clients Referred for Long Term Care Services and Financial Benefit of Home and Community Care Nutrition Services. A report prepared for the Ministries of Health Planning and Health Services, British Columbia, Vancouver Island Health Authority Home and Community Care South Island, p.17
2 The Home Care Sector Study Corporation, 2003. Canadian Home Care Human Resources Study, Synthesis Report, p.13
3 APACTS, 2010. The Essential Guide for Timely and Effective Use of Therapy Services in Homecare, retrieved from http://www.apacts.ca/images/stories/ccac_reference_guide_.pdf
4 Cunningham, D., 2002., p.19
5 Ibid, p.19
6 Riffer 1986. Malnourished patients feed rising costs: Study, Hospitals, 1966, p.85
7 Cunningham, D., 2002., p. 13
8 Ibid, p.17
9 Dietitians of Canada, 2008. The Need for a Program of Home-based Nutrition Services in British Columbia,p.1
10 Lobdell, P., 2006. Okanagan HSA Community Care Registered Dietitian Pilot Program, Evaluation Report. Interior Health, p.7
11 J Nutr Health Aging. 2006 Nov-Dec; 10(6):466-85; discussion 485-7
12 67.9% from the community and the remainder from acute care, physicians, and chronic disease management programs
13 APACTS, 2010.
14 Using the data from report prepared for the Ministries of Health Planning and Health Services, British Columbia, Vancouver Island Health Authority Home and Community Care South Island
15 Cunningham, D., 2002, p.19

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The Canadian Home Care Association (CHCA), as a national voice, promotes excellence in home care through leadership, awareness and knowledge to shape strategic directions. The Association is committed to facilitating continuous learning and development throughout the home care sector to support and promote innovative and effective practices across Canada.