

## Canadian Foundation for Dietetic Research Dietetic Research Event – June 10, 2006

CFDR's Dietetic Research event was held in conjunction with the DC Annual Conference. This year, there were a total of 24 oral and 24 posters presented, showcasing the work of dietitians from across Canada. The Canadian Foundation for Dietetic Research is grateful for the work of the Abstract Review Committee, chaired by N. Theresa Glanville, PhD, PDt, Professor of Applied Human Nutrition at Mount Saint Vincent University. Thanks to committee members Linda Mann, Kim Barro and Jackie Spiers for their work in reviewing the abstracts submitted for the research forum.

*These abstracts represent research projects of dietitians that were accepted through a peer-review process for presentation.*

*\*Indicates the presenter [R] = Research abstract [E] = Experience-sharing abstract*

### ORAL RESEARCH PRESENTATIONS

#### Dietetic Internship and Undergraduate Education

##### Online internship resources for the UBC Dietetics Major: A needs assessment

*K Traviss\*, C McGuire and G Hammond. University of British Columbia, Vancouver, British Columbia [E]*

**Purpose:** To establish a repository of web-based resources for preceptors and interns across British Columbia to access for internship teaching and learning purposes during the internship year of the revised UBC Dietetics Major. **Description of Process:** An advisory group was formed to oversee the project, including the UBC Dietetic Education Coordinator, two UBC students, a UBC librarian, an online learning technology specialist, and a dietitian consultant who served as project coordinator. The needs assessment process was conducted from May-December 2005 and involved obtaining input from stakeholders using focus groups, interviews and online surveys; evaluation of web-based content management systems; exploration of the role of UBC library; and a review of online resource repositories used by other internship programs in Canada. **Project Summary:** Stakeholders supported the concept of the repository and suggested it include curriculum materials and forms, an organized and concise set of dietitian-recommended resources, preceptor training and support materials, and health authority site-specific resources. Research into other programs in Canada did not uncover an existing dietetic internship resource repository model to address the identified needs. An open-source course management system ([www.moodle.org](http://www.moodle.org)) was selected which offers an easily managed subscription system with multi-level login access and includes discussion forums to encourage networking and further sharing of resources. The UBC library will maintain a page of key Nutrition/Dietetics links, assist with the organization of references, and provide online tutorials. A sustainability plan is being developed to keep the resources current. **Recommendations & Conclusions:** The needs assessment process assisted us in determining the resources needed for the repository and allowed us to select a suitable course management system, to be in use by May 2006.

##### The development of a mentoring program for dietetic interns at St. Michael's Hospital

*M. McCall\*, St. Michael's Hospital, Toronto, Ontario [E]*

**Purpose:** Internship brings many challenges related to understanding hospital culture, handling internship workload, and transitioning from student to healthcare professional. A mentoring program was developed to address unmet learning needs of our dietetic interns and to offer an extra dimension of professional development for our dietitians. **Process or Content:** The potential benefits of mentoring for

both mentees and mentors was researched and presented to our dietitians and dietetic interns. Volunteers for mentors were recruited, and a seminar on mentoring was developed and delivered. Matching interns with a dietitian mentor was challenging, but was done using a summary of each intern's experience, professional and personal interests as a guideline. First year evaluations revealed the program was highly valued for seven of nine interns and for all mentors. Interns stated mentors provided emotional support, a safe, non-evaluating relationship, and validation of their abilities. The mentors valued developing close relationships with their mentees, and felt they were better preceptors for other interns due to a more empathetic understanding of interns' challenges. There were no financial costs and, after the initial time commitment to set up the program and inservice participants, only periodic attention was required throughout the year. **Project Summary:** The mentoring program provided each intern with a valuable role model and confidant to share both professional and personal issues during their internship year. **Recommendations & Conclusions:** The mentoring program successfully provided support and guidance for interns while adding an extra level of professional satisfaction for dietitians acting as mentors. With the many benefits incurred at minimal cost, it is highly recommended that a mentoring program be considered by other internships.

### **Simulation as a learning activity to enhance menu planning skills development**

*A. Cuddy\*, the Michener Institute for Applied Health Sciences, J. Chappel, Ryerson University, Toronto, Ontario [E]*

**Purpose:** Undergraduate students of nutrition and food programs often initially struggle with the relevance or intent of courses which focus on menu planning and food preparation as essential professional skills. Studies indicate that cooking skills are declining in North America and, correspondingly, undergraduate students often describe their own cooking skills as poor. Learners do not always perceive that food preparation knowledge and skills are a necessary part of "nutritional know-how". It becomes incumbent upon educators of future dietetic professionals to seek strategies to engage learners and provide inspiration and context for their learning. **Description of Process or Content:** Two simulation activities were developed for a group of second year nutrition and food students. The first scenario involved a newly diagnosed child with type two diabetes and her mother. The second involved a recently widowed older adult. Professional actors, trained by Ryerson's Interpersonal Skills Teaching Centre portrayed realistic scenes engaging learners in the dialogue as they struggled with menu planning issues. The critical role of the dietetic professional in providing guidance regarding menu planning, food selection and preparation became clear to all participants. A heightened awareness of client/customer needs, achieved using many emotionally charged issues threaded throughout the dialogue, engaged learners and inspired many to actively seek to enhance their cooking skills. **Project Summary:** Simulation activities integrated into the curriculum of a second year food systems course assisted students in understanding the relevance of menu planning and food preparation skills in the field of food and nutrition. **Recommendations and Conclusions:** Simulation activities have multiple uses in undergraduate programs as they are an engaging and effective way to provide context and relevance for students.

### **Wellness and Public Health: Food Security and Hunger**

#### **Community service providers promote food security in older adults**

*HH Keller, JJM Dwyer, V Edwards\*, C Senson, HG Edward. Department of Family Relations and Applied Nutrition, University of Guelph, Guelph, ON and City of Hamilton Public Health Services, Hamilton, Ontario [R]*

**Objectives:** Food security in older adults is influenced by financial constraints, functional disability and isolation. To date, little is known of the roles played by social and community service providers in supporting food security of older adults. As these providers are frequently in contact with vulnerable seniors, they have the potential to limit food insecurity. **Methods:** This was a descriptive qualitative

study. Twenty-seven social and community service providers (e.g., transportation, seniors' centres, food banks) participated in four focus groups to identify concerns, issues and strategies for promoting food security of their low-income clients. Audio-recordings were transcribed verbatim and a code-book was developed. A single researcher used a master codebook for coding; reliability was tested with a second researcher. The research team used a constant comparison analysis to determine key themes.

**Results:** The health promotion "roles" that providers employed to assist seniors with food access and consumption included monitoring, coordination and promotion of services, providing a personal touch for clients, education, advocacy, and provision of a social environment. Constraints to these supportive roles and the strategies used by providers were also identified. **Conclusions and Implications:** Social and community service providers are involved in health promotion for older adults through the various roles they take on promoting food security. As such, these providers need to be included as active members of the community healthcare team. Low income seniors are potentially food insecure and further work is required to facilitate adequate food intake in this vulnerable group. *Acknowledgements: This study was funded by City of Hamilton Public Health Services.*

### **Food management strategies and diet quality of low-income, mother-led families in Atlantic Canada**

*M Sim\*, NT Glanville, L McIntyre and I Blum. Mount Saint Vincent University, Dalhousie University, Halifax, Nova Scotia [R]*

**Objectives:** Little research has been done on the management of food resources in food insecure families although there is some evidence to suggest that food resources are not shared equally amongst members of the same household. This study characterized the food management strategies employed by low-income, mother-led families in Atlantic Canada and determined their impact on diet quality.

**Methods:** We conducted secondary data analyses of 24 families from a larger study of mother-led, low-income families who provided data on socio-demographics, food insecurity, and four weekly 24-hour dietary recalls of household members plus an ethnographic interview on food provisioning. Using the supper meal as a proxy for diet quality (food type, portion size, servings per food group, preparation method), a plate was visually constructed for each family member (n=313), and compared to a thematic analysis of the ethnographic interview. An index of behaviour was developed for five food management strategies and validated by a panel of nutrition and food security experts. Families were scored on each of the food management strategies and individual members were given a diet quality score. **Results:** Three of 5 dichotomous food management strategies; mother driven/child driven, healthy eating/subsistence feeding, and meal planning/ad hoc food consumption, were positively related to diet quality of all household members ( $p < 0.05$ ), while food privileging/sharing food and formal meal structure/informal meal structure were not. Severity of household food insecurity and position within the family were not related to diet quality. **Implications and Conclusion:** Interventions aimed at improving diet quality of low-income families should consider strategies used by households to manage their food resources. *Supported by an operating grant from the Danone Institute of Canada and a studentship from the Nova Scotia Health Research Foundation (MS)*

### **Prevalence and trends of overweight among low income women**

*M MacEwen\* and S Evers. University of Guelph, Guelph, Ontario [R]*

**Objectives:** Research suggests that low-income women are at elevated risk for overweight and obesity. However, there are no Canadian data on the weight status of low income women, and specifically no data on trends. As well, there are increased health risks associated with obesity. Our objective was to assess the prevalence of overweight (BMI 25.0-29.9) and obesity (BMI  $\geq$  30.0) and examine secular changes in the body mass index (BMI) (kg/m<sup>2</sup>) of low income mothers. **Methods:** 580 women participating in Better Beginnings Better Futures, a multidisciplinary longitudinal prevention project in Ontario, self-reported their height and weight at several points between 1994 and 2002. **Results:** At baseline, women were 27 ( $\pm$ 6.1) years old; 58% were married and household income was below the Stats Canada low income cut off for

73.2%. Average BMI increased from 25.2 at baseline (in 1994) to 26.6 eight years later (in 2002). The prevalence of overweight increased from 24.4% in 1994 to 28.7% in 2002. The proportion who were obese increased from 18.1% to 24.7%. **Implications & Conclusions:** Results suggest that the prevalence of overweight and obesity is increasing in low-income women. Overweight and obesity are major risk factors for a number of chronic diseases in women; therefore strategies are needed to help reverse these trends. *Better Beginnings Better Futures was funded by Ontario Ministries of Health and Long Term Care, Community and Social Services and Education.*

## Wellness and Public Health: Intervention, Monitoring , Evaluation

### Feeding the Minds and Bodies of BC Students (K-12)- Year 2 (FMB-Y2)

*A Ottem\*, R Levy-Milne and J Macdonald. Dietitians of Canada, BC Region, Vancouver, British Columbia [E]*

**Purpose:** The goal of FMB-Y2 builds on the goal of year one (FMB-Y1), to reach decision makers with convincing messages to support healthy eating at school. **Description of Process or Content:** FMB-Y1 focused on building relationships with key players in the BC school system especially school trustees and parents as well as determining the barriers to and facilitators of creating an environment of healthy eating in schools through an environmental scan and review of the literature. Barriers included lack of awareness of the link between nutrition and learning, lack of resources and lack of support. Facilitators included identifying a champion(s), sharing of success stories, and building partnerships within the school environment. FMB-Y2 continues to focus on increasing awareness provincially by expanding the network of decision-makers to include teachers, school administrators and superintendents and to further involve parents. **Project Summary:** Regional success stories and steps for developing and implementing policies are being highlighted in stand alone communication tools, varying associations' newsletters and through interactive presentations in efforts to encourage school decision-makers to take action in promoting "healthy eating." This presentation will highlight opportunities (e.g., the multidisciplinary and inclusive approach to taking action), challenges (e.g., working within resource constraints and perceived priorities) and strategies (e.g., through knowledge translation and using 'real-life' evidence-based practice to inform this process) in facilitating decision makers in moving the school 'healthy eating' agenda forward. **Conclusions/implications:** Schools can play an active role in promoting healthy eating. Projects like FMB-Y2 help in raising awareness among all levels of school decision-makers of the links between adequate nutrition, academic achievement, and positive behaviours, as well as encourage action.

### Building sustainability in the Annapolis Valley health promoting schools program

*I. Bligh\*, C. Whitby\*, S. Carmichael\*, S. Veinotte. Annapolis Valley Health Promoting Schools Program, Annapolis Valley Health and Annapolis Valley Regional School Board, Annapolis Valley, Nova Scotia [E]*

**Purpose:** To reduce the barriers for students and strengthen the infrastructure in schools in order to support and promote daily affordable healthy food choices and physical activity opportunities. **Description of Process:** The Annapolis Valley Health Promoting Schools Program (AVHPSP) grew from a grassroots initiative started in 1997 by a group of parents and school staff who saw the need for both nutritious food choices at affordable prices and access to increased physical activity in schools. In 2001, funding from the Canadian Diabetes Strategy, Health Canada was received to support eight elementary and middle schools. Research published in the American Journal of Public Health based on this first phase found that students had significantly lower rates of overweight and obesity, had healthier diets and reported more physical activity than students without a comprehensive program. Program funding from Nova Scotia Health Promotion has been established in 2006 and all Annapolis Valley Regional School Board Schools are being offered support. The current program focus is to make it easier for schools to create sustainable healthy, affordable school food/nutrition and physical activity initiatives by increasing the efficiency of delivering program components. **Program Summary:** The Program uses a population health approach to reduce inequities in health status, based on multi-sector partnerships, multi-strategies, capacity building and a strong evaluation and research component. **Recommendations & conclusions:** The research and evaluation results have influenced the development of a Provincial School Food Policy and determined the criteria for program funding across the province. These results support the broader implementation of comprehensive programs like the Annapolis Valley Health Promoting Schools Program.

## Partnerships key in developing an integrated school nutrition curriculum resource

*A Li\*. Cancer Prevention Program, Alberta Cancer Board, Calgary, Alberta [E]*

**Purpose:** The Alberta Cancer Board's Cancer Prevention Program promotes the consumption of vegetables and fruit to all Albertans. As healthy eating habits are often formed during the childhood years there is value and interest in creating awareness and encouraging more opportunities to showcase vegetables and fruit among the school-aged population. **Process or Content:** A partnership was developed with a local school board to develop a nutrition curriculum resource for Kindergarten to Grade Six that fulfilled the provincial Health & Life Skills curriculum as well as outcomes for other core subjects. The resource layout and lesson plans were developed by the Alberta Cancer Board after consultation with educators. School board staff and teachers assisted in reviewing the resource and recruiting teachers to pilot the program in the classroom setting. The school board and Alberta Cancer Board jointly hosted an information session for pilot teachers and provided support throughout the duration of the pilot. At the conclusion of the pilot, teachers evaluated most of the activities as being appropriately linked to curriculum outcomes, suitable for the age level and a useful teaching tool. Teachers also shared insight on ways they used and complemented the lesson plans. These were added to the revised resource. An independent Education Consultant also reviewed the resource for appropriate links to the Alberta curriculum. **Project Summary:** A school nutrition curriculum resource was created in partnership with a school board to fulfill the outcomes of the Health & Life Skills curriculum and other core academic subjects. **Recommendations & Conclusions:** Partnering with educators was a key component of designing, piloting and evaluating the resource. Future initiatives in the school setting can be modeled after this approach.

## Mieux-être et santé publique : Enjeux dans les collectivités francophones

Facteurs associés au profil alimentaire/nutritionnel des aînés autonomes à domicile au Nouveau-Brunswick

*L. Villalon\*, J.C. Bitakinsanga, L. Babin, R. Bordage et D. Bourgois, École de sciences des aliments, de nutrition et d'études familiales, Université de Moncton [R]*

**Objectif :** Évaluer l'existence ou non d'une corrélation entre certains facteurs sociodémographiques, de santé et le profil alimentaire/nutritionnel des aînés à domicile. **Méthodes :** Cent dix neuf sujets d'un âge moyen de 73±5.7 ans furent étudiés. Le profil alimentaire fut évalué par deux questionnaires, un sur le choix alimentaires et l'autre sur la fréquence alimentaire. Les apports nutritionnels furent mesurés par un relevé alimentaire de trois jours. **Résultats :** Dix sept pourcent avait un poids insuffisant et 34 % un excès de poids. Quatorze pourcent souffraient soit d'ostéoporose, diabète et/ou maladies cardiovasculaires (MCV). Les femmes étaient plus nombreuses à souffrir d'ostéoporose et MCV ( $P<0.001$ ). Quatre vingt pourcent d'aînés faisait de l'activité physique dont 56% quotidiennement. Peu d'aînés présentaient une perte d'odorat (2.5%) et du goût (3,4%), ou des problèmes de mastication (2.5%) et déglutition (8.4%). Cependant, 75,6% portait une prothèse dentaire. Un profil alimentaire distinct selon la situation familiale et le sexe fut observé. Les individus qui vivaient en famille étaient plus nombreux à consommer une alimentation variée. Les femmes mangeaient plus de fruits/légumes que les hommes, ces derniers plus des produits céréaliers ( $P< 0,000$ ) et viandes ( $P< 0,01$ ). Les hommes avaient des apports plus élevés en énergie, glucides, lipides et B3 que les femmes ( $P< 0,05$ ). Ces dernières avaient des apports plus élevés en zinc, en vitamines C et A ( $P<0,05$ ). Plus de 60% des sujets ne couvraient pas leurs besoins en fibres, folates, calcium et zinc. **Conclusion :** Les aînés qui vivaient seul ou qui souffraient du diabète et/ou MCV étaient plus nombreux à avoir des apports nutritionnels inférieurs à ceux recommandés.

## **Bénéfices nutritionnels et cliniques associés à une intervention nutritionnelle chez les aînés au Nouveau Brunswick**

*J. Babineau\*, L. Villalon, M. Laporte et H. Payette, École des sciences des aliments, de nutrition et d'études familiales; Université de Moncton [R]*

**Objectifs :** Évaluer les bénéfices nutritionnels et cliniques associés à un dépistage et une intervention nutritionnelle précoce chez les aînés hospitalisés au N.-B. **Méthodes :** Cent quarante et un sujets âgés de  $\geq 65$  ans ont été étudiés. Le groupe expérimental était composé de 62 aînés dépistés à risque élevé de malnutrition avec deux outils de dépistage développés au N.-B. Les diététistes effectuaient chez ce groupe une évaluation et implantaient un plan de soins nutritionnels. Des suivis hebdomadaires des apports nutritionnels, du poids et des paramètres biochimiques étaient effectués. Le questionnaire Short-Form 36 était administré à l'admission et au congé. Le groupe témoin ( $n < 79$ ) fut obtenu en recueillant, aux archives, les données des aînés admis qui n'avaient jamais bénéficié d'une intervention nutritionnelle. Des données sur la durée du séjour, les complications, le nombre de réadmissions et le taux de mortalité furent recueillies chez les deux groupes. **Résultats :** Un soutien nutritionnel améliore les apports énergétiques ( $P < 0.0001$ ) et protéiques ( $P < 0.01$ ), ainsi que les indices biochimiques : albumine ( $P < 0.001$ ), pré albumine ( $P < 0.003$ ), transferrine ( $P < 0.02$ ) et hémoglobine ( $P < 0.026$ ). Aucun changement ne fut observé dans l'hémoglobine et les lymphocytes. De plus, les taux de complications non infectieuses ( $P < 0.033$ ), le nombre de réadmissions ( $P < 0.00001$ ) et la durée du séjour ( $P < 0.007$ ) étaient réduits grâce à l'intervention nutritionnelle. Finalement, une amélioration de sept des huit dimensions reliées à la perception de la qualité de vie d'après le SF-36 fut retrouvée ( $P < 0.05$ ). **Conclusion :** Il s'avère essentiel d'implanter un dépistage et une intervention nutritionnelle précoce afin d'améliorer l'état nutritionnel et les paramètres cliniques chez les aînés hospitalisés

## **La femme québécoise, ses responsabilités ménagères, le poids, le corps tels qu'abordés dans La Presse au tournant du XIX<sup>e</sup> siècle**

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**Objectif :** Vérifier si les responsabilités quotidiennes de la femme, ses activités en lien avec l'alimentation, le poids et l'image corporelle étaient déjà des préoccupations au tournant du XIX<sup>e</sup> siècle au Québec. **Méthodes :** Une lecture de La Presse sous forme de microfilm fut menée pour l'année 1890 et 1900, à la recherche de thèmes reliés à la femme, l'alimentation, la nutrition et la santé. Le matériel repéré fut digitalisé puis une analyse de contenu fut effectuée afin de repérer les articles abordant les responsabilités de la femme et toute référence au poids, à l'obésité et à l'image corporelle. **Résultats :** Sur un total de 576 documents, 17 articles furent identifiés pour 1890 et 8 pour 1900. En relation avec les responsabilités au sein du ménage, les articles insistent sur la gestion du budget, les tâches associées à l'alimentation et le maintien du bonheur conjugal. Des enjeux associés à l'acte de cuisiner sont soulevés. À l'égard du poids, des articles abordent le poids avec précision et des régimes sont proposés. Les références à l'image corporelle sont en relation avec la mode. **Répercussions et conclusions :** Les résultats révèlent d'une part la présence de thèmes aujourd'hui d'actualité tels que l'absence de compétences culinaires et d'autre part le traitement très différent de sujets tels que l'absence de relation obésité/ santé. L'analyse de matériel dans une perspective historique permet d'identifier des continuités et des ruptures dans les discours entourant des thèmes associés à l'alimentation et la nutrition. Les articles de La Presse qui furent répertoriés suggèrent d'autres pistes d'analyses et de recherches.

## Understanding Eating Behaviour during Illness

### Experiences of adolescents receiving enteral nutrition as a treatment for Crohn's disease

*J Spiers\*, LJ Taper, D Lordly, W Crist. Mount Saint Vincent University, IWK Health Centre, Halifax, Nova Scotia [R]*

**Objectives:** Historically, corticosteroids have been the most widely accepted and effective treatment for Crohn's disease. However, side effects such as impaired linear growth, have led some in the pediatric population, to choose enteral nutrition as an alternative treatment. The objectives of this research were to identify and give meaning to the experiences of adolescents who had used enteral nutrition and to use these experiences to guide informed discussion regarding the role of enteral nutrition in the treatment of pediatric Crohn's disease. **Methods:** Ten adolescents attending a pediatric gastroenterology clinic, participated in in-depth interviews guided by phenomenology methodology. Thematic analysis of the transcribed interviews organized the data into 3 major categories, which were broken down into a variety of themes and sub-themes. **Results:** The data indicated that adolescents had a positive opinion concerning the use of enteral nutrition and would make the same treatment decision if they were to do it again. Negative experiences such as not being able to eat while on exclusive feeds, placing the naso-gastric tube and feeling uncomfortable when strangers stared were also shared. Participant's stories highlighted the importance of the adolescent's relationships with family, friends, the health care team and the culture in which they live, in how the adolescents made sense of these experiences. **Implications & Conclusions:** Inclusion of adolescent perspectives are an important component of the clinical management of adolescents with Crohn's disease who use enteral nutrition as a treatment and as such should be included in informed discussions around the care of these patients.

### A community based treatment program for individuals struggling with a chronic eating disorder.

*K Williams\*, J Geller. St. Paul's Hospital, Vancouver, British Columbia [E]*

**Purpose:** The Community Outreach Partnership Program (COPP) is a program specifically designed to increase the quality of life of individuals who have declined or not benefited from intensive recovery-focused treatment. The program is cost-effective, behavior oriented, and encourages client autonomy and community involvement. **Description of Process or Content:** COPP is the product of a joint venture between a hospital-based eating disorder clinic and a community based mental health rehabilitation team. This combination of services provides clients with specialized medical, nutritional, and psychiatric services, in a community setting that focuses on developing life skills and increasing independence. Unlike programs that focus on symptom reduction, the primary treatment goal in COPP is to improve quality of life as defined by the client. Using both harm reduction and psychosocial rehabilitation principles, COPP assists clients to increase quality of life by fostering independence, increasing hope, and enhancing social skills in the context of the client's economic, social, and physical living environment. Program staff members include outreach counselors, a dietitian, program coordinators, a family therapist, and a hospital nurse liaison. In addition, the program has access to an internist, psychiatrist, and secretarial services. **Project Summary:** There are many differences between traditional treatment and the Community Outreach Partnership Program. The program is based in the client's community, with staff providing individual, client-centered treatment. The clients can work on any goals to increase their quality of life, which may or may not include reducing eating disorder behaviours. **Recommendations and Conclusions:** The Community Outreach Partnership Program provides a cost-effective alternative to intensive, recovery-focused eating disorder treatment.

## Normalization of eating during recovery from anorexia nervosa

*K Matic-Smyrnis\* and G Chapman. St. Paul's Hospital and Eating Disorders Program, and University of British Columbia, Vancouver, British Columbia [R]*

**Objectives:** Research into recovery from anorexia nervosa has focused on determining the typical course and long-term outcome of people diagnosed with and treated for anorexia nervosa. Little attention has been given to understanding the specific process of normalizing eating behaviour during recovery. This study explored the process of eating normalization as experienced by 13 women who perceived themselves as having recovered from the disorder. Participants who worked with a dietitian also discussed the significance of the dietitian's role in their recovery. **Methods:** This study used a qualitative research design to elucidate the themes underlying the process of eating normalization. Data were collected using semi-structured interviews and the Eating Attitude Test-26 questionnaire. Grounded theory methods were used in data analysis. **Results:** The core concept, developing the freedom to enjoy all foods, consisted of four phases: 1) Acknowledging the disorder, 2) Accepting support and deciding to change, 3) Confronting old patterns and learning new ways and 4) Food becoming a non-issue. Six participants who worked with a dietitian reported mixed feelings about the significance of the dietitian's role in their recovery, with some finding nutrition intervention beneficial, while others were dissatisfied with their interactions with a dietitian. Three themes describing the role of the dietitian emerged from the data: education, support, and mentoring. **Implications & Conclusions:** The findings emphasized the importance of developing supportive relationships, as individuals made incremental changes to their eating patterns. Dietitians working with individuals affected by anorexia nervosa must have strong counseling skills and be able to function as educators, nutrition therapists and mentors in assisting clients with normalizing their eating behaviour during the recovery process.

## Professional Development and Dietetics Human Resource Management

### Exploring professional boundaries in dietetics

*B Cantwell\*, College of Dietitians of Ontario, Toronto, ON and M Lenglet, Writer, Teacher and Consultant, Toronto, Ontario [E]*

**Purpose:** In dietetics, concerns about egregious boundary violations such as sexual misconduct are less relevant to practice than concerns about the failure to effectively manage power imbalanced (or fiduciary) relationships. The College of Dietitians of Ontario (CDO) undertook to increase Registered Dietitians (RDs) awareness of the complex interpersonal boundary dynamics between professionals and their clients. **Process or content:** Complexity and nuances are not captured in standard approaches to boundary crossings that define acceptable/unacceptable behaviours for professionals. Lenglet identifies four typical boundary-crossing patterns that jeopardize treatment, and presents strategies for managing boundary-crossings or "imbalances" that emerge in professional relationships. RDs were introduced to Lenglet's model through CDO's newsletter. In focus groups, clients described the experience of working with RDs, and RDs explored where boundary issues occur in practice. Focus groups informed the development of 24 workshops that offered over 500 RDs an opportunity to explore selected scenarios and practice Lenglet's strategies for managing boundaries. **Project summary:** In the focus groups, the four typical boundary-crossing patterns emerged but no boundary violations were reported. In the workshops that followed, RDs responded strongly to client's intrusions across professional boundaries and yet were complacent with regard to the idea that RDs intrude or distance themselves across the boundaries of their clients. RDs had difficulty with the idea that they have a responsibility to draw resistant clients into care. **Recommendations and conclusions:** Viewing clients' stories of working with RDs through the lens of Lenglet's model, RDs can better understand how clients experience nutrition counseling. Recognition of personal and professional boundaries and the effects of intrusion or withdrawal from them may enhance RDs ability to adjust their approach to clients more effectively.

## **Narratives of Participants in the Internationally Educated Dietitians Pre-registration Program (IDPP)**

*N Israel, L Buscher\*, J Chappell, M Wyatt. Ryerson University, Dietitians of Canada, Toronto, Ontario [E]*

**Purpose:** Understanding the professional experiences and perspectives of our current and prospective colleagues in dietetics is crucial for our professional development and for the continued evolution of our profession's identity. Intraprofessional and crosscultural dialogue enables us to better understand each other's practices, regardless of setting, to communicate more effectively, and to better deliver care and programming that is innovative, responsive, and sensitive to cultural and linguistic diversity. **Description of Content:** With courage and commitment, internationally educated dietitians (IEDs), practicum placement advisors (PA), and IDPP staff share their insights and perspectives on their involvement in the IDPP through video clips and written testimonies. Narratives highlight personal experiences in, and learnings from, the IDPP for all those involved. Insights on the client-dietitian relationship are touched upon. **Project Summary:** The stories shared by dietitians highlight the importance of valuing prior learning experiences, the importance of professional identity and professional dialogue, and the value of enhanced cultural competence of the dietetics profession. **Recommendations and Conclusions:** One of the approaches to ensuring a culturally competent profession lies in creating opportunities for meaningful dialogue among and between internationally and domestically educated and practiced dietetics professionals.

## **Northern Ontario dietitian workforce analysis: implications for future healthcare human resource planning**

*P Brewer, C Eisenbraun, C Paroschy Harris, K Keeler, D Raftis, M Wyatt\*. Northern Ontario Dietetic Internship Working Group, Dietitians of Canada [E]*

**Purpose:** The healthcare workforce faces many challenges but one of the most persistent and critical problems is the ability to attract and retain professional staff for rural and remote areas. As the Standing Senate Committee on Social Affairs, Science and Technology (2002) has pointed out, "the recruitment and retention of health care personnel including physicians, specialist, nurses, technicians, social workers, physiologists and nutritionists, in remote and rural areas of Canada have been ongoing concerns". In Ontario, little health human resource planning or policy attention has been directed to rural needs other than for physicians or nurses. Almost no information exists regarding dietitians. A survey tool was developed to better understand workforce issues specific to dietitians living in Northern Ontario. **Process or Content:** An electronic survey tool was developed to investigate, define and quantify Dietitians Health Human Resource issues in Northern Ontario. The survey was emailed to all dietitians registered with the College of Dietitians of Ontario in NE and NW Ontario. **Project Summary:** A sixty percent response rate was achieved. Workforce survey results include demographics and information regarding current vacancies, anticipated turnover, projected future demand for Dietitians, special needs of communities and capacity for training dietetic interns. Respondents reported varying levels of satisfaction with working conditions. **Recommendations and Conclusions:** Healthcare planners and employers need to be cognizant of issues, challenges and opportunities facing dietitians working in Northern Ontario. Demographic data indicated that up to 25% of Dietitians may migrate away from this area of the province, while at the same time, 12% of the workforce is eligible for retirement. Proactive planning and support for training in the north offers great potential to sustain and grow dietetic services to this under-served area of the province.

## Technology and Food Selection, and Food Safety

### Can Internet influence behaviour change? The CHN Healthy Lunches to Go Tour pilot.

*C. Dubeau\* and H. Haresign. Healthy Eating Affiliate for the Canadian Health Network, Dietitians of Canada, Toronto, Ontario [E]*

**Purpose:** The Canadian Health Network (CHN), in collaboration with Dietitians of Canada piloted the Healthy Lunches to Go Tour (HLTG), a virtual tool that supports women ages 35-54 to make healthier lunches for themselves and their children. Based on social marketing concepts, the objectives of the HLTG are to increase knowledge about what foods belong in a healthy lunch, how to overcome the barriers to making healthy lunches, where to get additional information and assistance developing skills and, have visitors set a personal goal, relating to lunch packing behaviour. **Description of Process or Content:** For six weeks, CHN visitors were invited to take the HLTG and data was collected. The tour had three sections including: a healthy lunch checklist, a section looking at some of the obstacles people face in making healthy lunches part of a daily routine, and suggesting simple steps for dealing with them, and a section providing visitors with the opportunity to submit a pledge to change their behaviour, based on what they had learned. There were 13,700 visits to the HLTG during the pilot period. Among the visitors who completed an evaluation form, 84% indicated that the tour helped them reach their goal of packing healthier lunches and 60% claimed that they learned something new. **Project Summary:** The HLTG showed a potential avenue that websites could undertake to help Canadians achieve healthier eating behaviours. **Recommendations & Conclusions:** CHN, Dietitians of Canada and others can build on the HLTG experience to offer tours based on specific users' needs such as recipes, menu ideas, or targeted information related to diseases.

### Using Interactive Technology to estimate portion size within Food Based Dietary Guidelines: a pilot study.

*K Sranacharoenpong\*, R M Hanning, K Harrigan, B Ries, and M Richards. Department of Health Studies and Gerontology and The Center for Learning and Teaching Through Technology (LT3), University of Waterloo, Waterloo, Ontario, Canada [E]*

**Objectives:** To develop an innovative public education tool for dietary portion size estimation using interactive technology. **Process:** The design concept for the learning object or tool was to provide a visual image of a mixed-food dish and enable learners to actively estimate the portions of component food items by food group. Through viewing their estimations on a virtual plate and receiving feedback on the accuracy of responses, learners would gain familiarity with food guide portion sizes. The tool was developed through a University of Waterloo Learning Technology course and benefited from input by design students on layout, instructions and interactivity. The final tool was developed using Macromedia Flash. **Project Summary:** A prototype learning tool was developed. Learners are presented with a screen showing a food guide on the left and, on the right, an empty plate and below it a plate containing a photographic image of a mixed food dish. Using "click" and "drag", learners move photographic images of single portions of foods from their respective food groups within the guide across to the empty plate. The single food portion is "dropped" on the plate and the mixed dish progressively assembled. By clicking on the dish they are assembling, learners are told if their portion estimates are correct. **Recommendations and Conclusions:** This innovative tool for portion size estimation engages learners and hence has cognitive advantages over traditional methods for assessing dietary intake and teaching the concept of portion size.

## Evaluation of a safe food handling label for restaurant take-out food: effective food safety intervention or good public relations?

*B Surgeoner, T MacLaurin\*, and D Powell. University of Guelph, Guelph, Ontario [E]*

**Purpose:** Simplistic solutions are frequently introduced to prevent foodborne illness regardless of their effectiveness. At the retail level, safe food handling labels for take-out food are thought to be a reasonable method to distribute food safety information about proper food handling and preparation practices to the consumer. However, the labels are only useful from a food safety perspective if consumers use them in their decision making. Through survey instruments and intercept interviews, data was collected to investigate consumers' perceptions of the label and to draw implications for behavioral change. **Process:** Five full-service casual-dining restaurants agreed to participate in the research; that is, to affix a safe food handling label to take-out food packages and distribute survey instruments to guests who ordered take-out food over a one month period. A sixth restaurant of comparable size and business permitted researchers face-to-face contact with guests at the point-of-purchase to validate the survey findings. **Project Summary:** Major challenges are involved in designing a sensitive and comprehensive evaluation of the safe food handling label. Nevertheless, data indicated that while the label was intended to change consumer food handling and preparation behavior, it has limited influence on consumer's practices. Results suggest that the label may be more effective at increasing consumer confidence in a restaurant. **Recommendations & Conclusions:** At the very least, the safe food handling label serves to initiate conversation about food safety risks in the public domain.

## Nutrition Therapy

### Toward the application of clinical practice : what works in community health centers? The example of folic acid. L'application des pratiques cliniques préventives : qu'est-ce qui fonctionne en santé communautaire? L'exemple de l'acide folique

*P Morin\*, C Giguère, J Lane, K Demers, D St-Cyr Tribble, M Lessard. Centre de santé et de services sociaux – Institut universitaire de gériatrie de Sherbrooke, Québec [R]*

**Objectifs:** Depuis 1992, il est établi que la consommation d'acide folique durant la période périconceptionnelle peut prévenir les anomalies congénitales. Toutefois, plusieurs recherches déplorent que cette recommandation soit insuffisamment effectuée (Morin 2002). Le but de notre recherche consiste à vérifier si un programme éducatif, concernant la prise d'acide folique en prévention d'anomalies congénitales, implanté auprès de professionnels de la santé, favorise l'appropriation des connaissances et des pratiques professionnelles. **Méthodes:** Dans l'optique d'adapter le programme à la réalité des professionnels, ce dernier a été élaboré à partir des perceptions de gestionnaires, d'intervenants, de sages femmes et de médecins de famille (entrevues semi-dirigées, focus group et questionnaires). Le programme élaboré comprenait de multiples stratégies (Grol & Wensing, 2004) dont une formation interactive, l'utilisation du matériel promotionnel développé par l'équipe de recherche (affiche et dépliant) et la stratégie de l'academic detailing. Les modifications des connaissances et comportements ont été évaluées à l'aide de questionnaires pré-post. **Résultats:** Les résultats révèlent que les intervenants ont augmenté leurs connaissances et développé le réflexe d'effectuer la recommandation. L'academic detailing a eu un effet marqué sur leur pratique. Pour ce qui est des médecins, 62% soulignent effectuer la recommandation plus systématiquement. Les affiches installées dans les salles d'examen auraient favorisé leur propension à effectuer la recommandation. **Répercussions et conclusions:** L'utilisation de multiples stratégies d'application des connaissances, incluant la stratégie de l'academic detailing, apparaît prometteuse pour favoriser l'application des pratiques cliniques préventives.

## Healthy Futures: Implementing a pediatric obesity prevention strategy in primary care.

TA Hussey\* and AM Crustolo. Hamilton HSO Mental Health & Nutrition Program, Hamilton, Ontario [E]

**Purpose:** The Healthy Futures project was developed by a group of dietitians working in primary care. Despite the growing number of children who are overweight, very few children were being seen for weight counseling. The purpose of the project is to prevent and treat pediatric obesity in primary care. The objectives of the project are: to increase the screening of children for overweight using the CDC body mass index (BMI) growth charts; to provide tools to physicians to start the discussion about healthy lifestyles and to assist physicians with lifestyle education and goal setting. **Description of the Process:** At a regular physician visit, a questionnaire focusing on eating habits, physical activity and sedentary activities is completed by the child or family. In accordance with the recommendations of the 2004 Chief Medical Officer of Health Report, children and youth have their BMI monitored by their physician. Stadiometers were provided to the practices to ensure accurate measurements were done. Collaboratively with the physician, a healthy lifestyle goal is selected. The goal is documented on a prescription with both the physician's and the child/youth's signature and progress is tracked on the back of the prescription. Information sheets and packages are available for those families who would like additional nutrition or exercise information. A referral to the dietitian is made as appropriate. **Project summary:** Physician use of the BMI charts has increased from 31% to 77% and more than 600 children have been involved. **Recommendations & Conclusions:** Healthy lifestyle discussions, facilitated by tools provided by registered dietitians, are an efficient and well-accepted method for goal setting related to pediatric weight management in primary care.

## Certain foodservice characteristics are associated with risk of malnutrition in cognitively intact elderly nursing home residents

N Carrier\*, École des sciences des aliments, de nutrition et d'études familiales, Université de Moncton, Moncton, New Brunswick, D Ouellet, Département des sciences des aliments et de nutrition, Université Laval, Quebec, Quebec, G E West, Département d'économie agroalimentaire et des sciences de la consommation, Université Laval, Quebec, Quebec [R]

**Objective:** This study examines links between foodservice characteristics and residents' risk of malnutrition. **Methods:** Cognitively intact residents meeting inclusion criteria and living within each of 38 participating nursing homes were randomly sampled. The final sample of 132 residents was screened for risk of malnutrition and completed a face-to-face interview questionnaire regarding their dining experiences. Additional data came from participants' medical charts, and a written questionnaire was completed by each institution's foodservice manager. Frequencies and logistic regressions were used to describe the sample and examine relationships between risk of malnutrition and foodservice characteristics. **Results:** Results showed that 37.4% of participants were at risk of malnutrition. Foodservice factors, including food packages, lids and dishes that are difficult to manipulate ( $\beta = 0.285$ ,  $P = 0.009$ ), bulk food delivery systems ( $\beta = 1.329$ ,  $P = 0.036$ ), overall food satisfaction ( $\beta = 0.253$ ,  $P = 0.044$ ), menu cycle length ( $\beta = -2.162$ ,  $P = 0.003$ ), and porcelain dishes ( $\beta = -0.345$ ,  $P = 0.052$ ), were all significantly associated with risk of malnutrition. **Implications & Conclusions:** Our findings suggest there is a need for nursing homes to modify certain aspects of foodservices that may affect risk of malnutrition among cognitively intact residents.

## POSTER RESEARCH PRESENTATION ABSTRACTS

*These abstracts represent research projects of dietitians that were accepted through a peer-review process for presentation.*

\*Indicates the presenter      [R] = Research abstract      [E] = Experience-sharing abstract

### Education, Training and Counselling

#### Client-centred Nutrition Counselling: What is the client's perspective?

*DL MacLellan, Department of Family and Nutritional Sciences, University of Prince Edward Island, Charlottetown, Prince Edward Island [R]*

**Objective:** The purpose of this research was to explore the nature of nutrition counselling from the perspective of the client. **Methods:** A phenomenological approach using in-depth interviews conducted by the principal investigator was used for this study. All Dietitians on Prince Edward Island were contacted and asked to give a letter of invitation to the study to all of their clients. Interested individuals were then contacted by phone and an interview was arranged. The raw data from the interviews was transcribed verbatim and a form of inductive, thematic analysis was used to analyse the data. **Results:** Six clients were able to be contacted and interviewed for this research. Four key themes emerged from the data: Dietitian as teacher, trusting relationship, support, and a holistic approach. Participants talked about the importance of developing a trusting, open and supportive environment and the need for the Dietitian to consider the 'whole' person, not just their nutritional needs. They described the role of the Dietitian as primarily that of a teacher and identified the need for the Dietitian to increase their awareness of nutritional issues and motivate them to improve their diet. **Implications and Conclusions:** The findings of this research emphasize the importance of the relationship between the Dietitian and the client and suggest that clients view Dietitians primarily as sources of information rather than facilitators of behaviour change. However, recruitment difficulties resulted in a smaller than desirable sample size and thus additional research needs to be conducted to elucidate these concepts further.

#### The value of dietitian services in mental health: perspectives of consumers

*KM Davison\*, University of Calgary, Department of Community Health Sciences, Calgary, Alberta [R]*

**Objective:** The purpose of this project was to explore the perspectives of mental health consumers regarding the value of dietitian services. This was part of a larger project that examined the role of dietitians in primary health care mental health programs.

**Methods:** Ten in-depth tape-recorded interviews with mental health consumers of the BC Mood Disorders Association and Schizophrenia Society who had used the services of a dietitian were conducted. Participants ranged in age from 24 to 56 years and had been diagnosed with schizophrenia (n=3), bipolar disorder (n=2), or depression (n=5). This unstructured approach allowed identification of the benefits and disadvantages that were most important to participants, the considerations that influenced their perceptions and their consequences. NUDIST computer software was used to assist in data management; data was coded inductively and analyzed using grounded theory method. Data was collected until theoretical saturation. **Results:** A theory that explains the value of dietitian services and actions of people with mental illness was proposed. Values of dietitian services were experienced in six domains: finances, interpretation of service, development, participation, self-esteem, and mental health. In addition, participants engaged in a process of balancing the benefits and disadvantages of dietitian

services. Finally, individual and contextual factors (i.e., availability of service, social networks, the mental illness, service properties, and perceived alternatives) influenced perceptions of services. These perceptions were dynamic over time and instrumental in determining actions. **Implications and Conclusions:** The model can be used by those who work with mental health consumers to better understand their actions regarding dietitian services. The results suggest a number of areas warranting further exploration to enhance dietitian services in primary health care mental health programs.

### **Developing evidence-based, client centered nutrition education (NE) guidelines: Opportunities for dietitian input**

*NC Morley\* and C Rocheleau, NutritionLink Services Society, Vancouver, British Columbia; T Cividin, Vancouver Acute, Vancouver, British Columbia; K Traviss, University of British Columbia, Vancouver British Columbia; D Maclellan, The University of Prince Edward Island, Charlottetown, Prince Edward Island [E]*

**Purpose:** The purpose of this project is to learn about consumers' needs and preferences for NE, then to develop client-centred NE guidelines while building capacity for dietetic research. The consumer groups will differ in health status and include people who are 'healthy' (without any medical conditions), those who live with chronic conditions where eating is minimally/not affected, and those who live with conditions where eating is profoundly affected. **Description of Process/Content:** This project builds on the findings of a study that identified differences in the eating and feeding experiences of respondents according to health status that raised questions about tailored NE efforts. The project centers on the question of how health status influences consumer NE needs and preferences. The researchers and advisory group members from public health, acute care, non-profit, university, and grocery sectors coalesced with the shared recognition of the relevance to their practices of better understanding consumer NE needs and preferences. Dietitians will have opportunities to contribute to the project's four phases that include a national online survey of dietitian perceptions of consumer NE needs and preferences; a national online survey (informed by dietitian survey findings) of consumers about their NE needs/preferences; dietitian focus groups to be held across Canada to develop NE guidelines based on consumer survey findings; and dissemination of findings. **Project Summary:** The project will enhance capacity for dietetic research through collaborations of researchers and students with different amounts/types of research experience from different settings. **Recommendations and Conclusions:** The emerging guidelines will inform dietetic education and NE planning and research.

### **Professional Development**

#### **Evaluating "Gerry's List", An Email Distribution List As A Communication Tool Amongst Dietitians**

*G Kasten and NC Morley\*, Consulting Dietitians, Vancouver, British Columbia [E]*

**Purpose:** The purpose of this project was to evaluate the efficacy of *Gerry's List*, an email distribution list used to communicate information about job opportunities, continuing education events, and practice issues to 801 subscribers, predominantly in BC. The list was originated and is managed by a volunteer RD (requiring about 1.5 hours per week). **Description of Process:** A 40-item survey was developed on Survey Monkey® including forced choice, frequency response, open-ended and demographics items. An invitation to participate was distributed to subscribers; the survey remained open for 21 days. **Project Summary:** Of the 358 respondents (92% RDs), 49% indicated they used the list to seek employment, 25% to advertise positions, 18% to seek information on practice issues, 15% to announce continuing education events, 14% to seek input on resources, and 13% to announce new resources or products. Regarding staff recruitment, 29% of respondents had been hired to positions they learned about through the list, and 73% of employers seeking staff filled positions as a result of posting on the list. Nearly all (98%) of respondents who sought input on practice issues reported they had received useful feedback. Aspects of the list that respondents liked best and their suggestions for improvement underwent thematic categorization; the latter included items that can be readily addressed (e.g., format and timing), and those

that are limited by the email infrastructure (e.g. website/archive development). **Recommendations & Conclusions:** Survey results indicated that subscribers highly valued the list indicating that volunteer-moderated email distribution lists can be an effective and efficient way to communicate information about job vacancies, practice issues, continuing education events, developing resources, and announcing new resources or products.

### **Self Reports of Challenges and Barriers to Quality Practice by Registered Dietitians in Ontario**

*S Behari and B Cantwell\*, College of Dietitians of Ontario (CDO), Toronto, Ontario [E]*

**Purpose:** For Ontario's 2600 Registered Dietitians (RDs), the College of Dietitians of Ontario's (CDO) Self Directed Learning Tool (SDLT) facilitates reflection on practice and development of learning goals. The SDLT includes an opportunity to report on changes in practice, challenges and barriers to quality practice and wants for future practice. **Process or content:** In 2005, 1145/2096 RDs completing their SDLT on-line reported that their practice had changed over the past year; 948 reported that their practice remained the same; three did not respond to this question. Asked to identify challenges and barriers to quality practice, RDs reported several factors hindering their ability to provide quality dietetic services. Workload and staffing was reported nearly twice as often as other factors. Increased administrative requirements such as charting and workload measurements; facilities, equipment, supplies and resources; continuing education and professional development; and complexity of patients were frequently cited factors. Communication structures and processes; teamwork and collaborative practice; opportunities for leadership and advancement; and teaching and mentoring were reported half as often and healthy work environments and cultural competence were identified by fewer respondents. **Project Summary:** Employers of RDs in Ontario need be mindful of the challenges and barriers to quality practice. As CDO becomes more aware of changes, challenges and barriers to providing quality practice and RDs wants for future practice, Quality Assurance Programs (QAP) will evolve to meet the changing needs of clients and the profession. **Recommendations and Conclusions:** The collection of this type of information should continue as it assists RDs in reflecting on their practice, informs stakeholders such as professional organizations and employers and helps CDO improve its QAP.

### **Patient Services**

#### **Pilot Study - How will a room service delivery system effect dietary intake, food costs and patient satisfaction?**

*K Kuperberg, A Caruso, S Dello, D Mager\*, Hospital for Sick Children, Toronto, Ontario [R]*

**Objectives:** Nutrition is extremely important in pediatric patients with chronic diseases due to the high potential for growth failure associated with decreased oral intake. The current meal delivery system at The Hospital for Sick Children requires that patients select their meals two days in advance. Food is cold plated, rethermalized and delivered to patients at set meal times. Problems related to this system include food quality, limited menu selection and patient choice. Room service has been associated with improved dietary intakes and patient satisfaction, and reduced food costs. The purpose of this study was to examine the effect of a Room Service Model on food costs, nutrient intake and patient satisfaction. **Methods:** Patients aged 2-18 years on three units (n=54) were included. Dietary intakes, patient satisfaction and food waste was collected following meals for six days (three under the current system, three with Room Service). **Results:** Reductions in food costs and waste approximated 25% using Room Service. Patients ordered less food and consumed a greater proportion of the food ordered. In addition, 77 fewer trays were ordered during Room Service. This reduction was due to patients being discharged during a meal period, patients with recent diet order changes to NPO, or for patients who were not feeling well. All these trays would have been sent under the current meal delivery system. Mean energy intakes increased by 21% (n=6) during Room Service. **Implications & Conclusions:** The implementation of the

a Room Service model for food delivery in a tertiary pediatric acute care centre resulted in reductions in food costs and waste, along with improved dietary intake.

## Dietary Assessment

### Relating Canada's Food Guide to Healthy Eating food grouping principles to Canadian Nutrient File foods

*J Deeks, MF Verreault, L Dumais, I Rondeau, D Brulé, B Junkins, R Crompton, M Munro\*, Health Canada, Health Products and Food Branch, Ottawa, Canada [E]*

**Purpose:** Canada's Food Guide to Healthy Eating (CFGHE) is well accepted and generally understood by the Canadian public as a tool for dietary guidance. The establishment of a system of subgroup classification and portion sizes, to each of the Canadian Nutrient File (CNF) foods, would assist health professionals to apply the principles of the Food Guide in a standardized fashion, expand the opportunity to collect food intake data, and to link these foods to the subgroups and to the nutrient database. The objectives were to 1) standardize the reporting of data within food groups particularly for nutrition assessment and monitoring purposes and 2) to allow the computer-assisted breakdown of diets into Food Guide servings. **Process or Content:** Adherence to food grouping philosophy remained the guiding principle while expanding the traditional four food groups into fifty-four subgroups. Classification thresholds for subgroup assignment and reference portion sizes were also determined. Consistency within and across sub-groups was key. **Project Summary:** Tables are available on-line documenting CNF foods, CFGHE subgroup assignments, and the size of portion that provides one serving of the assigned subgroup. Subgroup codes were constructed to allow the collapse into broader categories where desired. Documentation explaining the rationales, thresholds and decision-making process accompany these files. **Recommendations and Conclusions:** This work will be applied to the Canadian Community Health Survey cycle 2.2 data to assess eating patterns. Feedback from health professionals accessing the tables has been very positive and the availability of a standardized classification relating CFGHE foods to the CNF foods now allows comparison between food consumption surveys.

### Using a modified version of the United States Department of Agriculture's Automated Multiple-Pass Method: the Canadian experience

*P Roach\*, M Villeneuve, I Massarelli and I Rondeau, Health Canada, Ottawa, Ontario [E]*

**Purpose:** To customize the United States Department of Agriculture's (USDA) Automated Multiple-Pass Method (AMPM) for 24-hour recall data collection in the Canadian Community Health Survey – Nutrition (CCHS 2.2). **Description of Process or Content:** The automated 24-hour recall data collection tool developed by the USDA, the AMPM, was used in the CCHS 2.2. This software was chosen for many reasons: manual data collection was not possible due to the large sample size; the high cost of developing a new data collection tool; interviewers with limited nutrition knowledge; and, compatibility between the US and Canadian food composition databases. In order to use the tool in Canada, modifications were implemented: addition of Canadian brands and foods, metric measures, and French translation. During the data collection phase of the CCHS 2.2, it was found that too many choices in the look-up tables (LUT) led to wrong food selections. The advantages of the Trigram search were lost when both languages appeared jointly in the main food list (MFL) and LUT. Interviewers had difficulties navigating through challenging situations and the tool was used, for the first time, weeks after training. **Project summary:** The USDA AMPM is an excellent tool for 24-hour recall data collection in large nutrition studies. **Recommendations & Conclusions:** In order to be used in future nutrition surveillance activities, the challenges encountered during the CCHS 2.2 will have to be resolved by: separating the French from English in the MFL and LUT, restoring the Tri-gram search, adapting questions in problematic categories and narrowing possibilities of answers in LUT would reduce errors and improve accuracy of this valuable tool.

## **Food and beverage consumption of Canadian Forces soldiers in an operational setting: Is their nutrient intake adequate?**

*PC Hatton\*, DJ Reid, K Gray-Donald, Department of National Defence, Ottawa, Ontario and McGill University, Montreal, Quebec [R]*

**Objectives:** Canadian Forces (CF) combat rations, used when logistics do not permit fresh feeding, are designed to be nutritionally adequate. Despite increased metabolic demands, soldiers are known to not eat enough during military manoeuvres. The purpose of this study was to determine the intakes of macronutrients and micronutrients of CF soldiers when consuming combat rations on operations. The study compared food and beverage intake against the combat ration menu offerings and the recommended nutrient intakes for operational environments. **Methods:** During two training operations soldiers (n=122, mean age= 26 y, range 18-42 y) recorded 48-hour food intakes using questionnaires with close-ended questions based upon ration items and open-ended questions for additional foods. To validate methods, 24 subjects returned uneaten food in labelled bags for verification with self-reported intakes. The nutrient intake analysis was performed using the CANDAT database. The nutrient adequacy of combat rations offered and of the soldiers' dietary intake was assessed against Dietary Reference Intakes (DRI). **Results:** Waste bag validation showed reporting was accurate. Soldiers eating only combat rations (n=64) did not consume enough energy (59.6% of EER), carbohydrate (339g±130) or fibre (20g ±8); 48% and 50% did not meet the EAR for folate and vitamin C respectively. Mean intakes for potassium (2312mg ± 841) and calcium (605mg ± 249) were below the AI; sodium intake (4689 mg ± 1724) was above the UL. Mean protein (102g ± 32), fat (105g ± 36) and iron (13.2mg ± 5.3) intakes met DRIs. Soldiers adding personal foods (n=58) had higher intakes. **Conclusions:** To optimize nutrition and combat readiness, foods rich in carbohydrate, potassium, folate and calcium need to be added.

## **Wellness and Public Health: Disease Prevention**

### **Evaluation of a fruit & vegetable promotion campaign: Implications for dietetic practice**

*CK Colapinto\*, D Malaviarachchi, Sudbury & District Health Unit, Sudbury, Ontario [R]*

**Objectives:** This evaluation aimed to determine consumer understanding and retention of information disseminated in a Fruit and Vegetable (F&V) campaign, and whether this was affected by the presence of a display. Consumer responses to resources and suggestions for improvement were also examined. **Methods:** Baseline data was collected at 17 grocery stores. Eleven held an event with an interactive display (display event), while six stores involved distribution of brochures (brochure event). A total of 688 participants completed a questionnaire, and 432 consented to a three-month follow-up telephone survey. Randomly selected participants (N=201) completed the follow-up. Data was analyzed using descriptive statistics, logistic regressions and grounded theory methods. **Results:** Compared to brochure events, participants who attended display events were six times more likely to correctly identify a serving size of F&Vs (OR=5.88, 95% CI 4.05, 8.54) and 23 times more likely to correctly identify the Canada's Food Guide to Healthy Eating recommended number of servings of F&Vs (OR = 22.67, 95% CI 14.29, 35.98). At follow-up, no significant difference existed between type of event and correct responses. Qualitative results revealed the consumers' decision to purchase more F&Vs could be enhanced by focusing on cost, convenience, and increasing event frequency and duration. Consumers reported that recipe cards were the most useful resource disseminated. **Implications and Conclusions:** Display events, as compared to brochure events, were highly successful in facilitating an understanding of the promotional information. It is evident that an effective campaign has been created that could be modeled to foster consistency of nutrition resources on a regional, provincial and national level. This evaluation has further implications for dietetic practice as the material can be shared with areas of the north with difficulties recruiting and retaining dietitians.

## **A comparison of dietary folate intake of older adults before and after mandatory fortification of grain products with folic acid in Canada**

*J. DeWolfe,\* Kingston, Frontenac, and Lennox & Addington (KFL&A) Public Health, Kingston, Ontario [R]*

**Objectives:** The objective of this research was to determine 1) whether fortification of food with folic acid allowed older adults in the KFL&A Public Health area to obtain adequate amounts of folate from food sources, 2) the proportion at risk of consuming amounts greater than 1000 mcg folic acid (Upper Limit) (UL), and 3) sub-groups at risk for deficiency. **Methods:** Dietary intake of a convenience sample of 103 healthy, active older adults was measured using three 24-hour recalls. Risk factors for poor dietary intake were identified through a structured interview and dietary folate pre- and post-fortification estimated. **Results:** Mean dietary folate increased pre- to post-fortification but 44.5% of women and 25.0% of men consumed less than the Estimated Average Requirement. No intakes exceeded the UL from food sources alone. Only two risk factors for poor dietary intake predicted low folate intake: 1) whether they liked to shop for food and 2) tooth or mouth problems. Participants whose diet met recommendations of Canada's Food Guide to Healthy Eating consumed significantly more folate. **Implications and Conclusions:** Despite fortification, many older adults were at risk for folate deficiency. Dietitians need to continue to promote folate-rich foods along with folic acid fortified foods. While none of the older adults consumed more than the UL, some could exceed this amount if supplements were added to a folic acid-rich diet.

## **'Maximizing the value' of food choices: What women are considering when making dairy and dairy alternative food selections in the grocery store**

*GK Hammond\* and GE Chapman, Human Nutrition, University of British Columbia, Vancouver, British Columbia [R]*

**Background and Objectives:** Canadian women are not meeting current dietary reference intakes for calcium and vitamin D, nutrients important to bone health. As the baby boomers age, the incidence of osteoporosis in Canada is predicted to double in the next 15 years, and diet is considered a key factor for reducing risk of osteoporosis. To gain insight into how women make decisions for selecting foods high in calcium and vitamin D, we conducted point-of-purchase interviews with women shopping for dairy and dairy alternative foods. **Methods:** At the refrigerated dairy and dairy alternative section in six grocery stores, semi-structured, audio-recorded, 5-15 minute interviews were conducted with 30 women shoppers to probe reasons influencing the specific food selections being made. Verbatim transcripts were analyzed using qualitative techniques to identify constructs and themes that described their decision-making processes. Informed consent was obtained and a ten-dollar honorarium provided. **Results:** Women chose dairy and dairy alternative foods they considered were good-tasting and that 'maximized the value' of their health, social and economic concerns. Osteoporosis, heart disease and managing body weight aligned with health concerns, while managing social relations (i.e. family likes/dislikes), and getting "good food value" (i.e. relatively inexpensive, nutritious) also influenced food choice decisions. Taste was the least negotiable influence on food choice and considerably affected the above noted impacts. **Implications and Conclusions:** The practical significance of this research will assist dietitians and nutrition educators to more fully understand current and relevant influences on women's dairy and dairy alternative food choices, and to use this understanding when counselling women regarding food choices and bone health.

## **Project using multi pronged approach to reduce the risk of hip fractures and enhance bone health**

*J. McCabe\*, Public Health Services, Cape Breton District Health Authority, Sydney, Nova Scotia [E]*

**Purpose:** The Bone Health Strategy focused on children, youth, perimenopausal aged women and seniors to promote and support bone building behaviors and reduce risk for hip fractures. The three year project has used a population health approach and sustainable long term outcomes to address the issue.

**Description of Process or Content:** Implemented by a bone health coordinator, the strategy was comprised of three components. Primary prevention included work with long term care facilities to pilot, promote and support a supplementation program. Falls prevention was also addressed through this component by working with numerous partners in a variety of settings. The second component of treatment examined, piloted and recommended options for primary care for those at risk or diagnosed with osteoporosis. It also addressed diagnostic, flagging and surveillance procedures. The third component, bone health education, focused on actions which increased community and individual capacities around the issue. Examples of work in this area included staff training for homemaker agencies, school curriculum and food policy support, in services with family resource centre staff, education with women's groups, workplace wellness sessions and job reentry program participation. Joint planning with these and other community partners such as community health boards, dairies, seniors clubs, and recreation departments allowed for more sustainable outcomes and policies around bone health. **Project Summary:** The multi pronged and collaborative approach resulted in a variety of programs and opportunities for evidence based planning to support bone health. **Recommendations and Conclusions:** This project can be a model to address future efforts around chronic disease prevention.

## **Awareness and use of Canada's Food Guide to Healthy Eating in Newfoundland and Labrador**

*TL Weir\* and BV Roebathan, Division of Community Health, Memorial University of Newfoundland, St. John's, Newfoundland and Labrador [R]*

**Objectives:** The objective of this study was to examine the awareness and use of *Canada's Food Guide to Healthy Eating* (CFGHE) among Newfoundland and Labrador (NL) residents by demographic and socioeconomic factors. **Methods:** A secondary analysis of data collected by Nutrition Newfoundland and Labrador (NNL) was conducted. NNL participants who responded to questions pertaining to awareness and use of CFGHE were studied. Demographic and socioeconomic factors examined included age, sex, area of residence, marital status, education level, income, having children living at home and level of food sufficiency. Chi-square analyses of data were conducted, with a p-value<0.01 showing statistical significance. Sample weights were used to allow findings to represent the overall NL population. The study was approved by the Human Investigation Committee, Memorial University of Newfoundland.

**Results:** Questions pertaining to awareness and use of CFGHE were answered by 1801 and 1480 NNL participants respectively. Overall, 82.9% of NL residents had previously seen or heard about CFGHE, but only 32.7% of those who were aware of CFGHE reported that they use it. Analyses indicate that awareness of CFGHE was positively associated with education level, income, being female, residing in an urban community, having children living at home and always having enough food to eat. Awareness of CFGHE was negatively associated with age. Use of CFGHE was positively associated with age, education level, income, being female, being married and residing in an urban community. **Implications & Conclusions:** Given that CFGHE is currently under revision, this information will allow policy makers to focus on subgroups of the population who are not currently being reached.

## **A quality assessment of the literature on trans fatty acids (TFA) and health outcomes**

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**Objectives:** In the winter of 2005, a Health Canada and a Heart and Stroke Foundation of Canada joint Task Force was asked to develop recommendations and strategies for reducing processed TFAs in Canadian foods to the lowest levels possible. As part of the process, a focused review of the literature was initiated to understand the science, evidence and key issues regarding the replacement of TFAs. Our objectives were to identify articles and assess the quality of the evidence on the impact of a diet with the percent energy as TFAs replaced by varying amounts of monounsaturated, polyunsaturated, or saturated fat (SFA) on hemostatic, inflammatory and lipid parameters. **Methods:** Comprehensive literature searches were conducted in Medline and Current Contents databases to identify studies published from 1999 to 2005 and limited to the English language, human research, and the adult age group. Primary search terms included: dietary fat, fatty acids, and cholesterol. All eligible studies were assessed for methodological quality. **Results:** In all, 491 titles and abstracts were screened from electronic databases and from articles suggested by Task Force members. 144 of these citations were further reviewed for their relevancy to the topic. After doing a review of the papers using established eligibility criteria, 42 of the 144 papers (30%) were deemed appropriate. Currently there is limited evidence to identify a specific SFA as a replacement for TFAs, in foods where a solid fat is usually required. **Implications and Conclusions:** This focused review of the literature has helped to provide guidance for the recommendations regarding TFA replacement for the Canadian food supply.

## **Wellness and Public Health: Infants, Children and Adolescents**

### **LEAP! Learning, Eating, Activity Program. A community based pediatric obesity initiative.**

*Barbara Dugas\*, B.Sc., RD, River Valley Health, Fredericton, New Brunswick; Gabriela Tymowski, Ph D, Professor, Faculty of Kinesiology, University of New Brunswick, Fredericton, New Brunswick [E]*

**Purpose:** The LEAP Program is a multi-disciplinary, team-based program for children and their families struggling with the problem of overweight, obesity and/or obesity related co-morbidities. Participants are provided with interventions that will nurture healthier lifestyle choices and behaviours, improve their nutritional status and increase the quantity and quality of their daily leisure and physical activity.

**Description of Process or Content:** Children, 5 -12 years, with a weight of 120 - 130% of their predicted ideal body weight and obesity related co-morbidities are referred for a two year program. The program fosters personal development, develops decision making skills and improves lifestyle behaviours related to healthy eating, active living and self esteem. The interventions include individual family sessions with each discipline: nutrition, health, education, physical activity and leisure education. Outcome measures, in the form of individual goals, are determined between team members and the participant, during every session. Goals are measurable, related to lifestyle changes, and re-evaluated at each session. **LEAP** also coordinates three outreach community initiatives.

- Raising a Healthy and Active Child – 4 week parenting workshop
- KIN Kids – Physical activity program
- BOOST - Daily physical activity program for First Nation school children

**Project Summary:** Within the first two years of operation 38 families have been followed. A Pilot Review, conducted during the summer of 2005, indicated a convergence between the proposed service design and the actual implementation of the community-based initiative as well as a high level of client satisfaction. **Recommendation and Conclusions:** LEAP, a Family Centred Care Model, is an effective model for treating childhood obesity and has significant research potential.

## Vegetable and fruit intakes of adolescents living in British Columbia's Lower Mainland

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**Objective:** Studies suggest that vegetable and fruit (VF) intake reduces the risk of some diet-related chronic diseases. According to the B.C. Nutrition Survey, about 2/3 of adult British Columbians do not consume the recommended 5-10 servings of VF/d, which may put them at risk for developing chronic diseases. Developing healthy eating habits during adolescence may have long-term health implications, yet there are no data available in British Columbia on adolescents' VF intake, and the factors that may have an influence on the consumption of these foods. **Methods:** 973 students attending 7 Lower Mainland secondary schools completed a validated semi-quantitative FFQ assessing weekly VF intake. Students also completed a demographic questionnaire and an attitude and belief questionnaire to assess some factors that may influence VF intake. Results were tabulated and statistics performed using SPSS statistical software. **Results:** 31.9% of respondents did not meet the minimum recommendations of 5 servings VF/d, 40.3% consumed 5-10 servings/d, while 27.9% exceeded 10 servings/d. Males consumed significantly more servings VF ( $p<0.009$ ), juice ( $p<0.000$ ), and fries per day ( $p<0.001$ ) compared to females. Respondents in grades 8 and 9 drank more juice/day ( $p<0.047$ ) and consumed more servings of fries/d ( $p<0.002$ ) than students in grades 10-12. Responses to attitude and belief questions regarding self-efficacy and knowledge of the potential benefits of consuming VF were negatively skewed ( $-0.951\pm 0.079$  and  $-1.180\pm 0.079$  respectively), while responses to questions regarding cues to action and recognition of the potential barriers of consuming VF were normally distributed. **Implications & Conclusions:** The results of this study will help health practitioners in planning interventions to increase VF consumption in this population.

## Food Sales and Nutrition Policies in Schools in British Columbia

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**Objective:** The purpose of this study was to determine the extent of food sales and nutrition policy development and implementation in schools in British Columbia. **Methods:** We developed a comprehensive survey to measure nutrition policies, the types of food for sale, and food sales outlets in schools from the elementary to senior secondary level. We also developed a Potential for Food Sales (PFS) Index to measure the exposure of students to "more" and "less healthy" foods at school. **Results:** Approximately 60% of schools had a permanent food sales outlet, although the type of outlet varied depending on the grade range of the schools. Snack and beverage vending machines were most common in secondary schools, while tuck shops and food-based fundraisers were more common in elementary schools. While few snack vending machines were present in elementary schools, the tuck shops tended to stock the same items that would normally be found in snack machines. Approximately 25% of schools had a formal group which was responsible for nutrition and these schools had a higher proportion of more healthy choices available and were more likely to have some aspects of a nutrition policy in place or under development. **Conclusions:** We recommend that schools take a comprehensive approach to food sales and policy, and that groups responsible for nutrition be encouraged for their positive impact on both nutrition policies and types of food sold in the schools.

## Response to a healthy school vending machine program in rural Alberta

*C Alcocer\* and J Aussant. Rural Health Promotion and Nutrition and Active Living, Calgary Health Region, High River, Alberta [E]*

**Purpose:** A parent-driven initiative in a rural middle school, replacing snack and pop machines with healthier beverage machines and a deli machine was evaluated for acceptability, value and sustainability. **Process or Content:** The School Council of Senator Riley Middle School in High River, Alberta conducted a process to solicit support from the administration of the school to offer healthier food choices. A Calgary-based vending company was sought and agreed to supply the school with new vending machines supplied with healthier food products in consultation with School Council and the Community Nutritionist. A committee was drawn to monitor and evaluate selection of items, students' and parents' response to the program, sales data, and sustainability. **Project Summary:** Response from parent surveys using convenience sampling showed an overall high perceived value of the new machines and a noted positive response from their children. Student surveys indicated that they desired many of the unhealthy items that were previously available, however over half of the students reported that they found the machines and contents valuable. Sales data and student response confirmed that flavoured milk, sandwiches, salads, wraps and cheese are popular vending items in a middle school setting. **Recommendations & Conclusions:** Student involvement prior to the initiation of the program would likely facilitate better acceptance of the food products by the students. Next steps include collaborating with students and the vendor to develop effective healthy messaging and marketing strategies. A rural, parent-driven healthy vending machine program with support from school administration, in partnership with a local health authority and a vendor, can be viable both economically and nutritionally, and socially acceptable.

## Nutritional Assessment and Therapy

### A survey of nutritional treatment by registered dietitians to ALS patients in Canada

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**Background:** Nutritional treatment of the person with ALS is accepted as an important aspect of patient care. Unlike other conditions, there has been no consensus on standardized nutritional treatment for ALS. A recent evidence-based review highlights that a decade's nutritional research has focused on gastrostomy and survival. **Method:** A 20-question survey was developed and piloted before study commencement. Review of the ALS Canada website was performed for ALS Clinic and Registered Dietitian (RD) contact details. Areas surveyed included RD service, knowledge, sources of information, nutritional assessment techniques, nutritional treatments and interventions offered. All contact and questionnaires were conducted by telephone. **Results:** Eleven dietitians participated in the survey. All were members of a multidisciplinary team; all worked part-time. Sixty-four percent had worked with ALS patients for three or more years. Average caseload was 56 (range 10-250). Almost 2/3 of respondents rated quality of available nutritional information as adequate or poor. Nutritional status was assessed using body weight and % weight loss. Twenty-four hour diet history estimated nutritional intake. All RDs used Harris-Benedict equation to estimate energy requirements. Methods to estimate protein requirements varied widely. Most frequent dietary advice included high calorie (91%), high protein (63%), texture modification (91%) and nutritional supplements (82%). Weight loss (82%) and onset of dysphagia (91%) were the most common triggers initiating artificial nutrition support discussion. **Implications and Conclusions:** This survey found remarkable consistency in RD practice. We aim to establish a Canadian ALS RD Network as a vehicle for standardized dietetic practice, communications, resource development and reduction of professional isolation. Discussion and collaboration between ALS specialists in nutritional care at international level is highly recommended.

## The development of pulse-based pureed foods for long term care residents with dysphagia

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**Objectives:** The objectives were to determine the effect of consuming pulse-based pureed foods on nutrient intake and serum homocysteine levels of long term care (LTC) residents. **Methods:** Pulse-based pureed foods were developed (n=37). Sensory evaluations (aroma, flavour, stickiness/smoothness, ease of swallowing and overall acceptability) of ten pureed foods were carried out by LTC residents, family and staff. Hardness and adhesiveness were assessed by Texture Profile Analysis and spooned weight was determined. Pulse and cereal purees were incorporated into the menu at Parkridge Center, Saskatoon, SK for eight weeks. Three-day food intakes and serum homocysteine of LTC residents consuming pureed foods (n=12) were assessed at baseline and during week 7. **Results:** Mean acceptability of the purees was 4.0±1.0 (1=unacceptable; 5=very acceptable). The mean "ease of swallow" was 4.3±0.9 (1=difficult to swallow; 5=easy to swallow), aroma was 3.0±1.3 (1=not detectable; 5=clearly detectable), flavor intensity was 4.0 ± 1.0 (1=no flavour; 5=strong flavour), smoothness was ranked 2.4±1.1 (1=very smooth; 5=grainy) and stickiness or adhesiveness was ranked 2.6±1.1 (1=not sticky 5=very sticky). Hardness, adhesiveness and spooned weights were 7.9±3.8 N, 5.2±3.5 N·cm and 16.1±3.4 g, respectively, achieving "pudding" consistency. Limited pulse-purees were incorporated into the pureed menu due to constraints with staff time and capability. Significant changes in nutrient intakes and reductions in elevated serum homocysteine levels were not observed with the menu changes. **Implications & Conclusions:** Nutrient intakes of LTC residents consuming pureed foods are not adequate. As pulse-based pureed foods are nutrient-dense, texturally-appropriate, sensory-acceptable and easy to swallow, serving these foods may improve nutrient intakes.

## Effect of a high protein diet on hydration status

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**Objective:** A number of authors of popular textbooks speculate that high protein diets lead to dehydration. This study investigated whether a diet high in protein leads to an increase in fluid intake or a change in hydration status. **Methods:** Nine subjects (4 males and 5 females) between the ages of 19 and 45 participated. Subjects were free from illness, were not pregnant or lactating, had a BMI >25, and were sedentary. Subjects were not on a high protein diet prior to participation. Subjects were placed on a 12-week diet (approximately 45% carbohydrate, 30% protein, 25% fat of dietary energy) which was in keeping with the Acceptable Macronutrient Distribution Ranges of the Dietary Reference Intakes. Compliance was measured via diet records. Casual urine samples were collected on 9 occasions (1 at baseline and 8 throughout the study) to determine urine osmolality (Uosm) and urine specific gravity (USG), and 24 hour (24-h) urine samples were collected on 4 occasions (1 at baseline and 3 throughout the study) to determine Uosm, USG and urine volume. Total fluid intake was monitored throughout the study. **Results:** There was a mean weight loss of 8.1kg +/- 5.8. Water consumption increased significantly at week 12 of the study as compared to baseline (P<0.016); however, total fluid intake did not change significantly. The 24-h Uosm decreased significantly from week 8 (P<0.019) and week 12 (P<0.005) compared to baseline. Casual Uosm decreased significantly at week 12 (P<0.004). There were no significant changes in any other urinary measures. **Implications & Conclusions:** Consuming a high protein diet over a short period of 12 weeks did not result in dehydration.

## Using a nutrition referral priority rating system (NRPRS) to improve access to nutrition counseling

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**Objectives:** Early nutrition intervention is crucial and can help decrease toxicities of treatments, improve overall survival as well as improve quality of life. With the complexity of cases referred and the increased workloads, it became challenging for the dietitians to meet the needs of all patients. Consequently, patients whose nutrition needs were less urgent were not being seen. In the NRPRS, patients are graded from 1 (high risk) to 4 (lower risk) based on acuity of symptoms, weight loss and access to the centre. The study's purposes were to develop and implement a nutrition triaging system for patients living in Northeastern Ontario. The objectives were: (1) Identify existing wait times (2) Revise the NRPRS to improve timely delivery of services to all patients (3) Identify patient nutrition education needs (4) Enhance the workload system. **Methods:** A retrospective chart audit (n=112) was conducted, two focus groups were held with cancer patients and caregivers, then the NRPRS tool was revised. A prospective study model (n=179) was implemented to triage all new nutrition referrals using the NRPRS. **Results:** The study found that 62% of time was spent on patients rated priority 1 or 2 (required to be seen within 7 days) and 55% of patients lived up to 6 hours away from the RCP. **Implications & Conclusions:** The Cancer Care Ontario innovation fund provided the opportunity to implement and evaluate the NRPRS. We now have a better understanding of our clinical workloads, have developed a useful tool and have implemented two different nutrition classes to meet the needs of priority 4 patients.

## Perceptions of peritoneal dialysis patients on a revised Phosphorous Point System Tool in the management of their low phosphorus diet

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**Objectives:** Patients on peritoneal dialysis (PD) are at risk for developing metastatic calcification and renal osteodystrophy due to elevated serum phosphorous levels. A low phosphorous diet (LP) ( $\leq 1000$ mg/day) is required among this population. A previous study showed that the Phosphorous Point System (PPS), a new teaching tool designed to increase dietary flexibility was well received by PD patients but required further revision (Luu et al, 2004). The objectives of this study were 1) To expand the PPS tool for use by PD patients 2) To gather feedback from PD patients on usability of the PPS for further refinement. **Methods:** The PPS was redesigned to include The Canadian Nutrient File, including high potassium foods. Seven outpatients attending the Home Dialysis Clinic on PD for >6 months, English speaking and without acute illness were selectively recruited. Patients participated in a scripted focus group (FG) exploring their past experiences of following a LP diet and perceptions of the usability of the new PPS tool. Data analysis utilized Colaizzi's (1983) phenomenological method. Participants were surveyed post-FG to ensure emerging themes represented their views. **Results:** Transcript analysis revealed four emergent themes: challenges of following a LP diet, perceived advantages and disadvantages of PPS, the PPS as an educational tool and looking to the future for better dietary management. **Implications & Conclusions:** PD patients felt that the PPS was a comprehensive educational tool that could be useful to increase dietary flexibility. Further long term study is needed to determine if the PPS improves dietary adherence and satisfaction of PPS among renal patients.