

Internship Research Abstracts - DC Conference – Halifax - June 10, 2006

Title: The feasibility of oral creatine monohydrate supplementation in palliative cancer patients

Author(s): R James, R Orzech, JMW Wong, V Poulos, R Tzianetas and A Langlois, Mount Sinai Hospital Comprehensive Dietetic Internship Program, Toronto, Ontario.

Objectives: Treatments in cancer cachexia aim to stabilize muscle losses or recover lean muscle mass.

Creatine has been shown to increase lean body mass when used by healthy individuals. The objective(s) of this pilot study is to examine the feasibility and safety of using creatine monohydrate oral supplementation to improve the quality of life and functional status in palliative cancer patients. **Methods:** Palliative cancer patients admitted to Mount Sinai Hospital, with a Karnofsky Performance Scale Score (KPS) of 50 (n=20) will be supplemented with creatine monohydrate for a period of 60 days. A loading dose of 20 mg/d of creatine monohydrate for 10 days and a maintenance dose of 5 mg/d in the remaining 50 days.

Functional status and quality of life will be assessed using KPS, Functional Assessment of

Anorexia/Cachexia Treatment and Patient Generated Subjective Global Assessment, Tolerance and compliance is being measured using patient self reports of adverse effects, patient reported intake and

empty creatine packages. **Results:** Recruitment is ongoing. **Implications/Conclusions:** If the use of creatine is feasible for palliative cancer patients, it can then be further studied for its potential benefits for this population as a possible adjunct to current nutrition therapy.

Title: The effect of calcium supplementation on gestational hypertension, a literature review

Author: A Jiwani, University of Alberta Integrated Dietetic Internship Program, Edmonton, Alberta.

Objectives: There is some evidence to suggest that calcium supplementation of 2000 mg/d is associated with lowering blood pressure during pregnancy. Hypertension during pregnancy is defined as a systolic blood pressure >140 mm Hg and/or a diastolic blood pressure of ≥ 90 mm HG. Hypertensive disorders during pregnancy include pregnancy induced hypertension, pre-eclampsia, and eclampsia. Gestational hypertension is associated with increased maternal and fetal morbidity and mortality and is also related to preterm deliveries and small for gestational age infants. **Methods:** The literature was searched using databases such as Medline, Pub Med and the Cochrane Systematic Review accessed through the University of Alberta's home page. Studies selected compared at least 1 gram of calcium supplementation during pregnancy to placebo. **Results:** Twelve studies were evaluated. Nine of the studies looked at reported a reduced risk of developing gestational hypertension with calcium supplementation. Calcium supplementation during pregnancy is especially beneficial to women at high for developing hypertension and in women with inadequate dietary calcium intake. A reduction in the risk and severity of pre-eclampsia was also observed with calcium supplementation during pregnancy. Calcium supplementation at 2 grams per day appeared to be safe for both mother and fetus as there were no differences in maternal and fetal side effects between the calcium supplemented and placebo groups. Some studies also reported benefits in the systolic blood pressure of the offspring when calcium was supplemented during pregnancy. **Conclusion:** Calcium supplementation during pregnancy appears to be beneficial in the management of gestational hypertension and pre-eclampsia for women at high risk for gestational hypertension and those with low calcium intake. Further investigation is needed to determine the optimal dosage of calcium. Lack of conclusive evidence may be discouraging practitioners from recommending calcium supplements to their pregnant clients. Further research is needed to conclusively say that calcium prevents gestational hypertension and pre-eclampsia.

Title: Iodine deficiency and the sodium-restricted diet

Authors: G. Beauchamp, C. O'Donnell, S. Smith. University of Saskatchewan Dietetic Internship, Saskatoon, SK.

Objectives: Iodine Deficiency Disorders (IDD) are the serious and irreversible consequences of low iodine intake. Salt iodization programs were introduced in Canada and the United States in order to decrease the risk of IDD. These programs have been effective in dealing with the consequences of severe iodine deficiency. There has been a documented decline in U.S. iodine intakes with one suggested reason being reduced iodized salt consumption due to concerns surrounding sodium and hypertension. The purpose of this study was to estimate the iodine content of a sample sodium restricted diet.

Methods: A week of menus from the DASH (Dietary Approaches to Stop Hypertension) eating plan, which provides 2300mg of sodium, was analyzed for iodine content using Bowes and Church's Food Values of Portions Commonly Used. **Results:** The calculated iodine content of each day of the DASH eating plan exceeded the Recommended Dietary Allowance (RDA) for adults (150 micrograms).

Implications & Conclusions: The analysis revealed the major sources of iodine in the DASH eating pattern were dairy and meat products, which suggest vegetarian, vegan or lactose intolerant individuals may be at an increased risk of low iodine intakes. The iodine contents were based on U.S. levels and may not be appropriate for estimating Canadian intakes due to variations in the iodine content of animal feeds, soil content and food processing practises. Due to the factors that affect iodine levels and the limited data on iodine contents, it is difficult to accurately assess the levels of iodine in any diet pattern, including a sodium restricted diet, using iodine composition tables. Research is necessary to determine the iodine contents of various eating patterns.

Title: Hemoglobin A1c Control in Children with Type 1 Diabetes on Continuous Subcutaneous Insulin Infusion (CSII) and Conventional Insulin Therapy (CT)

Author: H Thompson, Providence Health Care Dietetic Internship, Vancouver, BC

Objectives: Continuous subcutaneous insulin infusion (CSII) and conventional insulin therapy (CT) are forms of insulin therapy used by children with diabetes. The number of studies examining the effectiveness of CSII compared to CT therapy in pediatric populations is limited. The objective was to compare hemoglobin A1c (HbA1c) and body mass index (BMI) of children attending BC's Children's Hospital Diabetes Clinic on CSII vs. CT therapies. **Methods:** The medical charts of 93 children on CSII and 93 age- and sex- matched children on CT were examined for height, weight, and HbA1c retrospectively. The BMI and HbA1c were noted at baseline and after one year of CSII therapy. The HbA1c and BMI data collected for both CSII and CT groups were analyzed using paired 2-sample t-test. Study groups were further separated into two age-dependant sub-groups, children under ten years of age and those over ten, to establish if age was a determining factor for treatment effectiveness. **Results:** The comparison results showed a statistically significant decrease in HbA1c in the CSII group after 1 year, 8.4 ± 1.5 vs. 8.1 ± 1.3 ($P=0.01$), and a statistically significant increase in HbA1c in the CT group, 8.2 ± 1.9 vs. 8.5 ± 2.5 ($P=0.04$). There was also a notable decrease in HbA1c in children under 10 on CSII therapy, 8.4 ± 0.9 vs. 7.8 ± 0.9 ($P=0.0002$). No difference in BMI was noted for any group or subgroup. **Conclusion:** The study results have demonstrated that CSII therapy is a comparable, if not more effective, treatment option for children with diabetes to control HgA1c.

Title: The nutrient intakes of residents in a long-term care facility

Authors: S Feeney and B Lau, St. Paul's Hospital Dietetic Internship Program, Vancouver, BC

Objectives: To determine the average nutrient content of the menu of a long-term care facility, and the macro and micronutrients intakes of residents in the facility. Also, to compare the above to the Dietary Reference Intakes (DRI).

Methods: Waste audit data previously collected for 23 residents at Brock Fahrni Hospital, Vancouver, BC was used. All three meals from three random days were chosen from the 28-day menu cycle. The menus and recipes for all items were obtained from foodservices. The nutrient content of the menu and the average intakes for selected nutrients of the residents were determined using ESHA Food ProcessorSQL™. Descriptive statistics were calculated and results were compared to the DRI. All statistical analyses were conducted using MS Excel[®].

Results: The menu provides 2200 kcal/d (15% protein, 40% fat, 45% carbohydrate). Compared to DRI, the menu is low in folate (63%) and calcium (58%). The average caloric intake was 1480 kcal/d (15% protein, 33% fat, 52% carbohydrate). The average macronutrient intake (actual and % DRI) was 194g/d (150%) for carbohydrate, 57g/d for protein (female: 124%; male: 100%), and 55g/d (160%) for fat. The average intake for the following micronutrients (actual and % DRI) were: fiber 14 g/d (female: 67%; male: 47%), calcium 640 mg/d (53%), iron 10 mg/d (125%), vitamin B₁₂ 2.6 mcg/d (110%), folate 164 mg/d (41%), sodium 2249mg/d (150%), and cholesterol 261mg/d.

Conclusion: The results suggest that residents' intake was low in fiber, calcium, and folate. Although caloric intake was only 67% of the menu, carbohydrate, protein, and fat intakes met the DRI. This reinforces the ongoing need to explore ways of ensuring optimal nutritional intake in residents in long-term care facilities.

Title: A critical review of the literature for stress factors or energy and protein requirements of hospitalized adult in-patients with human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), burn injury and short bowel syndrome (SBS).

Authors: J Bert, J Granquist, K Karst and R Mansuy, Regina Qu'Appelle Health Region (RQHR) Dietetic Internship, Regina, Saskatchewan.

Objective: To determine the accuracy of stress factors, energy and protein requirements in the RQHR Dietitian Handbook, with respect to HIV/AIDS, burn injury and SBS. **Methods:** A comprehensive literature review was carried completed. All articles went through a screening process. Only those that met inclusion criteria were evaluated and included in the study. Data collected from articles was compared with the recommendations in the RQHR Dietitian Handbook. **Results:** Current literature provides few recommendations for energy and protein requirements for patients with HIV/AIDS. However, the literature did support the recommendation of 30-35 kcal/kg/day for clinically stable HIV/AIDS, various stages of HIV/AIDS, and HIV/AIDS with secondary infection. For critically ill HIV/AIDS patients, it is recommended that a stress factor of REE X 1.5 be used for energy requirements and 0.8-1.8 g protein/kg/day be used of protein requirements. For HIV/AIDS patients with Lipodystrophy Syndrome, no recommendation could be made. Requirements for burn injury patients vary depending on the severity of the burn. The Toronto formula multiplied by an activity factor of 1.2 and the Ireton-Jones equation are recommended. Predictive formulas not recommended for clinical use include the Harris Benedict formula and the Curreri formula. No recommendations are made for thermic effect of feeding, ambient temperatures and protein requirements. The recommendations for energy requirements of SBS patients generally agree with the handbook, though protein requirements may be lower than RQHR recommendations.

Conclusions: Current literature does not contain strong evidence to recommend changes to the stress factors or energy and protein requirements in the RQHR Dietitian Handbook.

Title: Energy Requirements of Hepatic Failure and Cancer

Author: L Allan, A Gibb, D VanLeuken, Regina Qu'Appelle Health Region Dietetic Internship Program, Regina, Saskatchewan

Objectives: Measuring energy expenditure by indirect calorimetry is regarded as the "Gold Standard".

However this is not feasible in most health care institutions due to limited access of equipment and cost.

The objective of this study was to re-evaluate the stress factors in predictive equations to update the RQHR

Dietitians' Handbook. **Methods:** A thorough review of current literature was undertaken to determine the

most accurate and appropriate stress factors, energy and protein requirements for head and neck cancer,

leukemia, lung cancer and hepatic failure. **Results:** It should be considered that most lung cancer patients

have an elevated energy expenditure of 110-120%. Based on studies of small samples, it should be

considered that leukemia patients have vastly elevated energy expenditures of about 34 - 46% higher than

the predicted value. A protein requirement of 1.2-1.3 is recommended for patients with liver cirrhosis as

catabolism and muscle wasting increases in this state. Recommendations for protein for alcoholic hepatitis

or during episodes of encephalopathy are not appropriate as there was a lack of research in these areas.

Conclusions: Specific energy and protein requirement recommendations cannot be made for lung, head

and neck and leukemia cancers based on limited evidence. Further research is needed in these areas. It was

not possible to make recommendations for energy requirements in hepatic failure. An updated synthesis of

information will help dietitians assess the appropriate stress factors, energy and protein requirements for

patients in these disease states.

Title: Evaluation of energy and protein requirements for surgery, sepsis, and inflammatory bowel disease

Authors: J Bunney, L Hilkewich, H Reimer, Regina Qu'Appelle Health Region Dietetic Internship Program, Regina, SK

Objective: To determine if the current energy and protein requirements for surgery, sepsis, and inflammatory bowel disease (IBD) in the Regina Qu'Appelle Health Region (RQHR) Dietitian Handbook are evidence based. **Methods:** A literature review was conducted using MEDLINE and CINAHL.

Inclusion criteria were human adult subjects, measured energy expenditure, and relevancy to the disease states and nutrition. Studies were critically evaluated, the level of evidence was determined, and

recommendations were made based on their strengths and limitations. **Results:** For elective surgery, it should be considered that energy requirements increase by about 10% and 25 kcal/kg could be used.

Accompanying conditions such as sepsis or cancer may increase energy requirements for elective surgery patients by as much as 25%. For ventilated surgical patients, 1.2-1.4 x BEE is recommended. For sepsis patients, providing ≤ 1.5 g/kg of protein should be considered. Dietitians should consider using 1.4-1.7 x BEE for uncomplicated sepsis, 1.1-1.4 x BEE for sepsis with organ failure, 0.8-1.2 x BEE for septic shock, and 1.4-1.8 x BEE for recovery. For stable patients with IBD or patients with IBD taking steroids, 25-35 kcal/kg is recommended. It should be considered that patients with IBD who are less than 90% ideal body weight have greater energy expenditure per kilogram body weight than patients with ideal weights. It should also be considered that patients with active Crohn's disease requiring nutrition support need 30-35kcal/kg. **Conclusion:** Forty-five studies met the inclusion criteria. Forty three of these studies had Level III evidence, one was Level II, and one was Level IV. All recommendations made were based on Level III evidence and were Grade C.

Title: The validity of the nutrition screening tool implemented at the developmental assessment clinic

Authors: G Garcia, M Koshinsky, B Simpkins. Regina Qu'Appelle Dietetic Internship Program, Regina Saskatchewan

Objectives: To determine the validity of the nutrition screening tool implemented at the Developmental Assessment Clinic (DAC), an out-patient program that provides support and information to families of infants born premature or who may be at risk of growth or developmental issues. **Methods:** A screening tool was sent via mail to all potential clients of the DAC between October 2005 and January 2006. Parents were asked to complete the age specific questionnaire, (<12 months or >12 months of age), and return it to the DAC by February 2006. Tools were assessed according to the criteria created by the research team and the dietitians (gold standard). If the tool accurately (85%) identifies the same clients as the dietitians to be at nutrition risk or not, then the tool will be considered valid.

Results: Our sample size consisted of 201 returned tools. Validity was assessed when the tool results and the dietitian results were compared. Both the tool and dietitians identified 30.2% of the same infants <12 months at risk, and 60% of children >12 months at risk. The number of children <12 months identified at risk by the tool but not the dietitian was 21.6% and 14.1% of the children <12 months. The children identified at risk by the dietitian and not the tool were 14.7% of the <12 months and 4.7% of the >12 months.

Implications and Conclusions: The tools are not considered to be valid. If these tools were being used to determine nutrition risk, the dietitians would be providing care to falsely identified infants. The tools provide a method of determining potential nutrition risk and possible need for further assessment.

Title: Development and analysis of low fat breast milk for use with in-hospital paediatric patients diagnosed with chylothorax – a pilot study.

Authors: V Cornelius, S Farmer, L Bannister, D O'Connor, D Mager, The Hospital for Sick Children, Toronto, Ontario.

Objective: Current nutritional management of chylothorax at our institution requires patients to follow a fat modified diet for a minimum of 6 weeks. For infants, a fat modified formula is used (Portagen®), which contains predominantly medium chain triglycerides (MCTs) and is designed for adults but used in infants. During this period breast milk is withheld, which denies infants its recognized benefits. The purpose of this study is to demonstrate that supplementation of low fat expressed breast milk (EBM) with Portagen® will meet the macronutrient and energy needs of infants with chylothorax. **Methods:** A pooled mature EBM sample from five mothers was centrifuged at 5000 rpm for 15 minutes to separate the fat phase. Total fat content of whole, low fat and supplemented low fat EBM was measured using the creatocrit and modified Folch techniques. **Results:** Preliminary results using the creatocrit technique show that whole EBM, low fat EBM and supplemented low fat EBM had 3.9%, 0.8%, and 3.9% fat content respectively. Using the modified Folch technique the same samples had 4.4%, 1.26%, and 2.34% fat respectively. The differences can be attributed to the water solubility of MCTs, which are not measured by the Folch technique. **Implications & Conclusion:** Breast milk has long been recognized as the gold standard for infant feeding. The supplementation of low fat EBM with Portagen® will provide enough fat and calories to infants with chylothorax. In the future, focus on the preparation and delivery of a fat modified breast milk product to infants with chylothorax is needed.

Title: Attitudes and perceived barriers to following a low-sodium diet and impact of attending an educational cooking demonstration.

Authors: KA Thompson, L Clark and D Raftis. The Ottawa Hospital Dietetic Internship Program, Sudbury , ON

Objectives: This study sought to qualitatively examine participant's feelings and attitudes towards: a) their ability to prepare food/meals from scratch, b) the perceived barriers to adherence to a low-sodium diet, c) the value of the service provided. **Methods:** Self-selected outpatients of the Sudbury Regional Dialysis Program (n=8) attended a two-and-a-half-hour interactive cooking demonstration. The demonstration focused on cooking techniques and the preparation of low-sodium meals. Participants completed a written pre-test survey prior to the class and a post-test survey approximately two weeks after the class. The questionnaire design included open-ended questions, and questions on a 5-point Likert scale. **Results:** Pre-test questionnaires were used to determine baseline attitudes and feelings towards cooking ability and preparing low-sodium meals. Comparing the baseline questionnaires to the post-test questionnaire results will assess whether the demonstration was successful in improving self-efficacy and general interest towards cooking and following a low-sodium diet. Preliminary results suggest that participants displayed positive shifts in attitude and self-efficacy towards cooking. **Implications:** With further investigation, cooking classes can be evaluated to determine if they are an effective intervention technique in promoting positive attitude changes in patients. Empowering patients by allowing them to build the skills to prepare meals may help increase their confidence in adhering to dietary recommendations. If this educational strategy proves to be beneficial for patients, it would demonstrate the need to devote resources to the Nephrology Program to support Registered Dietitians in this educational strategy. **Conclusions:** study not yet complete.

Title: Evaluation of the use of total parenteral nutrition at Queensway Carleton Hospital (QCH)

Author: J Bolus, T Williamson, N Parsons. The Ottawa Hospital Dietetic Internship, Ottawa, ON

Objectives: Research suggests that total parenteral nutrition (TPN) is used in many cases where enteral nutrition (EN) is the more appropriate route of nutrition support. The objective of this study was to determine how often TPN was prescribed when EN was indicated. **Methods:** The study was a retrospective chart review (n=40) using nutrition support statistics at QCH from September 1, 2004 to September 1, 2005. Inappropriate use of TPN was measured by determining how many patients on TPN met the criteria for EN using the American Society for Parenteral and Enteral Nutrition Guidelines (ASPEN Guidelines). **Results:** Based on current literature and contact with Registered Dietitian's at QCH, we anticipate that TPN is appropriately initiated for most patients, however, length of time on TPN can be decreased following resumption of satisfactory oral intake or by transition of patient to EN once the gastrointestinal tract is functional. **Implications:** Enteral tube feeding is the optimum route of nutritional support in patients when the intestinal tract is intact because it has fewer complications, it has better outcomes, and it is less expensive. Studies evaluating the advantages, disadvantages, and appropriate use of providing either EN or TPN are necessary to help guide patient care providers in their decision-making.

Title: Patient Foodservice Satisfaction at an Acute Care Hospital in Toronto

Author: J Ross, ARAMARK Canada Ltd., Toronto, Ontario.

Objectives: The Credit Valley Hospital (CVH) is a 365- bed acute care hospital in the Halton/Peel area of Toronto. The Credit Valley Hospital Service Department was looking for future innovative ways to increase patient foodservice satisfaction within their facility. The objective of this study was to determine what elements of Foodservice (both product and service) most impact overall patient foodservice satisfaction within the in-patient acute care setting. **Methods:** A 12-question survey, with both open and closed-ended questions, was developed. Questions were designed to align to NCR Picker and Press Ganey U.S. hospital survey questions in order to drive comparability of responses. Questions asked were designed to probe for food quality, quantity and accuracy as well as to probe patient's likelihood of increased satisfaction if various innovative foodservice systems were in place. One-on-one patient interviews were performed over a two-week period in March 2006. **Results:** Although the results are still being examined, some initial results are evident. 75% of patients or their visitors bring food from home. Of those who reported having or receiving food from home, 45% did so because of taste, 26% did so because they were hungry between meals, 17.26% did so as a courtesy and 8.69% did so because of cultural or religious reasons. Factors that were stated as having the potential to improve satisfaction included a hotel-style menu and having their visitors eat with them. 60% stated that they would be willing to pay for premium quality menu offerings. **Conclusion:** These results can be beneficial for other hospital administrators as well as public and private foodservice departments/companies looking to find future innovative ways to increase patient foodservice satisfaction within their facility.

Title: Identifying and Communicating Innovations in Administrative Dietetics

Author: J Greco, ARAMARK Canada Ltd., Toronto, ON

Objectives: The purpose of this research project is to identify successful innovations in patient food service that led to either cost savings and/or quality improvements in healthcare components within ARAMARK in North America. It is necessary to identify key innovations and to facilitate effective communication of these through the organization (ARAMARK) and the industry. This will support enhanced operational excellence and quality improvement now and in the future. **Methods:** In addition to a literature review, a number of interviews will be conducted with experienced ARAMARK personnel, involved in various levels of management across the country. This invaluable feedback will also assist in determining what aspects of department operations to investigate. **Results:** Using the information gathered at that point, an initial draft of a survey directed to component managers will be developed. This research will consider both qualitative and quantitative measures. The survey will ask both open and close-ended questions, in an effort to produce sound, relevant and meaningful data. Once revisions have been made to the survey, it will be circulated via email to the various component managers. **Implications and Conclusion:** This data will be analyzed and summarized. The results will be shared within the company in the form of a presentation that can be geared to various levels of management. The ultimate goal is to provide information to managers in a manner that is relevant, with the hope that some of this information will help them to achieve quality improvements or cost reductions in their operations that they might otherwise not have considered.

Title: Nutritional needs assessment of immigrants and refugees in Toronto

Author: R Dhaliwal, ARAMARK Dietetic Internship Program, Toronto, Ontario

Objective: Access Alliance Multicultural Community Health Centre (AAMCHC) works to promote health and well-being and improve access to services for immigrants and refugees in Toronto. The objective of this project was to increase AAMCHC client awareness and use of nutritional services (cooking classes, healthy eating workshops, one on one nutritional counseling). **Methods:** A 21-question survey was developed to assess general nutritional status and awareness. Clients were asked about their food security and consumption patterns, recent weight loss or gain, presence of food allergies or disease that requires nutritional management. All clients over 18 years of age who came in for clinical services for an 8 day period were asked if they would like to complete the survey which was available in five languages (English, Spanish, Portuguese, Korean and Farsi). **Results:** Although the results are still being analyzed some trends are apparent. Food security is an issue for immigrants and refugees in Toronto. Fruit, vegetable, milk and dairy product consumption is low in this population. Future programming is to be based on these results. **Conclusion:** After a last revision of the survey, the researcher will propose it be administered to all new clients at AAMCHC. This is in accordance with a preventative approach to health care: using nutrition to prevent and manage disease and its progression while clients are still living in the community.

Title: Assessing the agreement between dietary intake of sodium calculated from food records and urinary sodium excretion in heart failure patients

Authors: T Jammehdiabadi, A Schwartz, JA Arcand, JMW Wong, R Tzianetas, J Allard, GE Newton.
Mount Sinai Hospital Comprehensive Dietetic Internship Program, Toronto, Ontario

Objectives: Pathophysiologic changes in the setting of heart failure (HF) result in sodium and water retention, leading to symptoms such as shortness of breath, leg swelling, and exercise intolerance. Nonadherence to diet and medical therapies is the most common cause of hospitalizations in patients with HF. Therefore, assessment and monitoring of sodium intake is a significant aspect of nutritional therapy in the HF population. Urinary sodium excretion is the reference standard for assessing sodium intake in healthy individuals. Food records are another commonly used method, however this method has not been validated in the HF population. Previous studies have found positive correlations between urinary sodium excretion and food records. However, correlation does not demonstrate the ability of one tool to replace the other. The objective of this study is to assess the extent of agreement between sodium intake estimated by food records and excretion of sodium via 24 hour urine collections, in the heart failure population.

Methods: A total of 90 subjects are being recruited from the Anna Prosserman Heart Function Clinic and general cardiology clinics at Mount Sinai Hospital: 30 diuretic-requiring HF patients, 30 non-diuretic-requiring HF patients, and 30 patients with coronary artery disease (control group). HF patients must be stable with left ventricular (LV) function $\leq 35\%$, New York Heart Association (NYHA) Class II-III, and serum creatinine < 160 mmol/L. Patients in the control group have normal LV function and are not taking diuretics. Subjects will complete a 2-day weighed food record. Simultaneously, subjects will also complete two, 24-hour urinary excretion collections. Food records will be analyzed using ESHA Food Processor (v. 9.8.1). Statistical analysis using SPSS will include one-way ANOVA and the Bland-Altman Method of Agreement. **Results:** To date, we have recruited diuretic-requiring HF patients; 1 non-diuretic requiring HF patient, and 11 control patients. **Implications & Conclusions:** If there is an agreement between food records and urinary excretion, then food records may be an appropriate alternative to the 24-hour urinary collection for assessing sodium intake in the HF population.

Title: Distribution of fast food outlets in Hamilton, Ontario: a comparison to the literature

Authors: M Morrison and E Ng. Hamilton Health Sciences, Hamilton, Ontario.

Acknowledgements: City of Hamilton, Community and Public Health Services

Objectives: According to the 2004 Canadian Community Health Survey the rate of obesity in Canada is 23.1%. An obesogenic environment, which promotes excessive energy intake and discourages physical activity, may be a contributor. Previous studies have shown that lower socio-economic status is associated with increased fast food consumption, as well as higher rates of obesity. There is conflicting evidence about the relationship between socio-economic status and fast food outlet (FFO) concentration in a neighbourhood. Regional data is needed to direct action locally. The purpose of this research is to examine the distribution of fast food outlets in census tracts within the City of Hamilton, Ontario. The socio-economic status of neighbourhoods will be considered. **Methods:** FFOs were identified using the City of Hamilton Public Health Inspection database. Geographic Information System mapping software was used to show the locations of FFOs. Average family income and population data were collected from the 2001 Census. Neighbourhoods were stratified into four income categories. **Results:** There were 300 FFOs in 130 census tracts of Hamilton that met the selection criteria. FFOs in Hamilton are clustered in areas with high volumes of traffic and in major shopping areas. The two lowest income categories had 1315 people per FFO while the two highest income categories had 2008 people per FFO. **Conclusion:** Consistent with existing literature, it appears that higher income neighbourhoods have lower concentrations of fast food outlets than lower income neighbourhoods. However, further research is required to clearly quantify the association between socio-economic status and concentration of FFOs in Hamilton. This profile of the fast food environment in Hamilton will inform local public health obesity strategies.

Title: Fluid intake of patients on a dysphagia diet

Authors: J Pritchard and A Young. Hamilton Health Sciences, Hamilton, ON

Objectives: Many hospitalized patients experience dysphagia (difficulty swallowing) due to disease or a medical condition. Dysphagia diets are characterized by texture modified solids and/or increased viscosity of fluids. Thickened fluids are used to facilitate safe swallowing. Adequate fluid intake can often be a challenge for this patient population. The goal of this research was to determine how the fluid intake of patients on a dysphagia diet with thickened fluids, and to determine if they are consuming the recommended intake of 1500mL/day. **Methods:** Patients were included in the study if they were on a dysphagia diet requiring thickened fluids of a CP 250 (nectar), 800 (honey) or 2000 (pudding) viscosity. Over a two-week period, all patients on dysphagia diets with thickened fluids were included in the study. Fluid intake was obtained by comparing pre-meal and post-meal weights of all thickened beverage and food items. For statistical analysis, one sample t-tests and ANOVA were performed to determine statistical significance ($p \leq 0.05$). **Results:** 31 patients on dysphagia diets were included in the study. The mean fluid intake was 1176.3mL/day (\pm SD 789.1mL/d, range: 170.2 - 3358.1mL/day). Sixty-four percent of the patients (20 of 31) did not meet the daily fluid recommendation ($p=0.031$). Mean fluid intake of patients on CP250 thickness was 1085.0mL/d (\pm SD 425.1, $p=0.028$), CP800 was 598.7mL/d (\pm SD 182.9, $p<0.001$), and CP2000 was 1423.1mL/d (\pm SD 954.3, $p=0.744$). There was no significant difference in mean fluid intake between the groups. **Conclusion:** The majority of patients on dysphagia diets receiving thickened fluids fail to meet their minimum fluid requirement. The results of this study suggest that patients may require alternative methods of hydration while taking thickened fluids.

Title: Analysis of nutrition support practices in a pediatric intensive care unit

Authors: A Clark and L Hamilton. Hamilton Health Sciences, Hamilton, Ontario

Objective: Previous studies suggest that critically ill patients are routinely underfed. There is little information describing nutrition support practices in a pediatric intensive care unit (PICU) considering: initiation of nutrition support, and the relationship between recommended, prescribed and received energy and protein intakes. **Methods:** A prospective, observational study was conducted in the PICU between September 15, 2005 and April 7, 2006. Data was collected from ventilated, intubated PICU patients between ages 0 and 18, with a stay greater than 72-hours. Daily and total recommended, prescribed and received kilocalories and protein were analyzed and compared for differences. Dates of PICU admission, nutrition support initiation, and PICU discharge were also documented. Incidence of and reasons for interruptions were examined. **Results:** Forty-five patients between ages 0 and 17 were included in this study; average age was 5.04 ± 6.59 years. A total of 552 days of data was collected. Average patient length of stay in the PICU was 12.27 ± 9.87 days. Mean time before nutrition initiation was 1.42 ± 1.20 days. The average difference between recommended and given kilocalorie and protein amounts was $400.56\text{kcal} \pm 64.49$ and $6.34\text{g} \pm 5.11$ respectively. Considerable differences were also noted between average prescribed and given kilocalorie amounts, 213.71 ± 23.11 . There was an average of 1.67 ± 2.00 interruptions in nutrition support per patient per admission; common reasons included: medical procedures, feeding intolerance and residuals, and surgeries. **Conclusions:** This study supports previous research findings that PICU patients are frequently underfed. Major contributors of energy deficit were time before nutrition initiation and number of feeding interruptions. Room for improvement in current PICU nutrition support practices remains.

Title: Are enterally fed ICU patients meeting clinical practice guidelines?

Authors: S Grossman, E Hindley, C Miller, D MacGarvie, R Elias. University Health Network (UHN), Toronto, Ontario.

Objectives: The 2003 Canadian practice guidelines for mechanically ventilated, critically ill patients have provided recommendations regarding the implementation of enteral nutrition (EN) within 48 hours of admission, and maintaining a 45° head of bed (HOB) angle during EN administration. Current practices at UHN have not been examined with regards to these two recommendations. The purpose of this study was to ascertain if these two guidelines were met in UHN's four Intensive Care Units (ICU). **Methods:** This was an observational study involving prospective data collection in two parts. We collected early EN data via chart review and point-in-time HOB data through observation of HOB angle reader. Reasons for not meeting each recommendation were obtained at the time of data collection via chart review and verbal feedback from nurses. Data analysis was conducted using frequency distributions. **Results:** 54% of subjects met the recommendation for early EN. Of those not meeting this recommendation, the most common reason for the delay was the subject's clinical condition (43.5%). For the HOB recommendation, only 2% of subjects met 45°. 50% had a HOB angle between 21-30 degrees. The most common reason for not attaining the 45° angle was reported as unknown (26%). **Conclusions:** The 2003 clinical practice guidelines examined in this study are not being implemented consistently in UHN ICUs. In some cases, subjects' clinical conditions or unit HOB angle protocol provided justification for not meeting the established guidelines. However, there were cases where reasons for not meeting guidelines were unknown. **Implications:** Ongoing strategies and education are required to increase the implementation rate of these guidelines in the ICUs at UHN.

Title: Antioxidant status in lung recipients

Authors: J Bieniawski, N Sharma, J Madill, University Health Network, Toronto, Ontario.

Objectives: Lung transplantation is an acceptable treatment for patients with end-stage lung disease. The University Health Network's (UHN) Lung Transplantation Program has transplanted approximately 700 lung recipients. Numerous literature is available on antioxidant vitamins A, C and E in patients with lung disease; however, there is minimal research to ascertain antioxidant status in lung recipients. The purpose of this study was to determine the antioxidant status in lung recipients, to determine if there is a correlation between serum and intake of antioxidants, and to determine the relevance of a 3-day food record. **Method:** 30 lung recipients who were scheduled to see the Registered Dietitian had additional blood work completed to analyze serum antioxidant levels. As per UHN nutritional standard protocol, nutritional intake was collected using a 3-day food record. Furthermore, antioxidant intake was estimated using Diet Analysis Plus 6.1. Means \pm SD as well as correlations will be used to compare antioxidant intake and serum levels using statistical software SPSS 11.0. Significance will be defined at $p < 0.05$. **Results:** We anticipate that serum antioxidant and intake levels will correlate, and the 3-day food record is a relevant tool to ascertain intakes of antioxidants. **Conclusion:** The 3-day food record is anticipated to be an accurate measure for antioxidant intake; serum antioxidant levels will correlate with intakes of antioxidants within the lung recipient population. **Implications:** Ascertaining antioxidant intakes and serum levels will enable dietetic professionals to enhance nutritional knowledge regarding antioxidant status in lung recipients.

Title: Does participation in a Medication Pass program result in positive weight outcomes in Complex Continuing Care patients?

Authors: L Van Die, J Jurgutis, The Ottawa Hospital Dietetic Internship, Ottawa, Ontario

Objectives: A Complex Continuing Care Unit of Saint Vincent Hospital (SVH) initiated a Medication Pass program in November of 2005. The program was in response to observations that many patients with weight loss and nutritional concerns on a standard supplement regime experienced difficulty consuming the volume of supplement prescribed. The standard regime at SVH provides supplements in 235 to 250 ml portions with or between meals. The Medication Pass program provides a nutritionally-complete, high protein, energy dense liquid supplement in 60 ml doses during medication distribution. The program has been associated with maximizing supplement intake by increasing patient compliance. Research has shown that the small amount of supplement is well tolerated and has minimum interference with subsequent appetite. The objective was to evaluate the program's impact on participants' weights. **Methods:** Seventeen (n=17) participants were followed and were divided into two groups. Group A (n=5) followed the standard supplement regime which was discontinued upon initiation of the program. The energy level provided by the medication pass program was equivalent to that provided by each participants' individual supplement regime. Group B (n=12) was not receiving nutritional supplements prior to the initiation of the program. Participants' weights were recorded before beginning the program and following a 65 day intervention period. All participants' supplement intakes were tracked using medication administration records as a means of evaluating patient compliance. **Results:** Results are pending completed data analysis.

Implications: If the program has a positive impact on participants' weights it may prove to be a more effective means of providing nutritional supplements which could result in improved nutritional status.

Title: Does the variability in energy and protein composition of breastmilk produced by mothers of very preterm, very low birth weight infants explain the variability in growth or the need for fortification and supplementation in these infants?

Authors: SH Ley, L Vinent, S Merko, P Darling and R Bishara, Sunnybrook Health Sciences Centre Dietetic Internship Program, Toronto, Ontario.

Objectives: The breastmilk composition of very preterm infant mothers is highly variable. Despite current fortification and supplementation practices, these infants commonly exhibit slow growth rates. This study aimed to assess the relationships between protein and energy composition of breastmilk, fortification and supplementation, and growth rate of very preterm, very low birth weight infants and to describe feeding practices in a neonatal intensive care unit. **Methods:** This was a retrospective chart review of infants (n=28), born to mothers who participated in a previous prospective, cross-sectional study on breastmilk composition. Clinical data related to the infant's demographics, outcome and complications, and medical treatments were extracted in addition to daily intakes and weights on days of full enteral feeds. **Results:** Infants who received the highest protein composition of breastmilk (quartile 4) grew the best, relative to quartile 1 and 3 (p=0.03 and 0.04, respectively). Likewise, the growth rate of infants who received the lowest energy breastmilk (quartile 1) was lower than quartile 3 (p=0.04). No significant differences between the growth rate and amount of energy and protein addition were found. The amount of fortification and supplementation was not correlated with breastmilk composition. **Implications & Conclusions:** The variability in energy and protein composition of breastmilk explained the variability in very preterm, very low birth weight infant growth, but not the need for fortification and supplementation. This result implies that the variation in mother's breastmilk composition may not be captured in current fortification and supplementation practices.

Title: Learning needs of special care home and rural hospital food service staff and recommended education delivery method in the Saskatoon health region

Author: L McGregor, University of Saskatchewan Dietetic Internship, Saskatoon, Saskatchewan

Objectives: To describe learning needs, current education activities and characteristics of future educational activities for Food and Nutrition staff within the Saskatoon Health Region. **Methods:**

Learning needs, staff education opportunities, use of resources and potential learning opportunities were measured using survey methodology. Surveys were emailed to all Food and Nutrition Services managers in Saskatoon Health Region of long term care facilities as well as hospitals outside of Saskatoon. **Results:**

Staff would benefit from a variety of educational topics including food safety, specialized food preparation and customer service. There are many different methods of education that could meet this need including videos, presentations and workshops. **Implications and Conclusions:** To meet the education needs of

Food and Nutrition staff within Saskatoon Health Region, Food Service Managers should work together as part of a Food and Nutrition Services Education Committee. Regular meetings would allow members to recognize needs and work together to find appropriate resources for continuing education. A regional education coordinator could also benefit the managers and employees within Saskatoon Health Region by facilitating the search for reputable education material.

Title: Does nutrition intervention for patients with impaired fasting glucose or type 2 diabetes lead to positive changes in dietary habits? A Pilot Study.

Authors: L Gismondi, L Young, A Murphy, K Camelon, University Health Network Dietetic Internship Program, Toronto, Ontario.

Objectives: Metabolic control is dependent upon the triad of diet, exercise, and insulin. Recent surveys have shown that 64% of people with type 2 diabetes usually or always follow dietary recommendations. The purpose of this pilot study is to determine the percentage of patients who follow dietary recommendations made by dietitians at the Endocrine Clinic at Toronto General Hospital. This study will measure dietary changes from pre to post intervention among patients with impaired fasting glucose or type 2 diabetes. **Methods:** The intervention follows the standard procedure for nutrition care at the Endocrine Clinic, which includes an initial counseling session and a follow-up appointment at 1 month. Dietary changes will be measured at baseline and the 1 month follow-up appointment using a self-administered validated food frequency questionnaire (Brief Block 2000 Food Frequency Questionnaire). Results will be analyzed using SPSS 11.0 statistical software. **Results & Conclusions:** We anticipate that > 80% of our subjects will make a *positive* change to dietary habits based on the 5 key dietary strategies as outlined in the Canadian Diabetes Association's Just the Basics patient education handout. The strategies include eating at regular meal times, limiting intake of sweets and fat, and increasing intake of dietary fibre and water. **Implications:** Results will provide direction for further research in obtaining outcomes measure for the nutrition program at the Endocrine Clinic at Toronto General Hospital. In addition, these preliminary results can provide insight into what the dietitians might find when continuing on with the study for 1 year and are measuring changes at 3-6 months and 1 year for a larger sample population.

Title: Dietetic service provisions for the new family health team in Petawawa

Authors: ME Burgess, MA Carroll, Ottawa Hospital Dietetic Internship Program, Ottawa, Ontario

Objectives: To identify the services that the Registered Dietitian (RD) will provide as a member of the newly established Petawawa Family Health Team (PFHT). To identify the appropriate compensation and staffing benchmarks required for the RD to provide the recommended services. **Methods:** The Ministry of Health and Long Term Care website was accessed to determine the guidelines for FHT RDs. The Renfrew County (RC) and District Health Unit and Statistics Canada websites were accessed to identify the determinants of health and disease prevalence of the people in RC. Questionnaires were developed, pilot-tested, and distributed to RDs in RC and on presently operational Family Health Networks (FHN) to determine the services provided, staffing benchmarks, and compensation. Questionnaires were also developed, pilot-tested, and distributed to the PFHT physicians and nurses to determine their expectations for the RD on their FHT. **Results:** Twelve RDs work in RC, one of which works in Petawawa, but not exclusively. The RC and FHN RDs' scope of services is broader than what the PFHT doctors and nurses expect. According to questionnaire results, the FHN RDs do more health promotion and evaluation than the RC RDs. Particularly, the PFHT RD should focus on enhancing heart disease, diabetes, and cancer prevention efforts. **Implications and Conclusions:** This study will raise awareness regarding the PFHT RD's scope of services, the staffing benchmarks, and the appropriate compensation and help to guide the RD's practice on the PFHT. The staffing levels requested for year one (4:1) and beyond (6:1) stay below the recommendation of 10 full-time (FT) physicians for each FT RD (10:1). The request for \$55,800 for one FT RD is within the salary ranges reported by FT RDs.

Title: Pilot Study: The effects of physical activity on weight loss and liver function in children with NAFLD

Authors: T Pateman, D Mager, M Carricato, C Patterson , S So, E Roberts, The Hospital for Sick Children Internship Program, Toronto, Ontario.

Objectives: Non-alcoholic fatty liver disease (NAFLD) consists of a range of liver histology severity involving different degrees of fat accumulation in the hepatocytes, inflammation and scarring.

Approximately 85% of pediatric NAFLD patients are overweight or obese. Improvements in liver function tests and insulin levels have been seen with a weight loss of 4-5%. Increased physical activity has been associated reductions in insulin resistance and improvements in plasma liver biochemistries. This pilot study was designed to assess the impact of a physical intervention strategy on weight, body composition and liver function in children/adolescents clinically diagnosed with NAFLD. **Methods:** Liver function (serum AST, ALT) and metabolic function parameters (fasting triglyceride, cholesterol, insulin, glucose, HDL and LDL) were monitored pre and post the six week intervention period. Activity levels were recorded daily using a Yamax digiwalker SW-200 pedometer. Goals for steps/day were determined by adding 2500 steps to the average number of daily steps on a weekly basis to a maximum goal of 15,000 steps/day. **Results:** Mean age, weight and height at baseline (n= 4) was 15.75 years \pm 2.6 (range 12-18), 76.7 kg \pm 9.8 and 167.2 cm \pm 6.8, respectively. At post, intervention the mean number of steps taken per day increased by 28.4% from to baseline. Weight loss was not determined to be significant. ALT, waist circumference and serum insulin levels improved by 6.2%, 1.2 % and 38.8% respectively.

Conclusion: Physical activity intervention supported improvements in liver function, serum insulin and a reduction in waist circumference among participants.

Titre : Révision de la durée nécessaire du régime restreint en iode pour les clients avec un cancer de la glande thyroïde, suivant des traitements ou tests d'iode 131

Auteur : L Robichaud, Hôpital régional Dr Georges-L.-Dumont, Moncton, Nouveau-Brunswick

Objectifs : Comparer, entre les différents milieux hospitaliers du Canada, la durée prescrite du régime restreint en iode pour les patients atteints du cancer de la glande thyroïde, recevant un traitement ou un test d'iode 131. Déterminer la durée nécessaire de ce régime pour les patients de l'Hôpital régional Dr Georges-L.-Dumont (HRGD). **Méthodes :** Un questionnaire adressé à la diététiste ou au médecin a été envoyé à 25 différents hôpitaux du Canada, ayant un département d'oncologie. Une revue de littérature a également été effectuée sur le sujet. **Résultats :** Neuf questionnaires (36 %) ont été retournés et utilisés pour cette étude. La durée du régime restreint en iode des établissements participants à cette recherche variait entre trois et vingt et un jours. Or, d'après la littérature, le régime restreint en iode devrait être d'une durée de deux semaines incluant les trois à quatre jours post-intervention, afin d'optimiser le traitement et l'efficacité du test à l'iode 131. **Conclusion :** La durée prescrite du régime restreint en iode varie selon les établissements au Canada. À la suite des résultats de cette étude, les médecins et diététistes de l'HRGD prescriront un régime restreint en iode pour une durée totale de deux semaines aux patients atteints d'un cancer de la glande thyroïde, recevant un traitement ou un test d'iode 131.

Title: Understanding the meaning of normal eating and dieting in eating disorder patients

Author: YY Tsang, Providence Health Care Dietetic Internship, St Paul's Hospital, Vancouver BC.

Objectives: Patients struggling with eating disorder often have developed assumptions and strong beliefs about weight, food, dieting, body shape and eating. The objective of this study is to understand how patients with eating disorder perceive normal eating and dieting. **Methods:** This is a qualitative study involving former eating disorder patients who have attended the Eating Disorder Clinic at St Paul's Hospital, Vancouver, BC. Data was collected alphabetically from inactive charts until a sample size of 70 or the saturation point has been reached. Answers to the question "Please describe your feelings/beliefs about food/dieting" were transcribed and coded to gain an understanding of what normal eating and dieting meant to patients with eating disorder. Data analysis and data collection are systemic and interrelated processes that occur simultaneously. Themes emerging from the data will inform us whether the point of saturation has been reached or if further sampling is required. **Results:** Preliminary analysis of the data indicated the following 5 most prominent themes: fear of weight gain/body image, negative feelings toward food/eating, function of food, self-control, and control of food/dieting/eating.

Implication: Understanding the distorted beliefs in eating disorder patients may be helpful in the development of future nutrition interventions. Identification of these themes would help eating disorder dietitians have a better understanding of patients' beliefs on normal eating and dieting. This could aid dietitians in choosing the appropriate counseling methods to assist patients in challenging their attitudes and beliefs in the process of nutritional recovery. Future research studies of the same topic will further enhance our understanding of how individuals who have eating disorders perceive normal eating and dieting.

Title: Evaluation of the pediatric follow-up services provided by the registered dietitian at the Manitoba Home Nutrition Program

Author: C Rodrigues, Manitoba Partnership Dietetic Education Program, Winnipeg, MB

Objectives: The Manitoba Home Nutrition Program (MHNP) provides training, monitoring, and support to Manitoba patients who require home enteral nutrition (HEN). The research objectives were: (1) To determine the frequency of follow up of pediatric patients on the MHNP by a registered dietitian (RD); (2) Compare follow up services provided by MHNP to similar programs in Canada; and (3) Determine whether the MHNP meets existing RD follow-up standards. **Methods:** A total of 46 randomly selected MHNP pediatric HEN charts were reviewed. Data collected included: demographics, primary disease state, indication for HEN, growth status (stable or unstable), successful transition to oral feeding, length of time from hospital discharge to initial MHNP appointment and frequency of RD follow-up. A survey was administered to Canadian pediatric dietitians that addressed the question “What standard do other HEN programs abide by for RD follow-up?” **Results:** Pediatric MHNP patients were seen within 18 days after hospital discharge and subsequently every 1-2 months (if unstable) to 3 months (if stable). According to 10 Canadian RD respondents, clients were seen within 1-4 weeks. The average time for subsequent follow-up occurred every 1-4 weeks (if unstable) and every 3-6 months (if stable). Generally, Canadian programs have a similar standard to MHNP for follow-up frequency. However, the MHNP is provincial in scope whereas many Canadian EN pediatric dietitians are not part of a program that services the entire province; this factor made it difficult to accurately determine if dietitians adhered to similar guidelines as MHNP. **Implications & Conclusion:** Lack of provincial pediatric HEN programs and measurable follow-up standard reveals a need to develop a concrete guideline for all Canadian HEN programs.

Title: Development and peer review of a questionnaire inquiring into eating disorders in nutrition education programs

Author: DM Dowhaniuk, University of Alberta Integrated Dietetic Internship, Edmonton, Alberta.

Objectives: Previous studies have suggested that there is a high prevalence of eating disorders in nutrition students and dietetic interns. To explore this statement a questionnaire was developed to examine the following study objectives: 1) to determine screening practices for eating disorders within nutrition education programs, 2) to determine existing programs and services to support students with eating disorders, 3) to determine existing policies regarding applicants to programs and individuals in programs found to have eating disorders, 4) to explore concerns regarding public safety in dietetic professionals with eating disorders. **Methods:** The questionnaire was constructed and then pre-tested by using the debriefing method on three nutritional professionals in the province of Alberta. **Results:** There were mixed views of the questionnaire. The main problems found with the questionnaire were: 1) the wording of the questions was suggestive toward one belief making the questionnaire seem biased toward one view, 2) the format of the questionnaire was difficult to follow at times, 3) a few of the questions were too sensitive and were not needed to meet the objectives set for the questionnaire. **Conclusion:** The respondents comments were considered and most were incorporated into the revised questionnaire. The extensive changes to the questionnaire are proof of the extreme importance of pre-testing a questionnaire before it is sent out to the sample population. The questionnaire in its final form will be distributed internationally to nutrition professionals, with the intention of receiving a wide variety of thoughts and opinions from different cultural and ethnic backgrounds.

Title: Weight Status and Nutritional Risk of Seniors

Author: A Wayne, University of Alberta Integrated Internship Program, Edmonton, AB.

Objectives: 1. Evaluate the weight status of seniors attending wellness clinics in Capital Health (based on BMI). 2. Evaluate the nutritional risk of seniors attending wellness clinics in Capital Health (based on SCREEN© total score). 3. Describe the contributing factors towards the nutritional risk in seniors attending wellness clinics in Capital Health (based on individual questions of SCREEN©). **Methods:** Seniors in Capital Health attend “Healthy Aging Clinics” held by Healthy Aging Resource Nurses. At these clinics, once seniors had a checkup, they were weighed, using a small electronic scale, and measured using a handmade height measure utilizing both centimeters and inches. These same tools were used at all seven clinics. The SCREEN© survey was administered to each client in the interviewer format to ensure questionnaire completion. Once the survey was finished, the BMI and total SCREEN© scores were calculated by hand and verified in excel. **Results:** This survey included a total of 59 participants. Of these respondents, 86% were female and 14% were male. Ages ranged from 61 to 98 years with a mean age of 78.6 (SD = 9.7). The average BMI of all participants was 29.5 (SD = 5.8). Forty percent of seniors 65+ and 75% of seniors 55-64 years were obese. The average SCREEN score was 53 with scores ranging from 28 to 57 (SD = 5.66). 66.1% of the participants were at some form of nutritional risk. **Conclusions:** This research shows it is vital for Healthy Aging Resource Nurses to continue to screen seniors in Capital Health. With the high incidence of nutritional risk and overweight in seniors, services to address these issues should be explored.

Title: Regional nutrition and food service bedside menu entry trial

Author: JA Foreman, Capital Health Dietetic Internship Program, Edmonton, Alberta

Objectives: Regional Nutrition and Food Services (RNFS) for Capital Health held a trial of Bedside Menu Entry (BME) at the 100 bed Sturgeon Community Hospital in St. Albert, Alberta during the summer months of June-August 2004. The goal of the trial was to assess the impact of BME on patient meal satisfaction ratings and to evaluate the impact on costs. **Methods:** The trial was 56 days in length and was split into two phases of 28 days each. During the first phase, the patients were visited once per day and asked for their menu choices for all meals for the following day. The second phase of the trial included two patient visits per day with menu choices provided as close to the next mealtime as possible. The foodservices staff visited the patients on a predetermined schedule to assist the patients with their menu selection using a palm pilot. The indicators used to determine the outcomes of the trial consisted of; patient satisfaction surveys, plate waste audits, employee satisfaction, staff surveys, impact on food costs, impact on staff labour and stakeholder feedback. **Results:** Staff involved with patient visitation felt an increase in job satisfaction. Dietitians noticed a decrease in their workload regarding patient diet information. Patients enjoyed being given a choice regarding their meals. More patients ate a higher amount of food off their plate (approx 24% more), and fewer patients ate less of their tray (approx 10% more). **Conclusion:** In the proper hospital setting, BME can lead to patients being more satisfied with their meals and eliminating the food items on the trays that patients would not normally eat therefore leading to a positive impact on food costs.

Title: Is there evidence to support the use of pectin in tube feeds?

Author: C You, Capital Health Dietetic Internship Program, Edmonton, Alberta.

Objective: Since tube fed-associated diarrhea is a common problem, the addition of pectin fiber to tube feeds is a frequent practice within Capital Health Alberta. However, the validity of this practice is uncertain, as there are no guidelines, and thus far, no investigations into pectin's effectiveness. The objectives of this study are: to obtain the current scientific evidence on pectin and its use in tube feeding associated diarrhea, to determine the rationale for adding pectin to tube feeds at Capital Health, and whether it reduces prevalence of diarrhea. **Methods:** A retrospective study will be conducted at the University of Alberta Hospital site of Capital Health. A sample size of 100 will be randomized from a list of 250 patients administered pectin during 2005–2006. Subject criteria include patients: ≥ 18 years of age, received pectin to their tube feeds, and hospitalized for at least 6 days (minimum 3 days before, and 3 days after pectin initiation). All patients who ate orally will be excluded. The following data will be identified and quantified: the characteristics of patients who received pectin to their tube feeds (e.g. patient care unit, diagnosis, types of formula, nutrition status), other practices routinely done to assist with management of diarrhea, the current practice for initiation and ceasing of pectin, and any change in patient outcomes with the addition of pectin (e.g. number of stools per day, type of stool). Qualitative data will be coded numerically, and along with quantitative data, compiled and statistically analyzed. **Results and Conclusion:** Pending.

Title: Post-surgical diet progression: What is the current practice at the University of Alberta Hospital and the Royal Alexandra Hospital?

Author: RR Deschenes, Capital Health Dietetic Internship Program, Edmonton, Alberta.

Objectives: This study will build on previous research in Capital Health that provides support for early postoperative feeding of a regular diet, in addition to a growing body of scientific literature that supports early feeding. The goal of this project is to identify current postoperative feeding practices for patients who have undergone abdominal surgery at the University of Alberta Hospital (UAH) and the Royal Alexandra Hospital (RAH) to provide further support for creation of new postoperative surgical guidelines in Capital Health. In addition, this research will provide baseline data, enabling changes in practice to be studied in the future. **Methods:** Retrospective chart reviews were performed on 141 charts; 52 patients discharged from the UAH and 50 patients discharged from the RAH met the study criteria. The inclusion criteria were: patients admitted to UAH or RAH for the following abdominal surgeries and discharged between February 1st, 2006 and March 31st, 2006 except those listed in the exclusion criteria: colonic surgery, small bowel resections, cholecystectomy, liver resections, ostomy, and laparoscopic surgeries. The exclusion criteria were: patients under age 18, patients in hospital less than 2 days, gynecological surgeries, esophageal surgeries, gastrectomy, pancreatic surgeries, fed enterally or parenterally postoperatively, pregnant, dysphagia, enterocutaneous fistula, chylous ascites, receiving transplant, peritonitis, and bariatric surgery. Data collected from patient charts included age, weight, height, past medical history, pre-operative albumin, promotility agent use, admitting diagnosis, surgical procedure, date and length of surgery, diet history during admission, post-surgical complications, and length of stay. Data will be analyzed using Microsoft Excel statistical functions and the Statistical Program for Social Sciences.

Results: Data collection is complete. Results are pending. **Conclusions:** Pending.

Title: Development and Piloting of an Evaluation Tool for MedGem® Use in the Pediatric Home Nutrition Support Program

Author: P Vekaria, Capital Health Dietetic Internship Program, Edmonton, Alberta.

Objectives: Determining accurate energy requirements are important in nutrition support and in maintaining nutritional status. Even though indirect calorimetry is the gold standard used to measure resting energy expenditure (REE) it has some limitations including financial and time related costs. Various studies have revealed that prediction equations used to calculate REE are not as accurate when compared to measured REE by indirect calorimetry. The MedGem® is a new handheld device that measures REE and it has been advertised to be portable, less expensive and for use in multiple clinical settings. Therefore, this device may prove to be useful in the Northern Alberta Pediatric Home Nutrition Support Program (PHNSP). The purpose of this research project is to develop an evaluation tool to evaluate and pilot the use of the MedGem® in the PHNSP. This project will help determine what populations of PHNSP patients are most appropriate for trial with the MedGem® and if the evaluation tool provides enough information to warrant further research of the MedGem® in the PHNSP and other pediatric programs in the Capital Health region. **Methods:** The dietitians of the PHNSP will use the evaluation tool developed to test the MedGem® on 10 to 15 patients aged 9-17 years. Feedback on the use of the evaluation form and the MedGem® will be obtained from the PHNSP dietitians at the end of the testing period. The evaluation forms will be collected at the end of six weeks and data from the forms will be compiled and analyzed by descriptive methods. **Results, Implications & Conclusions:** Pending

Title: Pilot study: calcium & phosphorus protocol

Author(s): B Lineker*, K Oseen, C Schneck. Capital Health Dietetic Internship Program, Edmonton, Alberta.

Objectives: A literature review of patients in end stage renal disease has revealed that alterations in mineral metabolism can lead to bone disease and vascular calcification. The purpose of this study was to evaluate the methodology for a larger scale review of the calcium and phosphorus protocol implemented within the Northern Alberta Renal Program (NARP). **Methods:** Fifty adult subjects were randomly selected from the NARP's hemodialysis patient database. Subjects were required to be actively hemodialyzing at an Edmonton site June 2004 to January 2005. Exclusion criteria included anyone not on the protocol for the above timeframe and subjects post-parathyroidectomy. Data was collected from the NARP database and via chart reviews for July 2004 (pre protocol), October 2004 and January 2005 (3 and 6 months post protocol). The data was analyzed using Microsoft Excel. **Results:** The data revealed an 8% increasing trend in patients meeting target values for serum phosphorus (0.8 mmol/L-1.80 mmol/L) and a decreasing trend of 10% in patients meeting target values for parathyroid hormone (10-35 pmol/L) based on the data from July 2004 and January 2005. The serum calcium and calcium x phosphorus product data did not reveal notable trends. Twenty-three patients (46% of subjects) were missing requested data. It was noted that once the dietitians started recording on the protocol monitoring forms, less of the required data was missing. **Implications & Conclusions:** The data collected was difficult to evaluate due to the unavailability of inactive patients' information. Using averages of bone mineral parameters for analysis may be a better indicator of whether there was an overall change or trend following the initiation of the NARP's calcium and phosphorus protocol.

Title: Implementation of the stage two pandemic menu for the Capital Health region

Author: SL Robertson, Capital Health Dietetic Internship Program, Edmonton, Alberta.

Objectives: Regional Nutrition and Food Services (RNFS) is working under the direction of Capital Health's Office of Emergency Preparedness to prepare for the feeding of patients in the event of an influenza pandemic. A stage two pandemic patient menu was created with the goal of providing sustenance and hydration. RNFS stage 2 patient menu planning assumptions were used.

The objective of this project is to validate RNFS' stage two pandemic menu based on planning assumptions, appropriateness and the ability to implement this menu in a stage two pandemic situation.

Methods: A focus group was held with seven key staff members from the Food Service Centre (FSC) to brainstorm possible barriers and obstacles in the implementation of the stage two pandemic menu. The categories that resulted from this session included; command and control, human resources, communication, trigger point for supplies, meal kit assembly, warehouse space, infection control, security and transportation. Based on these categories, the final step will be to conduct a tabletop exercise involving key stakeholders. This exercise will test the practicality of the plan and identify implementation issues that will be remedied in the final plan. **Results:** The results of this project are pending, based on the outcomes of the upcoming table top exercise which will occur in early May.

Title: Development of an evaluation tool to evaluate the use of MedGem[®] in a bariatric surgery clinic –a pilot study

Author: RD Quintilio, Capital Health Dietetic Internship Program, Edmonton, Alberta.

Objectives: The purpose of this study is to develop and pilot an evaluation tool that can be used to determine if the MedGem[®] hand held calorimeter has an impact on dietetic practice in adult weight management programs. The goal of the evaluation form is to determine if the MedGem[®] provides an improved assessment of energy requirements over predicted equations, identify which patients will benefit from measured resting energy expenditure (REE), and overall evaluate the impact on patient care.

Method: An evaluation form will be developed and tested at the outpatient Bariatric Surgery Clinic at the Royal Alexandra Hospital in Edmonton, Alberta. A minimum of ten to fifteen clients will be measured. The dietitian for the program will determine which clients will have their REE measured by the MedGem[®]. For each patient that is measured, the dietitian will fill out an evaluation form. At the end of the test period forms will be collected and analyzed using descriptive methods. At the end of the study, a separate questionnaire will go out to the dietitians involved in the study to evaluate the MedGem evaluation form.

Results and Conclusion: Pending.

Title: How employers can influence the job choices of interns and recent graduates.

Author: A Rud, Capital Health and University of Alberta Integrated Dietetic Internship Program, Edmonton, Alberta.

Objectives: Our goal was to understand factors influencing career choice of recent dietetic internship graduates, allowing managers to enhance recruitment and retention activities. **Methods:** A 36 item on-line questionnaire was emailed to 130 graduates (2000-2005) from Capital Health post-graduate and integrated (n=60) Yukon-First Nations post-graduate (n=3) and University of Alberta integrated (n=67) dietetic internship programs. The questionnaire asked about personal demographics, debt load, professional focus (pre and post internship), desire to stay in health region of internship, number of job offers and interviews, employment status, and factors influencing first three jobs after internship. **Results:** Seventy seven graduates, all female, responded to the survey (59%). 70% carried a debt and for 34% it was >\$30,000. Post internship, clinical nutrition was a focus for 73% of graduates and only 4% each for administration and community. 72% wanted to remain where they completed their internship and 91% took the first job offered to them. For 34% their first job was described as casual or part time **not** by choice, indicating a significant degree of dissatisfaction. Fulltime employment and the opportunity to develop an area of expertise were important considerations in the movement of grads to further jobs. A positive working environment was consistently rated as a high influence for all respondents; some new grads named this as the reason for leaving the region in which they interned. **Conclusions:** Overall, interns wanted to stay in the region they trained in. To maximize recruitment and retention efforts, employers can be the first to make a job offer, offer fulltime employment, encourage specialization and create positive working environments.

Title: Do patient's stress levels decrease as they lose weight at The Ottawa Hospital's Weight Management Clinic?

Authors: SC Wilson, NK Day, SR Akinsulie, The Ottawa Hospital Dietetic Internship Program, Ottawa, ON

Objectives: To determine if patient's self-reported stress levels decrease as they progress through The Ottawa Hospital Weight Management Clinic's 26-week Low Calorie Diet (LCD) Core Program. **Methods:** This study consists of a retrospective chart review. It involves 95 clinically obese patients (BMI \geq 30) who took part in the program from January 2004 to December 2004. Patients enrolled in the program were required to complete a survey at each weekly visit, for a total of 26 weeks. The questions asked in the survey were the same each week. The question of interest was "Has your stress level changed this week?" There were five possible answers. This study examined the response from the first survey at week one, and the last survey at week 26. Answers were compared with the amount of weight lost during the 26 weeks. Responses were compared between men and women. **Results:** The results of this study are not yet available pending statistical analysis of collected data. **Implications:** It is anticipated that as people progress through the program, their stress level will decrease as they lose weight and acquire skills to make healthier choices in their lives. Variations in the amount of weight lost and reported stress levels between men and women will be examined, as well as the degree of stress reduction corresponding with the amount of weight lost. The results of this study may be of value to The Weight Management Clinic as they strive to provide the most effective weight loss program to their clients.

Title: The effects of prophylactic Percutaneous Endoscopic Gastrostomy (PEG) tube placement on advanced head and neck cancer patients: A pilot study

Authors: T Levin and K Balogh, Sunnybrook Health Sciences Centre, Toronto, Ontario.

Objectives: Toronto Sunnybrook Regional Cancer Centre (TSRCC) implemented the prophylactic use of PEG tubes for advanced head and neck cancer patients in 2003. This pilot study was designed to identify the benefits associated with this intervention in an ambulatory setting. **Methods:** A longitudinal, retrospective chart review, involving consecutive sampling of both PEG (intervention) and non-PEG (control) patients was conducted (n=18 for each group). Stringent inclusion and exclusion criteria were applied to identify subjects. All patients received aggressive treatments, with curative intent. Outcome indicators such as weight loss, nutritional status, need for hydration therapy, missed treatments and hospitalization were measured at baseline, post-treatment and at follow-up. Complications associated with the PEG were also documented. **Results:** At baseline, there were no statistically significant differences between control and intervention groups, either demographically or medically ($p < 0.05$). Nutritional support through a PEG-tube demonstrated to have a protective effect on weight loss and adherence to the treatment protocol. The intervention group experienced significantly less weight loss and maintained better nutritional status at follow-up. A trend towards PEG patients requiring less hydration therapy was demonstrated. Intervention patients had a tendency to miss fewer treatments, but required greater hospitalization than the control group. While 50% of PEG patients experienced minor complications, 44% did not endure any complications. Only one patient presented with a major complication.

Conclusion: This research provides supportive evidence for the prophylactic use of PEG- tubes in advanced head and neck cancer patients. However, further research is required to further validate this practice.

Title: Oral flora of long-term care residents consuming texture-modified diets.

Authors: BJ Wudel, RD Nussbaumer, BL Spies, Saskatoon Health Region Dietetic Internship Program, Saskatoon, Saskatchewan.

Objectives: Aspiration pneumonia has been identified as a major cause of morbidity and mortality among elderly individuals residing in long term care. Research had shown that oropharyngeal colonization of Gram-negative pathogens is among the primary risk factors associated with the development of this condition. While oropharyngeal colonization of Gram-negative bacteria is uncommon in young, healthy individuals, the incidence increases among the institutionalized elderly. Current research suggests that those individuals with impaired oral clearance are at especially high risk for Gram-negative colonization due to decreased salivary flow and difficulty swallowing (dysphagia). The objective of this study was to determine if long term care residents consuming a texture-modified diet were colonized with oropharyngeal Gram-negative pathogens. **Methods:** Buccal swabs were taken of 31 long term care residents consuming texture modified diets. The cultures were then examined to identify those residents with oropharyngeal colonization of Gram-negative pathogens. **Results:** Results of this study are pending.

Title: Cost analysis of implementing a closed enteral feeding system in child health

Author: KC Antonchuk, Manitoba Partnership Dietetic Education Program, Winnipeg, Manitoba.

Objectives: Cost analysis of a closed enteral feeding system has been previously examined in the acute care setting among adult patients. The objective of this study was to conduct a cost analysis of a closed enteral feeding system among pediatric patients. **Methods:** The following variables were examined to compare the cost between the open and closed systems: formula and administration set costs, formula waste costs, and labour costs. Daily enteral tube feeding reports were obtained from the Children's Hospital in Winnipeg, Manitoba. Data was utilized to create a database of tube fed children on standard and modified formulas. Formula pricing for the open system was obtained from vendors on contract and from the literature for the closed system. A literature review was performed to obtain formula waste percentages and labour savings associated with enteral feeding systems. Administrations set costs were obtained from hospital records and a medical supply company. **Results:** Formula and administration set costs were higher for the closed system than the open system. Waste percentages of 10% and 38% were obtained from a literature review of adult populations and were used to calculate costs associated with formula waste for the closed and open systems, respectively. A total yearly savings of \$459.27 is expected when using the closed system versus the open system in the pediatric population. **Conclusion:** The closed system is more cost effective when labour savings and waste percentages are considered. A formula waste audit should be performed among pediatric patients to include accurate waste percentages in future studies, as small volumes are often administered. Further research is also needed to investigate the need for modified formulas prior to implementing a closed system.

Title: Validating the research used to develop the Dietary Reference Intakes for vitamin A and iron in infants

Author: M Arpin, Manitoba Partnership Dietetic Education Program, Winnipeg, Manitoba.

Objective: Assess the validity of the Dietary Reference Intakes (DRIs): Tolerable Upper Intake Level (UL) of 600ug/day for vitamin A (birth-3 years) and Recommended Dietary Allowance (RDA) of 11mg/day for iron (7-12 months). **Methods:** A literature review on the average intake of infants and the data used to develop the DRIs was conducted. Findings were compared to the DRI calculations. Vitamin A and iron content of infant formulas/breast milk and vitamin/mineral supplements was compared. A questionnaire, focusing on practice related to DRIs, was posted for pediatric dietitians on the Dietitians of Canada discussion board. **Results:** Intake was variable, with average milk volume of 0.78L/day (0-6 months) and 0.6L/day (7-12 months). Current requirements for milk intake (birth-6 months) used in practice, is 150mL/kg/day. The questionnaire demonstrated that most dietitians follow DRIs in practice, but are unable to provide vitamin/mineral supplements without exceeding the UL for vitamin A, and recommend dietary adjustments to meet iron's RDA. The research did not demonstrate adverse effects of vitamin A at levels near the UL. The lowest-observed-adverse-effect-level (LOAEL) used to calculate the UL of vitamin A, was based on a study that was not representative of the current population or the research findings. The highest possible uncertainty factor (UF) of 10 was used, which resulted in a low UL. Selection of the UF was unclear and poorly defined. Based on the average intake findings, and with adequate addition of iron-rich foods, infants should be meeting the RDA for iron. **Conclusions:** The validity of the UL for vitamin A is unclear and likely too low. It appears that the research used to develop the RDA for iron is valid.

Title: Effectiveness of the process of providing nourishments to residents in long term care

Author: B Borgia, Manitoba Partnership Dietetic Education Program, Winnipeg, Manitoba.

Objectives: The purposes of this research project were to (1) Evaluate the effectiveness of the snack delivery process in a long term care facility, (2) compare snack delivery processes in long term care facilities across Canada and (3) determine the nutrient contribution of snacks. **Methods:** Deer Lodge Centre, a long term care facility in Winnipeg, was used in this research project. An audit tool was developed, tested and implemented to gather information regarding the different levels of snack receivership and residents' refusal of snacks. The audit was organized by meal with a total of 262 observations. A survey was developed and emailed to Winnipeg long term care Registered Dietitians and Dietitians of Canada Gerontology Network Members, to collect snack delivery information for comparison. A 2-day food record was collected on one resident. The nutrient analysis was performed using a computer nutrient analysis program, Professional Diet Analyzer, to illustrate the nutritional impact of scheduled snacks. **Results:** The audit identified several areas of breakdown in snack delivery: snack delivery and serving times, and communication failure. The survey indicated that no standard of practice exists. The nutrient analysis showed that approximately $\frac{1}{4}$ of a resident's caloric intake is provided by scheduled snacks.

Implications & Conclusions: Implementation of a snack delivery policy and ward communication logs may improve the snack delivery process by standardizing expectations of care and opening the lines of communication between multiple departments. Given the significant caloric contribution of scheduled snacks, a breakdown in snack delivery could negatively impact the nutritional status of many residents. A food service policy to standardize snack delivery processes may improve consistency of care across the country.

Title: Evaluation of the effectiveness of a medication pass program in a rehabilitation hospital setting

Author: G Bueno, Manitoba Partnership Dietetic Education Program, Winnipeg, Manitoba

Objectives: To evaluate the effectiveness of a Medication Pass Program (Med Pass Program) in improving the nutritional outcome of malnourished patients in a rehabilitation setting. **Methods:** 14 patients were

recruited from two rehabilitation facilities: Health Sciences Centre Rehabilitation Hospital (HSC) and the Deer Lodge Rehabilitation Centre (DLC). 5 patients from HSC and 9 patients from DLC provided written consent to participate. Patients were administered 60 ml of Resource[®] 2.0 four times a day for 4 weeks, as part of their medication regime. Three-day calorie counts, weight, and serum albumin and pre-albumin

levels were measured at baseline and at the end of the study. **Results:** 3/5 patients (HSC) completed the 4-week trial and had all nutritional parameters measured; 2 patients dropped out due to illness or transfer of location. 9 Patients from DLC participated in the study; however, only weights were measured at DLC. In the 3 patients (HSC) who completed the trial, serum albumin and pre-albumin levels all improved. 2/3 patients had an increase in their weight. No difference was noted in their caloric intake due to recording inconsistencies.

Implications & Conclusions: Due to a small sample size, this study does not provide sufficient data for proper conclusions to be drawn on the effectiveness of the Med Pass program.

Nevertheless, it does offer insight on the positive effects on malnutrition as all 3 patients who completed the study did improve based on anthropometric and biochemical indices of nutritional status. The three main limitations to this study were: insufficient data collection to determine the effectiveness of Resource[®] 2.0, difficulty in recruiting patients in a short period of time and inconsistent data collection between facilities.

Title: Why are individuals not accessing programs and services available to them to increase their capacity to access healthy foods?

Author: J Cowan, Manitoba Partnership Dietetic Education Program, Winnipeg, Manitoba

Objectives: The Burntwood Food Security Committee is currently working to acquire more information on food security. The objective of this research project was to use focus groups to determine why people are not accessing programs and services available to them in the City of Thompson, Manitoba to increase their capacity to access healthy foods. **Methods:** Three focus groups consisting of 2-4 participants and one individual interview were held with people who regularly attend programs in the City of Thompson. Each focus group consisted of different participants at different community programs. Participants were presented with a series of questions relating to food insecurity. The focus group sessions were recorded on a flip chart and further observations were made during the sessions by a note taker and an observer.

Results were then summarized manually. **Results:** All participants recognized that food insecurity was a problem. Although participants were attending a program where food was offered, there were many barriers to accessing other valuable services that were available in the community. Common barriers to accessing existing programs and services included pride, lack of awareness about the programs, previous negative experiences with accessing programs and too much paperwork at the programs. Programs that offered a variety of services such as providing transportation, childcare and food were the most favoured.

Implications & Conclusions: Results of this research project can be used by the Burntwood Food Security Committee to make recommendations to existing programs and services on how to better advertise their programs and what services the program must offer in order for people to be able to attend the programs.

Title: Nutritional management of chyle leaks

Author: D Daniello, Manitoba Partnership Dietetic Education Program, Winnipeg, Manitoba.

Objectives: Chyle leakage is a complex problem resulting from injury/abnormality of the thoracic duct. Although rare, when leaks do occur they are difficult to manage. Nutrition plays a prominent role in the conservative management of chyle leaks however, currently there are no standards of practice. The objectives of this project were to (1) complete an evidence based literature review and (2) survey dietitians who manage patients with this condition. **Methods:** A literature search was completed using electronic journal databases. A survey was developed consisting of 11 questions to examine: dietitian's experience with chyle leakage, prevalence of chyle leakage, and dietary therapies employed. The survey was distributed via email to dietitians working in clinical care settings across Canada. **Results:** The nutritional management of chyle leaks varies within the literature and the survey. Conservative management with the use of (1) An enteral low-fat elemental formula with medium-chain triglycerides (MCT) oil supplementation and (2) Total parenteral nutrition (TPN) appeared to be most effective and favored over other regimens; however, it is essentially patient dependant. Thirty-five dietitians responded to the survey. The variation in survey responses emphasized the lack of consensus about optimal nutritional therapy for chyle leaks. No clear pattern emerged as to when a particular therapy was indicated or should be revised. **Implications & Conclusion:** Both the literature and survey suggest that TPN may be the most effective treatment for reducing chyle flow. However, given the risks of TPN and that not all patients are candidates for TPN, an initial trial of an enteral low-fat, elemental formula, with MCT oil is warranted. A randomized controlled trial would be beneficial. The need for readily accessible practice guidelines for dietitians is apparent.

Title: An evaluation of employment and income security allowances for basic needs and special diet income supplements.

Author: C Ma, Manitoba Partnership Dietetic Education Program, Winnipeg, Manitoba

Objectives: (1) Complete an evidence-based literature review to determine validity of special diet allowances covered by Employment & Income Assistance (EIA) in Manitoba. (2) Determine if adjustments to the basic social assistance rates would be a more viable solution to help those requiring income assistance have access to a healthy, nutritious diet. **Methods:** A literature review was conducted regarding clinical practice guidelines on disease states. A national survey was distributed to Canadian provinces to compare basic income assistance rates to Manitoba rates. Surveys were distributed to Winnipeg Regional Health Authority Primary Care Physicians and Registered Dietitians to collect opinions on social assistance rates in Manitoba. **Results:** The literature review revealed that the majority of special diets funded by Manitoba's social assistance program are not required to meet therapeutic dietary needs. In total, 6 provinces responded to the survey; the results illustrated differences in coverage of special diet rates and basic assistance rates, with minimal consideration concerning cost of living, availability of employment, or availability of food. The surveys distributed to Manitoba physicians and registered dietitians provided suggestions for improvement of the Manitoba social assistance program and illustrated many frustrations, with the main frustration being not having guidelines on how to provide appropriate special diet benefits to social assistance recipients. **Implications & Conclusion:** The lack of current and extensive research as well as the variability of coverage because of provincially governed welfare systems suggests that a professional analysis may be of benefit to evaluate effectiveness of welfare systems. Recommendations to enhance the effectiveness of social assistance must reflect the diverse, barriers, needs, and interests of specific groups (single-parents, single mothers, disabled, older aged, etc).

Title: Development of a PEN knowledge pathway: A dietetic intern's experience

Author: J Mottashed, Manitoba Partnership Dietetic Education Program, Winnipeg, Manitoba.

Objectives: To use the Practice-Based Evidence in Nutrition (PEN) templates and Writer's Guide to write the content for the "Counseling Knowledge" pathway. **Methods:** The PEN Guidelines for Writing a Knowledge Pathway were reviewed. A literature search of PUBMED, the Internet, and relevant textbooks was conducted to obtain background information on counseling techniques and models. Background information sections on selected counseling techniques and models were developed. Practice-based questions were drafted and sent to reviewers for feedback. Upon obtaining feedback, a search of PUBMED, psych info, CINHAL, Cochrane Database of Systematic Reviews, and the Internet was conducted to obtain literature addressing the selected questions. Key practice points were extracted from the synthesized literature and assigned a grade. Evidence statements to support each key practice point were formulated. Reference lists were created and a glossary was developed where necessary. The knowledge pathway content was sent to PEN reviewers for feedback and revisions were made as necessary. **Results:** A PEN counseling knowledge pathway was developed consisting of background information on the stages of change model, patient-centered counseling, health belief model, social cognitive theory, behavior modification, precede/proceed model, learning styles, VARK questionnaire, Kolb's Learning Style Inventory, and the Myers-Briggs Type Indicator. The pathway also contained key practice points, evidence statements, and reference sections pertaining to seven practice-based questions addressing the following topics: stages of change, patient-centered counseling, counseling intensity, web-based support tools, multicultural competence, and learning style inventories. **Implications & Conclusions:** Future research should be dedicated to answering questions posted by practicing dietitians who access the PEN service, while continuing to expand on the existing content to add breadth and depth to the pathway.

Title: Is the school environment in Repulse Bay, Nunavut an effective means of educating children and their parents on nutrition and chronic disease prevention?

Author: LC Pestaluky and NR Watters, Manitoba Partnership Dietetic Education Program, Winnipeg, Manitoba

Objectives: Food patterns of the Inuit people have been influenced by western society, resulting in an increased risk for developing chronic diseases. Childhood and adolescence is a critical time for the development of knowledge, learned behaviors, and life long habits. There is little research regarding nutrition education in the schools in Nunavut Inuit communities. Consequently, this research wishes to answer the question: Is the school environment in Repulse Bay, Nunavut an effective means of educating children and their parents in nutrition and chronic disease prevention? The objectives of the project are: (1) To develop and deliver culturally appropriate healthy eating modules to children in grades six and seven; (2) Evaluate children's knowledge regarding the Nunavut Food Guide and understanding of nutrition food labels; and (3) Determine parent's/guardian's attitudes towards school nutrition initiatives. **Methods:** Twenty-one children at Tusarvik School (Repulse Bay, Nunavut) will participate in four modules that include nutrition education (Nunavut Food Guide and nutrition label reading), meal planning and preparation, and grocery store tours. Take home assignments will be given to children, which will promote the transfer of nutrition information from children to parents/guardians. Children's knowledge regarding the Nunavut Food Guide and the ability to read nutrition food labels will be tested using a written questionnaire prior to the first module and after the final module. **Results:** Quantitative data will be analyzed and compared by the percentage of questions answered correctly in both tests. Qualitative data regarding nutrition initiatives will be collected through individual interviews with parents/guardians. **Conclusions:** The results and conclusions of this research study will be presented in June 2006.

Title: An assessment of the nutrition knowledge level of family physicians

Author: C Tuan, Manitoba Partnership Dietetic Education Program, Winnipeg, MB

Objectives: With obesity, cardiovascular disease (CVD), and diabetes on the rise, the role of diet in prevention and management is well established and cannot be overlooked. Physician expertise is highly regarded by patients; therefore accuracy and currency of nutrition information is stressed. The objectives were to: determine the three most common nutrition questions physicians receive; determine if physicians would be interested in receiving regular nutrition updates; assess their nutrition knowledge through questionnaire; make recommendations for continuing education. **Methods:** A two-page survey was mailed to family physicians to assess their nutrition knowledge and collect demographic information. The demographic section consisted of five questions and the nutrition questionnaire section was composed of fifteen questions related to CVD, obesity, and diabetes. Thirty-one physicians associated with the Northeast Winnipeg Primary Care Reform Project (NPCRP) were chosen for the study. The results were summarized and reported using descriptive statistics. **Results:** Fourteen surveys were returned (45% response rate); 57% were physicians practicing 11-20 years. Obesity and cholesterol ranked first as the most common nutrition-related questions physicians receive, followed by diabetes. 86% of physicians stated an interest in receiving regular nutrition updates. The mean score of correctly answered questions was 69%; the mean score for the CVD questions was 67%; obesity was 70%; diabetes was 70%. **Implications & Conclusions:** Obesity, CVD, and diabetes are the three most common nutrition questions received in practice; results from other studies also support these findings. Most physicians selected an interest in receiving regular nutrition updates. Due to the small, selective sample and length of the questionnaire, there is limited concrete evidence to make an accurate assessment of the nutrition knowledge of physicians.

Title: Are there differences in outpatient dietitian services and practices between Winnipeg and rural Manitoba areas?

Author: D Unruh, Manitoba Partnership Dietetic Education Program, Winnipeg, Manitoba

Objectives: Healthcare delivery changes have occurred in both Winnipeg and rural areas since regionalization in the late 90's, and more recently with the promotion of a client-centered primary health care model. This model supports outpatient dietitian services, which are an important part of prevention of some chronic diseases such as diabetes and heart disease. To date, research has not compared differences between these services in urban and rural areas. The project objective was to determine whether differences exist between Winnipeg and rural areas in Manitoba in regard to outpatient dietitian services.

Methods: A survey, consisting of twenty-six multiple choice and open ended questions, was sent by electronic mail to 75 Manitoba dietitians, previously screened as providing some level of outpatient services. Of the total surveyed, 31 dietitians were based in Winnipeg and 44 were rural-based. The survey focused on: types of clients seen, hours of work (EFT), size of catchment area, and barriers experienced.

Results: A total of 16 Winnipeg and 28 rural dietitians responded to the survey. Differences were found between Winnipeg and rural outpatient services; rural dietitians reported they traveled greater distances, had less secretarial support, earn less income, and are concerned about RD recruitment while Winnipeg dietitians were more likely to have dedicated outpatient EFT. Both Winnipeg and rural dietitians reported a lack of required resources such as continuing education and library access. **Conclusion:** Dietitians providing outpatient services in Winnipeg and rural Manitoba experience barriers to providing optimal services. Research may be needed to determine whether a lack of dedicated outpatient dietitian EFT's in rural Manitoba can be linked to the dietitians' ability to meet client needs in rural areas.

Title: The development of a questionnaire based on the Transtheoretical model for the evaluation of a weight management program for women with breast cancer

Author: J Van Deynze, Manitoba Partnership Dietetic Education Program, Winnipeg, Manitoba

Objectives: The Choose to Lose program is a weight management program for breast cancer patients in Winnipeg, Manitoba. In order to measure the participant's stage of readiness to follow a healthier lifestyle, a questionnaire based on the Transtheoretical model is required. The aim of this project was to design and implement a questionnaire that uses the Transtheoretical model and that can be used to measure the success of the program in helping patients achieve a healthier lifestyle. **Methods:** An evidence based literature review regarding breast cancer, weight, physical activity, evaluation tools, and the Transtheoretical model was conducted. Based on this literature, a questionnaire that asked questions to address the patients' readiness for change to a healthier lifestyle (diet and exercise) was developed. The tool was focus tested with the 6 participants of the 2005 Choose to Lose program. The fully revised evaluation form was implemented in the 2006 program. Diet and exercise records were distributed to the participants as well.

Results: The Transtheoretical questionnaire indicated that patients involved in the Choose to Lose program demonstrate a progression towards a healthier lifestyle. This was confirmed by an improvement in dietary habits and an increase in physical activity. **Implications & Conclusion:** Weight loss programs often focus on weight loss and other anthropometric measures as a means of success. Our evaluation tool showed that women involved in a weight loss program do progress towards a healthier lifestyle, even without focusing on anthropometrics. This study warrants an emphasis on the patients' readiness for change versus actual physical measurements when involved in weight loss program.

Title: Needs assessment for the implementation of a texture-modified diet-training program for Home Care Staff (Home Support Workers and Home Care Attendants) in the Winnipeg Regional Health Authority

Author: M Wilkie, Manitoba Partnership Dietetic Education Program, Winnipeg, Manitoba.

Objectives: The goal of this study was to determine if a training program for Home Support Workers (HSW) and Home Care Attendants (HCA) on proper preparation of texture-modified diets and thickened beverages is warranted for the management of feeding and swallowing difficulties in Home Care clients. Current practices were reviewed. **Methods:** A 12-question survey was provided to staff to determine past training. Professionals were contacted to determine current training used in other Canadian Home Care programs. Literature searches were performed to determine the importance of proper training in texture-modified diet preparation. A summary of the Home Care assessment database was received and analyzed to determine the number of Home Care clients currently receiving texture-modified diets. **Results:** One hundred forty-nine surveys were completed. Of those, 33-46% of staff reported making texture-modified diets; 22-33% reported thickened beverage preparation. Staff identified difficulties preparing these diets and 62% reported no training on proper diet preparation. Most of the staff (74%) identified that they would welcome a training program. Within the WRHA, 850 clients have been assessed as having chewing and swallowing problems; 36% of these clients have food prepared by Home Care staff. Other Canadian Home Care programs report no specific training for staff on texture-modified diet preparation, yet the literature indicates that client safety depends on proper meal preparation. **Conclusions:** Home Care staff that completed the survey identified a need for training on texture-modified diet preparation. To maximize client safety and health, staff would benefit from a standardized training program that addresses the proper techniques and possible challenges encountered in the preparation of texture-modified diets.

Title: Food security assessment of Leeds, Grenville and Lanark counties

Author: ED Flintoff, Southeastern Ontario Dietetic Internship Program, Brockville, Ontario

Objectives: The overall project objective was to assess the level of food security in Leeds, Grenville and Lanark counties and identify general strategies to improve the current situation. This project focused on gathering and analyzing qualitative data to formulate general recommendations. **Methods:**

Representatives from several stakeholder groups (N = 88) participated in the assessment process. Stakeholder groups included professionals working with low-income families, food assistance providers, and low-income individuals (accessed via home visitors). Information gathered through focus groups, telephone interviews, and questionnaires was summarized and discussed with three registered dietitians and a planning and evaluation consultant to obtain additional input. **Results:** The assessment indicated that food insecurity affects a broad cross-section of people within the three counties, including children, single parents, families, seniors, disabled and physically challenged individuals. Seventy percent of the low-income individuals surveyed claimed to experience food insecurity. Those who experience food insecurity stated that limited hours of operation and strict eligibility criteria of food assistance programs are barriers to access. All stakeholder groups agreed that lack of money, the high cost of nutritious food, unexpected expenses, and limited access to assistance are the major barriers to food security. The assessment led to three broad recommendations for action: (1) increasing awareness of food insecurity within the three counties; (2) advocating for increases to social assistance rates and access to nutritious, affordable food; and, (3) addressing the barriers leading to food insecurity. **Implications & Conclusions:** The results of the assessment emphasize the need to enhance efforts to address food insecurity in Leeds, Grenville and Lanark counties. The recommendations for action provide a framework for the development of a more detailed implementation plan.

Title: Assessment of a menu-planning tool

Author: LS Short-Zamudio, Southeastern Ontario Dietetic Internship Program, Napanee, Ontario

Objective: Healthy Babies, Healthy Children (HBHC) is an Ontario program for pregnant women and families with children from birth to age 6. As a part of this program, Lay Home Visitors (LHVs) go into clients' homes and provide support and services. Many HBHC families find it difficult to plan and prepare nutritious balanced meals and snacks. The objective of this project was to create a resource to help families prepare meals and snacks using Canada's Food Guide to Healthy Eating (CFGHE). **Methods:** A needs assessment, including literature review, self-completed questionnaires by clients and interviews with LHVs identified characteristics of an effective resource. Using this information, a pamphlet containing a daily menu planner with food choices from CFGHE was created. The pamphlet encourages readers to use the provided grocery list to aid in grocery shopping and to set healthy eating goals. The resource was distributed to the LHVs to use when they visit families. A pre-test was administered to clients to measure healthy eating knowledge and behaviours prior to viewing the resource. The client and LHV then reviewed and completed the resource. Three weeks after the pre-test and menu planning activity, a post-test was administered to the client to measure change in healthy eating knowledge and behaviour. **Results:** Findings from pre- and post-tests will be used to determine the effectiveness of the resource with regards to preparing balanced meals and snacks. **Implications & Conclusions:** If improvements are found, the resource will continue to be used and feedback will be used to improve it. If no improvements are found, the feedback will be used to determine another strategy to help HBHC clients plan and prepare healthy meals and snacks.

Title: Promoting nutrition among manufacturing shift workers

Author: CE Mallany, Southeastern Ontario Dietetic Internship Program, Port Hope, Ontario

Objectives: The Haliburton, Kawartha, Pine Ridge District Health Unit is working to improve nutrition awareness among manufacturing shift workers in Northumberland County. The objective of this project is to develop and focus test nutrition resources by June 2006. **Methods:** Demographic data were collected and a literature search was conducted to recognize current issues, trends and best practise in workplace health. Key informant interviews and focus groups were completed to identify nutrition needs and interests, as well as to determine how to most effectively present information. Nutrition resources are being developed through consultation with an advisory committee and focus tests are being arranged for June 2006. **Results:** The situational assessment indicated the major obstacle to healthy eating was time: lack of time at work to prepare and eat meals, and lack of time at home to pack food. Many workers relied on convenience foods such as frozen meals, and items from vending machines and cafeterias. They were interested in learning how to choose and pack healthy food for work, and how to choose the healthiest convenience foods. Results from the situational assessment indicated that take home materials and poster displays are a needed and preferred means to reach this population. Nutrition resources are being developed that will be available in handout, poster and electronic format. Topics are meal planning and choosing frozen entrees, snacks and beverages. Arrangements are being made to focus test the resources and results will be available by June 2006. **Implications & Conclusions:** Creating nutrition resources that are relevant to the interests of the population, and that are available in a way that is practical and useful will help improve awareness about nutrition among shift workers in Northumberland County.

Title: Eating disorders and sub-threshold variants among adolescent females with type 1 diabetes

Author: JC Sweezie, Southeastern Ontario Dietetic Internship Program, Brockville, Ontario

Objectives: The hypothesis is that disordered eating (eating disorders, eating disorders not otherwise specified (ED-NOS) and their sub-threshold variants) is more common among adolescent females with type 1 diabetes than their non-diabetic peers. This review was to identify the prevalence, cause and complications associated with disordered eating among this population. Results of this review will be included in PEN - Dietitians of Canada's evidence-based on-line tool. **Methods:** A comprehensive literature search for publications from 1996 to present was conducted within OVID MEDLINE database using the following medical subject headings: type 1 diabetes and disordered eating restricted to ages 0-18 years (N=61). Relevant articles (N= 42) were critically appraised and summarized into key practice points and supporting evidence statements. **Results:** The research indicated approximately twice the prevalence of disordered eating among adolescent females with type 1 diabetes than their non-diabetic peers. This population commonly suffered from eating disorders not otherwise specified (ED-NOS), bulimia nervosa and sub-threshold eating behaviours. Cases of anorexia nervosa are infrequent. The higher prevalence of disordered eating was attributed to both familial influences and specific aspects related to the management of type 1 diabetes, primarily insulin omission and manipulation as unique methods for purging calories. Eating disorders or disordered eating behaviours were associated with a statistically significant lower global self worth; poor metabolic control and earlier onset of diabetes-related microvascular and macrovascular complications. The treatment for these co-morbidities is most effective in an in-patient setting with familial involvement. **Implications & Conclusions:** A higher prevalence of disordered eating behaviours was found among adolescents with type 1 diabetes compared with their non-diabetic peers. Further research is needed to identify most effective treatment strategies for this population.

Title: Improving healthy food options in the cafeteria of a local secondary school

Author: L Peterson, Southeastern Ontario Dietetic Internship Program, Kingston, Ontario

Objectives: The objectives of this project were (1) to develop healthy eating messages to promote healthier food choices in a secondary school cafeteria and (2) to increase the healthy food options available to students in the cafeteria. KFL&A Public Health staff, a foodservice company, an advisory committee, and students at the secondary school collaborated to achieve project objectives. **Methods:** Project development was guided by published literature and recommendations of the advisory committee. Questionnaires (n=295) were completed by students to determine healthy food options they would like to purchase in the cafeteria, best methods of teaching them new information, and how they want to be informed of healthy food options available to them in the cafeteria. The questionnaire results were used to plan which healthy food options would be available in the cafeteria and how to incorporate healthy eating messages in the school environment. A theme, a series of posters, point-of-purchase messages and morning announcements were created. These were reinforced by changes to the food items available in the school cafeteria. The project was implemented over a period of six weeks. **Results:** At the end of the six-week project, the number of healthy food items available in the school cafeteria increased. Food production and food waste records maintained by the foodservice company showed an increase in the number of healthier food choices sold and a decrease in the amount of healthy food waste. **Implications & Conclusions:** The results of this project will be used by KFL&A Public Health to guide plans for nutrition promotion in other secondary schools in the area.

Title: Effectiveness of low-carbohydrate diets on weight loss, satiety, insulin sensitivity, serum lipids and dietary adherence

Author: AM Kudirka, Southeastern Ontario Dietetic Internship Program, Belleville, Ontario

Objectives: The purpose of this project was to conduct a literature review to answer the following questions: 1) What is the effectiveness of low-carbohydrate diets on short-term (<6 months) and longer-term (6-12 months) weight loss in overweight/obese adults and 2) what is the influence of low-carbohydrate diets on satiety, insulin sensitivity, serum lipids and adherence. Results of this project will be included in PEN – Dietitians of Canada’s evidence-based on-line tool. **Methods:** The search of OVID Medline database used the following keywords and medical subject headings: popular diets, fad diets, low-carbohydrate diets in combination with overweight or obesity. Inclusion criteria were: male or female, ≥ 21 years of age. Relevant articles (N=20) were critically appraised and summarized into key practice points and supporting evidence statements. **Results:** Low-carbohydrate diets (<30grams/day) were effective for short-term weight loss. The evidence indicated some initial weight loss could be attributed to water loss from glycogen depletion. Weight loss associated with low-carbohydrate diets and low-fat diets was similar in the longer-term. Successful longer-term weight loss was related to increased physical activity and total calorie reduction regardless of macronutrient content. The high-protein content of low-carbohydrate diets may suppress hunger to a greater extent than other macronutrients and may help to maintain a lower overall energy intake. Weight loss improved insulin sensitivity regardless of macronutrient distribution. The heterogeneity of the low-carbohydrate diets and lipid markers limited the ability to draw conclusions regarding effect of low-carbohydrate diets on serum lipids. All restrictive diets, regardless of macronutrient composition, had an adherence rate of approximately 60%. **Conclusion:** Low-carbohydrate diets are effective for short-term weight loss but offer no advantage in the longer-term.

Title: Effects of caffeine, illicit drugs, alcohol and nicotine on breastfed infants and lactation

Author: O Khairallah, Southeastern Ontario Dietetic Internship Program, Kingston, Ontario

Objectives: The purpose of this literature review was to identify effects of caffeine, illicit drugs, alcohol and nicotine on breastfed infants and lactation. Results of this review will be included in PEN – Dietitians of Canada’s evidence-based on-line tool. **Methods:** Three electronic databases (Medline, CINAHL, Cochrane Library) were searched using the following medical subject headings and keywords: breastfeeding, lactation, human milk, maternal nutrition, infant nutrition, nicotine, smoking, alcoholic beverages, alcohol drinking, street drugs, illicit drugs, heroin, heroin dependence, cocaine, crack cocaine, cannabis, marijuana smoking, lysergic acid diethylamide, methamphetamine, caffeine, coffee, tea, carbonated beverages. The searches were directed at clinical trials, systematic reviews, reviews, and primary research and limited to English and the years 2000-2005 to provide an up-to-date review of current information. Fifty-two relevant publications met inclusion criteria and were critically appraised. **Results:** Caffeine, illicit drugs, alcohol and nicotine are transferred from the mother to the breastfed infant through breast milk. Most studies found these drugs affected infant development negatively and may cause behavioural changes. Most studies stated that there was a decrease in milk production that may be caused by a decrease in lactation hormones. With the exception of illicit drugs being taken by the breastfeeding mother, the benefits of breastfeeding exceed the possible harm to the infants’ growth and development. Study results are limited as most were population-based, used small sample sizes, animals or were published prior to 1990. **Implications & Conclusions:** Mothers should not use drugs, especially illicit drugs, during breastfeeding because of the serious harm to infants’ growth and development. If they choose to use them, the benefits of breastfeeding outweigh the risk of drug use, with the exception of illicit drugs.

Title: Association between pre-pregnancy body mass index (BMI) and body-esteem and the presentation of risky behaviours for disordered eating and weight gain during pregnancy

Author: SJ Booker, P Brazeau-Gravelle, The Ottawa Hospital Dietetic Internship Program, Ottawa, Ontario

Objectives: Nutrition plays a central role in maternal and fetal health during pregnancy. Few studies focus on disordered eating during pregnancy and the associated risky behaviours (excessive exercise, self-induced vomiting, smoking, and other weight control methods). The objective of this research is to determine if pre-pregnancy BMI and body-esteem can be used as predictors of risky behaviours and weight gain during pregnancy. **Methods:** The database created by researchers of the Pregnancy Body-Esteem Scale (PBES) Study (Ritchie et al., 2004) conducted at The Ottawa Hospital, served as the data set for the present study. Pregnant women (n=186) completed questionnaires examining their weight, weight control methods, and body esteem. **Results:** Hierarchical multiple regression analyses were used to determine if pre-pregnancy BMI and pregnancy body esteem predicted risky behaviours for disordered eating and weight gain during pregnancy. Neither pre-pregnancy BMI nor body esteem predicted exercise, smoking, or vomiting during pregnancy ($p > .05$). However, after controlling for gestational age, pre-pregnancy BMI ($p < .01$), current body esteem ($p = .01$), and the interaction of these two factors ($p = .001$) predicted the amount of weight women gained during their pregnancies ($p = .001$). **Conclusions:** Pre-pregnancy BMI and body-esteem, both individually and together, were indicative of weight gain during pregnancy. The types of behaviours that a woman might choose to help her to control her weight during pregnancy were not predicted by her pre-pregnancy BMI or her body self-concept. Further research is needed to more fully understand the link between a woman's pre-pregnancy BMI, weight control methods, and pregnancy weight gain with a long-term goal to develop a risk assessment tool for dietitians.

Title: Evaluation of a revised phosphorus point system as a teaching tool for improving dietary adherence and satisfaction in an outpatient peritoneal dialysis population

Author: L Nasih*, N Huumo*, P Darling, P McFarlane, C Huang, , St. Michael's Hospital Dietetic Internship Program, Toronto, Ontario

Objectives: Peritoneal dialysis (PD) patients are prescribed a phosphorus restricted diet (1000 mg of phosphorus per day) as well as phosphate binders in view of the risk of morbidity and mortality associated with complications of hyperphosphatemia, such as vascular calcification. However, poor adherence to this diet has been indicated due to lack of motivation, limited variety of foods, and variations that exist from the individual's usual diet. A phosphorus point system tool was developed to allow patients to monitor their daily phosphorus intake by tallying points of phosphorus contained in a variety of foods. The purpose of this study is to determine dietary adherence and dietary satisfaction in PD patients prior to and after 1 month of using a revised phosphorus point system tool (PPS-2). **Methods:** PD outpatients attending the Home Dialysis Clinic at St. Michael's Hospital who are on PD for greater than 6 months, without acute illness, and speak and write English are being selectively recruited. To determine dietary adherence, phosphorus blood levels are measured and dietary intake is estimated using the repeat 24-hour dietary recall method. Dietary satisfaction is being assessed using a face-validated questionnaire adapted from the Modification of Diet in Renal Disease (MDRD) dietary satisfaction questionnaire. **Results:** To date, twelve participants have been recruited and six patients have completed the study. **Implications & Conclusions:** Results of this study will help ascertain whether the PPS-2 can be a useful tool in improving dietary adherence and satisfaction by increasing dietary flexibility among PD patients while maintaining normal serum phosphorus levels.

Title: Beyond the Basics: How do Patients Really Feel?

Author: AE Cohen, Sunnybrook Health Sciences Centre, Toronto, Ontario.

Objectives: For more than two years, a team of health professionals worked on revising the Canadian Diabetes Association meal planning guide (*The Good Healthy Eating Guide*). The revised version (*Beyond the Basics*) was recently released and is being used by registered dietitians across the country. The objective of this study was to gain insight into patients' perceptions of *Beyond the Basics*. **Methods:** This study used semi-structured, in-depth individual interviews with patients who received counseling by the endocrinology registered dietitian at Sunnybrook Health Sciences Centre (n=5). During interviews, patients' perceptions of the revised guide were identified based on their comprehension of take-home messages, ability to adhere to guidelines, perceived challenges and advantages, and any other feelings towards the tool. Each interview was tape-recorded, transcribed, and analyzed. **Results:** All subjects felt that *Beyond the Basics* was a good tool and/or they liked using it and that after using *Beyond the Basics*, their eating behaviors changed primarily through portion control, especially carbohydrate intake. The majority of subjects felt that *Beyond the Basics* was easy to use, helped them to control their portion sizes, contributed to better control, and/or improved their diabetes. Most subjects would recommend using this guide to other patients. In addition, most subjects gave positive comments, except for one who felt that there were some changes and improvements that could be made. **Conclusion:** The revisions made to the meal planning guide were well received by patients. Patients were able to understand the take-home messages and adhere to its guidelines. There were some perceived challenges and suggestions for further improvements but as a whole, subjects liked this tool, found it useful, and would recommend that health professionals continue to use the guide.

Title: An analysis of the potential protective effect of fruit and vegetable consumption on pulmonary function in pediatric cystic fibrosis patients

Author(s): J Chan, K Wadden, The Ottawa Hospital Dietetic Internship, Ottawa, Ontario

Objectives: The Children's Hospital of Eastern Ontario (CHEO) is continually seeking optimal nutritional status of outpatients at the Cystic Fibrosis (CF) clinic. Studies have shown the beneficial effects fruits and vegetables (F/V) may have on pulmonary function in adults, however data specific to the pediatric population is limited. The objective of this project was to determine whether a positive correlation exists between pulmonary function and fruit and vegetable intake. **Methods:** A cross-sectional, convenience sample of 32 children (aged 2 to 17) diagnosed with Cystic Fibrosis and followed by CHEO's CF outpatient clinic was selected. Upon their tri-monthly clinic visit, data on F/V intake was gathered by a post hoc analysis of food frequency questionnaires returned by this sample. Fruit and vegetable intake was grouped into high intake (5 or more servings) and low intake (less than 5 servings) according to Canada's Food Guide to Healthy Eating. To assess pulmonary function, forced expiratory volume in 1 second (FEV₁), a primary outcome measure in CF, was collected and grouped according to the American Thoracic Society's reference categories. **Results:** Chi-squared analysis revealed no statistically significant trend between fruit and vegetable consumption and pulmonary function when comparing children with a high F/V intake (n=16) and children with a low F/V intake (n=16). However, the descriptive analysis did show a slight trend towards poorer lung function in patients who had a low F/V intake. **Implications & Conclusions:** Although results generated were inconclusive due to the small sample size, this suggests that future research should include larger sample sizes, longitudinal cohorts, and account for cultural variation, as well as seasonal availability of produce.

Title: The utilization of registered dietitians at the Children's Hospital of Eastern Ontario during the initiation phase of enteral or parenteral nutrition support

Author: M Conrad, J Beauchamp, M Pyszcz. The Ottawa Hospital Dietetic Internship Program, Ottawa, Ontario.

Objectives: There has been concern that the dietitians who work at the Children's Hospital of Eastern Ontario (CHEO) may not be consulted when enteral nutrition (EN) and total parenteral nutrition (TPN) are being prescribed to the pediatric inpatient. The objective of this project was to determine the proportion of admitted pediatric inpatients at CHEO requiring EN or TPN support that have had a dietitian consult during the initiation of feeding. **Methods:** A retrospective chart review (n = 484) from September 1, 2004 to August 31, 2005 was conducted. Admission date, date of birth, unit admitted under, team admitted under, type of nutrition support (EN or TPN), route of delivery (nasogastric, gastrostomy, jejunostomy, gastro-jejunostomy, total parenteral nutrition), date of initiation of feed, date of dietitian consult, type of dietitian and discharge date were reviewed from the medical charts. Chi-Square analysis was conducted to determine significance ($p \leq 0.05$). **Results:** From the 484 charts reviewed, a sample size of 122 had nutrition support. From the sample of 122, 84 (68.9 %) were involved with a dietitian. Dietitian involvement in EN and TPN is 65 (77.4%) and 19 (22.6%) respectively. Dietitians were consulted 65.5% during the initiation of feeding. **Conclusions:** Dietitians at CHEO are currently being utilized during the initiation phase of nutrition support. It is apparent that they are mostly involved with EN. Due to the small sample size the results are not statistically significant.

Title: Factors affecting the purchasing behaviours of foodservice managers/supervisors and/or dietitians in the hospitals and long-term care facilities in Ontario

Authors: JF Liu, R Vettoretti. The Ottawa Hospital Dietetic Internship Program, Ottawa, Ontario.

Objectives: The objective of this study was to examine and rank the importance of attributes of food products affecting the purchasing behaviours of decision-makers of foodservices within healthcare settings. Whether an assumed propensity toward brand name products exist, might be determined from the ranking. These attributes were also used to assess the performance of various product categories carried by various food manufacturers. This study is important because the collected information could increase market share for manufacturers by addressing the demands of healthcare decision-makers.

Methods: A sample of 74 foodservice managers, supervisors or dietitians working in hospitals and long-term care centres in Ontario were included in this study. Participants were contacted by telephone prior to receiving the survey questionnaire via electronic mail. The questionnaire was divided into two parts: the first part included ratings of the importance of seven identified attributes related to food products purchased by hospitals and long-term care centres. These attributes included taste, appearance, ingredient/allergen listings, comprehensive nutritional analysis, recognizable brand name, packaging and portion size availability, and price. The second part consisted of evaluations by decision-makers on the performance of four product categories (chicken entrees, soups, texture-modified and energy-controlled/diabetic items) from six manufacturers on the seven attributes identified. **Result:** The results and statistical analysis are currently pending. **Implication and conclusions:** Based on results thus far, manufacturers could identify what is important to healthcare decision-makers and could determine whether there is a propensity toward brand name products for procurement decisions. In addition, the study could highlight which attributes are most important when making decisions on buying specific food categories.

Titre : Les raisons des rendez-vous manqués des nouveaux clients aux cliniques de nutrition de l'Hôpital régional Docteur Georges-L.-Dumont et de l'Hôpital Stella-Maris-de-Kent

Auteur: B Charles, Hôpital régional Docteur Georges-L.-Dumont, Moncton, Nouveau-Brunswick

Objectifs: Évaluer les raisons pour lesquelles les nouveaux clients ne se présentent pas à leur rendez-vous (RV) aux cliniques de nutrition de l'Hôpital régional Docteur Georges-L.-Dumont (HRGD) et de l'Hôpital Stella-Maris-de-Kent (HSMK) et apporter des solutions pratiques et réalistes afin de diminuer le nombre de rendez-vous manqué (RVM). **Méthodes:** Soixante-quinze nouveaux clients (n=51(HRGD); n=24 (HSMK)), ayant manqué leur RV aux cliniques de nutrition entre juin et décembre 2005, ont été rejoints par téléphone. Un questionnaire leur a été administré afin d'identifier les raisons qui avaient contribué à leur RVM. **Résultats:** Un nombre important de répondants, soit 29%, ont déclaré avoir oublié leur RV, 13% ont invoqué le travail comme obstacle, 12% ont signalé la maladie comme empêchement, 11% ont affirmé avoir été à l'extérieur de la ville au moment de leur RV, 7% ont déclaré avoir ressenti une amélioration de leur condition médicale, 7% ont invoqué un problème de transport, 7% ont prétendu ne pas avoir été au courant du RV, 7% ont révélé un manque d'intérêt, 4% ont déclaré un conflit d'horaire et 3% ont déclaré avoir annulé leur RV. **Conclusion:** Étant donné que plus du tiers (36%) des répondants ont cité avoir oublié ou ignoré leur RV et que près de la moitié (49%) des RVM étaient reliés à des causes possiblement connues quelques jours avant la date du RV, le rappel téléphonique, quelques jours avant le RV, pourrait alors être une solution efficace et peu coûteuse pour diminuer le nombre de RVM. De cette façon, le service offert aux cliniques de nutrition serait par conséquent optimisé.

Title: What decision-making criteria are used by the Administrators in Long Term Care (LTC) Facilities, within the City of Ottawa, when hiring a Food Service Manager (FSM)?

Authors: S Gerrie, B Khouzam. The Ottawa Hospital Dietetic Internship, Ottawa, Ontario

Objectives: To determine the criteria administrators require when hiring a FSM, which could include: job title posting/description, education, qualifications/certification/training, number of years experience in LTC and salary range. **Methods:** Administrators of 18 LTC facilities in Ottawa were sent an email or letter outlining the study and asking for their participation. Administrators were called to follow-up and at that time the phone interview questionnaire was completed. In total 14 questionnaires were completed focusing on the hiring criteria for FSM and job descriptions for Registered Dietitian (RD) and FSM positions.

Results: When posting for the position, job titles of “Nutrition Care Manager”, “Dietary Manager” and “Food Service Supervisor” were equally used at 28.6% and FSM was used less often at 14.3%. 22.2% of the facilities determined they would hire a candidate who had completed a dietetic internship. All facilities required potential candidates to have the Canadian Society of Nutrition Management (CSNM) certificate and 71.4% of the facilities preferred experience in LTC. Salary offered ranged from \$30,000-\$59,000 depending on experience and years worked. The greater part of the facilities offered a range from \$45-49,999 at 38.1%. The majority of the FSM positions were full-time at 85.7%. Eleven facilities based the RD time on 15 minutes/resident/month and two facilities allotted 30 minutes. Only 85.7% of the administrators revealed that the RD/FSM have inadequate time with clients. **Implications and**

Conclusions: When hiring a FSM, the administrators are basing their decision on certification status along with preferred experience in LTC. Due to the job titles and descriptions, dietitians may not be applying for these positions.

Title: Determining the willingness of Ottawa physicians to use a public health toolkit to monitor healthy weights in children

Author: EM Salewski, S Rowe. The Ottawa Hospital Dietetic Internship, Ottawa, Ontario.

Objectives: The rising level of overweight and obesity in children has prompted Ottawa Public Health (OPH) to seek preventative strategies to address this growing health concern. The objective of this study is to assess whether doctors are willing to use a public health toolkit to assist with the monitoring of body weight in children. **Methods:** A questionnaire was developed to assess current measurement practices and the acceptability of a toolkit used to monitor body weight in children and provide referral paths. The questionnaire, which was pilot tested, includes a mock-up of the toolkit to guide responses. The questionnaire elicits both demographic and descriptive data from doctors concerning their area of practice, willingness to use the tool and what features would enhance compliance and utilization of the tool. A copy of the questionnaire and mock toolkit was faxed to 689 family physicians in the Ottawa area.

Results: The willingness of doctors to use the toolkit will be measured through statistical analysis of the responses from the questionnaire. Data collection is still in progress with results pending analysis.

Implications & Conclusions: The hypothesis is that physicians will welcome a toolkit developed by OPH to monitor body weight in children. It is expected that this toolkit will help facilitate the identification and promotion of healthy weights by broadening current referral paths.

Title: Pilot study - How will a room service delivery system affect dietary intake, food costs and patient satisfaction?

Authors: A Caruso, K Kuperberg, S Dello, D Mager. The Hospital for Sick Children, Toronto, Ontario

Objectives: Research suggests that improved patient satisfaction with menu selection choices within a Room Service Delivery system is associated with improved dietary intake and patient satisfaction. The nutritional needs of patients at the Hospital for Sick Children are very specialized, unique and often critical to achieve improved outcomes of their illness and disease. The current meal delivery system at SickKids involves cold plating, rethermalization and selection of meals two days in advance often resulting in the delivery of a tray with food items that may no longer meet the patient's needs. Food intake can be affected by food selection, quality and safety, variables that in turn can be negatively impacted by the current plating and rethermalization method. Little is known regarding the impact of this type of food delivery system on nutritional outcome on hospitalized pediatric patients. The purpose of the study is to determine the effect that Room Service will have on macronutrient intake, food costs, and patient satisfaction with meals. **Methods:** Patients aged 2-18 years on three units (n=54) were included. Dietary intake, food costs and patient meal satisfaction data were collected for six days (three under the current system and three under Room Service). **Results:** During room service, food costs and wastes decreased by 25%. Less food was ordered and more was consumed. Consequently, 77 less food trays were ordered. Mean energy, protein and fat intakes increased by 9.9%, 10.65% and 18.15% respectively (n=54). Mean carbohydrate intake did not change. **Implications & Conclusions:** Implementation of Room Service in a pediatric center resulted in decreased food costs and wastes. As well, macronutrient intake, with the exception of carbohydrates, increased.

Title: Practice based evidence in nutrition (PEN) knowledge pathway. Omega 3 fatty acid/DHA supplementation during pregnancy and lactation

Author: N Seli, Sunnybrook Health Sciences Centre, Toronto, Ontario.

Objectives: Currently in the U.S., practitioners are recommending the intake of Omega 3 fatty acid/DHA supplements during pregnancy and lactation. The objective of this study was to determine whether there is sufficient evidence to support this recommendation to pregnant and lactating women in Canada. **Methods:** A systematic review of the evidence was conducted to determine Key Practice Points for a Knowledge pathway on the PEN website. **Results:** Practice points for the knowledge pathway are currently in the finalization and review process. **Implications & Conclusions:** The results of this study will provide summarized points for practitioners to quickly locate answers to their practice questions and enable them to make evidence-based decisions/recommendations. Useful links and background information on this topic will also be made available.

Title: A pilot study to determine the prevalence of individuals at risk for malnutrition at the Ottawa Hospital Inflammatory Bowel Disease clinic

Author: T Osborne. The Ottawa Hospital Dietetic Internship Program, Ottawa, Ontario.

Objectives: Malnutrition is a serious and common problem among patients with Inflammatory Bowel Disease (IBD), which encompasses both Crohn's Disease and Ulcerative Colitis. The objective of this study is to determine the prevalence of individuals at risk for malnutrition who visit the Ottawa Hospital IBD Clinic. **Methods:** Risk of malnutrition (ROM) was determined by conducting a retrospective chart review (n=112). Data collected included age, sex, most recent weight, usual weight, height, and serum albumin. ROM was identified based on using the following indicators: body mass index (BMI) percent ideal weight, percent weight change, and serum albumin. **Results:** The data available to collect was very limited. From the 112 charts that were reviewed, 24 (21.4%) did not contain any of the required data. When the four indicators of ROM were determined from the available data, 45 out of 112 (41.1%) patients had at least 1 indicator that could be evaluated. Only 2 out of 45 (4.4%) could be assessed for ROM using all 4 indicators. From this dataset of 45 patients, 7 were at ROM (15.6%); 6 of those had one positive risk factor (low serum albumin) and 1 had 2 positive risk factors (low BMI and a significant weight loss).

Conclusions: Despite the small sample size and limited data, ROM was still identified among some patients. A future study of this population using alternative data collection methods may provide more representative and meaningful results. A prospective study design, where the principle investigator collects the data may be advantageous.

Title: Using 3-day Food Weights to Estimate Protein and Energy Consumption: A Pilot Study

Authors: J Brennan, C Brown, T Elliott, D Salehi, R Wangsawidjaya. The Royal Columbian Hospital, New Westminster, BC

Objective: To determine if 3-day food weights are a practical and efficient means of collecting food consumption data in an acute care facility. This would provide a method for quantifying protein and energy consumption of patients who were ordered a high protein, high calorie diet. **Methods:** Over a one week period, patients were screened by Diet Technicians using a Subjective Global Assessment screening tool to determine if they were at risk for malnutrition. Patients identified to be at nutritional risk and who met the inclusion criteria were invited to participate in this study. Plate wastage was measured for three consecutive days, by weighing the food on meal trays during trayline and after meal consumption. Protein and energy consumption was determined from this data. Incomplete data resulted in participant exclusion from the study. **Results:** Of three eligible participants, complete data was collected for two. One participant consumed an average of 54% of the kcal provided, with a mean average intake of 960 kcal (\pm 179 SD) and 53 grams of protein (\pm 4 SD). The second participant consumed an average of 46% of the kcal provided, with a mean average intake of 1020 kcal (\pm 411 SD) and 41 grams of protein (\pm 20 SD). **Conclusion:** Due to the limited number of participants, no conclusions can be drawn as to whether or not the intake means and standard deviations are representative of the study population. Three-day food weights, as a methodology for collecting food consumption data, are labour intensive and time consuming. In order to perform intake analysis on a larger scale, an examination of other methods of data collection and food service systems is required.

Titre : Développement d'un protocole nutritionnel pour le traitement des plaies de lit à l'Hôpital régional Dr. Georges-L.-Dumont

Auteurs: N Gautreau, Hôpital régional Dr. Georges-L.-Dumont, Moncton, Nouveau-Brunswick

Objectifs : Connaître les protocoles d'intervention nutritionnelle utilisés pour le traitement des plaies de lit dans les plus grands hôpitaux provinciaux et développer un protocole semblable pour l'Hôpital régional Dr. Georges-L.-Dumont (HRGD). **Méthodes :** Un questionnaire a été envoyé aux chefs de nutrition clinique de 50 hôpitaux canadiens. **Résultats :** Vingt-quatre questionnaires (48%) ont été retournés et analysés. Seulement 25% des hôpitaux ont un protocole d'intervention nutritionnelle pour le traitement des plaies de lit. Or, 33% des répondants veulent instaurer un protocole précis. L'albumine, le pourcentage de perte de poids, la préalbumine et l'Évaluation Globale Subjective figurent parmi les paramètres les plus couramment utilisés pour l'évaluation nutritionnelle des patients avec une plaie de lit. La majorité des diététistes (50%) offrent de 1.2 à 1.5g/kg/jour de protéines selon le stade de la plaie et assurent une hydratation adéquate. Le dépistage pour les carences en vitamines A, B et C et en zinc est effectué par 30% des participants. Vingt-cinq pour cent des diététistes de cette étude offrent un supplément de vitamines ou de minéraux, peu importe l'apport du patient. Les suppléments de glutamine sont peu utilisés (18.7%) et aucun ne rapporte le recours aux suppléments d'arginine dans le traitement des plaies de lit. **Conclusion :** Les protocoles d'intervention nutritionnelle varient selon les hôpitaux de cette étude mais incluent généralement des recommandations pour les protéines, les vitamines A, B et C et le zinc. Les diététistes de l'HRGD travaillent actuellement à élaborer un protocole qui inclut des directives nutritionnelles spécifiques pour les calories, les protéines, l'hydratation, les vitamines A, B et C et le zinc ainsi que pour la glutamine et l'arginine selon le stade de la plaie.

Title: **Gastrostomy and jejunostomy tube placement at St. Michael's Hospital in Toronto: a retrospective review of frequencies, indications, complications and outcomes**

Authors: AE Galaski*, CT Peng*, M Ellis, P Darling, A Common, T Moore, EK Tucker. St. Michael's Hospital, Toronto, Ontario

Objectives: Gastrostomies/jejunostomies are commonly used to provide nutritional support for patients who cannot meet their nutritional requirements by oral intake. However, complications do occur and outcomes vary. The objective of this study is to describe the characteristics of patients who underwent gastrostomies/jejunostomies, procedure types, feeding practices, complications and outcomes at St. Michael's Hospital (SMH) between December 2004 and December 2005. **Methods:** A potential subject list was generated by Decision Support Services (DSS), a hospital wide data warehousing service, based on the code for "implantation of internal device, stomach". As this code encompassed more than feeding tube insertions, the list was filtered using electronic patient discharge summaries that identified all procedures completed during a patient's stay. To ensure complete accuracy, all charts for the subjects on the initial list were accessed and those who met study requirements were reviewed. Data pertaining to each of the variable categories: patient characteristics, procedure type, feeding practices, complications and outcomes were extracted from charts. A few variables including date of admission, length of stay and length of stay in the ICU were obtained from DSS. **Results:** To date 40 charts have been reviewed and data collection is ongoing. **Conclusion:** To the researchers' knowledge, there are no current published Canadian guidelines pertaining to feeding tube placement among adult patients. Therefore, this study is expected to provide descriptive information that may be used to assess risk and aid in the development of guidelines for gastrostomy/jejunostomy placement.

Title: Development of an electronic nutrition screening tool using the PICIS medDIETARY Nutrition Assessment program

Author: LA Sergeant, Simcoe County Dietetic Internship Program, Barrie, ON.

Objectives: The Royal Victoria Hospital (RVH) is a 297-bed, tertiary care facility with four full-time clinical in-patient dietitians. No formal, standardized nutrition screening policy exists and the extent of patient malnutrition within the hospital is unknown. The objective of this project was to develop a set of nutrition-related screening indicators that will be programmed into the PICIS medDIETARY Nutrition Assessment program and used to prioritize hospitalized patients. **Methods:** The information and data used to develop the RVH screening tool was collected from reference books, published research studies from PubMed, and internet sources. An initial survey was completed by the five clinical in-patient dietitians at RVH to gather data on current screening methods. Two other dietitians in Missouri and Alberta were interviewed via email and telephone. Both dietitians sent a copy of their screening criteria and provided insights and recommendations that helped with the development process. **Results:** Dietitians saw an average of six patients per day and, in total, spent approximately eight hours per week, or 0.2 full-time equivalents, manually screening patients. Some of the screening time is attributable to attending patient rounds, which is necessary. The nutrition indicators that will be used to screen the patients have been developed and are awaiting programming into PICIS medDIETARY. **Conclusion:** Using an electronic screening tool has the potential to save dietitians time needed to manually screen and prioritize patients, however, pilot testing is required to establish its effectiveness. Programming the screening criteria for specific out-patient settings, i.e. oncology, should be examined in the future.

Title: Sports nutrition knowledge of high-level adolescent athletes

Author: JA McDowall, UPEI Integrated Dietetic Internship Program, Charlottetown, PEI

Objectives: Nutrition knowledge of athletes is often found to be inadequate and laden with misconceptions regarding the nutritional requirements for maximal sport performance. The objective of this project was to increase sports nutrition knowledge of a group of adolescent athletes. **Methods:** Seven high-level adolescent athletes training at *EliSport* in Charlottetown, PEI completed a validated sports nutrition knowledge questionnaire prior to and following a nutrition education intervention. Four nutrition education sessions were developed to address the gaps in knowledge identified by the pre-intervention questionnaire. Session topics included energy balance, hydration/fluid replacement, carbohydrates, fat, vitamins and minerals, protein, supplements, and the training diet. Immediately following the fourth session, participants completed the post-intervention questionnaire. The total scores of the pre- and post-intervention questionnaires were compared to assess a change in knowledge. **Results:** The mean percent score on both questionnaires revealed that over all, the scores were higher on the post-intervention questionnaire (mean=81.4%, \pm 6.0) than on the pre-intervention questionnaire (mean = 64.3%, \pm 5.7). Analysis of the total scores of the pre- and post-intervention questionnaires for each participant revealed a statistically significant difference [$t(6) = -2.661, p = 0.037$]. These results demonstrate that there was a significant improvement in the scores of the post-intervention questionnaire as compared to the scores of the pre-intervention questionnaire. **Conclusion:** The nutrition education intervention resulted in an improvement of sports nutrition knowledge of the athletes who participated in this study. It is suggested that sports nutrition education programs be developed and targeted to athletes, especially at a young age, as an accompaniment to their regular training regimen. Without adequate knowledge regarding the optimal nutrition for peak sport performance, athletes may not be attaining their full athletic potential.

Title: The job satisfaction of dietitians in Guysborough Antigonish Strait Health Authority (GASHA) and Cape Breton District Health Authority (CBDHA), Nova Scotia

Author: JA MacIsaac, St. Francis Xavier University Integrated Dietetic Internship, Antigonish, Nova Scotia

Objectives: Dietitians play a major role in the team within health authorities and thus their job satisfaction is important to study. The purpose of the present study was to explore the differences and/or similarities in job satisfaction between the dietitians in two health districts of Nova Scotia. **Methods:** The survey tool was developed to look at several aspects of job satisfaction: pay, work expectations, opportunities, supervisor, teamwork and other. The tool was found to be reliable (inter-item correlation = 0.743). There were 11 dietitians in GASHA and 21 in the CBDHA area asked to participate. The subjects were conveniently sampled at regional meetings and by mail out surveys. The return rate was 100% for GASHA and 62% for CBDHA. **Results:** Positive factors affecting dietitian's satisfaction were: education, better staff relationships, interesting projects, more opportunities than expected. Areas where dietitians felt their job satisfaction was negatively affected were: level of responsibilities (specifically management), increased preparation time (including working on weekends), a change to a more administrative position, less inpatient client teaching, increased responsibilities outside of training (e.g. managing housekeeping or linen department), less time for community programs, and increased food security issues. Dietitians in both districts listed similar factors. **Conclusion:** Although there were no statistical differences in the level of satisfaction between the two districts, individual dietitian's level of job satisfaction varied greatly from a z score of -9.09 to a +9.76.

Title: Does the daily use of a pedometer along with weekly nutrition education sessions facilitate weight loss?

Author: LM Manley, St. Francis Xavier University Integrated Dietetic Internship, Antigonish, Nova Scotia.

Purpose: The purpose of this study is to determine if greater weight loss is achieved as a result of the daily use of a pedometer in addition to receiving weekly nutrition education compared to the weight loss of adults only receiving weekly nutrition education. **Methods:** Eligible participants were randomly divided into two groups; an intervention group and a control group. The sample size was six participants. The control group attended weekly nutrition education sessions for six weeks. The intervention group attended the same nutrition education sessions; however, they were also instructed to wear a pedometer for the duration of the study and record their daily steps. The intervention group was encouraged to create and achieve personal goals. Weight of all participants was collected weekly. Record cards for daily steps were collected weekly from participants in the intervention group. **Results:** It was observed that the mean weight loss was greater in the intervention group ($- 1.00 \text{ kg} \pm 0.80$) than in the control group ($- 0.233 \text{ kg} \pm 0.30$). However, it was not found to be significantly different. When looking at the intervention group as a whole, the mean daily steps increased from week one ($4,896.67 \text{ steps/day} \pm 1,723.32$) to week six ($10,025.33 \text{ steps/day} \pm 2,379.68$). In addition the mean daily steps for each participant increased a minimum of 4,200 steps/day from week one to week six. **Conclusion:** Greater weight loss and increased mean daily step observed in the control group may be due to pedometer use in combination with nutrition education sessions; however, results are not significant due to small sample size.

Titre: L'effet de la prednisone sur le gain de poids des patients suivis à l'Hôpital régional Dr. Georges-L.-Dumont qui ont subi une greffe rénale

Auteur : S Melanson, J Arsenault, Internat en diététique de la Régie régionale de la santé Beauséjour, Moncton, Nouveau-Brunswick.

Objectifs : Évaluer à différents intervalles le gain/perte de poids des patients qui ont subi une transplantation rénale. Déterminer s'il existe un lien entre la dose de prednisone et le gain de poids et déterminer s'il y a une différence de gain de poids entre les hommes et les femmes. **Méthodes :** Les données ont été ressorties de 166 dossiers médicaux à la clinique de transplante. Il y avait 109 patients qui rencontraient les critères d'inclusion. Les poids des patients devaient être inscrits à des intervalles précis et ce jusqu'à 15 ans après leur transplantation. La dose de prednisone et le gain de poids par rapport au sexe ont été évalués dans cette recherche. **Résultats :** D'après les résultats obtenus le poids des patients augmente de la période initiale jusqu'à 18 mois après la transplantation. Le plus grand gain de poids, de 4.5kg en moyenne, survient dans les premiers 6 mois de la transplantation rénale. Par la suite, le poids diminue graduellement au fil des années. Nos résultats démontrent qu'en moyenne les hommes présentent une prise de poids légèrement plus élevée que les femmes soit d'environ 0.96kg. Ils démontrent aussi que la dose de prednisone est directement proportionnelle au gain de poids. **Conclusion :** Cette recherche conclue que la prednisone semble avoir un effet sur le gain de poids des patients qui ont subi une transplantation rénale.

Title: Comparison of the actual food intake of pre-select patients with their meal orders and their individual requirements

Authors: ZS Aoude*, M Journoud, J Morelli, Nutrition Department, Montreal General Hospital, Montreal, Quebec.

Purpose: This study compared the actual food intake of pre-select patients- who have food ordered for them according to their preferences- to their meal orders and their individual requirements, in order to assess a new room service program¹, launched at Montreal General Hospital food service. **Methods:** Eight patients, with mean age 86.1 ± 7.83 yrs and mean weight 56.0 ± 10.4 Kg, were studied and represented 50% of pre-select patients on the 16th floor. All of them were receiving supplements. The nutritional data of interest were calories, fat, sodium, protein and fiber. Health Touch, a new software for room service, was utilized to check the meal orders and to do the calorie count of the actual intake. Individual requirements^{2,3,4} were calculated according to every clinical case. The results of the comparison of the actual intake to the individual needs were presented as a percentage of patients being below, above or extremely above the individual needs. **Results:** The average actual intake of the eight patients was lower than the actual food ordered for them, regarding all the nutritional data studied. Also, it was found that 75% of the patients had calorie and protein intakes above their needs. The fat intake was above the individual standards for 87.5% of the patients. Moreover, 87.5% of the patients had fiber intake below their requirements and only sodium intake was extremely above the individual needs for 87.5% of the patients. **Conclusion:** Even though the patients were not consuming their whole meals, they were meeting and even exceeding their individual requirements. Thus, the meals offered to the patients should be revised by the dietitian.

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Title: Room service system decreases plate waste in an acute care hospitalised patients

Authors: MJ Beaupré*, M Journoud, L Danielis, C Gradel, Foodservice, Montreal General Hospital, and McGill University, Montreal, QC

Background: Food wastage in hospital is commonly a problem and impacts on the nutritional status of patients¹. Since May 2005, the Montreal General Hospital has implemented a new meal service: “At Your Request Room Service Dining”. With this new system, the patients are able to order their meal from a restaurant style menu and at the time they desire, which studies showed improved food intake^{2,3}.

Objective: Assess plate waste with room service compared to the conventional preparation and delivery method. **Methods:** Only hospitalized patients that were on a full diet (no dietary restriction) and room serviceable (had the capacity to call) were eligible to participate. Five eligible patients were excluded because they were on a quarantined floor. Therefore, a total of 36 patients were included in the study. For an entire day, the patients were visited after each meal delivered to evaluate plate consumption. From “Health Touch” (room service computer program), the cost per meal ordered was obtained to calculate the ratio of waste to the cost of the food wastage recorded. **Results:** The average plate waste represented 14% of the meal cost/patient/day. The main reasons for non-consumption of the meals were: dizziness, satiety and temperature of the soup. **Discussion:** Previous studies showed that the mean plate waste in acute care hospitals using a conventional foodservice system was between 32 and 46%^{4,5}; the score previously obtained at this hospital was 33%. **Conclusion:** The results of this study reveal that room service significantly decreases plate waste and related costs compared to the conventional system.

¹ Dupertuis M, Kossovsky MP, Kyle UG, Raguso CA, Genton L, Pichard C. (2003) Food intake in 1707 hospitalised patients: a prospective comprehensive hospital survey. *Clinical Nutrition*. 22(2): 115 –123.

² McLymont V, Cox S, Stell F. (2003) Improving patient meal satisfaction with room service meal delivery. *Journal of Nursing care Quality*. 18(1): 27-37.

³ William R, Virtue K, Adkins A. (1998) Room service improves patient food intake and satisfaction with hospital food. *Journal of Pediatric Oncology Nursing*. 15(3) : 183-189.

⁴ Barton AD, Beigg CL Macdonald I.A, Allison SP (2000) High food wastage and low nutritional intakes in hospital patients. *Clinical Nutrition* 19(6): 445-449.

⁵ Edwards J, Nash A. (1997) Catering services. Measuring the wasteline. *Health Serv J*. 107 (5579): 26-27.

Titre : L'accompagnement des patients pendant le dîner aide-t-il la compréhension de la théorie enseignée lors du programme d'enseignement aux diabétiques?

Auteur: E Dumas, Centre de Santé et de Services Sociaux du Nord de Lanaudière, Joliette, Québec.

BUT : Évaluer s'il est avantageux pour les patients faisant partie du programme d'enseignement de trois jours sur le diabète d'être visités par une diététiste à la cafétéria pendant le dîner, afin de les aider à faire des choix plus santé et à calculer leurs glucides convenablement. **MÉTHODE :** Le groupe de 6 patients (6 au 8 décembre 2005) n'a pas été visité aux repas, contrairement au groupe de 5 patients (13 au 15 décembre 2005). La compréhension a été évaluée à l'aide de journaux alimentaires complétés par les diabétiques : les données des journaux ont été comparées au plan alimentaire enseigné à chaque personne, le calcul des glucides à chaque repas et collation a été jugé adéquat ou non, puis la qualité de l'alimentation a été évaluée. **RÉSULTATS :** Les résultats obtenus ont été comparables dans les deux groupes, celui ayant été accompagné par une diététiste à l'heure du dîner et celui n'ayant reçu aucune aide. Les repas de tous les participants ont respectés le plan alimentaire enseigné, le calcul des glucides a été adéquat pour tous (avec quelques erreurs occasionnelles) et la qualité de l'alimentation s'est améliorée pour la majorité des patients lorsque comparée aux habitudes alimentaires avant l'enseignement. **CONCLUSION :** Il n'est pas nécessaire d'accompagner les patients du programme d'enseignement sur le diabète pendant les repas, car cela ne semble pas améliorer la compréhension de la théorie sur l'alimentation et les journaux alimentaires reflètent probablement davantage les choix des patients. De plus, la diététiste ainsi que les patients ont besoin d'un temps d'arrêt à l'heure du dîner pour relaxer chacun de leur côté.

Title: Quality of serving skills of food service staff for blind and visually impaired clients

Author: P Shahverdi*, McGill University, Montreal, Quebec

In order to assess serving skills of food service employees, responsible for serving elderly residents at a 55 bed residence for the blind and visually impaired, a satisfaction survey was conducted with 25 residents who eat in the dining room. Food service employees are required to practice specific food serving skills such as the clock method. The clock method helps blind and visually impaired individuals to locate food items on their plate; for example, the main entrée is placed at 6:00 o'clock while vegetables and starch could be either at 2 or 10 o'clock. In this survey, the residents were asked if they had difficulty locating items on their plate; 40% said they had difficulty. The residents were also asked if they found their tables crowded; 68% found them too crowded and 16% found it hard to locate items on the tables. This survey indicated that employees do not always follow the clock serving method. An inservice education was conducted with 5 kitchen employees. It addressed the recommended serving skills to use with clients who are blind or visually impaired. Use of the clock method, appropriate plate size and the importance of clearing tables of dirty dishes before serving new foods were discussed. A pre and post-test, as well as observation, were used to evaluate learning of the kitchen employees before and after the inservice. The result of evaluation indicated a significant improvement in the serving accuracy and knowledge of the employees. A satisfaction survey and inservice education should be conducted on a regular basis to meet the food access needs of the blind and visually impaired elderly.

Title: Post-discharge fortification of human milk: impact on breastfeeding, nutrient intakes and growth of preterm infants at 6 and 12 months corrected age

Authors: DL O'Connor, BPL Lo, Hospital for Sick Children Dietetic Internship Program, Toronto, Ontario

Objectives: Despite the many beneficial effects for infants, human milk (HM) contains insufficient energy and nutrients to support preterm infants' rapid growth. Recent studies showed that preterm infants who received nutrient-enriched formula (NEF) after hospital discharge experienced improved growth and bone mineral content compared to infants fed a standard formula. There is a lack of evidence whether the enrichment of HM with a human milk fortifier post-discharge will have the same beneficial effects NEF have on preterm infants. The purpose of this study is to examine a 12-week post-discharge period of HM fortification and its impact on the duration and exclusivity of breastfeeding⁶, the volume of HM consumed, nutrient intakes and growth of preterm infants at 6 and 12 months corrected age (CA). **Methods:** Duration, exclusivity of breastfeeding, and nutrient intakes will be collected from 3-day food records at 6 and 12 month CA. Growth (height, weight and head circumference at 6 and 12 month CA will be measured using previously validated and standardized procedures. **Implications & conclusions:** The information obtained from this study will help us evaluate the feasibility of breastfeeding after the 12-week fortification period, as well as to help health professionals in making better diet recommendations to infants of this population group.

⁶ Breastfeeding in this study is defined as human milk intake by any route.

Title: Estimation of the phosphorus content of renal diets

Authors: N Buchholz, L Hauser, V Schmid, L Swityk-Conacher, Saskatoon Dietetic Internship Program, Saskatoon, Saskatchewan.

Objectives: Prevention of hyperphosphatemia in renal patients involves limiting the amount of their phosphate intake. Diets for renal patients are based on the values of phosphorus in foods that are listed in the Manual of Clinical Dietetics. However, due to the role that bioavailability of phosphorus in foods may play, values from the Manual of Dietetics may not be accurate. **Methods:** This study obtained three-day food records from renal patients and then compared the phosphorus content of these foods as listed in the Manual of Clinical Dietetics and the USDA food composition lists. Values listed in the Manual of Clinical Dietetics were also compared to the USDA food composition lists. **Results:** The Manual of Clinical Dietetics fails to provide enough phosphorus values for common processed, pre-prepared or mixed foods to enable dietitians to accurately determine the phosphorus content of diets. The USDA food composition lists significantly underestimates the phosphorus content of foods. Because manufacturers are not required to list the phosphorus content of their foods under the new labelling system, it is difficult for consumers and health care professionals alike to determine actually phosphorus content of processed foods.

Implications & Conclusions: Due to these constraints, a new tool is needed for dietitians to effectively and efficiently determine the phosphorus content of foods.

Title: Use of Natural Health Products and Dietary Modification in Children with Fetal Alcohol Spectrum Disorder

Authors: M Edmonds, M Clare, K McFadyen, P Darling, B Stade, St. Michael's Hospital, Toronto, ON

Background: Fetal Alcohol Spectrum Disorder (FASD) is the leading neurodevelopmental disorder among Canadian children. There are limited data regarding natural health product (NHP) use and dietary modifications (DM) among children with FASD. Professionals of St. Michael's Hospital FASD clinic report that some caregivers of children with FASD use NHP/DM to modulate their child's behaviour. Additionally, there is increasing use of NHP/DM among children with other developmental disabilities. The objectives of the study are: (1) To determine the use of NHP/DM in terms of type, dose, frequency, and duration of use in children with FASD, aged 3 to 21 years; (2) To identify what prompts caregivers to use NHP/DM for their children with FASD and any perceived benefits or drawbacks of NHP/DM use; (3) To describe the sources of information and place of purchase of NHP/DM accessed by caregivers; and (4) To identify the demographic characteristics of the children and caregivers using versus not using NHP/DM.

Methods: An interviewer-administered questionnaire was conducted by telephone with caregivers of children with FASD affiliated with the SMH clinic. This three-part content- and face-validated questionnaire asks caregivers about NHP use, DM use, and household demographic characteristics.

Results: To date, 20 of the targeted 40 telephone interviews have been conducted with caregivers. The data collection is continuing and a variety of NHP/DM have been identified in children with FASD at SMH.

Implications and Conclusions: This study will generate new descriptive data on NHP/DM use in children with FASD, and will provide a framework for future research in this area.

Title: Analysis of diet order entry errors.

Author: T Gesjorskyj, D Nowlan, Capital Health Graduate Dietetic Internship Program, Halifax, Nova Scotia.

Objectives: Food service errors affect patient satisfaction and quality of hospital stay. The objective of this project was to quantify and categorize diet order entry errors at Capital Health. **Methods:** Health Service Managers (n=6) were interviewed to determine existing protocols for diet order entry on their units. After completing a training session on data collection, Distribution Hosts collected data on diet order entry errors over a pre-specified one week period for breakfast, lunch, and supper meals. Errors recorded for individual units (n = 14) were compiled into an Excel spreadsheet for preliminary analysis of overall error occurrence. Statistical analysis however, is pending. **Results:** All six (6) Health Services Managers stated that ward clerks enter diet orders into the system for their inpatient units. Only fifty (50) percent, however, reported having a protocol for diet order entry when ward clerks were unavailable. Preliminary analysis revealed a total of eighty-four (84) diet order entry errors occurred over the one week data collection period; an error rate of 1.5 percent. Most errors occurred on Monday (thirty percent) and at breakfast (forty-nine percent). The main type of diet order entry error was “failure to enter diet orders into the system on time” (thirty percent of errors recorded). **Conclusion:** Preliminary analysis demonstrates that the overall rate of diet order entry errors during a one-week period at Capital Health was low (1.5 percent). Efforts to reduce these errors should focus on understanding possible reasons for the higher rates occurring on Mondays and at breakfast and the failure to enter orders on time.

Title: Defining client-centred practice and exploring its application by clinical dietitians

Authors: BM Doney, MJ Taylor, Capital Health Graduate Dietetic Internship Program, Halifax, Nova Scotia.

Objective: Capital Health strives to provide client-centred care to its patients/clients. In addition, the Dietitians of Canada professional practice standards mandate that dietitians apply client-centred practice when providing nutrition counseling. However, at present, client-centred practice has not been clearly defined. The objective of this project is to determine how the clinical dietitians of Capital Health define client-centred practice and how they apply this practice when working with patients. **Methods:** Clinical dietitians (n = 7) from two sites of Capital Health participated in two focus groups discussing client-centred practice. A semi-structured interview guide was used which focused on three main topics as follows; 1) Personal definitions of client-centred practice, 2) Advantages and disadvantages (to patient and dietitian) of client-centred practice and, 3) Barriers to and facilitators of effective provision of client-centred practice.

Results: Preliminary review of the data suggests that the participants felt that providing client-centred practice means involving the patient as an active participant in their care. They also felt that this practice involves tailoring diet education to the patients' individual needs and providing education at a time that is best for patients. The participants listed patient participation, better patient outcomes and improved morale of patient and dietitian as advantages of client-centred practice. The amount of time required to effectively apply this practice was the main disadvantage discussed; similarly, limited time available and lack of communication between multi-disciplinary team members were the main barriers discussed. Facilitators discussed included recent increases in clinical dietitians on staff as well as availability of ongoing follow-up for patients. **Conclusions:** Final analysis must be completed before conclusions can be drawn.

Title: Thought about food? What does the concept of food security mean to dietetic interns?

Author: BA MacEachern, M Young, R MacAulay, Capital Health Graduate Dietetic Internship Program, Halifax, Nova Scotia.

Objective: As the most trusted sources for information on food and nutrition for Canadians, dietitians play a key role in addressing food security issues. Previous studies have examined the understanding of factors that contribute to food insecurity and how best to address these issues among dietitians, however, there has been a lack of research focused on the understanding of food security issues by dietetic interns, the future of the dietetics profession. The objective of this research project is to begin to address this gap in the literature by examining the understanding of the term food security among dietetic interns in the Capital Health Graduate Dietetic Internship Program. **Methods:** Capital Health Dietetic Interns (n=6) participated in a structured focus group about the meaning of food security. Recruitment occurred by contacting all Capital Health Dietetic Interns via e-mail, providing detailed information about the research study, and requesting voluntary participation in the study. The focus group was conducted by using Activity 1.1 and Activity 1.2 from the ‘Thought About Food? A Workbook on Food Security & Influencing Policy’ workbook created by the Atlantic Health Promotion Research Centre, Nova Scotia Family Resource Centres/Projects and the Nova Scotia Nutrition Council. The activities allowed interns to discuss and explore the meaning of the term food security and discuss what food security and food insecurity meant individually to each intern. **Results & Conclusions:** Results and conclusion pending.

Title: Evaluation of hand grip strength as an indicator of nutritional status in chronic renal insufficiency patients

Authors: EA Rowsell, S McBride, Capital Health Graduate Dietetic Internship, Halifax, Nova Scotia.

Objective: The objective of the study is to evaluate the efficiency of using Hand Grip Strength as an indicator of nutritional status in Chronic Renal Insufficiency (CRI) patients as compared to other indicators including Subjective Global Assessment (SGA), Body Mass Index (BMI), Albumin levels, and Creatinine Clearances. SGA is used in some hospitals as an indicator for determining nutritional status in these patients, however, health professionals find that results vary and therefore SGA is not effective to its subjectivity. The results of this study will help in determining which tool is the most efficient and effective in determining nutritional status, as well as contributing to further research conducted on Hand Grip Strength. **Methods:** A chart review will be conducted to gather preliminary data on each patient. As in a normal consultation with the dietitian, a Subjective Global Assessment will be completed as well as Hand Grip Strength. HGS will be measured three times consecutively and the average taken from these three measurements using the non-dominant hand. Results of all tools and information will be compared to determine the efficiency of using HGS as a nutritional assessment tool. Approximately fifty (50) patients were involved in this study. Only those CRI patients with creatinine clearances of less than thirty (30) percent were chosen to participate. A quantitative analysis will then be conducted on the compiled data to comparatively show commonalities and differences between nutritional assessment tools used. This comparison will further show the effectiveness or ineffectiveness of the use of HGS in this patient population to determine their nutritional status. **Results:** Pending. **Implications and Conclusions:** Pending.

Title: Re-screening orthopedic patients to assess their nutritional risk status

Authors: J Boenhoff, B MacDonald, Capital Health Graduate Dietetic Internship Program, Halifax, Nova Scotia.

Objectives: Orthopaedic patients at the Capital Health (CH), Halifax Infirmary (HI) site, are not always identified as being at nutrition risk (NR) on admission screening (24 – 72 hours) due to the absence of data such as weight, height and/or albumin. The objective of this project was to re-screen orthopaedic patients 7 and 14 days post admission and compare data availability and ability to identify nutritional risk status.

Methods: Thirty five (35) orthopaedic patients over 60 years of age at the HI site were re-screened after seven days (n=18) and fourteen days (n=17) post admission, using the CH NR criteria and Nutrition Consult form and reviewing their inpatient charts. Patient censuses were obtained every day for five days and subjects were selected depending on their length of stay and age. **Results:** Statistical analysis pending.

Conclusion: Preliminary review of data reveals that four patients were identified at nutrition risk upon admission and no new risks were identified after seven or fourteen days. This proposes that re-screening patients after seven or fourteen days post admission does not increase the number of NR identified.

However, the average age of patients was 80.7 years, which suggests possible NR in this population.

Further research could indicate whether patients are identified at nutritional risk upon transfer to other units (restorative care, geriatric day hospital), where patients can be weighed. At this point, neither patients' weights nor albumins are being monitored on the Orthopaedic units. This project provided a good basis for further research regarding the nutrition risk screen form and process at Capital Health to ensure patients at nutrition risk are captured and can be intervened.

Title: Are women receiving appropriate pregnancy weight gain information before or during pregnancy?

Author(s): KD Pauls, J Mahar, Capital Health Graduate Dietetic Internship Program, Halifax, Nova Scotia.

Objectives: The incidence of overweight and obesity among women of childbearing age in Canada has been increasing; twenty-three (23) percent of Canadian women are obese and another thirty-six (36) percent are overweight. One contributing factor to overweight and obesity is excessive pregnancy weight gain. The objectives of this project are to determine whether women are receiving weight gain guidelines before or during pregnancy, who is providing this information, and whether recommendations are consistent with the guidelines established by the Institute of Medicine. **Methods:** Subjects were inpatients attending discharge classes on the Family Newborn Ward of the Izaak Walton Killam (IWK) Health Centre in Halifax, Nova Scotia. With an estimated participation rate of thirty (30) percent, the sample size will be about one hundred (100) inpatients. The data collection method used for this research project will be a short self-administered questionnaire. **Results:** Pending. **Conclusions:** Pending.

Title: Comparison of blood lipid values pre and post education for patients in the Healthy Heart Habits program

Authors: L Carter, M Regan, Capital Health Graduate Dietetic Internship Program, Halifax, Nova Scotia.

Objectives: The Healthy Heart Habits program at Capital Health (CH), Dartmouth General Hospital site is designed to teach patients with dyslipidemia ways to improve their blood lipid profile through nutrition intervention. The education program consists of two classes, one and one half hours in length. The curriculum is based on Canada's Food Guide for Healthy Eating with an emphasis on high fiber and low fat eating. Past research has indicated that patients completing the program rate it highly with respect to their satisfaction with the class. Objectives for this research are to determine the percentage of patients who make a significant change in their blood lipid profile after completing the Healthy Heart Habits program. Also to examine gender differences with respect changes in blood profile. **Methods:** Forty (40) subjects were selected using convenience sampling. Subjects were included if their pre and post Healthy Heart Habits lipid profile was available from either an electronic client record (Horizon Patient Folder , Lab Information Systems) or hardcopy of the clients health record. All subjects included in the study had completed the Healthy Heart Habits program between October 2004 and December 2005. Only those changes occurring within one year of completion of the Healthy Heart Habits program have been considered. Clients total cholesterol, HDL, LDL, ratio and triglycerides will be compared. **Results:** Data currently pending. **Implications and Conclusions:** Preliminary data analysis is suggestive of an improved lipid profile post education. Statistical significance of audit findings is pending.

Title: Determining methods of motivation for utility workers working for less than two years and greater than twelve years

Authors: LM Crane, J Pryor, Capital Health Graduate Dietetic Internship Program, Halifax, Nova Scotia.

Objectives: Motivation is the main problem facing business today. Food and Nutrition Services faces the challenge of motivating utility workers in order to increase their productivity. The department is spending time and money attempting to motivate employees. Incentives such as rewards for perfect attendance have already been implemented. It is important to gain an understanding of what techniques motivate the utility workers and whether they feel the incentives in place are adequate. The objectives of this project are to determine the factors that contribute to job satisfaction for utility workers, evaluate the effectiveness of current incentives, and determine the effect of length of employment on employee motivation. **Methods:** Focus groups were conducted with full and part time utility workers who work at sites within the Queen Elizabeth II Health Sciences Center, Capital Health, including the Victoria General and Camp Hill sites in Food and Nutrition Services. The employees who took part in the focus groups have been employed with Capital Health for less than two (2) years or for twelve (12) years or more. Using a list of utility workers, including seniority information, those workers employed for less than two or longer than 12 years were identified and invited to participate in the study. The employees were divided into new and long term employee groups for the focus group sessions. The discussions were documented by the researcher and will be analyzed using thematic analysis. The themes that are identified are based on Herzberg's Motivator-Hygiene Theory and the Ecological Systems Theory. **Results:** Pending. **Implications and Conclusions:** Pending.

Title: Special formula wastage and related monetary loss

Author: RS Squires, Capital Health Graduate Dietetic Internship Program, Halifax, Nova Scotia.

Objectives: Financial restrictions are a growing concern within health care systems. With decreased budgetary allowances, it is the responsibility of food service departments to decrease wastage. While research has been conducted in this area through plate waste audits, little has focused on the use and wastage of special formulas. These formulas are expensive and their wastage could cause substantial monetary loss. An audit of special formula consumption and the related monetary costs could offer insight and allow for adjustments to decrease wastage. **Methods:** The consumption of supplements within all units of the Halifax Infirmity site of Capital Health were audited over four (4) meals. All units were audited because no one (1) unit could be representative due to varying patient populations with varying supplement needs. This also allows for higher wastage areas to be identified. Amount and types of supplements sent to units were obtained from patient meal cards which were placed along with meal trays into labeled carriers called traygens. Supplement consumption was audited when meal trays were returned in the traygens for disassembly. Formula cans unopened were recorded as waste. Formula cans opened were recorded either as fully consumed, fifty (50) percent consumed, or twenty-five (25) percent consumed. Supplements not returned were investigated through visiting patients associated with them. Reasons stated for wastage included patient discharge or day-pass, dislike, non-interest, or multiple supplements. The type and brand of supplements was also recorded in order to calculate the monetary cost associated with the wastage. **Results:** Pending. Data analysis will provide percentages of wastage and its cost within each unit. Reasons stated by patients for wastage may identify characteristics specific to the patient population attributing to wastage.

Title: An analysis of dietary practices for nurses and doctors who work ongoing and continual night shifts

Authors: SA Arsenault, Bonnie Conrad, Capital Health Graduate Dietetic Internship Program, Halifax, Nova Scotia.

Objective: The objective of this study was to understand what the impact of working rotational shiftwork may have on dietary practices of Capital Health employees. In addition, this study's determined employee's perception of the impact that dietary practice may have on the development of gastrointestinal problems and alertness levels while working shiftwork. The results of the study will be used to direct further research at Capital Health as well as guide health promotion initiatives within the Capital Health Healthy Eating Strategy. **Methods:** A naturalistic survey design was applied to perform this study, as the aim of the study was to describe characteristics of dietary practices. A self-administrated questionnaire consisting of a series of closed-ended questions was used in the data collection. The questions were divided into sections consisting of work scheduling, nutrition, general health, education, and demographics. Quota sampling was used to gather subjects. Three hundred (300) surveys were delivered to multiple sites within the Capital Health district. The questionnaires will be collected and compiled as a group and a descriptive data analysis will be conducted to determine trends in the dietary practices and perceptions of the impact that dietary practices may have on the development of gastrointestinal problems and alertness while at work. **Results:** Results are pending. **Conclusion:** Conclusions are pending.

Title: Nutrition risk screening of Geriatric Day Hospital patients.

Authors: SJ French, C Lovett- Smith, M Gorman, Capital Health Graduate Dietetic Internship Program, Halifax, Nova Scotia.

Objectives: The nutrition risk (NR) screening tool used at the Geriatric Day Hospital (GDH), Camp Hill Veterans Memorial Building, Queen Elizabeth II Health Sciences Center, Capital Health, is sensitive and scores approximately seventy (70) percent of the ambulatory clients at NR. Dietitian resources for the GDH are scarce, and an alternate NR tool is desired to prioritize client grouping, such that limited dietitian resources are more appropriately allocated. Objectives of the research are to statistically analyze the current NR screening tool to establish the specificity of the current screening tool (i.e., is it the tool correctly identifying patients who are at NR). Results of the statistical analysis will then be used to develop a new, more specific nutrition screening tool that will classify patients into risk categories (i.e., high, moderate and low NR). **Methods:** Non-probability sampling will be used to sample charts (n= 70) of discharged GDH patients. Retrospective, statistical analysis of the charts will be performed to assess the specificity of the current NR screening tool. Information provided from the statistical analysis will allow for development of a new NR tool specific to the GDH. **Results:** Pending. **Conclusion:** Pending.