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DO CARDIAC REHAB NUTRITION GUIDELINES NEED REHABILITATION?

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Heart disease affects 590 000 Australians, with repeat events accounting for one-third and costing Australia \$8 billion annually. For the Heart Foundation to explore new possibilities in evidence-based support of cardiac rehabilitation programs, previous interventions must be revisited to assess their relevance in current practice. In 2002, the Heart Foundation released 'Nutrition Recommendations for Cardiac Rehabilitation', which has since been rescinded. Currently, there are no dedicated secondary prevention nutrition guidelines available to health professionals. With nutrition misinformation and new evidence constantly emerging, the question remains, 'Do cardiac rehab nutrition guidelines need rehabilitation?' To answer this question, a needs assessment was conducted in Queensland to inform the Heart Foundation's potential role in the development of nutrition guidelines. Following a literature review, the nutrition education practices of clinical dietitians and Cardiac Rehab employees were investigated using electronic surveys and interviews. A total of 58 survey responses were received and findings were systematically reviewed to create five recommendations to inform future project development. The evidence and surveyed health professionals strongly support the development of nutrition guidelines for cardiac rehabilitation. In addition, these recommendations highlight key findings regarding equity, collaboration with other organisations and the design, format and content of new guidelines. Following a national needs assessment by the Heart Foundation, this project lays the groundwork to revive and rehabilitate nutrition guidelines in cardiac rehabilitation, supporting health professionals and potentially improving health outcomes for heart attack and stroke survivors.

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THE EFFECT OF SOCIAL INTERACTION AT MEALTIMES IN HEALTH AND AGED CARE SETTINGS ON NUTRITION AND PATIENT-RELATED OUTCOMES

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Malnutrition is a significant issue for patients in acute and sub-acute care facilities. Suboptimal nutrition is linked with increased length of stay and functional decline, as well as increased healthcare costs. The aims of this systematic review were to focus on residents/patients in a healthcare or residential aged care facility that consumed their meals in the presence of others versus those who ate their meals alone. Studies of interest measured energy and protein intake, weight change, quality of life (QOL), and patient satisfaction. Five databases were systematically searched to find relevant published studies: CINAHL, Ovid Medline, Embase, Scopus, and PsycInfo. Qualitative and quantitative studies were searched for, including randomised controlled trial, quasi-experimental, cross-sectional, and prospective cohort studies. From

12 232 papers, five were included in this review and their quality was assessed using the American Dietetics Association (ADA) Evidence Analysis Manual. From these papers, energy intake was significantly increased when patients ate in the presence of others. This was confirmed by a meta-analysis demonstrating an increase of 145 kcal (607), with 95% confidence interval (CI) 67.3–222.2, although it was low-quality evidence. There was a trend for an increase in protein intake and weight gain. No studies reported on QOL and satisfaction. Albeit limited research, there is a distinct correlation between dining in the presence of others, and an increase in overall energy intake. This mealtime intervention may assist in addressing malnutrition. The reviewers cite the need for further research in the area to confirm and strengthen the results.

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DETERMINANTS OF SUSTAINED BREASTFEEDING IN AUSTRALIA

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Most Australian women initiate breastfeeding; however, relatively few breastfeed to 12 months and beyond as recommended. This research aimed to identify the prevalence and determinants of sustained breastfeeding in a cohort of Australian women. Mothers (n = 832) participating in the Adelaide-based SMILE cohort study provided sociodemographic data at recruitment from maternity hospitals. Then at approximately 12 months postpartum completed a single 24-hour recall of their child's food intake conducted by a trained dietitian, followed by a 2-day food diary. Toddlers' diets were entered into FoodWorks® and analysed using NUTTAB 2011–2013 and then imported into SPSS®. Those toddlers who received breast milk on any of the three days were considered to be still breastfeeding. Multivariate logistic regression was run to determine sociodemographic and biomedical characteristics independently predictive of sustained breastfeeding. Just over one-third (34.6%) of toddlers (mean age 13.1 ± 0.84 months) were still being breastfed. Women with more than 12 years of education (adj OR 2.27 95% CI 1.61–3.18) and multiparous women (adj OR 1.55 95% CI 1.12–2.14) were more likely to be breastfeeding at 12 months, compared with less educated and primiparous women. Overweight women (adj OR 0.55 95% CI 0.37–0.84) and women who were partially breastfeeding at hospital discharge (adj OR 0.61 95% CI 0.37–0.99) were less likely to be breastfeeding beyond 12 months, compared to normal-weight women and exclusive breast feeders. This study identifies groups of women least likely to sustain breastfeeding for 12 months or more and who might benefit from targeted breastfeeding education and support programs.

Funding source: NHMRC (Project Grant # 1046219) Study of Mothers and Infants Life Events affecting oral health (SMILE)

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DELAYED POST-OPERATIVE DIET IS ASSOCIATED WITH A GREATER INCIDENCE OF PROLONGED POST-OPERATIVE ILEUS AND LONGER STAY IN HOSPITAL FOR PATIENTS UNDERGOING GASTROINTESTINAL SURGERY AT A WESTERN AUSTRALIAN GENERAL HOSPITAL

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Recent evidence favours a move away from delayed post-operative feeding towards early feeding practices for better outcomes after gastrointestinal surgery. This retrospective observational study of gastrointestinal surgery patients (n = 69) aimed to investigate associations between delayed feeding and incidence of prolonged postoperative ileus (PPOI) and length of stay in hospital (LOSH). Delayed feeding was measured as the number of meals patients remained nil by mouth or on clear fluids obtained from electronic catering records at a Western Australian general hospital between January and July 2015. Data were separated and comparisons were made between those who developed PPOI and those who did not. A strong relationship was found between delayed feeding and LOSH ($p < 0.001$), and significant differences were found between PPOI patients (n = 18) and those without (n = 51) for delayed feeding ($p < 0.001$), LOSH ($p < 0.001$) and number of days to first flatus or stool ($p = 0.003/4$). In the PPOI group, 66% of patients remained nil by mouth or on clear fluids until after first record of flatus. The strong associations between delayed feeding, number of days until flatus and incidence of PPOI found in this study provide evidence that traditional practices of withholding nutrition until first bowel movement may not result in the best outcomes. The results highlight the gap between traditional care and the improved outcomes reported when early feeding practices are adopted. It is recommended that future research should be directed at developing strategies needed to overcome barriers to change, and enable the implementation of early oral or enteral nutrition.

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QUALITATIVE STUDY OF QUEENSLAND PARAMEDICS' PERCEIVED INFLUENCES ON THEIR FOOD AND MEAL CHOICES DURING SHIFT WORK

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Paramedics have higher rates of obesity, overweight and dyslipidaemia, compared to the general population. Studies investigating the nutritional health of other types of shift workers found their ability to achieve a healthy diet appeared to be influenced by the nature of their work; however, these findings cannot be generalised to paramedics, who are ambulance based and respond to emergencies over a wide geographical area. The research on paramedics' eating behaviours and influences on food choice is limited. This study aimed to explore paramedics' perceived influences on their food choices specific to their unique working environment. A qualitative study using individual semi-structured telephone interviews was conducted on a purposive sample of 15 paramedics working on a rotating shift roster in Queensland. Transcribed interviews were analysed manually using open coding inductive thematic analysis. A conceptual model was developed that illustrated four major themes of influences on food choices. These themes were physiological, psychosocial, the physical environment and the organisational environment. Of significant influence on the participants' food choice

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unique to their work, was the meal break structure and being ambulance based for the majority of their shift. These influences are created by the environmental influences in which they work and result in extended periods of not eating or opportunistic eating. This has implications on their ability to make healthy food choices. Further investigation into strategies to enable paramedics to improve food choice within their unique work environment is warranted in light of the nutrition-related diseases found within this group.

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EXAMINING ADHERENCE TO TELEPHONE HEALTH COACHING TO EXPLORE DELIVERY OF ACCEPTANCE COMMITMENT THERAPY IN A COMMUNITY-BASED WEIGHT LOSS INTERVENTION

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Behavioural theories have been applied in weight-loss interventions for decades with positive effects. Later, these theories have been used to strengthen interventions such as within telephone health coaching. This study aimed to assess adherence of the delivery of a health coach telephone script underpinned by Acceptance Commitment Therapy within a weight-loss community-based trial (HealthTrack) and determine if participants were able to articulate their values relevant to health within the coaching session. Adherence was assessed through examination of a random sample of digital recordings from the health coaching intervention calls (n = 18). Two researchers scored for interrater reliability to determine adherence. An instrument and corresponding protocol (Value Articulation Instrument (VAI)) was then developed through three stages of an iterative cyclical process to design, test, and refine the instrument for feasibility testing. Interrater reliability for adherence and VAI stage-1 were measured using Kappa coefficients and Spearman's correlations between two researchers. Adherence interrater reliability was fair to excellent ranging from 0.31 to 0.68 ($p < 0.05$). Overall adherence was high for both health coaches. Interrater reliability for the VAI ranged from poor to high with kappa coefficients -0.01 to 0.65 ($p > 0.05$) at stage-2 development. Researchers discussed variances in results and modified the VAI to develop a reliable instrument for feasibility testing. The adherence to the script for health coaches was high enough to validate the development of value articulation instrument. The refined final version of the VAI was deemed reliable for feasibility scoring in a broader sample. Further modifications may be required post initial feasibility testing.

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TESTING A TOOL TO MEASURE FOOD SECURITY IN AUSTRALIA

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In Australia, food insecurity is a serious social and health issue, composed of four hierarchical dimensions – food access, availability, utilisation and stability over time, yet there is no validated, multi-item tool to measure food insecurity in Australia. The aim of this study was to test a newly developed multi-item Australian tool designed to measure multiple dimensions of food security. Participants aged 18 years or older were sampled from metropolitan Melbourne (n = 134). Participants

completed a survey composed of three sections: demographic questions, the validated United States Department of Agriculture Food Security Survey Module (USDA FSSM), and the newly developed Household Food and Nutrition Security Scale (HFNSS). Participants were spread across Melbourne. The demographics of our sample were not comparable to the wider Victorian population. Using Factor and Rasch analysis, four questions were removed from the HFNSS. The shortened HFNSS identified significantly more participants as food insecure ($P < 0.001$) than the USDA FSSM. The shortened HFNSS had good internal consistency (Cronbach alpha = 0.895). The HFNSS assessed three different components: adult experiences of food insecurity, early food insecurity for children, and later child experiences of food insecurity. This study showed that the HFNSS has the potential to be a reliable and valid tool to measure food security across multiple dimensions in Australia. The HFNSS classified more people as food insecure than the current best practice tool, the USDA FSSM. Further testing is required to determine validity and reliability of the HFNSS in other populations, and to shorten the tool further.

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**MEASUREMENT OF FOOD INSECURITY:
 A SYSTEMATIC LITERATURE REVIEW**
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Food insecurity is composed of four dimensions – food access, availability, utilisation and stability over time. It is associated with poor dietary intakes and poor health. Whilst many studies examine this phenomenon, their comparability is limited by the use of different measures of food insecurity as there is no international standard. The aim of this study was to conduct a systematic literature review to identify multi-item tools with statistical integrity to measure food security, and explore the dimensions they assess. Five databases were searched (CENTRAL, CINAHL plus, EMBASE, MEDLINE, TRIP), for studies published in English since 1999. Inclusion criteria included human studies using multi-item tools to measure food security in developed countries. Manuscripts describing the United States Department of Agriculture Food Security Module were excluded due to wide acceptance of its validity and reliability. Two authors extracted data and conducted quality assessment. Data were analysed using narrative synthesis. Eight tools were identified. The majority were developed in the United States and had been utilized over different countries, age groups and cultures. All of the tools assessed the dimension 'food access' and two partially assessed 'food utilisation' and 'stability over time'. 'Food availability' was not assessed. These results may be used to guide practitioners looking for an appropriate tool to assess food insecurity. Current tools available for measuring food insecurity are limited in scope, with the majority assessing one dimension, food access. To accurately assess the true burden of food insecurity, tools should be adapted or developed to assess all dimensions.

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**IMPLICATIONS OF NUTRITION AND CHRONIC
 PAIN**

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Chronic pain is defined as pain lasting for three months or more and may or may not exist with a clear aetiology. People who suffer chronic pain have poorer overall diet quality, putting them at increased risk of

morbidity and mortality. It is widely accepted that chronic pain is multifactorial and that a multimodal approach gives the best outcome in managing and treating chronic pain. The aim of this review is to assess the relationship between nutrition and chronic pain and identify indications for dietary intervention. A literature search identified areas where chronic pain and nutrition interact. Interactions were categorised into one of six groups; Limited Mobility, Side Effects of Treatments, Body Weight, Poor Sleep, Nutritional Requirements and Psychological impacts. Chronic pain itself and medical interventions to manage it may limit the person's ability to access healthy food, increase nutritional requirements and impact on hormonal or physiological pathways. Additionally, chronic pain, particularly lower back, hip and knee pain may in part be initiated by overweight and obesity. The relationship between chronic pain and nutrition is complex and is compounded by medical interventions and lifestyle factors. This review indicates that an Accredited Practising Dietitian is an important member of the multidisciplinary healthcare team that manages and treats chronic pain.

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**ONCOLOGY INPATIENTS' EXPERIENCES OF
 FOOD ORDERING AND INTAKE: A QUALITATIVE
 INTERVIEW AND PLATE WASTE STUDY**

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Oncology patients typically do not meet their nutritional requirements due to the combined effects of anticancer treatments and disease progression. Access and enjoyment of food during their inpatient stay may also be a contributory treatment. There is a paucity of research examining patients' knowledge and experiences with food access and provision in hospital. This study aimed to gain an understanding of oncology inpatients' experiences with food ordering and intake, using a mixed methods approach of semi-structured interviews and observational plate waste audits. Interviews addressed patients' understanding of their nutritional needs, and experiences with access and provision of food in hospital. The results were thematically analysed. Fourteen patients from a Melbourne Cancer hospital participated in the study. The patients were generally positive about the meal service but identified a variety of meal related issues. Five main themes emerged from interviews: food quality (temperature and smell), service and delivery timing (early dinner time) nutritional factors (perceived dietary adequacy), menu communication (lack of information) and appetite. Whilst the majority of patients reported their nutritional status and intake as adequate, the plate waste data showed no patient met their nutritional requirements with a mean energy and protein intake of only 52.7% and 54.8% of estimated requirements, respectively. Forty-five percent of patients were also assessed via patient-generated subjective global assessment (PG-SGA) as malnourished. Improving meal timing, menu assistance and food choice may help improve the gap between perceived and actual intake whilst in hospital, thereby preventing the development and progression of malnutrition and improving the patient meal experience.

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**EQUIPPING OUR FUTURE NUTRITION AND
 DIETETICS WORKFORCE WITH THE TOOLS TO
 MEND A BROKEN FOOD SYSTEM**

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Internationally, the food system is broken, creating irreversible environmental damage and increasing diet-related disease due to an intermit-

tent supply of nutritious food. The causes of this are complex and require multi-sectorial, innovative and evidence-based solutions. Dietitians are vital to improving our food system, but need additional skills to support their practice. Limited tertiary-based learning opportunities specific to this complex issue exist for dietitians in Australia. This case study describes an innovative approach to build the capacity of Australia's future nutrition workforce to improve the food system. A single semester, undergraduate unit – 'food and the environment' – was introduced at the study university. This unit explores the sustainability of the global and national food supply and its impact on public health, with learning outcomes ensuring that students understand the economic, social, political and environmental factors that influence the food system. Students are exposed to the views of food industry, economists, public health experts and food producers. Initiatives to mitigate environmental challenges, such as climate change, drought and salinity, are explored together with the impact of national policy decisions on the food system. Assessment against these learning outcomes is authentic and facilitates the opportunity for students to develop skills applicable for the workplace. Evaluation of the unit focuses on student satisfaction, attitudes towards pursuing work in the field and students' self-perceived ability to translate theory into practice. This unit has the capacity to positively influence Australia's future nutrition workforce by equipping them with essential knowledge and skills to improve our food system.

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EATING FOR INDEPENDENCE TOOLKIT: IMPLEMENTING A NUTRITION RISK SCREENING AND REFERRAL PATHWAY FOR COMMUNITY SETTINGS

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Numerous Australian and international studies have shown the identification of nutritional risk and subsequent intervention is generally poor. When nutritional risk is identified in community-living older people, interventions will often include provision of services which substitute for a person's own effort; for example, meals on wheels. Without sufficient attention given to an individual's potential or actual capacities to be independent with food access, these types of interventions may create dependency. This program set out to develop and implement a screening and referral pathway for community settings with a capacity building and restorative care focus. It is based on over 15 years of collaborative work between Home and Community Care Dietitians across the Hume region of Victoria. The culmination of their experiences and ongoing evaluation of their training model has resulted in a pathway referred to as the ICAN (Investigating Capacity to Access Nutrition). This pathway aims to provide the user with decision support for investigating the link between nutritional risk and independent access to nutrition. The outcome is intended to trigger referral(s) for restorative interventions. The Eating for Independence Toolkit provides Dietitians with user-friendly, evidence-based training material built around the ICAN pathway. Its application is specific to people working with clients who are potentially at nutritional risk living in the community, including Practice Nurses, District Nurses, Case Managers, Aged Care assessors and Direct Care workers.

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WHAT INFLUENCE DO PROFESSIONAL DEVELOPMENT WEBINARS HAVE ON THE PRACTICE OF DIETITIANS?

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Advances in nutrition and medical research mean that dietitians must continue learning at all stages of their career to remain current and achieve industry-mandated Continuing Professional Development (CPD). At the same time, online learning is becoming increasingly popular. We set out to investigate the effectiveness of Professional Development Webinars (PDW) on the respondent's professional practice (knowledge, skills, attitude, behaviour). We invited dietitians to participate in an anonymous Internet-based survey. Potential respondents were solicited through a professional association email list as well as an independent nutrition newsletter. Participation was voluntary. Three hundred and forty dietitians completed the questionnaire. Ninety percent of respondents had used webinars for professional development. Respondents most commonly used five to nine hours of webinars over the previous twelve months (39%). Ninety-one percent agreed or strongly agreed that watching PDW improved their confidence as dietitians. Ninety-two percent agreed or strongly agreed that watching PDW helped them reflect on their clinical practice. Seventy-seven percent agreed or strongly agreed that watching PDW increased their awareness of current clinical practices. Seventy-three percent agreed or strongly agreed that watching PDW prompted them to make changes to their clinical practice. The vast majority of respondents accessed PDW. When they did, they clarified or increased their nutrition knowledge, improved their confidence, and reflected on their clinical practice. The information in this survey indicates that PDW have the potential to provide practitioners with current clinical information which clarifies their knowledge, improves confidence and changes their practice.

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ENGAGING STUDENTS IN A REMOTE COMMUNITY PLACEMENT EXPERIENCE: MAKING TRACKS FOR THE FUTURE

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There are limited opportunities to provide remote placement experiences for dietetic students from metropolitan-based university programs due to the vast distances and limited dietitian staffing. An innovative remote outreach community placement was trialled in order to provide increased remote placement opportunities. The remote outreach placement involved students and academic staff living and working in the remote town of Walgett for part of the placement in order to engage and consult with various community members and key stakeholders. Walgett is 584 km from Newcastle and has a population of 2267 people, 44% of whom identify as Aboriginal or Torres Strait Islander. The town experiences high rates of chronic disease and socioeconomic disadvantage, including low income and education levels. This community placement involved the development of a healthy step-by-step cookbook with the aim of improving the nutrition knowledge and food preparation skills of the Indigenous community. The outreach aspect of the placement provided students with opportunities to deepen cultural awareness and experience the challenges of living in a remote setting including limited access to and inflated cost of food and resources. Student placement experience was evaluated using surveys, with feedback indicating that this type of placement is a valuable learning experience that increases student's readiness and confidence for working in

culturally diverse settings. This trial indicates that the remote outreach placement model can be successfully used in the future to increase remote placement opportunities for metropolitan-based students.

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PRE-OPERATIVE NUTRITIONAL MANAGEMENT OF BARIATRIC CANDIDATES IN AUSTRALIA: THE CURRENT PRACTICE OF DIETITIANS

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The aim of this observational study was to investigate the reported practices of Australian dietitians managing bariatric surgery candidates in the preoperative stage. An online survey of dietitians providing nutritional care to bariatric candidates was developed specifically for the purpose of this investigation. The survey questions were guided by the American best practice guidelines (ASMBS) and current literature, and consisted of scaled and open-ended responses. Ninety-nine dietitians completed the survey. Results indicated that the majority of participants (n = 70, 77%) reported providing three to four different types of nutrition interventions with patients. Only a small proportion of participants reported always screening for all nutrients (n = 7, 7%) and biomarkers of chronic disease (n = 9, 10%). Preoperative screening was not consistent with current recommendations. Most participants recommended one to two different medical nutrition therapy strategies for preoperative weight loss (n = 69, 74%), with a very low energy diet exclusively from liquid meal replacements being the most frequently prescribed (n = 62, 69%). On average, participants provided three to four different types of education strategies on the dietary and lifestyle modifications required post-bariatric surgery (n = 76, 84%). Significant difference was observed between workplace and the referral process, multidisciplinary team involvement and use of evidence-based guidelines (P < 0.05). Significant difference was also observed between region and screening practices (P < 0.05). Reported practice of the bariatric dietitians, surveyed in this study, was mostly consistent with recommendations from the literature and with the ASMBS guidelines. The development of evidence-based clinical guidelines for Australian dietitians may be beneficial to optimise positive patient outcome.

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THE DRIVERS OF FOOD PREPARATION BEHAVIOURS IN UNIVERSITY OF CANBERRA STUDENTS

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University students are commonly overlooked as a population at nutritional risk. The purpose of this study was to gain an understanding of food preparation behaviours in University of Canberra students, along with barriers they may face when preparing food at home and how this may affect their nutritional intake. An online survey was developed and distributed to University of Canberra students (n = 253). Results showed that university students were likely to have less of time and energy available to dedicate to their food preparation behaviours (77%). This is likely to contribute to the poor dietary behaviours within this population group while increasing the rates of non-communicable diseases within Australia. Furthermore, students living on campus were

more likely to prepare dinner (p < 0.01) but were less likely to have adequate money to spend on food (p < 0.01). They were also less likely to prepare dinner for two or more people (p = 0.02). This study provides insights into addressing the areas to improve the health of university students and decrease risk factors associated with developing chronic non-communicable diseases in the future.

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FASTING AUDIT IN ORTHOPAEDIC AND ORTHOGERIATRIC UNIT PATIENTS

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Fasting increases the energy deficit, which can contribute towards malnutrition and can increase the risk of dehydration and hypoglycaemia. Ethics approval was granted by Western Health ethics committee. The audit methodology and data collection tools were developed by the dietitians. Data collection was completed by two Victoria University Masters of Dietetics students. Data analysis was completed by the students and the supervising dietitian. Eighty-six patients were fasted for theatre on 157 occasions during the four-week audit period. The mean duration of fasting prior to theatre was ~11 hours for both elective and non-elective patients (range 0.5–24.5 hours). The longest cumulative duration of fasting prior to theatre for a patient over their admission was 68 hours. Fifty-four percent of non-elective patients had their theatre cancelled or rescheduled at least once during their admission. All nurses, except a bank nurse, believed that frequent and/or prolonged fasting is a problem for orthopaedic/orthogeriatric unit patients. The audit highlighted that pre-operative fasting practices in orthopaedic and orthogeriatric unit patients can be improved upon. A Western Health Fasting Procedure for All Patients Requiring Anaesthesia has since been developed and is being implemented in these units. Adult patients are permitted to have limited clear fluids ≤200 ml/hour up to 2 hours and limited solids up to 6 hours prior to anaesthesia, consistent with the Australia and New Zealand College of Anaesthetists guidelines.

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USE OF DIETARY MOBILE APPS IN PATIENTS WITH CHRONIC RENAL DISEASE: WHAT IS THE EVIDENCE?

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Research in several clinical areas has identified that dietary application software (apps) can assist patients to record their dietary intake for nutritional assessment purposes. This systematic literature review aimed to determine whether dietary mobile apps improved dietary intake and clinical outcomes in the renal population, specifically in patients with chronic kidney disease levels 3–5, including dialysis. Five databases (Medline Complete, CINAHL, Embase, PsycINFO and the Cochrane Library) were searched systematically, supplemented by citation and reference list checking. Following the removal of duplicates, both authors independently assessed the titles/abstracts and then full papers against the research question to determine studies for inclusion in the review. Study quality was assessed using the Quality Criteria Checklist for Primary Research. Meta-analysis could not be conducted due to the heterogeneity of interventions. Of the 712 studies considered, five were determined suitable for inclusion (two randomised controlled trials and three case studies/reports). A range of methodological issues were identified through the quality assessment process, particularly the lack of

strong study design. Significant changes in nutrient intake, biochemical markers or intradialytic weight gain were not reported. Participants reported variable rates of mobile app usage. A potential benefit identified was that mobile apps for dietary monitoring could be used to complement nutrition screening practices and malnutrition identification in dialysis centres. The results of these preliminary studies remain inconclusive and additional rigorous trials are needed to demonstrate if there are measurable clinical benefits to mobile phone app interventions in this population.

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IDENTIFICATION OF DIETARY PATTERNS ASSOCIATED WITH BLOOD PRESSURE IN A SAMPLE OF OVERWEIGHT AUSTRALIAN ADULTS

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The Dietary Approaches to Stop Hypertension (DASH) diet provides strong evidence for an optimal dietary pattern for blood pressure (BP) control; however, investigation at the level of key foods in a dietary pattern is sparse. This study aimed to assess the relationship between dietary patterns driven by key foods with BP in a sample of obese Australian adults. Secondary analysis was conducted on baseline data of 118 participants (45.1 ± 8.4 years, mean BP = 124.1 ± 15.8/72.6 ± 9.2 mmHg) recruited in a weight reduction randomized controlled trial. Dietary assessment was by a validated diet history interview. The average of three office BP measurements was taken. Factor analysis extracted dietary patterns and their relation to systolic blood pressure (SBP) and diastolic blood pressure (DBP) was analysed using multiple linear regression. Eight dietary patterns were identified based on leading foods: meat and alcohol, seafood, fats, fruits and nuts, legumes, confectionery, sweet foods, and yeast extracts and seasonings. A lower SBP was associated with alignment with the fruit and nuts pattern ($\beta = -4.1$ (95% CI -7.5 to -0.7) mmHg) and with seafood for DBP ($\beta = -2.4$ (-4.6 to -0.3) mmHg). SBP and DBP were higher with yeast extract and seasonings ($\beta = 4.3$ (1.4–7.3); 2.5 (0.9–4.0) mmHg, respectively). In obese adults attending for weight loss, dietary patterns that included larger amounts of fruits and nuts and/or seafood were associated with lower BP at baseline, while patterns that were characterized by yeast extract and seasonings were associated with higher BP.

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DIETITIAN USAGE OF SMARTPHONE APPS: A PILOT STUDY

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Mobile phone technologies, such as smartphone applications (apps), show potential in managing weight and chronic diseases, yet little is understood regarding how these technologies are applied within health care settings, including amongst Australian dietitians. This study

explored how dietitians use smartphone health apps in their dietetic practice. A cross-sectional online survey was developed to examine dietitians' habits of health app use – personally and in practice; types of apps recommended to clients; perceived barriers; and educational opportunities to support app use in dietetic practice. The survey was conducted with Accredited Practising Dietitians (APDs), recruited via email from one Australian university and its associated teaching hospitals. The survey was attempted 62 times, with 50 completed surveys included for analysis. Forty-two of the 50 APDs personally used health apps, and 35 currently used them in their practice, citing their primary usefulness for client self-monitoring (30/50). The three nutrition apps most commonly recommended by dietitians were MyFitnessPal (n = 22); Easy Diet Diary (n = 20); and FoodSwitch (n = 20), and clients were asked to use such apps for tracking. The main barrier to uptake of health apps in dietetic practice was not knowing the best apps to recommend (n = 21). Overall, the majority of responding APDs were interested in continuing education on apps (41/50), particularly around incorporating health apps into dietetic practice (n = 34) and the accuracy/quality of current health apps (n = 33). Whilst some Australian dietitians are using smartphone health apps in practice, ongoing continuing professional development and education is required to support further integration of apps into dietetic practice.

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THE RELATIONSHIP OF NUTRITION TO COGNITIVE FUNCTION IN OLDER

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Diet and nutrition may play an important role in neurocognitive health in older adults. Whether and how effective single nutrients and diet patterns are in being protective against cognitive decline remains unclear. In this paper we review data from randomised controlled trials (RCT) relating either signal nutrients or dietary pattern to the risk of cognitive decline, MCI or dementia in older adults. We focus on the following areas: vitamin D, vitamin B, antioxidants, omega 3 fatty acids, and different dietary patterns including Mediterranean diet. We systematically reviewed studies on vitamin D, vitamin B, antioxidants, omega-3 fatty acids, and dietary patterns including Mediterranean diet, Dietary Approaches to Stop Hypertension (DASH) diet, low-calorie diet that were investigated in relation to neurocognitive health, including incidence of mild cognitive impairment and dementia in older adults. We searched MEDLINE, EMBASE and SCOPUS for published literature, excluding cross-sectional studies, cohort studies and laboratory trials. We focused on RCTs as they provide the best basis for guiding treatment and prevention strategies. Quality assessment and analysis used Cochrane risk of bias tool as well as NHMRC assessment of quality tool and grades of recommendation by looking into factors including consistency, generalisability and applicability of evidence to Australian Healthcare context. In total, 69 RCT studies were retrieved for systematic review. Research findings are inconsistent even for those mostly studied nutrient including vitamin D, vitamin B and antioxidants. Studies indicated that low-fat low-calorie diet was not significantly related to change in cognitive function except for DASH diet combined with a weight reduction program; however, the body of evidence was weak due to factors such as small sample size of the study. A few RCT studies suggested no significant association between omega 3 fatty acids intake being protective of cognitive decline, while others provide evidence of the opposite. Increasing evidence supported Mediterranean diet being beneficial for neurocognitive health in elderly people and according to PREDIMED-NAVARRA trial results recently published by Valls-Pedret *et al.*, compared to low fat diet group, the intervention group who had Mediterranean diet supplemented with extra virgin olive oil (1 L/week) or mixed nuts (30 g/day) for median 4.1 years

had significantly improved in certain cognition test performance. There is currently insufficient RCT evidence to confirm a relationship between nutrients including vitamin B group, antioxidants, vitamin D, omega-3 fatty acids and cognitive function. Although some have shown positive results, the findings have not been consistent or of poor quality. Adequate supplementation dose also needs to be researched with higher study quality on nutrient of interest. There is moderate evidence supported Mediterranean diet being protective of cognitive decline calling for more RCTs to be done in this area and care should be taken in application in clinical practice.

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AN ASIAN MENTORING SUPPORT GROUP: A STRATEGY FOR ACCULTURATION IN DIETETIC WORKFORCE

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The Asian Mentoring Support Group has been meeting for the past eight years, providing its members regular interactive dietetic updates, a platform for problem-solving discussions and peer-to-peer emotional support. This qualitative research study explored the members' lived experiences of being part of this group and the impact of this group on their professional lives. The researchers employed a phenomenological methodology with elements of ethnography and collected qualitative data via a focus group with the ten members, a reflective log and document analysis. A thematic analysis approach was adopted and investigator triangulation was utilised. Three main themes emerged from the data. Firstly, the emerging dietitians with an Asian background not only faced isolation as sole-practitioners in the clinical settings, they also felt culturally challenged in their work ethics and found it difficult to fit into the predominantly Anglo-Saxon workforce. The shared culture naturally brought people together and the group mentoring style matched well with the Asian collectivistic-orientated culture. The members valued the sense of belonging and described the monthly meetings as a safe and culturally friendly environment to bounce ideas, support professional growth and facilitate career development. As the members grow professionally, the mentoring group is becoming more heterogeneous, with the recent addition of new Australian-born Asian members with different first-languages, new diversified dietetic specialities and interests. However, members expressed strong confidence that the Asian Mentoring Group will continue to be an important strategy, for its old and new members, to support acculturation in the dietetic workforce.

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DOES THE USE OF CULTURALLY APPROPRIATE, PICTORIAL RESOURCES ON MOBILE TECHNOLOGY DEVICES ENHANCE THE PROVISION OF DIETARY EDUCATION FOR PATIENTS ACCESSING NUTRITION AND DIETETICS SERVICES AT CONCORD HOSPITAL?

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Current paper-based text resources may not be effective in providing nutrition education to patients from Culturally and Linguistically Diverse (CALD) backgrounds. Culturally appropriate pictorial resources on mobile technology could provide a more effective approach; however, evidence on the use and effectiveness of technology for patient

education is limited. This study aimed to determine the current use of mobile technology in dietary education, develop culturally appropriate pictorial resources for use on iPads, and explore patient and dietitian attitudes and opinions towards using the developed resources. This pilot study used a mixed methods approach. Following an online survey of dietitians in the Sydney Local Health District (n = 17), four High Energy High Protein education resources targeted at CALD patients were developed and trialled at Concord Hospital. Face-to-face semi-structured interviews with patients (n = 2) and dietitians (n = 7) were conducted following the trials and analysed using thematic analysis. Survey results found that whilst current use of mobile technology is low (n = 2), dietitians are willing to adopt such technology if available (n = 15). Interviews indicated that the resources enhanced learning and understanding, improved engagement, facilitated communication, and were an appropriate technology. The use of culturally appropriate food images was identified as the key benefit of the resource. In conclusion, whilst mobile technology is currently under-utilised in dietary education, using culturally appropriate, pictorial resources on mobile technology represents a promising method for enhancing dietary education. Further research with a larger patient population is recommended to verify results and refine resources before considering for use as part of dietary education.

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CONSUMPTION OF NUTRIENT POOR ENERGY DENSE FOODS BY A COHORT OF AUSTRALIAN TODDLERS

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Roughly 30% of energy consumed by Australian preschoolers is derived from 'discretionary' foods that are predominantly energy dense and nutrient poor (EDNP). Little is known about EDNP foods consumed by younger children. The aim of this study was to investigate the consumption of EDNP foods by a cohort of Australian toddlers (mean age 13.1 ± 0.84 months). Mother-child dyads (n = 832) recruited at birth into the Adelaide-based SMILE cohort study provided sociodemographic data at baseline. Then at approximately 12 months postpartum completed a single 24-hour recall of their child's food intake conducted by a trained dietitian, followed by a 2-day food diary. Dietary data were entered into FoodWorks® and analysed using NUTTAB 2011–2013, and then imported into SPSS®. Sociodemographic factors associated with the consumption of nine categories of EDNP foods were identified using multivariate logistic regression. EDNP foods consumed by more than one-third of toddlers were sweet and savoury biscuits (67.5%), sausages and processed meats (38.2%), confectionary (37.0%) and cakes, pastries and batters (35.2%). Younger mothers (<25 years) (p < 0.001), those with ≤12 years of education (p = 0.047) and Indian mothers (p = 0.001) were more likely to give their toddler fruit juice. UK born mothers were more likely than Australian mothers to give their child soft-drinks (p = 0.001), while toddlers with older siblings were more likely to consume sausages and processed meats (p = 0.001) and sweet and savoury biscuits (p = 0.004). These findings indicate the consumption of EDNP foods begins early in life and identifies population groups most likely to feed these foods to their toddlers.

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ASSESSMENT AND PERSONALISED TREATMENT OF MALNUTRITION IN THE HAEMODIALYSIS POPULATION.

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The prevalence of malnutrition in the haemodialysis population has been reported between 23% and 76%, and is linked to increased morbidity and mortality. The Eastern Health Integrated Renal Service (EHIRS) prioritises assessment and treatment of malnutrition in the satellite centres. EHIRS Dietitians use the validated Subjective Global Assessment (SGA) to identify malnourished patients and those at risk. These patients are prioritised to receive personalised intensive dietetic input. We aimed to track malnutrition rates across four haemodialysis satellites from 2010 and evaluate the effectiveness of strategies used to treat malnutrition. Ongoing six-monthly SGA has been completed since 2010. Patients identified as malnourished or at risk of malnutrition receive personalised nutrition intervention, including oral nutrition support (ONS) where indicated. A subgroup of 10 malnourished patients was tracked to determine the effectiveness of the implemented nutrition strategies. Albumin levels and weight were recorded before and after 6 months of nutrition intervention. A two-tailed paired t-test was used to determine statistical significance. Analysis of >1300 assess-

ments found malnutrition rates decreased from 33% to 17%. A small ONS budget has been successfully implemented since 2012 to assist in treating malnutrition. Personalised dietetic intervention significantly increased albumin levels by a mean of 7.7 g/L (t(9) = 5.355, p < 0.01). A non-statistical t increase in weight of 2.2 kg was observed, (t(9) = 1.529, p = 0.16). The initial rates of malnutrition identified (33%) are similar to previous studies with the haemodialysis population. The use of routine SGA enables a personalised dietetic service, resulting in significantly reduced incidence of malnutrition and improved patient outcomes.

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EFFECTIVENESS OF A REGIONAL DIETETIC SUPPORT NETWORK

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This study aims to examine the perceived effectiveness among a regional dietetic network. It aims to explore how effective it is in achieving the groups' purpose and objectives, the perceived importance of the network to members, and desired changes to the network to meet these needs. It will also explore perceptions of possible benefits and barriers to working in rural areas. Data have been collected from dietitians who are members of the North East Victoria Dietitians network via an anonymous online survey (n = 34) with response rate of 47%. Ethics approval was provided by Charles Sturt University Faculty of Science Low Risk Human Ethics Committee (#400/2015/40). Data were analysed using descriptive statistics and groups were compared using chi-squared and Mann-Whitney U-tests. Qualitative data were also obtained. Overall there was high levels of agreement that the group is effective in supporting professional development opportunities and important in supporting regional and rural practitioners. This was true irrespective of the number of years of practice and whether the participant was a sole practitioner or not. The key benefits of rural practice were perceived to be lifestyle and diversity of work. A number of suggestions were provided to guide the future development of the group. Other literature identifies a number of issues in relation to attracting and retaining GP's in rural areas but no work has been done looking at this in relation to dietitians. Therefore the outcomes of this research offer a model of support for rural/regional practitioners that can be replicated across the country.

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THE USE OF NUTRACEUTICALS TO IMPROVE COGNITION IN ELDERLY: LITERATURE REVIEW

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The ageing population in Australia is currently increasing, and therefore, conditions such as cognitive impairment, depression and dementia are also on the rise. These conditions may contribute to the reduction in activities, isolation, and poor quality of life. More than half of the elderly in Australia are seeking alternative medicines for these conditions, and the most commonly used are vitamin and mineral supplements, herbal medicines, and nutrition supplements. Nutraceuticals have various therapeutic advantages and are being used adjunctively with prescription medicines. Several human trials have evaluated the effects of nutraceuticals on improving cognition in elderly population due to the

increased interest of their use. This research undertakes a literature review exploring the effects of nutraceuticals on the improvement of cognition in the elderly. According to the PRISMA guidelines (2009), eight randomised double-blind placebo-control clinical trials were reviewed with a specific selection criteria: English articles, human studies, number of participants is 30 or more and primary outcome is cognitive function/depression and/or dementia. Studies found plant extracts, vitamin/mineral supplements and fish oil are having some positive effects on cognition in elderly. But most of the results are not statistically significant and they have used different settings, interventions and assessment methods. Nutraceuticals may have some beneficial effects on cognition in the elderly and are becoming popular among them. Due to the heterogeneity of results, more human trials on specific nutraceuticals are necessary before asserting their use on cognitive function, depression and dementia in elderly people.

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A FTO GENE VARIANT AND BMI COMPARISON OF RESTING METABOLISM AND METABOLIC FLEXIBILITY IN MALES AND FEMALES

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Whilst obesity has been associated with metabolic inflexibility, it is unclear whether the fat mass and obesity-associated gene (FTO) rs9939609 (T>A) polymorphism has a genetic influence on the ability to effectively switch between substrates supplying energy. We investigated differences in metabolic flexibility between FTO genotypes following an oral glucose load (OGL) challenge. Healthy, sedentary males and females aged 20–50 years ($n = 147$) completed a single session protocol designed to (1) assess fasting plasma glucose concentrations, in addition to respiratory exchange ratio and substrate oxidation via indirect calorimetry, then (2) assess the physiological responses of these variables to an OGL. Differences in these variables between FTO genotypes (AA, AT and TT) and body mass index (BMI) (lean; $<25 \text{ kg/m}^2$ and overweight; $>25 \text{ kg/m}^2$) were determined using two-way ANOVA with repeated measures. Metabolic flexibility was decreased in the overweight ($p = 0.009$) compared to lean, but similar between FTO gene variants ($p > 0.05$). Overweight participants also had higher fasting energy expenditure ($p = 0.015$) and carbohydrate oxidation ($p = 0.003$), whereas FTO had no effect on these parameters ($p > 0.05$). A time effect was observed for plasma glucose in BMI and FTO groups ($p < 0.001$); however, responses were similar within each group ($p > 0.05$). Greater insulin resistance was observed in overweight participant compared to lean ($p = 0.007$), whilst no differences in insulin resistance or sensitivity were observed between genotypes ($p < 0.05$). Overall, our data confirmed that BMI is associated with slower metabolic flexibility and insulin resistance, whilst suggesting that defects to metabolism may not be a mechanism in which FTO influences obesity susceptibility.

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CURRENT PRACTICES OF DIETITIANS IN THE ASSESSMENT AND MANAGEMENT OF MALNUTRITION IN ELDERLY PATIENTS

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The aim of this study was to determine strategies used by dietitians to assess, treat and monitor elderly patients diagnosed with, or at increased

risk of, malnutrition and to compare these with evidence-based guidelines and the current literature. An online survey was distributed to members of the Dietitians Association of Australia (DAA) working in an inpatient, outpatient facility or private practice or consultancy. Dietitians working with elderly people (65 years old) were invited to participate. The survey was informed by DAA's evidence-based guidelines and was pre-tested. Responses of dietitians were analysed by years of experience, service setting and approaches taken to assess and manage malnutrition. One hundred and sixty surveys were returned. Fourteen percent of respondents worked in services that had no malnutrition policies. A Subjective Global Assessment tool was used by 59% of respondents and 95% recommended oral nutrition supplements when malnutrition or risk of malnutrition was diagnosed. Eighty-three percent focused on increasing both energy and protein intake; however, 64% of respondents did not consider the nature of the protein source and only 62% discussed sarcopenia. Patients at risk of malnutrition were monitored slightly less frequently than those with diagnosed malnutrition. Respondents generally use practices that align with current assessment and treatment practice guidelines and use validated assessment tools; however, at sites where no policies exist, protocols are needed. Treatment protocols exist in less than 50% of workplaces, suggesting specific malnutrition treatment guidelines for the elderly may be needed.

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A CROSS-SECTIONAL ANALYSIS OF THE NUTRITIONAL ADEQUACY OF THE DIETS OF A COHORT OF AUSTRALIAN TODDLERS

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The aim of this project was to assess the nutritional adequacy of the diets of a cohort of Australian toddlers. Data were collected from mother-child dyads recruited at birth into the Adelaide-based SMILE cohort study. Mothers (n = 832) completed a 24-hour recall conducted by a trained dietitian and a 2-day food record of their toddler's food and beverage intake. Dietary data were entered into FoodWorks® and analysed using NUTTAB 2011–2013 and then imported into SPSS®. Plausible dietary intakes were provided for 714 toddlers (mean age 13.1 ± 0.84 months). One-way ANOVA and independent sample t-tests were used to assess the association of baseline sociodemographic characteristics and intakes of key nutrients. The majority of children exceeded the estimated average requirements (EAR) for most nutrients. However, 22.5% and 12.6% of toddlers failed to meet the EAR for iron and calcium, respectively. A sizeable proportion of children exceeded the UL for sodium (18.2%), folate (54.4%) and niacin (35.8%). Overall mean intakes for all key nutrient exceeded the respective EARs; however, children of Australian mothers had higher mean intakes of calcium (p = 0.009), protein (p = <0.001) and sodium (p = <0.001) than children of Asian mothers. Children with older siblings had significantly lower mean intakes of protein than first-born children (p = 0.011), while children of mothers educated beyond 12 years had lower mean intakes of calcium (p = 0.001) and iron (p = 0.001). Australian toddlers appear to have adequate nutritional intakes overall. However, consistent with other research, approximately one quarter of toddlers have low iron intakes, placing them at risk of iron deficiency.

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IMPROVING PATIENT EXPERIENCE AND NUTRITION THROUGH THE IMPLEMENTATION OF FORTIFIED AND MOULDED PUREED MEALS

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It is widely acknowledged that providing appealing and nutritionally adequate meals for hospitalised patients is vital to prevent nutritional decline and optimise patient experience. This study aimed to improve the nutritional content of the traditional pureed menu (presented as scooped, coloured, smooth balls of food on a plate) and the oral intake of patients through improved presentation and fortification of pureed meals. We assessed change in nutritional content and plate wastage and measured patient satisfaction through patient surveys. Baseline analysis showed the standard pureed menu was not visually appealing to patients and did not meet average patient requirements for energy, protein, carbohydrate, fat, iron or zinc. Patient meal consumption was 38%, compared to 78% for those on full diets. We trialled the use of silicone food moulds to improve and normalise food presentation, and fortified the meals to improve nutritional content. Making these changes to the standard pureed diet, plus the addition of an extra vegetable serve at lunch and dinner, increased the nutrition content by 900 kJ, 7.6 g protein, 1.9 mg iron, and 1.6 mg zinc daily. Post implementation data demonstrated a 74% increase in pureed main meal intake and a 38% increase in pureed vegetable intake. Staff feedback has been overwhelmingly positive, with patient survey feedback demonstrating 8% more patients rating the presentation of the food as 'usually' or 'always' appealing and 28% more rating menu variety as adequate. This study demonstrates that normalising visual presentation and fortification of pureed meals can improve nutritional intake and patient satisfaction.

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YOU WOULDN'T EAT 16 TEASPOONS OF SUGAR – SO WHY DRINK IT? COMMUNITY RESPONSE TO THE ABORIGINAL RETHINK SUGARY DRINK AD ONLINE

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The Aboriginal *Rethink Sugary Drink* advertisement was shown online from January 2015. An online survey was completed by 104 Victorian Aboriginal adults in May/June 2015. The survey was distributed via email by the Victorian Aboriginal Community Controlled Health Organisation's (VACCHO) distribution networks. Almost half (49%; n = 51) of those who responded had seen the advertisement, most commonly at an Aboriginal Health Service (31%) or online (28%). The campaign was believable (84%) and was seen to have an important message for the Victorian Aboriginal community (88%). Almost three-in-four (71%) agreed it was relevant to them; in line with 72% who drank a Sugar Sweetened Beverage (SSB) at least once in the last week, more than half agreed it motivated them to take action to improve their own health (59%) or that of their family (65%). Of those who had seen *Rethink*, 84% indicated they made at least one behavioural change to improve their health, with the largest proportion drinking less sugary drinks (65%). Over half (55%; n = 51) correctly identified the number of teaspoons of sugar in a regular soft drink (16), while 43% of those not aware of *Rethink* (n = 35) responded correctly (p > 0.05). These findings provide preliminary evidence to suggest *Rethink* resonated with the Victorian Aboriginal adults surveyed and may have impacted knowledge about the content of SSBs. There is also evidence that this simple message could positively influence SSB consumption among the Aboriginal community and highlights the importance of tailoring health messages to the Aboriginal community in a culturally specific manner.

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ROLLING OUT HEALTHIER OPTIONS FOR FOOD VANS

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Rural communities are disadvantaged by the burden of chronic disease. In a rural Queensland shire where 63% of adults were overweight or obese and 92% did not consume the recommended amount of fruit and vegetables, alarmingly a workplace survey of male council workers revealed 86% were overweight or obese. A mere 4% consumed five or more servings of vegetables per day and 43% met requirements for fruit intake; however, 73% indicated interest in improving their health. The project, promoting fruit and vegetable consumption and aiming to increase the number of workers in the healthy weight range, primarily focused on the visiting food-van. A review of the food-van menu prompted the development of a revised menu, featuring a traffic-light colour code system for all items. A recipe booklet and alternate menu with healthier choices were developed to assist the food-van vendor in making beneficial changes, while a fact-sheet was developed for council workers which promoted the new menu and explained the traffic-light system. The literature indicates that for people residing in areas of greater socioeconomic disadvantage, generic nutrition interventions may not have adequate reach and cut-through; however, little has been

documented for hard-to-reach workers in high-risk industries. Focus groups with the council workers were tremendously insightful and precipitated the development of targeted educational materials to help them eat a healthy breakfast and pack a healthy lunch. A video produced specifically for council workers brought together these resources which were delivered by the council during their 'Healthy Eating' month promotion.

Funding source: Local Government Association of Queensland

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IMPROVING NUTRITION IN SUPPORTED RESIDENTIAL SERVICES: AN ACTION RESEARCH APPROACH

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Supported residential services (SRS) provide accommodation and support services, including all meals, to residents who have complex physical and mental health needs. Addressing the food provided to this vulnerable group is necessary to optimise health. This action research study aimed to explore the nutrition of foods provided in SRS facilities and support optimisation of food provision. Five pension-only Victorian SRS were included in the study. In phase 1, menus were reviewed against the Australian Guide to Healthy Eating (AGHE) and residents' food knowledge and satisfaction with the menu was explored through surveys (n = 91). Cooks' nutrition knowledge was ascertained through structured surveys. In phase 2, dietitians educated cooks about nutritional guidelines and supported them to revise the menu to align with AGHE. Change in residents' body mass index (BMI) from baseline was used to evaluate the effects of menu redesign. Menus were generally deficient in dairy, meat, vegetable and fruit. Menus exceeded 6+ discretionary food choices. Residents understood health and diet, whilst cooks had limited knowledge of menu planning and the application of the AGHE. Two SRS revised menus to meet AGHE, whilst three are still implementing changes. Reduction in residents' mean (SD) BMI was observed (28.6 (6.1) to 27.6 (5.8) kg/m², p = 0.003). Change in food provision in SRS and health outcomes of residents is possible and building the capacity of those in control of the food supply is essential for this to occur. There is an opportunity to develop nutrition standards for SRSs to focus attention on providing nutritionally adequate menus.

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THE 'DIABETIC DIET': A WEB-BASED SURVEY FOR DETERMINING THE INCIDENCE, RATIONALE, COMPOSITION AND IMPLICATIONS IN RESIDENTIAL AGED CARE FACILITIES

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The prevalence of older adults with diabetes in residential aged care is twice that of the general population. Historically diabetic diets were prescribed and characterised by restriction of food choices, particularly discretionary items higher in fat and sugar. In Australia and internationally, diabetes management guidelines do not recommend restriction of fat, sugar and salt in aged care due to the risk of adverse outcomes for the resident that may occur as a result of a restricted oral intake. This

study evaluated the magnitude of Australian residential aged care facilities still offering a diabetic diet, the rationale for providing and composition of this diet and implications this may have for residents with diabetes. Managers of Australian residential aged care facilities were invited to participate in a web-based survey specifically about meal provision for residents with diabetes. More than half ($n = 121$) of the respondents still provided a form of diabetic diet because either it had historically always been offered or on advice from a dietitian. Respondents were frequently offering a diet more in line with the historical diabetic diet with a strong focus around restricting sugar, which is not reflective of current guidelines. Findings from this study demonstrate that there is inconsistency in practice and a need for promotion of evidence-based guidelines in the dietary management of diabetes in aged care. Although there may be some resistance to changing long held beliefs around diet and diabetes, dietitians appear to be ideally placed to bring about some of these changes.

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THE ROLE OF DIETITIANS IN RESIDENTIAL AGED CARE AS PERCEIVED BY CHEFS: HOW ARE WE CONTRIBUTING TO BEST PRACTICE FOOD SERVICE?

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It is widely accepted that meals in residential aged care are a key factor of resident satisfaction and have been scrutinized extensively to improve appearance, texture and flavour as well as nutritional content. The Maggie Beer Foundation is committed to ensuring all older adults are able to receive appealing meals full of flavour and nutrients and seek to upskill and empower the staff providing these meals in residential aged care. At the Maggie Beer Foundation pilot program held in June 2015, 30 chefs and cooks from 26 residential aged care facilities came together to share ideas and to learn more about promoting quality food in aged care. Evaluation of the program was conducted qualitatively over 12 focus groups and thematically analysed. Of the 20 major themes that emerged, working relationships with dietitians were discussed in a quarter of them. Frequently cited sub-themes were the lack of access to a dietitian; conflicting views amongst dietitians particularly on use of discretionary foods in aged care or use of therapeutic diets; and the cost of dietitian time and therefore reluctance, in making menu changes. Dietitians working in aged care are ideally positioned to act as advocates for residents and to work collaboratively with food services and share their excellent food and nutrition knowledge towards common goals. Preliminary findings from this evaluation however suggest that dietitians may not be maximising their potential in this role and further evaluation of what food services want vs receive from dietetics appears to be warranted.

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DISCRETIONARY INTAKE AMONG CHILDREN: TOP FOODS, TIME OF CONSUMPTION AND ASSOCIATION WITH SEX, WEIGHT AND SOCIO-ECONOMIC STATUS.

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Discretionary foods (DF) should be consumed occasionally but contribute 38.5% of total energy intake (%en), highlighting the need to profile consumption. Data from the 2011–12 National Nutrition and Physical Activity Survey were used, including self-reported eating occasions (REO) to determine prevalence of consumption, DF serves (1 = 600 kJ), nutrient contribution from DF and top DF food groups by REO by age (2–18 years), sex, socio-economic status (SES) and weight status. DF consumers (>0 gram) were classified according to quartiles of DF energy intake. The majority of children consumed DF (98.6%) and median serves consumed was 4.2/day. More than half (56%) of children's REO contained a DF. The REO with the most DF consumers were 'lunch' and 'snack'; which together contributed 43.5% of the total DF energy intake. Overall, cakes, muffins, scones, cake-type desserts ('cakes') contributed the most DF energy (9.4%). Top contributor to DF energy among children 2–3 years was 'sweet biscuits' and for 14–18 years was 'soft drinks'. 'Fried potatoes' provided the highest DF energy contribution among lowest SES; and 'cakes' amongst the highest SES. DF contributed 47.8% of total sugar and 45.2% of total saturated fat. The top quartile of %en from DF consumers had 9.2 ± 0.2 DF serves, were older, had higher mean waist circumference but not body mass index, and spent more time doing screen-based activities. A focus on decreasing consumption of the largest contributors to DF may be useful to decrease saturated fat and sugar intakes, especially during lunch and snack times and amongst the highest consumers.

Funding source: Grant from Nestlé Australia Ltd.

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TRENDS IN SNACKING AMONG AUSTRALIAN CHILDREN: COMPARISON BETWEEN 1995, 2007 AND 2011–12 NATIONAL NUTRITION SURVEY DATA

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There are limited data on the evolution of eating habits in Australia. This study aims to understand snacking trends among Australian children over the last 20 years. Data were analysed from a single weekday 24-hour recall in the National Nutrition and Physical Activity Surveys 1995, 2007, 2011–12 among children 2–16 years ($N = 8258$). A snacking occasion was defined as an eating occasion that occurred between main meal periods. The percentage of children who consumed no snacks was low and decreased over time (7.5% in 1995 and 4.2% in 2011–12). The percentage of morning and afternoon snackers increased from 74% to 83% and from 76% to 82%, respectively, while late evening snackers remained relatively constant (approximately 10%). Children had an average of 2.0 snacking occasions in 1995, 2.5 in 2007 and 2.5 in 2011–12. The proportion of children with four or more snacking occasions per day increased from 7.1% in 1995 to 17.9% in 2007 and 18.5% in 2011–12. The mean percentage energy from snacking increased over time from 24% in 1995 to 28% in 2007 and 30% in

2011–12. However, the energy contribution of discretionary foods to snacking declined from 56% in 1995 to 47% in 2007 and 48% in 2011–12. There was an increase in consumption of 'cereal-based products' and a decrease in 'non-alcoholic beverages' during snacking. Snacking is a prominent dietary pattern that has increased over time, in both frequency and energy contribution, but foods and beverages consumed as snacks have shifted.

Funding source: Grant from Nestlé Ltd.

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DEVELOPMENT AND IMPLEMENTATION OF AN ALLIED HEALTH ASSISTANT ROLE FOR DYSPHAGIA AND MALNUTRITION MANAGEMENT ACROSS A TERTIARY HOSPITAL INTERNAL MEDICINE UNIT

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Dietitians (DN) and Speech Pathologists (SP) have identified high service demands as a barrier to timely management of patients with malnutrition and dysphagia in a tertiary hospital Internal Medicine unit. Up to six new referrals (category one) were received each day plus an average of eight review occasions of service (OOS). The aim was to develop and implement an Allied Health Assistant (AHA) role to assist in meeting these service demands. A literature review was conducted to identify evidence for AHAs in a clinical setting. Key stakeholders (including local hospitals (n = 6)) were consulted with delegation model and risk assessment applied to develop AHA tasks. AHA responsibilities included comparison of oral intake compared to DN recommendations. At completion of training the AHA in the role, data were collected over a 14-day period on number of OOS, consumption of food and nourishing fluids. The AHA completed 95 OOS over the review period at an average of 6.4/day. This equated to a cost saving of \$92.50 per day when compared to either DN or SP. The number of patients who consumed greater than 50% of their meals was 60% (15/25) at baseline vs 76% (19/25) post implementation, *p* 0.36. The number of patients who consumed greater than 50% of their nourishing drink was 41% (5/12) at baseline and 72% (18/25) post implementation, *p* 0.15. An AHA working with a DN/SP is a cost-effective way to increase patient access to services through a rise in OOS without adverse effects on oral intake.

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Abstract Withdrawn

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ARE EARLY CHILDHOOD EDUCATION AND CARE SERVICES PROMOTING HEALTHY EATING TO CHILDREN?

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Early childhood education and care (ECEC) services provide an important site for health promotion through their influence on the child while they are attending the service, and the potential to influence change in the home environment. The 2014 Childhood Education and Care survey indicates that between 23% and 56% of Australian children aged 1–5 years regularly attend formal ECEC services. The ECEC setting is governed by a range of frameworks and policies including the National Quality Framework and Early Years Learning Framework. The concept of health promotion is integrated throughout these frameworks and a range of resources and professional development programs have been developed to support educators to promote healthy eating and physical activity. In Queensland, the LEAPS (Learning, Eating, Active Play, Sleep) professional development program is currently being delivered to ECEC services. As part of the LEAPS evaluation, an online survey of 165 ECEC directors assessed current practices, policies and procedures relating to promotion of healthy eating in ECEC services. The majority of services reported awareness of government guidelines (89%), implementing policies regarding nutrition (94%), confidence in their nutrition knowledge (83%), implementing regular learning experiences about healthy eating into their program (82%) and sending information home regarding healthy eating (94%). However, qualitative analysis revealed ongoing challenges in communicating and working in partnership with parents and the need for further support regarding appropriate feeding practices and provision of food. This will be of particular interest to nutrition and health promotion professionals who work in collaboration with the early childhood sector.

Funding source: LEAPS is funded by Queensland Health

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BARIATRIC SURGERY IN WA: USING A QUALITY OF LIFE TOOL TO ASSESS SUCCESS BEYOND THE SCALES

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Western Australians (WA) currently undergo more bariatric surgery per capita than any other state or territory in Australia. Limited research is available about the demographics of WA bariatric patients, factors impacting outcomes or how bariatric surgery affects Quality of Life (QOL). Weight loss is an important and often sole gauge of 'success' or 'failure' post surgery. Investigating changes in QOL, including changes in eating and activity habits, self-esteem, public distress and confidence, may give a more holistic indication of 'success'. Cross-sectional and longitudinal data were collected including age, gender, body mass index, weight, percent excess bodyweight loss (%EBWL) and type of surgery from 50 patients at a WA secondary hospital. QOL was assessed before and 7–11 months post-surgery using an adapted version of the validated Short Form – 36 questionnaire. The results show improved QOL by 40.2% following surgery ($p = <0.001$) including improvements in eating habits and physical function of 17.5% and 43.4%, respectively. The bivariate correlation between %EBWL and QOL was positive but not strong and not statistically significant, $r(46) = 0.24$, $p > 0.22$, indicating improved QOL irrespective of percentage of weight lost. The variance in data collection periods may explain this as weight loss was recorded at 2–20 weeks post-surgery while follow-up QOL responses were repeated 5–7 months post-surgery. At QOL questionnaire repeat, 52% reported achieving 'all' initially set goals, 37% 'some' and 17% are 'still trying'. These promising results indicate that independent of weight loss, QOL improved post-surgery with QOL-related goals also being achieved.

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SENSITIVITY AND SPECIFICITY OF HAND GRIP STRENGTH AS A SCREENING TOOL FOR MALNUTRITION IN OLDER ADULT PATIENTS IN A RURAL HOSPITAL

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Research into the use of Hand Grip Strength as an indicator of nutritional status is increasing; however, there is limited evidence to evaluate its ability to screen for malnutrition in an elderly hospitalised population. This study aimed to evaluate the sensitivity and specificity of Hand Grip Strength as a screening tool. A cross-sectional study was conducted in an Australian rural hospital. Participants (≥ 60 years) were screened for malnutrition using the Malnutrition Screening Tool and Hand Grip Strength and the results were compared against the Patient-Generated Subjective Global Assessment. Sensitivities, specificities, kappa coefficients and receiver operating characteristic curves were calculated to assess the nutrition screening ability of Hand Grip Strength and the Malnutrition Screening Tool when used alone and in combination. One hundred thirty-one participants (51 male, 80 female), with a mean age of 74.4 ± 8.2 years, were recruited. The combination of Hand Grip Strength and the Malnutrition Screening Tool, when used in conjunction, was superior to the use of either tool alone, with a sensitivity, specificity, kappa coefficient and area under the curve of 85.2%, 70%, 0.546 and 0.776 ($p < 0.001$), respectively, showing moderate agreement and fair diagnostic accuracy. The combination of these two tools was

more sensitive and specific in men (95% and 80.6%, respectively) compared to women (80.5% and 61.5%, respectively). The results suggest that using a combination of Hand Grip Strength and the Malnutrition Screening Tool as a nutrition-screening tool in an elderly hospitalised population is superior to the use of either tool alone.

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INVESTIGATING DIETETICS STUDENTS' KNOWLEDGE AND UNDERSTANDING OF INTER-DISCIPLINARY ROLES IN THE CARE OF THE OLDER ADULT

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Care of the older adult is particularly complex, and therefore, inter-professional healthcare education specific to the care of the older adult is needed. Traditionally, a single healthcare discipline approach is taken by higher education institutions for pre-clinical training in the care of the older adult. Inter-professional learning (IPL) in general is not integrated well into the health professional curricula of Australian Universities. This project used Mask-Ed™, an innovative simulation technique, to present an older adult with multiple care needs to the students. The aim of this project was to improve the care of the older adult by enhancing student learning through inter-professional education and knowledge of the different roles of the multi-disciplinary team. Sixteen first-year postgraduate nutrition and dietetics students participated in the online survey (57% response rate). Participants were able to recognise the health professionals that would be important in the care of the older person depicted and were also able to accurately describe the role of each health professional. Dietetics students indicated that the following three statements related strongly to IPL: 'Patients would ultimately benefit if health-care professionals worked together to solve patient problems', 'Shared learning with other health-care professionals will increase my ability to understand clinical problems', and 'Learning with health-care students before qualifications would improve relationships after qualifications'. The results of this project will pave the way for comprehensive simulation techniques to be integrated into health curricula.

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UPDATE OF A DATABASE FOR THE ESTIMATION OF WHOLE GRAIN CONTENT OF FOODS REPORTED IN THE 2011–13 AUSTRALIAN HEALTH SURVEY

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Food databases are a critical tool for translational nutrition research. Currently available research infrastructure for quantification of whole grain intake does not include all of the foods within the AUSNUT (Australian Food and Nutrient) 2011–13 database. AUSNUT 2011–13 was developed to support the most recent national consumption survey in Australia, the 2011–13 Australian Health Survey. The current study aimed to update an existing whole grain product database to include all foods and food products ($n = 5741$) included within AUSNUT 2011–13, enabling quantification of whole grain intake from Australian dietary intake data. Whole grain content data (g) per 100 g were calculated using a systematic method based on a recipe approach, including input from industry stakeholders. Of all

foods identified as containing whole grain ($n = 590$), cereals and cereal products formed the majority (43%) of the database. Foods with whole grain content of 100.0 g/100 g were raw or puffed whole grains, whole grain flour, and ready-to-eat cereals made from 100% whole grains. Considerable variation in whole grain content exists between and within food groups. This database is a useful tool for assessing whole grain content of commonly consumed foods in Australia, and applying the data in nutrition research and practice. Application will allow estimation of whole grain intake in highly varied Australian population groups to compare with suggested target intakes and also in comparison to international data.

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PREVENTING AND MANAGING CHRONIC DISEASE IN CULTURALLY AND LINGUISTICALLY DIVERSE POPULATIONS

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It is recognised that people from Culturally and Linguistically Diverse (CALD) backgrounds have an identified higher risk of some chronic diseases compared to the Australia-born population. However, there are very few programs that target chronic disease prevention and management in diverse communities. Ethnic Community Council of Queensland has developed the Living Well Multicultural – Lifestyle Modification Program, delivered by trained multicultural health workers (MHW) from nine communities. The eight-week program aims to increase client knowledge and capacity to self-manage chronic disease and the concomitant risk factors to achieve and maintain positive lifestyle changes. A pre- and post-question was developed based on a previous pilot using questions that have been routinely used within Australian populations and adapted to include examples for the targeted CALD groups. Height, weight, waist circumference and blood pressure were measured. Programs commenced in April 2015 and as of November 2015, 13 (eight-week) programs have been completed with 154 participants. Of these, pre- and post-data are available for 138, giving a response rate of 90%. Average 'dose' was seven sessions, with over half the participants attending all sessions. Average body mass index at baseline was 28.5 kg/m² and this decreased to 28.0 kg/m² ($p < 0.05$). There were significant increases in the number of participants meeting the guidelines for fruit ($p < 0.001$) and vegetables ($p < 0.001$). There were significant reductions in takeaway food consumption ($p < 0.001$) and full-fat milk consumption ($p < 0.001$). An 8-week program for CALD communities appears to have good compliance and results in changes to knowledge, behaviours and outcomes.

Funding source: Queensland Health

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Abstract Withdrawn

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INVESTIGATING INDIVIDUAL AND INTERPERSONAL DETERMINANTS OF FRUIT AND VEGETABLE CONSUMPTION AMONG REGIONAL AND REMOTE WA CHILDREN

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This qualitative study aimed to contribute to the sparse evidence base around determinants of fruit and vegetable consumption among regional and remote Western Australian (WA) children. Semi-structured, 'key informant' interviews (health, school, youth and food supply workers) were conducted. The 20 interviewees (66% participation rate) were representative of the population distribution across WA regions and their locations varied in degrees of remoteness and Socio Economic Index For Areas. Interview questions included quantities, types, barriers to and enablers of fruit and vegetable consumption, and strategies to increase consumption. Interviews were analysed using QSR NVivo 10 via word frequencies and matrix coding queries. An ecological model of health behaviour guided coding. Intrapersonal (individual) level influencers most relevant for dietetic practice included food preferences; children's nutrition knowledge and cooking skills; and attitude towards convenience. Regional WA children were 'fussy', preferred intense flavours and sourced nutrition information from social media, school and television. Interpersonal level influencers most relevant for dietetic practice included parental knowledge and cooking skills; attitudes; role modelling; household provision of fruit and vegetables; storage facilities; financial resources; social support; transport; time to procure and prepare food. Among parents, there was a general absence of 'forward thinking', budget constraints and a narrow repertoire of recipes; however, this was generally not the case in agricultural areas. Dietitians can utilise this evidence to create informed and relevant health promotion initiatives that target the pertinent food issues facing regional and remote WA residents at intra- and inter-personal levels.

Funding source: Healthway Health Promotion Research Training Scholarship

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GREAT SIMPLE TASTY (GST) CORNER: AN INNOVATIVE PRIMARY CARE HEALTH PROMOTION INITIATIVE TO ENCOURAGE HEALTHY EATING PRACTICES

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Implementing health promotion programmes to encourage healthy eating is a valuable and cost-effective way to manage diet-related chronic diseases and maintain a healthier community. Primary care settings are ideal places to provide nutrition education; however, current health promotion initiatives are passive and are often missed. Hence, the first Great Simple Tasty (GST) corner that incorporates nutrition education with daily cooking demonstrations was piloted in our polyclinic. The effectiveness of this mode of health promotion was evaluated. Self-administered questionnaires were carried out over one year from August 2014 and 5292 forms were included in analysis. Bivariate analysis was used to study the association of knowledge gained and attitude. Majority of participants were Chinese (88%), female (74%), and aged between 60 and 69 years old (36%). Majority (>98%) of participants felt that the GST corner was useful and helped increase their awareness and knowledge of creating healthier meals and making healthier food choices. 95.7% (5064) were willing to make changes after visiting GST corner. Ninety-nine percent of participants obtained 75% correct answers on the knowledge questions. There was no association between knowledge gained and demographics of patients. Age, gender and race were associated with willingness to make changes ($P < 0.001$), in particular males and Indians were most willing to make changes. Participants aged below 40 years were least willing to make changes. The GST corner had a positive impact of delivering health promotion messages to encourage healthy eating practices. There is potential to develop this initiative into a nationwide health promotion program with positive benefits over cost.

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NUTRITION ASSESSMENT AND MALNUTRITION PREVALENCE IN PEOPLE WITH SEVERE OR PROFOUND INTELLECTUAL DISABILITY: A SYSTEMATIC REVIEW

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People with severe or profound intellectual disability (ID) have high prevalence of malnutrition risk factors due to abnormal physical, behavioural and metabolic functioning. Despite this, limited evidence exists around the prevalence of malnutrition and malnutrition risk or methods of malnutrition screening and nutrition assessment in this population. This systematic literature review aimed to (1) assess the prevalence of malnutrition and malnutrition risk and (2) describe methods of malnutrition screening and assessment used in people with severe or profound ID. Using the PRISMA statement, 6433 articles were identified through database searching. After screening, 17 studies that attempted to assess malnutrition risk or nutrition status using any method were included for review. Prevalence of malnutrition, reported in six studies, ranged from 4% to 36.1% in adults and from 34.7% to 66.7% in children; however, definitions of malnutrition and assessment methods varied extensively between studies. Methods from the seventeen studies included weight,

height, estimated height, recumbent length, body mass index, circumferences, skinfold thickness, indirect calorimetry, bioelectrical impedance analysis and food and defecation records. No studies reported the prevalence of malnutrition risk or methods for malnutrition screening. Given the limited volume of high-quality literature and lack of validated methods for screening and assessment, the true prevalence of malnutrition is difficult to determine. It is likely, however, that malnutrition is an issue in this population. It is therefore important that research to determine valid and feasible methods of malnutrition screening and nutrition assessment is undertaken to inform practice for people with severe or profound ID.

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FOOD PROVIDED BY EARLY YEARS EDUCATION AND CARE SERVICES IN PERTH MEETS MAJORITY OF CORE FOOD GROUPS

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Cross-sectional studies have suggested that children attending Early Years Education Services (EYES) are not receiving 50% of their recommended serves of the core food groups recommended by the Australian Dietary Guidelines (ADG, 2013). Provision of food group serves was determined in ten EYES centres located in Perth and compared to 50% of the ADG recommendations. Differences between centres based on their socioeconomic status were examined. All raw ingredients and beverages for morning tea, lunch and afternoon tea over two consecutive days were weighed. Total mass of each food item was allocated to a food group, summed and divided by the number of children to identify food group provision per child. Twenty percent of centres met recommendations of five food groups on day 1 and no centres met all five food group recommendations on day 2. On 11/20 and 9/20 occasions, centres did not meet the vegetable and meat serve provision, respectively. On 11/20 and 15/20 occasions, fat and grain serves exceeded recommendations. On average, vegetables were underprovided, while meat, dairy, fruit and grains met requirements. Low SES ($n = 3$) provided less vegetable serves compared to high SES ($n = 7$) (25% vs 57%, $P < 0.05$). Discretionary foods were provided on an average of 2.35 times/day (range 1.5–3.5 times/day) and these were not reflected in menus. To optimise nutrient intake in growing children, it is recommended to increase the serves of vegetables, ensure whole grains and cereals are provided and exclude discretionary foods. Centres staff and accreditation bodies would benefit from menu planning education.

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SECULAR TRENDS AND SOCIO-DEMOGRAPHIC DETERMINANTS OF ENERGY DENSITY OF AUSTRALIAN YOUNG ADULTS DIETS FROM 1995 TO 2011/12

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The prevalence of obesity of Australian young adults has increased over the past 30 years requiring effective obesity interventions. Dietary energy density (kJ/g) has been demonstrated to be an important determinant of the total energy intake and positively correlated with body mass index (BMI); however, little is known about dietary energy density of free-living Australian young adults. The aim of this research is to analyse secular trends and socio-demographic determinants of the

dietary energy density of adults aged 18–34. Secondary analysis of the 1995 National Nutrition Survey and the 2011/13 National Nutrition and Physical Activity Survey was conducted. Energy density was calculated for (1) foods alone and (2) beverages alone. The mean (SD) energy density was 7.87 kJ (7.51) for food and 0.73 kJ/g (1.0) for beverages. There was no difference between 1995 and 2012 for the mean energy density of food ($P > 0.05$) but there was a decrease from 0.82 kJ/g (0.85) for beverages ($P = 0.00a$ 2). In 2011/12, 11.2% of men and 12.3% of women met the recommended target of the World Cancer Research Fund of 526 kJ/100 g. Higher energy-dense diets were positively correlated with dietary energy ($P < 0.001$), fat ($P < 0.001$) and BMI ($P < 0.05$) and negatively correlated with dietary fibre ($P < 0.001$). Lower socio-economic status ($P: 0.003$) and income ($P: 0.020$) were positively correlated with higher energy-dense diets. There has been no change in energy density between 1995 and 2012 of young adults' diets; however, as dietary energy density is high and the relationship to BMI is apparent, lowering energy density is a potential target in obesity interventions.

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21 THE FAO/INFOODS E-LEARNING COURSE ON FOOD COMPOSITION DATA: AN EVALUATION FOLLOWING THE KIRKPATRICK MODEL

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Having broad-ranging and well-understood food composition knowledge is a basic competency to ensure safe dietetic practice. It also ensures high-quality dietetic research is conducted. The Food and Agriculture Organization of the United Nations (FAO) offers a freely available online course, the FAO/INFOODS e-learning course on food composition data. In this contribution, the Kirkpatrick's four-level evaluation model, including reactions, learning, behaviour and result, was adapted to provide a research dietitian's view the e-learning course. Reactions to the learning course were positive; it satisfies the demand for the initial need for undertaking the course. After completing the course, it did raise the awareness on the importance of food composition and issues related to currently available food composition data, improved knowledge and skills on food composition and its applications. The improved knowledge and skills are more likely to transfer to daily practice, further improving the quality of work. However, the learning experience also reveals that learners who have a strong wish and are deeply motivated are more likely to complete the whole e-learning course due to current design and presentation. The engagement between the learner and the course is limited. In conclusion, the FAO/INFOODS e-learning course on food composition data may be considered an integral resource to offer continuing education on food composition data to dietitians.

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313 BREASTFEEDING PATTERNS AND NUTRITION INTAKE OF BABIES, TODDLERS AND PRESCHOOLERS IN A CHILD CARE CENTRE IN CANBERRA

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In Australia with the growing trend of maternal employment, there is considerable growth in infant enrolment in early childhood care, which can have an impact on child's feeding behaviour and nutritional intake.

The aim of this study was to examine the breastfeeding patterns and nutritional intake of babies, toddlers and pre-schoolers in a childhood centre in Canberra. An online survey link was emailed to all parents ($n = 104$) with children enrolled at the child care centre. The survey collected information on duration of exclusive breastfeeding, formula feeding, barriers to breastfeeding, and included a food frequency questionnaire. Of the 25 completed surveys (24% response rate), 23 children (92%) were breast fed for 6 months or more. Almost half of them ($n = 12$, 48%) continued to breast feed while in child care, and infant formula was consumed by 42% of the sample. Dairy and cereals were the most commonly consumed food groups, with 85% of children meeting the recommendations for fruit consumption and 90% of children meeting recommendations for vegetable consumption. The consumption of foods from the meat/meat alternative group was relatively low, with 54% meeting the recommendations. The consumption of fruit juices and foods from the discretionary food group were relatively low. In this child care centre, breastfeeding patterns are in-line with the World Health Organisation recommendations, and most of the children's food intake is compliant to the Australian recommendations for children. Further research with a larger sample size or in different child care centres in the region should be encouraged.

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224 IMPROVING MEAL ORDERS USING PATIENT FLOW MANAGER™ AT LADY CILENTO CHILDREN'S HOSPITAL

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Dietary information, including diet codes and allergies, are managed using Patient Flow Manager™ (PFM) at Lady Cilento Children's Hospital. This is primarily operated by nursing staff who select diet codes and allergies from several options in drop-down boxes and record other information in a free text 'diet comments' box. Currently, an unlimited number of options can be selected and no guidelines are available. This project evaluated skills and practices using a questionnaire administered to ward nurses and a retrospective audit of diet lists to inform development of business rules and nurse PFM training. Surveys ($n = 26$) highlighted low PFM training attendance (27%, $n = 6$), difficulties recording 'other allergies' (with no diet code in drop-down boxes, 39%, $n = 10$) and a desire for further training (70%, $n = 18$). Auditing ($n = 1551$) revealed that contradictory diet codes are often combined (22%, $n = 16$), for example, combining 'nil by mouth' and 'full diet' codes. Auditing also identified inconsistent use of the allergy diet codes (44%, $n = 55$) and diet comments were often unclear (22%, $n = 153$). Stakeholders agreed that the current diet codes did not cater for patients with soy, nut, sesame, seafood or sulphate allergies who do not qualify for the restrictive multi-allergen diet. They supported implementation of an additional allergy diet codes to improve consistency and accuracy when selecting diet codes for these patients. Business rules were developed to provide guidance for the selection and combination of diet codes, diet comments and recording 'other allergies'. These findings informed development of a training package for delivery by ward dietitians.

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**BREASTFEEDING SUCCESS STORIES:
DEVELOPING THE EVIDENCE BASE ABOUT
WHAT PROMOTES AND SUPPORTS
BREASTFEEDING IN THE VICTORIAN
ABORIGINAL COMMUNITY**

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The 'World Health Organisation (WHO)' recommends exclusive breastfeeding until around six months of age. Only 7% of Aboriginal Australian infants are still exclusively breastfed by six months of age. There is limited evidence regarding what motivates and supports breastfeeding in the Aboriginal population. This study aimed to identify the motives for initiating and continuing breastfeeding in Victorian Aboriginal women, including strategies used by health organisations to promote breastfeeding. Using a strength-based approach, stories of successful breastfeeding were gathered from Aboriginal and mainstream health organisations (n = 22) across rural and metropolitan Victoria, and individuals (n = 10) including mothers, partners and grandmothers. Semi-structured interviews were recorded, transcribed and deductively coded. Thematic analysis identified five key themes: (1) Role models; (2) Supportive environments (home, hospital and society); (3) Knowledge (individual and health professional); (4) Personal characteristics; and (5) Feasibility which addressed the two key questions: (1) What factors and initiatives promote successful breastfeeding in the Victorian Aboriginal community, and (2) What initiatives health organisations would like to see implemented for promoting breastfeeding in the future. Successful initiatives currently implemented included breastfeeding training for Aboriginal community members and health professionals, Koori-specific resources, and programs that support fathers in parenting. These themes and initiatives are areas to focus on further developing in order to guide the future implementation of programs, in both mainstream and Aboriginal health services, which support Victorian Aboriginal women to both initiate and persist with breastfeeding in line with the 'WHO' recommendations. We acknowledge La Trobe University for contributing to funding this study.

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**FOOD AND NUTRITION INTAKE IN ADULTS
WITH INTELLECTUAL DISABILITY LIVING IN
GROUP HOMES**

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There is limited information on the dietary intake of people with intellectual disability (ID) in group homes. The aim of this study is to describe the adequacy of food and nutrient intake among adults with ID living in group homes. Dietary intake was assessed in a convenience sample of people with ID using a combination of three-day weighed food records and digital food photography. Dietary intakes were analysed using FoodWorks® and mean nutrient intake was compared to

the estimated average requirement (EAR) for Australian adults. A sample of 33 adults (14 men (M); 19 women (W)), with mean age 51 ± 14 years were recruited from seven group homes within Sydney metropolitan area. Mean energy intakes were 7.4 MJ and 7.0 MJ in men and women, respectively, with macronutrient composition meeting the Acceptable Macronutrient Distribution Range (AMDR), except for energy from fat in women (35.8%). Mean nutrient intakes were below the EAR for magnesium (M: 86%; W: 63%), calcium (M: 43%; W: 78%), iodine (M: 43%; W: 47%), and zinc (M: 43%). All food groups except for the meat and meat alternatives group were significantly lower than the Australian dietary guidelines recommended food serves, in particular vegetables and dairy foods. Men and women with ID in the group homes studied had a poor intake for a number of nutrients and food groups. Findings from this study suggest a need for further education, additional training of carers and improved implementation of food policy and guidelines to improve dietary intake among people with ID living in group homes.

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**TWELVE-MONTH RESULTS OF THE FEEDING
YOUR INFANT (FYI) STUDY: THE
INTRODUCTION OF SOLID FOODS IN PRETERM
INFANTS**

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Current Australian guidelines recommend solid foods be introduced around six months of age. However, there is a lack of consensus regarding the translation of these guidelines to preterm infants. Using the data available from an ongoing observational study, the aim of this sub-study was to determine feeding practices and identify factors affecting the introduction of solids among preterm infants in the Illawarra region, Australia. This sub-study included preterm and term infants recruited from June 2014 to June 2015. Data on infant feeding practices were collected prospectively from birth to 12 months corrected age. The age of solid food introduction was compared between term and preterm infants. Infant birth weight (BW), gestational age (GA), gender, and maternal age, level of educational attainment and body mass index were assessed for influences on timing of solid food introduction. Information on 35 preterm and 48 term infants was analysed. Preterm infants commenced solid foods at 20 weeks from birth, corresponding to 13 weeks from term, significantly earlier than term infants (p < 0.001). Low BW and GA were predictors of earlier solid food introduction, and no maternal factors significantly influenced the age of solid food introduction. Common first foods introduced were rice cereal (66%) and fruit (25%). Preterm infants were introduced to solids before the recommended age for term infants, and first foods offered were not consistent with the Australian infant feeding guidelines. These feeding practices could potentially impact physical and neurological development. Further research is needed to develop clear feeding guidelines for preterm infants.

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DO THE CONTEMPORARY DIETARY PATTERNS OF AUSTRALIAN CHILDREN ALIGN WITH NATIONAL NUTRIENT AND FOOD GROUP RECOMMENDATIONS?

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Optimal nutrition throughout childhood plays a critical role in growth, development and long-term health outcomes. The aim of this study was to compare the dietary intakes of a representative sample of Australian children aged 4–8 years ($n = 789$) to national food and nutrient recommendations and to determine daily food group servings amongst those who met the relevant nutrient reference values for Australia and New Zealand (NRVs). Data were obtained from the 2011/12 National Nutrition and Physical Activity Survey. Dietary intake data from one parent-reported 24-hour recall were disaggregated into food group components and compared to the Australian Guide to Health Eating (AGHE) and NRVs. Only one child met all five AGHE daily core food group serving recommendations, with no children meeting recommendations for both core food groups and maximum discretionary allowances. The proportion of children meeting the AGHE recommendations was lowest for vegetables (4.6%) and highest for fruit (47.7%). Mean intake of discretionary foods (4.73.2 serves/day) was in excess of maximum allowances and accounted for 38% of the total energy intake. Amongst children meeting specific NRVs ($n = 395$, 50.0%), higher daily servings of fruit (2.2 ± 1.7), dairy (2.2 ± 1.2) and discretionary foods (5.0 ± 3.4) were observed compared to AGHE recommendations. Significant disparities exist between contemporary dietary patterns of Australian children and national food group recommendations. Children achieving NRVs for key nutrients consumed dietary patterns divergent from current food group targets. The diversity of current dietary patterns of Australian children should be considered in the development of future nutrition guidelines in order to optimise intakes for chronic disease prevention.

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IMPLEMENTATION OF WORKPLACE CATERING POLICY TO SUPPORT HEALTHY FOOD AND DRINK CHOICES

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An organisation's commitment to providing healthier food and drink choices at workplace meetings and events is an important part of promoting health and wellbeing among employees. In 2014, 65% of Queensland adults were identified as overweight or obese with rates increasing about 4% per year. Poor diet is the largest attributable risk for disease burden in Australia at 10.5%. The Office of Fair and Safe Work Queensland (OFSWQ) is strongly committed to increasing awareness and knowledge of the role good nutrition plays in preventing chronic disease and risk factors for disease. In 2014–2015, a Healthy Food and Drink Policy was developed and implemented across all work units for over 1200 staff members. NAQ Nutrition was engaged during the initial policy development phase to provide expert nutrition advice for the policy. It is linked to the Department of Justice and Attorney General Healthy Choice Catering Guidelines. For the implementation phase, NAQ Nutrition worked with the Healthy Workers team to develop policy specific resources and provide information sessions during the rollout of the policy to 12 major sites throughout Queensland. A follow-up survey is planned for early 2016 to seek an evaluation of the policy's uptake. Key learnings from involvement in this project will be

detailed in the poster including the benefits of workplace champions; challenges in managing policy level change post-implementation, and the need for environmental/educational health promotion strategies to target nutrition in the workplace.

Funding source: QLD government

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GROWING HEALTHY AT INALA: A MIXED METHODS STUDY EXPLORING THE APPROPRIATENESS OF A mHEALTH INTERVENTION AT AN URBAN ABORIGINAL AND TORRES STRAIT ISLAND PRIMARY HEALTH CARE SERVICE

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Childhood obesity is a major health concern in Australia, particularly amongst Aboriginal and Torres Strait Islander groups. There is evidence that infant feeding practices may contribute to excess weight gain. The emerging area of health interventions through mobile phones (mHealth) may effectively engage with these groups and there is growing evidence of the effectiveness of these approaches in supporting behaviour change. The Growing healthy program is a new application software (app) and website mHealth intervention promoting healthy infant feeding practices, targeted at low socioeconomic groups. It provides parents with credible advice and support on infant feeding in the first year of life along with three push notifications a week to reinforce key messages. Health promotion resources need to be acceptable and culturally safe for Aboriginal and Torres Strait Islander people, therefore piloting and adapting them to meet the needs of this population will provide the best outcome. This research aimed to determine the suitability, cultural appropriateness, acceptability and usefulness of the Growing healthy program for parents of Aboriginal and Torres Strait Islander infants from Inala Indigenous Health Service, a primary health care service in Queensland. Eleven parents pilot tested the program for six weeks, after which they participated in a focus group and semi-structured interviews to discuss their perspectives on the program, their experiences of infant feeding and suggestions for improvement. A focus group was also conducted among key staff members ($n = 9$) from the health service to explore key infant feeding issues and how the program could be adapted to better meet the needs of Aboriginal and Torres Strait Islander parents. The findings will inform key considerations in the adaptation of health promotion programs for Aboriginal and Torres Strait Island parents, particularly in the area of early infant feeding practices.

Funding source: COMPARE-PHC

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VALIDATION OF AN ELECTRONIC NUTRITION LITERACY TOOL (E-NUTLIT) TO ASSESS NUTRITION LITERACY IN ADULT AUSTRALIANS
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Although nutrition literacy influences dietary intake, there is no validated tool to assess general nutrition literacy in Australian adults. This study aimed to further develop and validate an electronic nutrition literacy assessment tool (e-NutLit) for use in adult Australians. A secondary aim was to assess the influence of health literacy and demographic factors on e-NutLit scores. Development of the e-NutLit was informed by focus groups with dietitians and scientific literature. A convenience sample of obese patients (OP; n = 36) and a criterion group of dietetic students (DS; n = 34) were recruited. The OP completed a health literacy-screening tool ('Newest Vital Sign' (NVS)) then the e-NutLit. The DS completed the e-NutLit only. OP had lower overall scores on the e-NutLit than DS ($P < 0.05$). Both OP ($80.5\% \pm 23.9\%$) and DS ($95.5\% \pm 3.5\%$) scored highest for selection of food groups. Lowest scores were for knowledge of dietary guidelines for OP (51.3%) and selection of healthy foods for DS (68%). There was no difference in the overall e-NutLit scores between OP with low-intermediate (NVS < 4) or adequate health literacy (NVS > 4) (OP < 4: $60.6\% \pm 8.0\%$; OP \geq 4: $73.2\% \pm 8.5\%$; $P = 0.30$). However, NVS score in OP was positively associated with higher scores on the e-NutLit ($r_s = 0.66$; $P < 0.001$). Frequency of label reading was different between OP and DS ($P = 0.004$) and positively influenced the e-NutLit score ($P = 0.046$). The e-NutLit was able to differentiate the level of nutrition literacy between the OP and DS but not between the OP with low-intermediate and adequate health literacy. Additional validation work on the e-NutLit is required.

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ASSOCIATIONS BETWEEN DIETARY FIBRE INTAKE AND BLOOD PRESSURE IN AN OVERWEIGHT POPULATION

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Dietary fibre may influence blood pressure. The aim of this study was to explore possible relationships between dietary fibre intake and blood pressure (BP) in overweight/obese participants enrolled in a lifestyle intervention trial (the HealthTrack study). A cross-sectional analysis was conducted using baseline data from the overweight/obese trial participants (aged 25–54 years). Dietary, demographic, anthropometric and clinical data for 337 participants were available. Mean systolic and diastolic BP were compared between genders. Mean BP was compared between participants who met or did not meet the Nutrient Reference Value for Adequate Intake (AI) for fibre intake. Chi-squared analyses were conducted to explore an association between meeting the AI and the presence of hypertension. Mean body mass index (BMI) in hypertensive and normotensive participants was also examined. Males (n = 92) had significantly higher systolic BP ($P = 0.014$) and diastolic BP ($P = 0.000$) than females (n = 245). No significant differences were observed in the mean systolic BP ($P = 0.135$) and diastolic BP ($P = 0.441$) between participants who met or did not meet the AI for fibre.

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Similarly, there was no association between meeting the AI for dietary fibre and hypertension status ($P = 0.848$). As expected, mean BMI was significantly higher in hypertensive participants compared to normotensive participants ($P = 0.000$). Despite the literature suggesting dietary fibre may influence blood pressure, we were unable to detect a relationship in this study cohort, but further research in terms of the effects of types and amounts of fibres consumed, while controlling for confounding factors, is warranted.

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CAN LARGE HOSPITALS SERVE DECENT TOAST EFFICIENTLY? AND DOES IT IMPROVE PATIENT SATISFACTION AND CONSUMPTION?

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A survey conducted in a 929-bed acute care hospital in 2012 found 48% of patients wanted toast for breakfast, even if cold. In February 2015, plate waste of bread at breakfast averaged 39%. This series of two trials (n = 150, 97) compared patient satisfaction and intake at breakfast for (1) toast versus bread; then (2) toast versus heated croissants versus bread. The trials spanned 14 days across 18 wards with 247 patients. The toast was thick cut, made close to delivery, centrally plated and packaged. Trials compared intake with usual items of white/multigrain breads and wholemeal rolls. In trial 1, 63% of patients chose toast, and rated appearance/texture as 'good'. Sixty-nine percent of patients said toast increased satisfaction, and 82% surveyed would prefer cold toast than no toast. Using visual plate waste method toast consumers ate 293 kJ more at breakfast compared to bread consumers. In trial 2, patients choosing croissants ate around 350 kJ more overall at breakfast than those choosing bread or toast (with equivocal intakes). Patients reported overwhelmingly bread as neither appropriate nor appetizing as a breakfast food. Croissants outperformed toast and bread on every indicator of patient satisfaction. Eighty-one percent of patients reported croissants were better than expected, versus 16.1% for toast and 5.9% for bread. Ninety-four percent of patients were happy with croissant temperatures, versus 54.8% for toast. While toast and croissants both come at a cost, croissants do not necessitate extra labour, are easier to prepare, engender excellent patient satisfaction, and result in significant extra energy intake.

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DEVELOPMENT OF A PATIENT-CENTRED MODEL OF CARE IN A DAY ONCOLOGY SETTING

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Austin Health provides comprehensive cancer care to patients. The day oncology unit treats 250 patients per week. Limited dietetic resources and a location-based service provision model contributed to interrupted, delayed and reactive patient care, impacting on timely access to dietetic service and necessitating the introduction of a waiting list. The

study aimed to develop a patient-centred model of care based upon tumour stream classification, facilitating timely access to dietetic services and patient continuity of care. A 6-month retrospective audit was conducted pre- and post-implementation of a tumour stream model of care within Day Oncology. Data collected included number of patients referred and seen by the dietitian. Following the introduction of a tumour stream model of care, there was an increase in number of patients seen by the dietitian, from 60% of those referred ($n = 38$) in 2014 to 89% ($n = 64.5$) in 2015 and a decrease in number of patients cancelled by the dietitian from 30% ($n = 19$) to 1.5% ($n = 0.2$). By allocating dietetic resources according to tumour stream rather than location, improvements in service efficiencies and continuity of care were observed. This resulted in an increased number of patients being seen by the dietitian in Day Oncology within existing resources. Introduction of a Patient-Centred Model of Care in a Day Oncology setting has achieved proactive patient care, which is integrated across clinical settings and has resulted in improved timeliness and access to dietetic care.

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INTRODUCTION OF SOLIDS: DIRECTIONS FOR FUTURE RESOURCE DEVELOPMENT

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A lack of adherence by mothers to the introduction of solids guidelines indicates a need to investigate information sources. The aims of this study were to analyse consumer-focused introduction to solids resources and explore mothers' awareness and use of Australian Infant Feeding Guidelines (AIFG) with the aim of developing some future recommendations for resource development and dissemination. Resources were identified from government, non-government and other providers, and content analysis was applied using the validated Suitability Assessment of Material score sheet to identify weaknesses and readability level was calculated. An online survey using a semi-quantitative questionnaire was distributed via Facebook to explore mothers' feeding experiences and use of resources in 2015. Twenty-five resources were identified and government resources were more likely to be scored superior in format and content. The content of all resources supported the 2013 AIFG but the majority had readability levels higher than 6th reading grade. Cultural appropriateness category mean score (61%) across all three groups. Survey results from 93 women found only 29% of mothers had heard of the AIFG and they confirmed their major source of helpful information was Internet (55%) and friends (45%). Mothers identified that they would prefer to receive information via health professionals (36%), the web (29%) and pamphlets (15%). Dietitians have a future role in resource development to ensure suitable readability and cultural relevance. Dietitians need to develop skills in using the web and social networks to disseminate key health messages relating to the introduction of solids.

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INTERPROFESSIONAL LEARNING: HEALTH PROMOTING EARLY CHILDHOOD EDUCATION

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With a significant reduction of the Community and Public Health Nutrition (CPHN) workforce in Queensland, the opportunities for Queensland Universities to allocate students for CPHN placements to

meet Dietitians Association of Australia competencies is becoming increasingly challenging. In 2015, Queensland University of Technology introduced co-disciplinary placements with the School of Early Childhood as part of an internally funded project, offering new opportunities for student placements and creating opportunities for interprofessional learning for both disciplines. Five final year Nutrition and Dietetics students undertook their Community and Public Health Nutrition placement along with five second year Early Childhood students in Crèche and Kindergarten (C&K) Childcare Centres within Brisbane and Caboolture. Qualitative research was undertaken to investigate the possibilities that this project offered for academics, students and C&K staff. Fourteen semi-structured interviews were conducted and data were analysed through thematic analysis. Results identified the overall experience as extremely positive for participants. Although challenges were part of the process, benefits such as the settings gaining resources and a greater understanding of the benefit of nutrition input into programs and pedagogy were identified from the academic partnership and the relationship with the external partner. The project gave students the possibility to examine their core discipline knowledge and enhance it with other disciplines to address the nutritional needs of the community. Students combined their skills and abilities in a robust collaborative process within real-world settings; and the university gained access to a wider range of placements that achieved competencies.

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WHAT DOES IT TAKE TO DEVELOP A WEBSITE FOR CLINICAL DIETITIANS TO ENHANCE LEARNING OF THE NUTRITION CARE PROCESS

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The Nutrition Care Process (NCP) was designed to provide a framework of care for patients; however, implementation internationally remains inconsistent. This qualitative study determined the current NCP needs of Asian dietitians in order to develop a website to facilitate learning and an online community of practice. Seven face-to-face focus groups were conducted. Participants ($n = 42$) were predominantly female (86%); worked full-time (93%), were employed in hospitals (88%) or private practice (12%) and documented medical records in English. Most knew of the NCP previously from conferences or university studies. Thematic analyses identified barriers to NCP and included a lack of (1) knowledge; (2) time; (3) access to training; (4) peer support; and (5) the funding required to acquire NCP resources. These findings informed the development of the website, which was piloted among student dietitians. Minor changes to functionality and community sections of the website were undertaken before global release. Within two months of launching the Dietitians Online Nutrition Care Process (DoNCP), a total of 95 international dietitians had signed up. Average weekly website statistics demonstrated 8488 page views, 28 posts and 45 sign-ins. Whilst almost all focus group participants expressed positive attitudes towards the NCP and its adoption in their routine practice, significant barriers were identified. Hence the DoNCP website will provide opportunities for potential early adopters to (1) access resources and case studies; (2) enhance learning with experts in discussion forums; and (3) provide a supportive communication and peer-networking as indicated by focus groups.

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IS HOSPITAL BLOOD GLUCOSE MONITORING ON TRACK?ELISHA KINGTON¹, CHARLYN OOI², MARK MIRAUDO², ANDREA BEGLEY¹, CATHERINE CASH², IVONE TATHAM²¹*Curtin University, Australia*²*Joondalup Health Campus, Australia*

Inpatient blood glucose monitoring (BGM) is considered a cornerstone of diabetes management. Maintaining best practice BGM in hospital enables healthcare providers to monitor the efficacy of treatment regimes and guide adjustments. Strict nursing adherence to site-specific BGM policy is imperative to optimise treatment outcomes. The aim of this research was to ascertain staff awareness of site BGM policy and assess current practice. This is a single-centre observational study within a secondary hospital using mixed methods data collection and purposeful selection. A quantitative survey (n = 77) investigating nursing knowledge of hospital BGM policy on testing frequency and timing revealed a gap between staff perception of policy awareness (88%) and accuracy of actual knowledge (67% for type 1 diabetes and 47% for type 2 diabetes). Medical record documentation of patient blood glucose levels (BGLs) (n = 102) was reviewed to compare nursing BGM practices against policy. Adherence to BGM policy varied significantly; only 10–44% of insulin-dependent patients had BGLs tested within 30 minutes before meals as recommended. Furthermore, only 59% of patients (n = 94) had BGLs checked four times daily for 72 hours from admission as outlined in the policy. Fifteen nurses took part in the focus groups and responses were reviewed using constant comparison techniques and thematically analysed. Barriers affecting best practice BGM included delays in meal delivery and time constraints requiring prioritisation of other clinical duties over BGM. Results indicate that further work, including a structured education program for nurses and review of the meal delivery process, is recommended to improve BGM practices.

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IMPROVING COMMUNITY NUTRITION WITH AN INNOVATIVE HEALTHY DINING PROGRAMMONICA KLEIN¹, STEPH ASHBY²¹*Cardinia Shire Council, Australia*²*Monash Health, Australia*

In Cardinia Shire, only 3.4% of adults meet guidelines for fruit and vegetable consumption, and 50.4% are overweight or obese. These issues can be seen nationally, making them a public health priority. Cardinia Shire Council employed an Accredited Practising Dietitian to develop, implement and evaluate 'Healthy Bites', a program aiming to increase access to healthy food by educating food outlet staff to increase and promote healthy options. Outlets are offered free marketing in exchange for meeting venue criteria, as well as strict criteria for at least three dishes around saturated fat, salt and fruit/vegetable content. The evaluation was based on a pilot sample of five venues. Community surveys and interviews with food outlet staff were conducted pre- and post-intervention. The pre-intervention survey (n = 300) found that 82% of residents would be more likely to dine at a food outlet offering healthy option. This highlighted an economic opportunity for food outlets to make changes. Post-intervention surveys found that 74% of residents said that the Healthy Bites sticker made them think 'a little' or 'a lot' about their food choices, and 68% reported that the Healthy Bites sticker had changed their food choices. Food outlet staff indicated an increase in their knowledge of cooking healthier food, and desire to continue with the initiative. 16 food outlets now participate across the Shire. This initiative provides an easy to implement alternative to the traffic light system, demonstrating the essential role dietitians can play in community's health and wellbeing through local government.

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EXPLORING THE EXPERIENCE OF FOOD INSECURITY IN LOW- TO MEDIUM-INCOME MELBOURNE HOUSEHOLDS USING A MIXED METHODS DESIGNSUZANNE KLEVE¹, CLAIRE PALERMO¹, SUE BOOTH², ZOE DAVIDSON¹¹*Monash University, Australia*²*Flinders University, Australia*

In Australia, data are limited on the prevalence and lived experiences of food insecurity of low- to middle-income households. This research examines food insecurity (FIS) and food security (FS) experiences of low- to middle-income Melbourne households (\$40 000–\$80 000 annual household income). An explanatory, sequential two-phase mixed methods design was implemented. In the first phase, a cross-sectional purposive sample of households (n = 134) across metropolitan Melbourne completed the quantitative 'Food Security in Melbourne Households' survey. This survey identified low- to middle-income households and classified food security status according to the 18-item United States Department of Agriculture Household Food Security Survey Module. Descriptive statistics were performed to describe both FIS and FS households. In the second phase, respondents who met the low- to middle-income household criteria were interviewed to explore the experience of FS and FIS, including coping strategies and impacts on households. Thirty-six percent of respondents in low- to middle-income households (n = 42) were classified as food insecure or at risk of being food insecure in the last 12 months. Severity levels of food insecurity ranged from marginal to very high. Sixteen in-depth interviews were completed, thematically analysed and a constant comparison approach was applied to compare the data within and across FS and FIS groups. This presentation will focus on reporting the qualitative findings. This research increases our understanding of food insecurity by exploring an evidence gap, providing insight into the lived experiences and the challenges addressing this public health issue.

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EXPLORING THE POTENTIAL IMPACT OF INTERMITTENT FASTING ON BODY COMPOSITION IN YOUNG ADULTSALASTAIR KWOK¹, FERNANDA MATA², ANTONIO VERDEJO-GARCIA², HELEN TRUBY¹¹*Department of Nutrition and Dietetics, Monash University, Australia*²*School of Psychological Sciences, Monash University, Australia*

Managing food and activity can be challenging for young people, especially when they leave home, which can lead to weight gain in the early days of independent living. This study focuses on young people seeking weight management whilst at university, utilising a modified intermittent fasting regimen with a high-protein intake on two 'fasting' days and a meal plan based on the Australian Dietary Guidelines on five days of the week. Twenty-one overweight young adults (mean age 22.46 ± 1.06 years, 14 females, mean body mass index 30.6 ± 3.7 kg/m²) wishing to lose weight were recruited. Dual-energy X-ray absorptiometry and 24-hour dietary intake recalls were completed. The three-month weight management program was supported by six sessions with an Accredited Practising Dietitian and supplementary milk-based protein shakes were provided for the 'fasting days' along with structured dietary advice and moderate increase in physical activity. After three months, there were no significant differences in percentage energy from protein between (1) baseline diet (25.9%) and the reduced energy eating plan (23.9%) or (2) baseline diet and 'fasting' days (25.6%). Significant reduction in both percentage body weight (mean 4.0 ± 4.6%) and percentage fat mass (2.1 ± 2.6%) was measured, all p < 0.05. Conversely, percentage lean mass of tissue increased (2.1 ± 2.6%), p < 0.05 over 3 months. This modified

intermittent fasting and physical activity regimen has the potential to decrease body fat and maintain lean mass in young adults due to reduction in overall energy intake but without significant change in percentage of protein intake.

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IS INPATIENT INTAKE AND LEVELS OF MEALTIME ASSISTANCE IN THOSE WHO REQUIRE IT MAINTAINED AT ONE MEALTIME ONLY? A FOLLOW-UP AUDIT ~3 YEARS AFTER PROTECTED MEALTIME PROGRAM (PMP) IMPLEMENTATION

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When protected mealtime program (PMP) was initially implemented, mealtime assistance was received by ~84% of patients requiring it. However, we are unsure if these levels of assistance have changed over time. We examined whether levels of mealtime assistance and inpatient intake was maintained ~3 years after PMP program implementation. Patients were observed at any one mealtime before PMP implementation in 2011, shortly after PMP implementation in 2012, and ~3 years after implementation in 2015. Mealtime data collected included if assistance was required and received, and food and drink consumption. Data collected in 2015 were compared to pre-PMP (2011) and post-PMP (2012) data using chi-squared, ANOVA and multivariate linear regression analyses. Mealtime observations were conducted on 1312 patients (62 ± 19 years, 50% M), with 200 patients requiring mealtime assistance (2011: n = 66, 2012: n = 81, 2015: n = 53). Mealtime energy and protein intake was negatively associated with patients requiring mealtime assistance ($\beta = -196$ (-319 to -72) kJ; -1.7 (-3.1 to -0.3) g protein, $p = 0.002$ – 0.018). Overall, 29–40% fewer people received any type of mealtime assistance when required in 2015 ($p < 0.001$). Feeding assistance decreased in 2015 by 5–20% (2011: 18%, 2012: 33%, 2015: 13%, $p < 0.001$). Nursing staff remained the main provider of mealtime assistance to patients across time-points (69–74%, $p = 0.861$). In 2015, patients were waiting approximately four more minutes to receive initial mealtime assistance (2011 and 2012: 1(0–30) minutes, 2015: 5(0–49) minutes, $p = 0.025$); however, no differences were observed when minutes to assist was separated into breakfast, lunch or dinner ($p = 0.161$ – 0.429). Mealtime assistance levels decreased and the amount of time patients waited to receive first assistance increased over time. Sustainability of PMP may be important for optimising assistance at mealtimes.

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THE EFFECTS OF GREEN TEA CATECHINS

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Green tea catechins (GTC) are secondary plant metabolites that have been associated with a number of health benefits, including anti-inflammatory, hypotensive, anti-obesity and lipid-lowering capacity in

human and animal trials relating to cardiovascular disease (CVD). The aim of this study was to perform a systematic review of current literature on the effect of GTC supplementation on reducing anthropometrical, blood pressure and biochemical outcomes associated with CVD in humans. The systematic review was conducted following the preferred reporting items for systematic reviews and meta-analyses (PRISMA) guidelines on four major electronic databases (PubMed, Cochrane Library, Web of Science and Scopus). Studies were only included if published in peer-reviewed journals in English and were conducted on humans in double-blind randomised controlled trials where GTC supplement was compared against a placebo control. From 122 429 articles identified (primary search), only eight studies met the inclusion criteria. The findings from published studies indicated significant reduction in body weight, body mass index, blood pressure ($p < 0.05$), and significant improvements in plasma cholesterol and lipids ($p < 0.05$). The supplementation of GTC between 300 and 1500 mg/day can assist in the reduction of anthropometric, blood pressure and CVD biomarkers in obese people and type 2 diabetics, both of which are at risk of developing CVD. Further research investigating population specific and long-term cohort clinical studies are warranted. This systematic review is registered with PROSPERO (Registration Number – Pending).

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NUTRITION DAY IN THE GENERAL WARDS, CHANGI GENERAL HOSPITAL, SINGAPORE: AN AUDIT OF NUTRITIONAL STATUS FROM 2011 TO 2014

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Hospitalised patients have an increased risk of malnutrition, and early identification of these patients is important for timely delivery of nutritional interventions to optimise clinical outcomes. A one-day cross sectional audit was conducted in the General Wards to assess patients' nutritional status and to evaluate nutritional care practices within the hospital, from 2011 to 2014. Using standardised questionnaires, data collected were uploaded onto an online database. Analysis of the results was done using Microsoft Excel. From 2011 to 2014, 19.1–32.5% of patients had unintentional loss of weight within the last 3 months prior to admission, of which 43.5–52.4% had a 0–4 kg weight loss. There was a decreasing trend in patients receiving a special diet (i.e. therapeutic diets such as low salt diet, etc.), from 50.4% in 2011 to 20.9% in 2014. This was accompanied by an increasing trend in the provision of hospital food (i.e. non-therapeutic diets), from 34.9% in 2011 to 56.3% in 2014. This could be attributed to an increased use of protein/energy supplements and enteral nutrition, from 2.3% in 2011 to 9.6% in 2014 and from 7.0% in 2011 to 10.9% in 2014, respectively. Patients with a loss of appetite are often supplemented with protein/energy supplements and often served a non-therapeutic diet, which is more flavourful due to no limitations in the use of ingredients during cooking. This helps improve dietary intake and nutritional status. It is therefore important to identify patients at risk of malnutrition early to optimise clinical outcomes through timely and appropriate nutritional care.

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HEALTHY EATING DURING PREGNANCY: NUTRITION KNOWLEDGE OF PREGNANT WOMEN

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Limited nutritional knowledge has been linked to poor quality maternal diets, which has been associated with suboptimal pregnancy outcomes. Women report relying on the Internet for pregnancy-related information. The Internet offers variable nutrition information, some that can be evidence-based or expert views but also popular opinions and this may lead to women inappropriately consuming or avoiding foods that do not reflect the healthy eating guidelines for pregnancy. This study explored nutrition knowledge of pregnant women and their preferred sources of information. Pregnant women residing in Australia accessing online pregnancy forums were invited to complete an online survey (76 items) assessing pregnancy-specific nutrition guidelines. One hundred and fourteen women completed the survey. A small positive correlation was found between nutrition knowledge and education ($r_s = 0.2$, $p < 0.05$) and income ($r_s = 0.2$, $p < 0.05$). Only 2% of women scored over 80%. Pregnant women have limited knowledge of the healthy eating guidelines for pregnancy. Women indicated they relied on their antenatal care providers for nutrition information but few reported receiving it. The Internet was a popular source of nutrition information. Nutrition education is underserved in pregnancy care. There is a need for maternity services to be providing nutrition advice with the support of Accredited Practising Dietitians. Enhancing nutrition knowledge is one approach to improving maternal diet and thus prevent adverse pregnancy outcomes.

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CHALLENGES, BARRIERS AND FACILITATORS FOR QUALITY FOOD SERVICE AT A VICTORIAN VOLUNTEER-RUN CAMPSITE: A CASE STUDY

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Food provision is an integral part of school camps; however, studies documenting the quality of camp food services are limited. This study aimed to explore the challenges, barriers and facilitators for quality food service at a large Victorian, volunteer-run campsite. A qualitative evaluation using grounded theory and semi-structured interviews was conducted with staff and food service volunteers who were purposively chosen at a large Victorian campsite. Interviews were transcribed and thematically analysed, with themes categorised into challenges, barriers and facilitators. Data collection ceased when data saturation was attained. Five staff and volunteers participated; the biggest challenge that food service volunteers identified was catering for the increasing prevalence and variety of special dietary requirements. Identifying the individuals with special dietary requirements to receive these meals was a further challenge for staff. Barriers identified included the lack of commercial kitchen knowledge of volunteers and the absence of industrial sized recipes leading to food wastage. Key facilitators for quality foodservice were the food service volunteers' knowledge and experience, values of the organisation, and food safety training. The limited studies of challenges and barriers for quality food service in hospitals and nursing homes report similar results. Increased training and access to recipes for industrial quantities for volunteers was needed to overcome these barriers. This study is the first to identify challenges, barriers and limitations for quality food service at camps. Results of this study

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may not be generalisable to employee-run camp food services. Further studies are required to explore influences on food service quality at campsites elsewhere in Australia.

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AN EVALUATION OF A MEAL PACK SYSTEM FOR PATIENTS REQUIRING MEALS BETWEEN FOOD SERVICE MEALTIME DELIVERIES OR AFTER HOURS

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In 2014, a 630-bed tertiary hospital introduced pre-packaged meals to ward kitchenettes for patients requiring food between or after usual mealtimes. Standard, breakfast and special (compliant for puree, vegetarian, low-lactose, gluten-free) packs were available. The study evaluated meal packs in relation to patient satisfaction, usage/wastage compared to imprest levels, staff attitudes, cost and sustainability. Usage monitoring in 17 wards over two weeks found standard packs ($n = 46/\text{day}$) were most utilised, followed by breakfast packs ($n = 13/\text{day}$) and special packs ($n = 3/\text{day}$). Meal pack wastage was largely attributable to expired sandwiches ($n = 13/\text{day}$) due to a 24-hour shelf life, with established processes for safe reuse of remaining non-perishable pack items. Patients ($n = 39$) were surveyed and of these, 97% ($n = 31$) of standard and 100% ($n = 7$) of breakfast pack recipients reported satisfaction over 3 (1–5 scale, 5 being the highest) and consumption of 70–85% of meal pack items. Nursing staff reported sandwich and breakfast packs were convenient and useful, but special packs were frequently inappropriate for patient preferences. Reported challenges included patients with special dietary requirements or high hunger levels, leading to removal of items from other packs for patient use, and return of incomplete packs to the kitchen creating inefficiencies. Recommendations include support for continuation of the current system, adjusting ward imprest as per assessed usage, sealing packs with stickers as a visual reminder to maintain pack integrity, and development of an additional low-allergy meal pack for patients with special dietary requirements. Initiatives to enhance access to food after hours can support patient and staff satisfaction.

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THE BIGGEST WINNER: ENGAGING WITH THE COMMUNITY TO DEVELOP PERSON-CENTRED SERVICES FOR PEOPLE WHO ARE CONCERNED ABOUT THEIR WEIGHT

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The increasing prevalence of overweight and obesity in our community is a 'wicked' issue. While 63% of Australians are overweight or obese, referrals to the dietetics service at our community health service were declining. This project aimed to develop a person-centred and evidence-based response to community concerns about weight and health. Four elements of evidence-based practice guided this project, including a literature review, staff consultation, two community forums and an organisational audit. A review of literature identified that restrictive weight loss diets while helpful in the short term were associated with side effects and long-term weight gain. In comparison, non-diet approaches were effective in improving physical and mental health outcomes. A staff training session and community forums introduced

people to evidence-based, non-diet approaches. Quantitative and qualitative data were collected from staff and community members. Findings from community members indicated that people want health services that are non-stigmatising, supportive, non-judgemental and empowering. Of interest to dietitians, community members want to learn about slow and mindful eating, recognising non-hungry eating[®] and thinking about food in non-judgemental terms. The findings also showed that traditional weight management advice does not adequately address the person's concerns including poor body image and mental illness, and contextual factors such as time, stigma, and the food environment. The project provided strong evidence to adopt a non-diet, Health at Every Size[®] (HAES[®]) approach. To change culture and practices, a HAES[®] audit was conducted to ensure our organisation is inclusive and welcomes all people, regardless of body shape and size.

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DIAGNOSED WITH MALNUTRITION: A SURVEY OF PATIENT PERCEPTIONS

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The prevalence of malnutrition in hospitalised patients has been extensively studied with strong evidence associating malnutrition with poor health outcomes. Despite these significant implications, limited studies have assessed the patients understanding and awareness of malnutrition. This small-scale study aimed to consider the patient perspective, to offer insight into how malnutrition can be better managed. A guided, quantitative survey was developed in order to test the hypothesis that adult patient's diagnosed with malnutrition have limited awareness of their nutritional status. Adult public patients who were diagnosed as malnourished or at risk of malnutrition via a validated assessment tool patient-generated subjective global assessment (PG-SGA) were recruited at a metropolitan hospital in Western Australia. Of the 16 patients recruited, half were unaware of their risk of malnutrition or malnourished status. 37.5% of patients understood what malnutrition was, with the remaining patients unsure or unable to connect dietary intake to the condition of their body. 43.7% of patients attributed their nutritional status to not eating properly, with three patients unable to identify a cause of their malnutrition. Malnutrition can result in apathy towards self-care, which may explain why some patients were unaware of their nutritional status, were unsure what malnutrition is, or the causes. Patients with greater dietetic input were more aware of their nutritional status and the causes of malnutrition. These results will allow for a more informed, patient-centred care approach to patient education regarding malnutrition diagnosis and treatment. Further research is required to compare patient and carer views.

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THE ATTITUDES, BELIEFS AND BEHAVIOURS OF AUSTRALIAN DIETITIANS REGARDING DIETARY SUPPLEMENTS

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The use of dietary herbal and vitamin supplements to treat or prevent chronic diseases has gained considerable interest both in academic

research and within the general public. A large proportion of Australians regularly use dietary supplements to help manage chronic conditions. However, this has created the potential for misinformation, underestimation of side-effects, and drug–nutrient interactions. In addition, there is growing evidence for the use of certain dietary supplements to be used as part of clinical practice. Dietitians are experts in medical nutrition therapy; however, little is known about their knowledge, usage, and attitudes regarding dietary supplements. This presentation will discuss the results of a recent survey of Australian dietitians ($n = 269$) on the suitability of dietary supplements in clinical practice, barriers for use, and the level of research interest and general knowledge regarding this issue. The majority of respondents (81%) believe dietitians should be considered an authority on dietary supplements and should play a greater role in research and prescription of dietary supplements (90%). However, only 21% of respondents believe dietitians are currently considered an authority by the general public. Major barriers for use were a lack of training (61%) and concern for drug–nutrient interactions (65%). The majority of respondents (87%) were interested in further training and 88% believe that universities should offer more training on this subject. In summary, this presentation will discuss the current opinion of Australian dietitians regarding the usage of dietary supplements and in doing so, the potential for dietitians to be future leaders in this area.

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AN INNOVATIVE PROGRAM CHANGES FOOD SERVICE PRACTICES AND BEST PRACTICE EXPECTATIONS IN AGED CARE FACILITY COOKS AND CHEFS

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With Australia's ageing population, the number of residents in Aged Care Facilities (ACF) is projected to significantly increase. The diet of the residents is crucial to their health and to their quality of life. The Maggie Beer Foundation aims to transform the food experience for residents by changing institutional food preparation practice and shifting best practice expectations following consultation with ACF food service staff. This study, undertaken by Nutrition and Dietetics Flinders University, evaluated the inaugural 'Creating an Appetite for Life' nutrition education program for ACF cooks and chefs for process and impact. The aim of this intervention was to increase the capacity and confidence of ACF food service staff to change ACF food preparation practices and strengthen food service best practice. Thirty cooks and chefs from 26 ACF in Victoria and NSW attended a three-day interactive nutrition education program in South Australia facilitated by Maggie Beer and other food service experts. Participants completed pre- and post-surveys and attended two focus groups during the program to evaluate process and immediate impact. A three-month phone interview ($n = 27$) and thematic analysis of the qualitative data assessed medium-term impact on food service practices and attitudes. This cohort study found meaningful changes in cooks and chefs self-reported ability to act as change agents and influence local ACF food service practices. It also provided valuable insights into the barriers and facilitators for best practice in food service. This innovative program will be repeated and the feasibility of creating a critical mass for Australia-wide changes is being explored.

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'THINK-ALoud' METHOD REVEALS HOW DIETITIANS MAKE DECISIONS WHEN FOOD SHOPPING

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'Food heuristics' refers to mental shortcuts that allow people to make food choices quickly and efficiently. A small number of studies have used the qualitative 'think-aloud' method in a supermarket setting to capture people's often complex, yet generally fleeting, food heuristics. This study aimed to explore the decision-making processes of dietitians when shopping for food, and whether the food heuristics used by dietitians are similar to the general population. It also explored the feasibility of using the think-aloud method. A researcher accompanied dietitians (n = 8) as they shopped at their local supermarket. Participants were asked to literally think aloud during their shop, verbalising their decisions. Audio recordings were transcribed and analysed qualitatively using content and thematic analysis. Six themes emerged relating to: food preferences, cost, healthiness, product qualities, convenience and production considerations. For all dietitians the main consideration was personal food preferences and those of others for whom they were shopping. For most dietitians, food preferences, cost and healthiness were of the greatest importance. The importance of product qualities and food production varied depending on the type of food (e.g. fruit and vegetable, meat, dairy). Convenience did not appear to be a major consideration. Research consistently identifies five salient values in the general population, which were in line with the values of dietitians. In the general population, however, taste and convenience are the most important considerations. In this respect dietitians' prioritised considerations are different. Understanding dietitians' food choices can inform population level nutrition education and help better tailor individual nutrition interventions.

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THE PRACTICAL AND EDUCATIVE ROLE OF A FOOD GARDEN IN A UNIVERSITY SETTING

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Food security in the 21st century is concerned with food availability, accessibility affordability, and the added component of food sustainability. This change in definition highlights the importance of maintaining a food system that can deliver healthy, affordable food without compromising the natural resource base on which it depends. The purpose of this paper is to investigate the practical and educative role of a university food garden that has the potential to showcase more sustainable food systems and address student food insecurity. Students from the Faculty of Health at an Australian University were invited to complete an online survey through their usual web-based learning platform to ascertain enablers to optimizing the role of a recently constructed campus food garden. Demographics and a question to assess food insecurity were also collected. Eighty-one students (aged 18–49) completed the survey, and of these, 16% had experienced some level of food insecurity. From a practical perspective, the majority of the responders were interested in participating in the garden in the future (76%). Sixty-six percent of responders indicated that they would use and cook produce from the garden if a community kitchen was built. The three main educative roles identified by the students were: improving food literacy skills, e.g. growing, harvesting, processing and cooking food (93%); nutrition education (83%); and learning about sustainability issues (75%). This

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pilot study suggests that there is a role for university food gardens to provide both a practical and educative role in supporting food security and sustainability.

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THE AUSMED HEART TRIAL: IMPLEMENTING AN AUSTRALIAN MEDITERRANEAN DIET FOR SECONDARY PREVENTION OF CORONARY HEART DISEASE

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Adherence to a traditional Mediterranean diet is recognised to prevent coronary artery disease, a major cause of global deaths, and to reduce the risk of secondary complications of the disease. Despite this, Mediterranean diet intervention trials have predominantly focused on primary prevention of coronary artery disease. Additionally, they have also mostly been conducted in Europe. The only secondary prevention trial, The Lyon Diet Heart Study, showed a 70% reduction in cardiac death and event rates with Mediterranean diet intervention. This study was conducted pre-statin era and has never been repeated. A secondary prevention trial in the multi-ethnic Australian population, where coronary artery disease is prominent, is warranted. The AusMed Heart Trial is a randomised control trial of a Mediterranean diet versus standard care diet (low fat) for patients with diagnosed coronary artery disease. Key effect measurements are 6-month compliance to diet intervention and cardiac risk markers and 12-month cardiac re-event rate. Current recruitment sites are St Vincent's Hospital and the Northern Hospital and both diet groups receive counselling with a Dietitian at 0, 3 and 6 months, plus phone contact. Pilot cohort characteristics (n = 33, 32 males) at baseline include: mean age 65 ± 8 years, 30% of participants have type 2 diabetes and mean body mass index 29.6 ± 5.4 kg/m². Common dietary changes at 3 and 6 months include increased olive oil, nuts, fish and legumes with reduced red meat consumption (Mediterranean diet group) and reduced saturated fat intake, plus adherence to fruit and vegetable recommendations (low-fat diet group).

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THE PATIENT FOOD JOURNEY: THE FIRST 48 HOURS

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Receiving meal preferences is important for patient foodservice satisfaction and nutritional intake. The aim of this project was to determine the time for patients to receive their first trayed/personalised meal in a 630-bed tertiary referral hospital, focusing on two fast flow assessment wards. Investigations were conducted of delays in diet code entry and accuracy across various platforms (Hospital-Based Corporation Information System [HBCIS], Wardview™ and bedside whiteboards). Data were retrospectively collected over ten days on identified patients (n = 101) using an electronic foodservice system (CBORD™) to determine the delay in diet code entry and how long after their presentation to the emergency department they received their first meals. On average it was 21 hours (hrs) 52 minutes (mins) before patients received their first trayed meal and 55 hrs 55 mins before receiving a personalised meal, with 33% (n = 33) of patients not receiving a personalised meal during

their admission. The average delay in diet code entry was 2 hrs 20 mins from ward admission with 12 patients (12%) having their first trayed meal delayed as a result. The diet code accuracy audit (n = 526) revealed that 70% (n=367) of the time there were absent/conflicting diet codes listed on the whiteboards or Wardview™ with 40 occasions (8%) where the conflict has possible patient safety implications. Recommendations include implementation of same day menu ordering and extension of electronic diet code entry to all fast flow areas. To address diet code accuracy, promoting display of only critical diet codes on bedside whiteboards and integration of information technology systems are suggested.

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DIET QUALITY AND BODY MASS INDEX: A CROSS-SECTIONAL ANALYSIS OF BASELINE DATA FROM THE HEALTHTRACK TRIAL

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This cross-sectional study aimed to investigate associations between diet quality and body mass index (BMI) within a sample of overweight and obese adults. A secondary analysis of baseline data from a weight loss trial (the HealthTrack study) was undertaken. Data were available on n = 340 overweight adults who submitted 4-day food records. Diet quality was considered in terms of food intake. The contribution of discretionary and non-discretionary foods to energy intakes was calculated. Spearman's correlation coefficient was used to examine associations between discretionary food intake (%E) and BMI. Kruskal–Wallis tests were applied to examine differences in discretionary food intake between BMI categories. Discretionary foods contributed an average 32% of dietary energy. No significant association was found between discretionary food consumption and BMI regardless of BMI categories. Significant inverse correlations were found between BMI and energy contribution from fruit products and dishes (r = -0.157), legume products and dishes (r = -0.146), non-discretionary fish and seafood products and dishes (r = -0.124), and savoury sauces and condiments (r = -0.172). Significant positive correlations were found between BMI and total meat consumption (r = 0.159) and non-discretionary meat consumption (r = 0.143). While the directions of associations between BMI and food category were as anticipated, the lack of a significant finding for discretionary foods may reflect the breadth of this food category, which requires further analysis. Limitations in food classification systems and misreporting of dietary intake have the potential to affect future research in the area. Research encompassing discretionary intake is key to understanding and affirming current nutritional recommendations.

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THE BARRIERS PREVENTING PEOPLE WITH DISABILITIES FROM PARTICIPATING IN SOCIAL DINING EXPERIENCES: AN EXPLORATORY PILOT STUDY

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Malnutrition is a substantial issue that impacts the hospital system, the community and also some people with disabilities due to dysphagia, or dependence on others for food supply. In Australia, 18.5% of people reported living with a disability. People with disabilities may experience exclusion from community activities such as social mealtimes at restaurants. Social mealtimes can increase dietary intakes and may therefore

benefit people with disabilities, particularly those at risk of malnutrition. This study was a part of the larger InCuisine study, which aims to establish an inclusive dining culture. This qualitative exploratory study investigated the barriers and facilitators to dining out in restaurants/cafes for people with a disability. Surveys, interviews and focus groups were conducted to explore the perceptions of people living with a disability and restaurant/café owners. Three key themes – *Physical Environment, Menu and Attitudes, Knowledge and Customer Service* – summarise the barriers and facilitators to the inclusion of people with disabilities in dining experiences. By addressing barriers to dining out there would be greater inclusion of people with disabilities in dining experiences. Greater exposure to social mealtimes could have a range of benefits, including improved intakes by people with disabilities whom are at risk of malnutrition. Barriers could be addressed by improving accessibility of the physical environment, improving flexibility and presentation of the menu, educating and training staff and increasing communication between staff and customers with disabilities.

Funding source: University of Wollongong Community
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THE BENALLA SMALL PLATES PILOT: HEALTHY MEAL CHOICES FOR FAMILIES IN A RURAL VICTORIAN RESTAURANT

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To create a supportive healthy eating environment in a pilot restaurant in Benalla by increasing the number of healthy, appropriately portioned meal choices for both adults and children. Meal items were classified as Green, Amber or Red based on the Victorian Healthy Choices guidelines. Meals were modified to meet the Small Plates Criteria, and promoted to customers. The number of healthy (Green) meals and the energy density of the children's menu were compared pre and post. Restaurant sales data, staff interviews, and customer feedback were collected. The eating environment was measured pre- and post-intervention using the Small Plates Nutrition Environment Measures (NEMS) Tool. A Small Plate adult and children's menu was created. The intervention increased the number of Green and Amber meal choices. The Children's Small Plate Menu had half the energy density (4.1 kJ/g) of the original menu. The Small Plate NEMS score improved by 11 points indicating an improved healthy eating environment. Customer feedback was positive, with 50% of adults ordering a Small Plate meal for their child. Restaurant sales increased, with Green adult meal sales increasing by 4.7%. One quarter (26.9%) of all children's meals sold were Green choices, compared to only 8.8% on the original menu. The Small Plates pilot was successful in improving the healthy meal choices and the eating environment in a rural Victorian restaurant. This has the potential to be an attractive project for other food businesses who wish to cater for increasing consumer demands for healthy options.

Funding source: Vic Health Integrated Health Promotion

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HOW WELL PREPARED DO PENULTIMATE YEAR STUDENTS FEEL PRIOR TO PRACTICAL PLACEMENT?

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Student confidence for placement is important in evaluating pre-placement curriculum. This research aimed to assess penultimate year students' perceived confidence for placement and usefulness of a variety of University activities. Griffith University Nutrition & Dietetics students completed an online survey at the end of 2014 in their penultimate year of study. Five-point Likert scales were used to assess levels of pre-placement confidence regarding placements across the three domains ('5' very confident; '1' not confident) and perceived usefulness for each activity ('5' strongly agree; '1' strongly disagree). Open text boxes were provided for written comments and suggestions to improve the usefulness of each activity. Fifty-one students participated (80%). Mean \pm SD confidence for all activities related to placement at the end of their penultimate year was 3.5 ± 0.9 . Overall confidence for Individual Case Management (ICM) activities was 3.5 ± 0.9 ; 3.6 ± 0.8 for Food Service Management (FSM); and 3.3 ± 1.0 for Community and Public Health Nutrition (CPHN). The greatest level of confidence reported for ICM was diet history taking (4.4 ± 0.7), followed by accessing evidence-based guidelines (4.0 ± 0.7). Confidence for FSM activities was highest for communicating and liaising with the health care/food service teams (3.8 ± 0.9). Presenting/reporting to key stakeholders had the lowest confidence (3.4 ± 0.9). Confidence for all CPHN activities was equal (3.3 ± 1.0). The activities perceived as most useful in preparing for placement were simulation (4.7 ± 0.5) and clinical case studies (4.6 ± 0.5). Suggestions for improvement in each domain focused on additional practical sessions earlier in the degree. Curriculum redevelopment to enhance the practical experience should improve student confidence, perceived preparedness and satisfaction with the Program.

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MEAL ROUNDS AS A STRATEGY TO COMBAT MALNUTRITION IN THE CLINICAL SETTING

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Evidence-based strategies to prevent and treat malnutrition in acute and subacute care are limited. Dietitian meal rounds offer a potential solution for timely and effective intervention to address malnutrition prevalence. Meal rounds involve informal, brief observation of patients in their dining environment while they are eating or being fed a meal. Literature supports the practice of regular meal rounds with beneficial outcomes through increased contact and communication between dietetic staff and patients. However, dietitian meal rounds were infrequently conducted at our health service. This quality improvement activity evaluated the knowledge, perceptions and frequency of dietitian meal rounds, before and after the implementation of a health service meal round guideline. A pre-implementation survey was conducted with dietitians to understand the perceived benefits and limitations of meal rounds. A dietetic meal round guideline was developed, providing direction on timing and frequency of meal rounds, strategies to address meal-related issues, and feedback processes. The guideline was piloted and refined prior to implementation, with participants re-surveyed six weeks post-implementation. Pre-implementation data indicated meal rounds were infrequently conducted despite staff attitude towards the strategy being positive. Post-implementation data identified that meal rounds assisted dietitians with workload prioritisation, timely nutritional intervention, and reduced supplement and food wastage. Awareness of food service feedback mechanisms was increased, as was the

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reporting of food service issues. Dietitian meal rounds offer an efficient approach to patient care and workload management whilst guideline implementation can support increased clinician awareness of the importance of meal rounds as a strategy to improve nutritional care.

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ARE AUSTRALIAN TODDLERS MEETING RECOMMENDATIONS FOR FRUITS AND VEGETABLES?

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Early and repeated exposure to fruit and vegetables, during the transition from a milk-based diet to family foods, is essential in order for children to accept and develop a preference for these foods. The aim of this study was to assess the dietary intake of a cohort of toddlers to determine if recently released food group recommendations for this age group were satisfied for fruit and vegetables. Mothers (n = 832) participating in the Adelaide-based SMILE cohort study completed a single 24-hour recall of their child's food intake conducted by a trained dietitian, followed by a 2-day food diary. Diets were entered into FoodWorks® and analysed using NUTTAB 2011–2013. Plausible intake data were available for 714 toddlers with a mean age of 13.1 (SD \pm 0.84) months. Multivariate logistic regression was used to identify the predictors of adequate intake of fruit and vegetables. Fruit was consumed by 97.3% of toddlers with a mean daily intake of 0.38 ± 0.32 serves. Only 26.8% of children met the recommendation of 0.5 serves (75 g) of fruit/day. Although vegetables were consumed by 95.1% of children, only 0.9% consumed adequate quantities (2–3 serves/150–225 g), with a mean intake of 0.44 ± 0.42 serves. Toddlers with older siblings were 71% less likely to consume adequate serves of fruit compared to first-born children. No independent predictors of adequate intake of vegetables were identified. The low intake of fruit and vegetables reported here is of concern and mothers should be advised of the recommended number of serves of these food groups.

Funding source: NHMRC (Project Grant # 1046219) Study of Mothers and Infants Life Events affecting oral health (SMILE)

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THE EFFECT OF MEDITERRANEAN DIET INTERVENTION ON CARDIOMETABOLIC RISK MARKERS IN PATIENTS AT RISK OF A SECONDARY CARDIOVASCULAR EVENT

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The AusMed Heart Trial commenced in late 2014 to determine the efficacy of Mediterranean Diet in reducing incidence of secondary cardiovascular events in an Australian population. This study investigates if a Mediterranean Diet intervention influences cardiometabolic risk in patients with coronary artery disease. We analysed an initial cohort (n = 17) of AusMed participants randomised to Intervention (Mediterranean Diet; n = 9) or Control (low-fat diet; n = 8). Participants attended

appointments at 0, 3 and 6 months; anthropometric, haemodynamic and body composition measurements were taken and blood samples were collected for biomarker analyses. Physical activity patterns were determined by accelerometry. Mediterranean Diet adherence score, using the 14-item PREDIMED tool, showed a significant change from baseline after 3 months: mean score 10/14 vs. baseline score 5/14 (Intervention) and mean score 5/14 vs. baseline score 4/14 (Control; interaction effect: $F = 10.593$, $P = 0.005$). Good diet compliance continued up to 6 months. Plasma adiponectin concentrations, an adipocyte-derived insulin-sensitizing and anti-inflammatory hormone, increased from baseline after 6 months of Mediterranean Diet intervention compared to Control (2.99 ± 0.43 mg/ml to 5.85 ± 1.36 mg/ml vs. 2.53 ± 0.21 mg/ml to 1.60 ± 0.25 mg/ml; interaction effect: $F = 0.796$, $P = 0.018$). Mediterranean Diet intervention did not influence changes in lipid profile, body composition or physical activity pattern at 3 and 6 months (interaction effects: $P < 0.05$). These preliminary findings demonstrate that a Mediterranean Diet intervention can change dietary behaviour and positively influence plasma adiponectin concentrations, an established cardiometabolic risk factor, in Australians with coronary artery disease when compared to a conventional low-fat diet.

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PREPARING THE WORKFORCE OF THE FUTURE: PERSPECTIVES OF ACADEMIC DIETETIC EDUCATORS IN AUSTRALIAN UNIVERSITIES

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Dietetic educators represent a small but potentially influential workforce sector that has experienced rapid growth in the past decade. The associated workforce development challenges faced by this sector have been largely unexplored. This study aimed to generate knowledge about dietetic workforce preparation in Australia by exploring the lived experiences of the academic dietetic educators involved in this phenomenon. A phenomenological approach was taken and subjects identified as dietetic educators were purposively sampled. In-depth, semi-structured interviews were conducted either face-to-face or via telephone and were digitally recorded then transcribed. Questions explored the experiences and challenges of educators in relation to preparing dietitians for the workforce. Data were managed with NVivo and thematically analysed using open coding until saturation was achieved. Fifteen educators from 13 universities across 6 Australian states/territories were interviewed. Participants represented a range of experience levels as dietetic educators (1–5 years = 27%, 6–10 years = 20%, 11–15 years = 46%, 26–30 years = 7%). Emergent themes included that educators are challenged by the increasing expectations of students and universities, student connectedness to technology, and the evolving diversity of dietetic practice. A lack of engagement from the wider profession impacts educator's capacity to optimally prepare dietitians for the emerging workforce. As key influencers of the future dietetic workforce, ongoing research and strategies are required to support the dietetic educator workforce and to ensure that educators are maximising their potential. A systematic, whole-of-profession approach is needed to ensure that the preparation of the future dietetic workforce in Australia is optimised.

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FROM PIES AND CREAM BUNS TO SUSHI AND SALADS: SUPPORTING SCHOOLS TO PROVIDE HEALTHIER FOOD OPTIONS FOR STUDENTS

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Good health, food and nutrition are essential for children to have a positive start in life and achieve their full potential. Childhood obesity is a major public health issue. In 2013, 29% Queensland school-aged children were overweight or obese. Most children are (1) not consuming adequate vegetables or fruit; (2) consuming excess inappropriate, discretionary food and drinks. Improving nutritional quality of food and drinks children consume is an important element in tackling childhood obesity and preventing chronic disease in later life. The Queensland Government's Smart Choices Healthy Food and Drink Supply Strategy for schools, launched in 2007, sought to improve the nutritional value of food and drinks in the school environment. In 2015, Nutrition Australia Queensland (NAQ) Nutrition was engaged to undertake an active research project to support 50 Queensland school canteens to identify barriers and enablers for them to better implement the Strategy. Canteen menus were assessed against the Smart Choices Strategy, where food and drinks are classified into categories according to their nutritional value – GREEN ('have plenty'), AMBER ('select carefully'), and RED ('occasional'). This identified that on average the canteen menus were 48% GREEN; 44% AMBER; 5% RED, with 74% of schools having at least one RED item on their menu (most commonly in the snacks and drinks section). Schools are receiving ongoing, individualised support over the project duration to improve menu choices. Post-intervention evaluation, in early 2016, will identify how these schools have progressed in improving the nutritional value of their menus.

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CORRECT MEAL FOR THE CORRECT PATIENT

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A formalised written procedure for patient identification by food service staff at meal delivery was developed in October 2014 to meet National Safety and Quality Health Service Standards Standard 5: Patient identification and Procedure matching. Patient identification is essential to ensure patients receive the correct meal to minimise adverse outcomes. The procedure was evaluated by audit of adherence of food service staff to the three-point identification check: verbal name check, confirmation of the name and diet code on the menu slip with the patient's bedside board. The initial audit conducted in January 2015 showed low adherence with verbal name checks (14%); however, both the patients name and diet code on the menu slip matched the patient name and diet code on the bedside board (100% and 85%, respectively) and no incidents were reported. Given the result, education was provided in February 2015 to food service staff detailing the required three-point identification check. The post-education audit, conducted in May 2015, revealed continued poor compliance with verbal name checks (0%). Despite having a formalised procedure and providing staff education, the results indicate a need for clarification of the role and responsibilities of non-clinical food service staff versus clinical staff during meal delivery. As nursing staff are aware of the dietary needs of their patients, it may be more appropriate for a designated nurse to assist food service staff with patient identification at meal times, to ensure the correct meal is received by the correct patient.

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THINK GLOBAL, EAT LOCAL: GROWING TASMANIA'S EMERGING LOCAL FOOD ECONOMY WHILE IMPROVING COMMUNITY ACCESS TO HEALTHY FOOD

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Tasmania has a reputation for growing some of the best quality food in Australia, but paradoxically has some of the worst health outcome in the country. Studies suggest that the existing food system is not delivering what communities want because locally grown healthy food is often difficult and expensive for Tasmanians to access. University of Tasmania researchers have taken a snapshot of Tasmania's local food system by interviewing 64 key stakeholders from producers through to consumers. The research looked at opportunities and challenges for strengthening new and existing local food systems – and identified key features to create economic, social and environmental sustainability. Our findings suggest that a successful Tasmanian local food system needs to (1) strengthen the existing system/s; (2) get local governments involved; (3) address the broader social determinants of health; (4) not take a one-size-fits-all approach; (5) engage consumers to support the needs of the market; (6) make incremental changes; and (7) involve smaller to medium-sized growers and community groups. Local food systems could play a pivotal role in strengthening the local economy in Tasmania and at the same time improve community access to healthy food and therefore improve community health and wellbeing. The findings from this research raise question of how we build 'scale and scope' into our local food industries and what could and should be the role of Local Governments, as well as Nutrition Professional in a sustainable, resilient and healthy food and water system.

Funding source: Funding was received from the Australian Government's Department of Health through Primary Health Tasmania.

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DIET HISTORY AND FOOD RECORDS AS PREDICTORS TO URINARY SODIUM, URINARY POTASSIUM AND BLOOD PRESSURE

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In epidemiologic studies, dietary assessment methods such as 24-hour recalls, diet histories (DH), food records (FR) and food frequency questionnaires are used to assess the relationship between diet and disease. The aim of this study was to compare associations between dietary intake estimated via DH and FR, and urinary sodium, urinary potassium and blood pressure (BP) in a sample of overweight and obese healthy adults volunteering for a weight loss trial. This secondary analysis of baseline data was conducted on 328 participants [mean age: 43.6 ± 8.0 years, mean body mass index: 32.4 ± 4.2 kg/m², mean systolic BP (SBP)/diastolic BP (DBP): 124.9 ± 14.5/73.3 ± 9.9 mmHg] of the 12-month HealthTrack randomized controlled trial. Resting BP and 24-h urinary sodium and potassium were measured. Dietary intake was evaluated with 4-day FR and DH. Sodium intake estimated via FR significantly predicted urinary sodium, accounting for 16.0% of the explained variability [F (21.8, 3df) P < 0.01] compared to 10.7% [F (13.99, 3df) P < 0.01] from DH. Potassium intake estimated via FR accounted for 20.5% of the explained variability in urinary potassium [F (29.1, 3df) P < 0.01] compared to 12.6% [F (16.7, 3df) P < 0.01] from DH. For SBP, sodium intake from FR accounted for 11.1% of the explained variability [F (11.2, 4df) P < 0.01] compared to 10.5% [F

(10.6, 4df) P < 0.01] from DH. In a clinical sample of overweight adults, FR better predicted urinary sodium, urinary potassium and SBP compared to DH. Identification of food sources of sodium and potassium using FRs may guide dietary advice for BP control.

Funding source: Illawarra Health and Medical Research Institute and California Walnut Commission

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MEASURING NUTRITION STATUS OF COMMUNITY-DWELLING ADULTS WITH CHRONIC LEG AND FOOT ULCERS: A SYSTEMATIC REVIEW AND PILOT STUDY

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Many health professionals believe nutrition influences chronic wound healing; however, the few guidelines that exist contain little evidence to support this view. As part of a larger project, a literature review and pilot study was conducted to decide how to measure nutrition status in a community population with chronic lower limb wounds. A PRISMA literature search identified 11 studies. This review found malnutrition incidence two to five times higher than in comparable populations. These small studies, generally of low quality, reported no consistent measure of wound or nutrition status. In light of this, a pilot study was conducted. Three malnutrition screening/assessment tools, Malnutrition Screening Tool (MST), Subjective Global Assessment (SGA) and Mini Nutrition Assessment (MNA), anthropometric measures, clinical history and diet history were utilised to assess nutrition status. Participants (n = 6) were recruited from a university clinic, incorporating a specialist wound healing service and a high-risk diabetic foot clinic. In the pilot population, one participant was identified as having or being at risk of malnutrition using all three tools. Anthropometric measures revealed all other participants to have excess adiposity; the MNA determined two of these participants were at malnutrition risk. Dietary analysis revealed all participants failed to meet their recommended servings of at least one core food group and all had macronutrient distributions outside the recommended ranges. This preliminary research confirms that little is known regarding the nutrition status of this population or how to measure it. A large study is currently underway to describe the nutritional status of this population.

Funding source: Wound Management Innovation CRC

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CAPACITY BUILDING TO PROMOTE NUTRITION IN PEOPLE WITH SEVERE MENTAL ILLNESS

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People with severe mental illness (SMI) have significantly poorer physical health and premature mortality. While some of this health inequity is related to their medications, lifestyle factors and poor living conditions are significant contributors. This project aimed to enhance the capacity of mental health workers to support their clients with SMI in improving their eating habits. Cognitive impairment, memory problems and attention deficits associated with SMI are barriers to consumers'

ability to learn and adapt to new behaviours. There is a lack of simple pictorial low literacy healthy eating resources tailored specifically for this client group. Using an online survey tool, we explored and identified local community mental health workers' practices and perceived access to resources supporting promotion of healthy eating in consumers living with SMI. While workers believed they play an important role in promoting physical health, few felt they had the resources they needed. Most workers use 'own knowledge' to guide healthy eating advice given. These survey results informed development and consumer testing of evidence-based pictorial low literacy educational materials. Consumers found these resources engaging and user-friendly. This then motivated them to seek more detailed information. A Train-the-Trainer approach was used to up-skill the mental health workers in use of the resources with their consumers and to enhance referral pathways by strengthened collaboration between local physical health and mental health services.

Funding source: Inner East Melbourne Medicare Local

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**THE BOND DIABETES INTERVENTION:
PILOTING OF A PATIENT-DIRECTED
GROUP-BASED LIFESTYLE MODIFICATION
PROGRAM FOR THE MANAGEMENT OF TYPE 2
DIABETES MELLITUS**

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Reported advantages of group education programs over individual education for patients with type 2 diabetes mellitus (T2DM) include reduced costs and time required for health professionals (1) but there is very little research exploring the attributes that may account for benefits to patients. This study piloted an unstructured patient-directed group program (the Bond Diabetes Intervention; BDI) for the management of T2DM with 13 patients who participated in a six-week program facilitated by a dietitian. The program was evaluated using a mixed-methods approach, including anthropometric measures, four validated questionnaires assessing quality of life, diabetes knowledge, nutrition knowledge and self-efficacy, and process and participant evaluation using semi-structured telephone interviews conducted with each of the participants. The results indicated small but significant improvements in body mass index (-0.3 kg/m^2 , $p = 0.033$) and waist circumference (-3.6 cm , $p = 0.004$). Group participants were very satisfied with the BDI, with all noting that they would recommend the program to their friends with T2DM. Participants particularly valued the group interactions and facilitator support, and the majority were happy with the number and length of sessions, although some indicated they would like more or ongoing sessions. The majority of participants identified other group members as peers who helped their learning, and reported improvements in their diabetes control and confidence in self-management. This pilot study suggests that T2DM patients value patient-directed group-based interventions, which may provide small but significant improvements in patient outcomes.

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**THE UTILISATION OF GROUP-BASED
EDUCATION FOR PATIENTS WITH TYPE 2
DIABETES MELLITUS, AND PREFERENCES FOR
PRACTICE AND TRAINING, BY AUSTRALIAN
DIETITIANS: A SURVEY**

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In 2004, allied health services were included under Medicare funding, introduced as Chronic Disease Management (CDM) Medicare items, which aimed to enhance the management of chronic diseases. Patients who have been diagnosed with type 2 diabetes mellitus (T2DM) can be referred by their GP for small group services. Only dietitians, diabetes educators or exercise physiologists who are registered with Medicare Australia are eligible to provide group services. Despite the many benefits of group-based education programs, few health professionals are currently implementing them for the management of T2DM patients in Australia. The utilisation of group services for T2DM management provided by dietitians comprises less than 2% of total dietetic service provision. The usage of individual dietetic services has increased consistently over recent years, whilst group service item usage has decreased, declining by 46% from 2011 to 2013. The potential to educate patients in a cost-effective and time-efficient manner, to provide ongoing support to patients, to improve patient outcomes and to increase earnings over longer periods is not being realized by dietitians in Australia. This study will survey Australian Accredited Practising Dietitians (APDs) to explore the utilisation of group-based education for T2DM management, as well as preferences for practice and training. The results of this study will provide insight into the current barriers for implementing group-based programs for T2DM, and the needs and preferences of APDs to address these. The survey has been piloted and data collection will be completed in early 2016. Full results of the survey will be presented at the conference.

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**IMPROVING NUTRITION PRACTICES IN EARLY
CHILDHOOD: TARGETING PARENTS VIA AN
ONLINE VIDEO MEDIUM**

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Nutritional guidelines are critical in early life years (0–5 years) as this is when food preferences and dietary habits are formed. In Australia, as much as 30% of dietary intake for 2–3 year olds comes from discretionary food choices. The ubiquity of the Internet in contemporary society affords an important medium for parental nutritional education; however, a market gap exists for compact direct videos on specific nutritional issues. The purpose of this project was therefore to increase parental awareness, self-efficacy and knowledge of key current childhood nutrition topics that affect children's dietary habits, via an online medium. Literature regarding early childhood nutrition determinants was reviewed and needs analyses including surveys, activities and informal interviews with parent groups and Nutrition Australia Queensland (NAQ) stakeholders were conducted. Priority topics of concern were then determined and high production value videos were scripted. Three videos 3–4 minutes in length were fully developed on topics including: Introducing Solids; Squeezy Foods; and Fruits, Vegetables and Multivitamins. Accompanying printable resources were developed and social media posts relating to the videos were drafted for future use. Initial evaluation of the videos and resources via informal interview with NAQ Nutrition stakeholders has been positive and suggests that the devel-

oped videos and resources have potential to impact parents and their children if sufficiently widely disseminated. Although further evaluation is required, early intervention of children's nutritional habits via parents using online nutritional videos appears to be a promising strategy for providing information on targeted nutrition topics in a brief, direct and engaging mode.

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RESULTS OF ANNUAL HOSPITAL MALNUTRITION AUDIT: THE SKELETON IS STILL IN THE CLOSET

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Malnutrition continues to be a significant problem in healthcare facilities, increasing the financial burden and patient complications. Guidelines recommend screening for early identification of malnutrition. However, barriers exist to implementing screening and at Sir Charles Gairdner Hospital (SCGH) we have previously been unsuccessful in attempts to introduce screening procedures. We aimed to highlight the problem by repeating an annual hospital wide malnutrition audit. Accredited Practising Dietitians at SCGH conducted a single day malnutrition prevalence audit of eligible hospital inpatients. Patients were screened for risk of malnutrition using the Malnutrition Screening Tool (MST) and then assessed by the Subjective Global Assessment (SGA). Previous referral to a dietitian and the medical specialty was also recorded. The prevalence of malnutrition in 2014 and 2015 was 38% and 36%, respectively. The chi-squared test revealed no significant difference in malnutrition between 2014 and 2015. The 2015 audit revealed that 33% patients (n = 39) diagnosed with malnutrition had not been previously referred to a dietitian. A statistician employed the McNemar's to analyse the malnourished population with and without the use of the MST. The results suggest that if the MST was used on admission to identify patients at risk of malnutrition, an additional 38 malnourished patients would have been appropriately referred to a dietitian. Only one malnourished patient would not have been identified. In this audit we demonstrated that malnutrition is underdiagnosed and patients are lacking specialist dietetic care and are at risk of deterioration. These results support implementing systematic screening for malnutrition upon admission to SCGH.

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HOSPITAL MENUS: INSIGHTS FROM A SYSTEMATIC LITERATURE REVIEW

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The way in which hospital menus are designed and presented to patients differs between healthcare organisations. The aim of this systematic review was to identify hospital menu interventions that were effective in improving patient and non-patient-related outcomes. The review protocol was registered with PROSPERO Advisory Group and was reported following the PRISMA guidelines. Five electronic databases (CINAHL plus, Cochrane Library, EMBASE, Ovid MEDLINE and Scopus) were searched for prospective research where the hospital menu was the primary intervention. Two researchers reached consensus for study eligibility and quality assessment. Outcomes were described narratively. Six of the 2201 records retrieved met inclusion criteria and were included in the review. The findings indicated standardised menu for-

matting and the spoken menu system improved the accuracy of items delivered on meal trays. Both the spoken and computerised interactive menu systems were found to enhance aspects of patient satisfaction without increases in cost. Descriptive menus may increase food intake; however, branding food items on the menu was not well supported by patients. Study quality was positive for one study, whilst the remaining five studies rated neutral. A strong evidence base that guides hospital menu design and presentation is yet to be established. Few studies conducted on any one menu intervention and the quality of the evidence means that further research is needed on the impact of hospital menus on patient and non-patient-related outcomes. Hospital food service departments should consider these findings when reviewing menus.

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A RESPECTFUL APPROACH TO DIETARY RESEARCH INVOLVING CHILDREN: THE IMPORTANCE OF COMMUNICATION, ACKNOWLEDGEMENT AND PARTICIPATION

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Ideally, participating in dietary trials should be an enjoyable experience for children. However, some assessments, such as blood sampling, can be unpleasant and stressful. We aimed to investigate whether principles from child care specialist Magda Gerber's *Resources for Infant Educators* would be relevant to nutrition-related assessments, and apply them in practical examples. Three relevant principles were identified from the literature: (1) use of authentic communication, (2) acknowledging emotions, and (3) inviting participation. These principles can be applied by researchers to a variety of nutrition-related assessments. The blood sampling scenario can be used as an example. Authentic and honest communication about why the sample is needed, and what to expect, is important to empower the child with knowledge. Withholding information can result in mistrust, so it is important to say the procedure is likely to hurt, but it won't hurt for long. Giving advanced notification recognises the child's need for time to process the procedure. Use of a calm, slow voice, rather than a 'baby' voice, is beneficial. Asking the child how they feel about having blood taken can encourage expression of emotions. The researcher can acknowledge their feelings are valid, and let them know that it is okay if they feel like crying. Children can participate by conducting a sample on a teddy bear or doll initially (using a fake syringe), and choosing which arm they would like their sample taken from. Following these principles can help treat children with respect and improve their research experience.

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THE IMPACT OF MEAL SERVICES ON THE NUTRITIONAL INTAKE OF COMMUNITY-LIVING OLDER ADULTS: A SYSTEMATIC LITERATURE REVIEW

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Community-living older adults have an increased risk of malnutrition, with up to 43% being malnourished or 'at risk'. This systematic litera-

ture review aimed to explore whether nutritional intake is significantly greater in community-living older adults when receiving meal services, compared to when meal services are not received. It was conducted using the procedures outlined in the Evidence Analysis Manual: Steps in the Academy Evidence Analysis Process and PRISMA statement. Four electronic databases were searched: Scopus, Medline, Science Direct, and Web of Science, using various combinations of the following keywords: 'Meals on Wheels', 'Elderly Nutrition Program', 'home delivered meal', 'weekend meal', 'nutrient intake', 'nutritional intake', 'dietary intake', and 'nutritional risk'. Of the 399 articles identified, 10 met the inclusion criteria as follows: peer-reviewed full-text articles in the English language; involving older adults living at home who also had their dietary intakes estimated. Energy and protein were the key nutrients measured, but information was scant about the composition of some meals provided. Study quality was not optimal due to small samples and design type. The scarce literature available provides some evidence to suggest that home and congregate meal services contribute significantly to intakes by participants, however this review did not analyse other outcomes such as improvements in weight, social interaction or quality of life. There is a need for further high-quality research in these areas to provide more conclusive evidence regarding the role of meal services in reducing nutritional risk among community living older adults.

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DIETETIC WORKFORCE LEARNING FRAMEWORK

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Fiona Stanley Hospital (FSH) is a new 783-bed quaternary hospital in Western Australia. Allied health has an integrated de-centralised model with 370 staff across 11 professions managed in clinical streams not within discipline. The Allied Health Strategic Plan (2015–2017) identifies workplace learning as a critical component to leading clinical practice and enabling an inspired workforce. The decentralised model has driven the need to take a holistic approach to address workplace learning as part of the wider allied health clinical practice and governance framework. This supports greater opportunities for career diversity and progression, and addresses some of the challenges of creating a sustainable workforce that delivers safe, best practice and ensures ongoing quality improvement of clinical practice. Allied health has a multi-tiered approach to workplace learning costed within the affordable teaching training and research (TT&R) budget. Medical and nursing professions have long embraced workplace learning through post-graduate competency-based training to develop specialty skills; however, this has not always been the case for allied health. By taking a systems approach, dietetics can support workplace learning beyond student level competencies. At FSH, this has involved the development and implementation of a clinical training program for rotating junior staff, dietetic core skills program (all dietitians) and dietetic specialist skills program. These are supported by inter-professional education opportunities including a leadership program. Discipline specific continuing professional development is delivered to meet additional learning needs but remains uncoded. This presentation aims to describe the objectives, methodology, implementation and evaluation of the dietetic workplace learning framework.

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TRANSLATING RESEARCH INTO PRACTICE: EFFECTIVENESS OF GROUP WEIGHT MANAGEMENT PROGRAMS IN BARIATRIC ADULTS

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Clinical studies indicating group programs are more effective than individual programs for weight management in obesity usually exclude bariatric patients with body mass index (BMI) ≥ 40 kg/m². Psychological considerations may be challenging to manage in bariatric group programs and effectiveness of this approach is unknown in this cohort. This study aimed to determine the effectiveness of a group bariatric Healthy Eating and Lifestyle Program (BHELP) in influencing weight and attitudes towards eating. Data were collected from 16 groups (2011–2014) at baseline and completion of an 8-week dietetic/psychology led program. Outcomes included weight, physiological and psychological hunger cues using the validated 5-point Intuitive Eating Scale (IES) and 10-point Weight Efficacy Lifestyle Questionnaire (WEL) and pain and quality of life (QOL) both using 0–100 scales. Higher scores in IES, WEL, and QOL and lower scores in pain indicate improvement. Paired t-tests assessed changes in weight, QOL and IES (mean \pm SD). Wilcoxon signed-rank tests assessed pain and WEL (median and range). Program completers (n = 69) were predominantly women. Statistically significant improvements were observed for weight (n = 72, 151.9 kg \pm 37.1 to 149.9 kg \pm 36.4, p < 0.000), IES (n = 57, 2.8 \pm 0.4 to 2.9 \pm 0.4, p < 0.000), and WEL (n = 57, 5.8–7.0 ranges 0–8.7, p < 0.000). Changes in QOL and pain (n = 43, 49.4 \pm 25.8 to 58.3 \pm 23.6, p = 0.063; 50–57, ranges 0–100, p = 0.204) were not statistically significant. Despite the complexities of behaviour change, BHELP achieved weight stability and favourable attitudinal shifts towards eating. Results support continuation of group-based management approaches for this emerging and complex client group.

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Abstract Withdrawn

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A COMPARISON OF COST, NUTRIENT CONTENT AND MARKETING TECHNIQUES OF DIETARY SUPPLEMENTS AVAILABLE FOR USE IN YOUNG CHILDREN IN AUSTRALIA.

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Dietary supplements are rigorously marketed to consumers and are increasingly given to young children by their parents. Information regarding the content of supplements in Australia is often confusing, resulting in unnecessary use in young children or provision of doses that do not meet their needs. Data were collected from two pharmacies in Perth, Western Australia to assess the nutrient content, cost and marketing techniques of dietary supplements in Australia. Analysis focused on iron, calcium, fish oil, zinc and vitamin C-containing supplements because of their significant use or potential need in Australian young children. The dietary supplements were ranked according to nutrient content (adjusted for bioequivalence) and cost. The three 'best value' supplements for all five nutrients were identified for two age groups, 1–3 and 4–8-year-old children. This study found that dietary supplements were commonly marketed in a misleading way and there was extensive variability in the nutrient content in similarly marketed supplements. Dietary supplements with a higher cost per dosage did not result in a higher content of the key nutrient and/or a more bioavailable compound of a nutrient. Consumers may be attracted to children's supplements due to deceptive marketing techniques, and may not be able to interpret the complex ingredient information, resulting in misuse of dietary supplements. In response to these difficulties, a tool was developed to easily compare the best value Australian dietary supplements for children.

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Abstract Withdrawn

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PROVISION AND CONSUMPTION OF NUTRITION AMONG PATIENTS REQUIRING THERAPEUTIC DIETS IN HOSPITAL

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Adequate nutrition is vital for health and recovery among hospitalised patients. This study assessed the adequacy (ability to meet patients' nutritional needs) of meals delivered to and consumed by inpatients receiving a therapeutic diet. Participants were adult medical inpatients (n = 110) receiving a therapeutic diet (texture modified, low allergen, oral-fluids and/or low fibre) for medical or nutritional reasons, at a tertiary metropolitan hospital in Queensland. A chart audit gathering demographic, clinical and nutrition-related information was utilised to calculate each patients' disease-specific estimated energy and protein (E&P) requirements. Complete (24-hour) food provision and intake data were then observed. E&P provision and intakes were considered adequate if they met ≥75% of patients' estimated requirements. Mean E&P provided to patients (5844 ± 2319 kJ and 53 ± 30 g) were significantly lower than their estimated requirements (8786 ± 1641 kJ and 86 ± 18 g). Consequently, mean E&P intakes (4088 ± 2423 kJ and 37 ± 28 g) were significantly lower than estimated requirements. Only 24% and 22% of patients consumed enough food to meet their estimated E&P requirements, respectively. When comparing therapeutic diets, patients on oral fluid diets had the highest estimated requirements (9497 ± 1455 kJ and 93 ± 16 g) and the lowest nutrient provision (3497 ± 1388 kJ and 25 ± 19 g) and consumption (2156 ± 1394 kJ and 14 ± 14 g). Patients prescribed therapeutic diets are at risk of inadequate nutrient provision and consumption. Patients receiving oral fluid diets appear particularly vulnerable to inadequate nutrition.

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HOW DO I DO THAT AGAIN? VODCASTS FOR PATIENTS WITH FEEDING TUBES AND SWALLOWING DIFFICULTIES

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Throughout cancer treatment, patients receive a lot of information from many different health professionals, which can quickly become overwhelming. Patients and carers find it difficult to process and remember information provided. Web-based educational tools are becoming more widely used as they allow their audience to watch when, where and how they want. This multidisciplinary project aims to develop a series of Australian-specific visual instructional modules (vodcasts) for patients with feeding tubes or swallowing difficulties. Vodcast topics were determined through focus groups with clinicians, patients and carers. Patients were asked to describe what nutrition and speech pathology education they received. Patients were also asked to describe their level of satisfaction with this education, what gaps they felt existed, and what vodcast topics would be most beneficial for future patients. Recollection of education was poor and varied greatly from what is currently provided. Patients and carers acknowledged information overload and inability to recall or process education provided. Confirmed vodcast topics include: how to administer a syringe bolus via gastrostomy, how to administer gravity bolus via nasogastric tube, administration of medications via feeding tubes, laryngectomy care and thickening fluids. Once

finalized, vodcasts will sit on reputable website, EviQ, viewable online, and available to download to a USB or DVD for those without internet access. Evaluation will be completed early in 2016 with vodcasts planned for launch in March. It is intended that vodcasts will increase patient safety and confidence, provide an avenue for troubleshooting for patients and carers, and promote best practice among clinicians.

Funding source: WCMICS

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ENTREPRENEURIAL CAREER PATHWAYS: A SURVEY OF THE VIEWS OF DIETITIANS AND IMPLICATIONS FOR DIETETIC EDUCATION

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Dietetic workforce trends reveal the need to expand the profession beyond traditional employment sectors and explore entrepreneurial opportunities. This study aimed to explore the credentialing dietetic education and career pathways of entrepreneurial dietitians. A cross-sectional survey design was used. The survey instrument was developed following a review of the literature and made available online using LimeSurvey. The survey was comprised of 26 items (categorical, ranked and short answer responses), and took approximately 15 minutes to complete. Dietitians were invited to participate via an invitational post to members of *Dietitian Connection*®, through the researchers' networks, and by snowballing. Statistical and descriptive analyses were conducted on quantitative data and inductive thematic analysis on qualitative data. Of the 34 eligible respondents, more than half (n = 18) had completed qualifications prior to their dietetic credential and a similar number (n = 16) had completed additional courses after being credentialed as a dietitian. Exposure to placements in non-traditional areas during their degree, completion of additional study, and prior business experience were reported as factors encouraging entrepreneurialism. A lack of positions in traditional employment areas forced some to explore entrepreneurial alternatives. Barriers included lack of skills and knowledge in small business management, as well as financial constraints. Universities are recommended to redevelop their programs to include entrepreneurial skill development through courses and practical placements. Incorporating business and marketing as electives or mandatory course content may address perceived gaps in current dietetic education and potentially expand opportunities within the dietetics profession.

Funding source: BND Honours Project

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PATIENT EXPERIENCE WITH NUTRITION CARE 1: DEVELOPING A QUALITATIVE METHODOLOGY

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There is increasing interest in patient experience and consumer-centred care in health service provision and research. Qualitative methods are yet to explore inpatient experiences of hospital nutritional care. This study aimed to develop a methodology that enabled comprehensive exploration of patient and carer experiences of nutritional care during hospital admission. Extensive literature review identified common techniques used to evaluate patient experience. Narrative and semi-structured techniques were trialled in preliminary interviews, resulting in the development and refinement of a single methodology that incorporated elements of both techniques. Further interviews were conducted with 13 subjects (nine patients and four carers) from acute wards to test and further refine the methodology to include visual aid prompt cards and modify the interview questions. These interviews were recorded, transcribed, and analysed thematically, with themes then compared with results obtained from quantitative inpatient dietetic and foodservice satisfaction surveys. Prominent themes from pilot interviews included: nutritional knowledge, staff roles, hospital foodservice, nutritional care, and differences between hospital and home. Similarities and differences were seen between the interviews and surveys, with the survey methodology eliciting a rich and thorough discussion of issues, many of which were not obtained using satisfaction surveys alone. Using a qualitative methodology may help dietitians and health services better understand the patient and carer experience with nutrition care and how best to design and improve hospital nutrition services to better meet their needs.

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PATIENT EXPERIENCE WITH NUTRITION CARE 3: 'A MISSED OPPORTUNITY': QUALITATIVE STUDY IN THE ACUTE HOSPITAL SETTING

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There is increasing interest in patient experience and consumer-centred care in healthcare. Using a qualitative methodology to explore patient and carer experiences of nutrition care in the acute hospital setting may help dietitians and health services to identify areas for service improvements. This study aimed to examine experiences of nutrition care in acute hospital wards. Using a previously developed methodology, one-on-one interviews were conducted with 31 patients and nine carers sampled from surgical and medical wards at a large Brisbane hospital. Interviews were recorded, transcribed and analysed thematically. The thematic analysis revealed 'gaps in information, education and communication' as the overarching theme influencing patient and carer experience of nutrition care in the acute hospital setting. This encompassed the categories: 'understanding nutrition requirements in acute hospital care (nutrition is not a priority, coping with nutrition impact symptoms, challenges in overcoming nutrition beliefs, struggling on texture modified and restricted diets)'; 'staff roles in the provision of nutrition care (confusion over role of dietitian, nutrition care not viewed as part of nurses role, insufficient assistance with meals and menus from foodservice staff)'; and 'access to nutrition care (lack of knowledge of meal and menu options, missing meals due to treatment, lack of coor-

dination of care). Qualitative methodology used in this study provided valuable insight into patient and carer experience with nutrition care in the acute setting. Addressing gaps in information, education and communication within multidisciplinary teams and with patients and carers may help to improve nutrition care processes and facilitate consumer-centred care.

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PATIENT EXPERIENCE WITH NUTRITION CARE 4: A SURVEY OF CURRENT METHODS USED IN AUSTRALIAN HOSPITALS

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There is increasing interest in patient experience and consumer-centred care in healthcare. Using the patient experience to design and improve health services is required in accreditation standards; however, there is currently poor understanding of how to measure its components. This study aimed to investigate methods used to measure/explore patient experience and/or satisfaction with nutrition care in Australian hospitals. Telephone interviews using semi-structured interview questions were conducted with fourteen dietitians working in public and private hospitals around Australia. Interviews were recorded, transcribed and analysed thematically. Thematic analysis revealed four core themes: 'hospital meals and foodservice' (routine validated and hospital-specific patient satisfaction measures used by foodservice and/or dietetic staff in most hospitals); 'nutrition care services' (formal patient satisfaction measures focused on home enteral nutrition and outpatient services used by some participants, with one participant reporting measurement of satisfaction and experience with inpatient nutrition care); 'hospital quality improvement activities' (most participants described hospital-wide patient experience measures with no focus on nutrition care); 'research and quality improvement' (patient experience measures of specific elements of nutrition care viewed as important to improve nutrition services). This study highlights that, while patient experience is gaining interest within hospitals and dietetic departments, most hospitals rely on quantitative patient satisfaction surveys to provide outcome measures of nutrition care services. Patient experience of nutrition care is mostly limited to research projects rather than routine evaluation of practice. Overall, dietitians in Australian hospitals are interested in using patient experience as an outcome measure of nutrition care services.

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DO BRIGHTON HEALTH CAMPUS REHABILITATION CLIENTS MEET THEIR ESTIMATED ENERGY AND PROTEIN REQUIREMENTS?

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This study assessed the nutritional intake of long stay rehabilitation clients (n = 71, <65 years n = 16; >65 years n = 55) in comparison to estimated energy (EER) and protein (EPR) requirements. Each participant's 24-hour dietary intake of all facility provided meals, mid meals and supplements was recorded using visual plate waste methodology and was analysed using FoodWorks 7. Reasons for intake <50% of a meal/mid meal/supplement were determined by survey. Summary sta-

tistics and Chi Square analyses were performed. The mean (standard deviation) energy and protein intakes in the <65 years age group was 6111 kJ (544 kJ)/70 grams (28 g), with 25.0% and 56.3% consuming >75% of EER and EPR, respectively. Participants aged >65 years revealed similar mean (standard deviation) energy and protein intakes of 5369 kJ (1805 kJ)/61 grams (23 g), with 34.5% and 63.6% consuming >75% EER and EPR, respectively. Age was not significantly associated with meeting 75% of energy or protein intakes (p = 0.47 and p = 0.59). Qualitative results revealed 'feeling full/ not hungry' was the most commonly cited reason for poor intake particularly at the evening meal. Possible explanations for the low number of participants meeting EER and EPR include a failure to monitor intake from non-facility sources and calculated requirements may have been overestimated. Potential areas for dietetic intervention to improve intake include energy and protein fortification of meal items whilst offering a smaller meal serve size if requested.

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AN EVALUATION OF MALNUTRITION SCREENING, DIETITIAN INTERVENTION AND PATIENT KNOWLEDGE OF NUTRITION SUPPORT AVAILABLE WITHIN AN AUSTRALIAN ONCOLOGY OUTPATIENT SETTING

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Malnutrition is common among oncology patients and may negatively affect treatment outcomes. Dietitians can assist patients with maintaining adequate nutritional intake, minimising weight loss and preventing malnutrition, often exacerbated by nutrition impact symptoms (NIS) frequently experienced by those receiving chemotherapy. The study aimed to assess whether oncology outpatients at risk of malnutrition were appropriately referred to a dietitian. An observational cross-sectional study was completed with patients receiving outpatient chemotherapy (n = 40). Patients were screened for malnutrition risk using a validated screening tool (Malnutrition Screening Tool [MST]) with the score compared against the initial MST score (completed at the commencement of treatment by nursing staff). A questionnaire evaluated patient perception of weight change, dietary changes and NIS experienced. Initial malnutrition screening identified 22.5% (n = 9) patients at nutritional risk (MST ≥ 2). The MST repeated during the study identified nine patients as at risk of malnutrition after commencing treatment that had not been referred to the dietitian for nutritional assessment and support. Two-thirds of patients experienced weight changes, of which 78% were unconcerned. All patients reported experiencing at least one NIS and were most likely to seek advice from their Oncologist for management. The study confirmed that malnutrition screening should be completed throughout cancer treatment to enable appropriate dietetic referral of patients at risk of malnutrition. Patients undergoing chemotherapy may benefit from early education to ensure they are able to identify negative outcomes from unintentional weight changes and monitor for NIS and consequently self-refer for dietetic input as required.

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THE STUDENT EXPERIENCE: HOW WELL DOES THE UNIVERSITY PREPARE AND SUPPORT STUDENTS ON PROFESSIONAL PLACEMENT?

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Seeking feedback from students is a vital process in the evaluation of University programs and student support structures. This research aimed to seek students' perceptions of their placement experience. A mixed methods retrospective study design was used. Griffith University Nutrition & Dietetics Master (n = 12) and Bachelor (n = 10) students returning from 2014 placements completed a 23-item survey of the placement experience in Individual Case Management (ICM), Food Service Management (FSM) and Community and Public Health Nutrition (CPHN) domains. Agreement was indicated on a 5-point Likert scale ('5' strongly agree; '1' strongly disagree). Focus groups exploring further detail were tape recorded and transcribed by an independent researcher. Response rate is 91%. Most students agreed they had been adequately prepared for placements in FSM (55%) and CPHN (63%), but fewer felt prepared for ICM placement (36%). Reasons included lack of familiarity with the hospital's clinical environment and few opportunities for practical application of knowledge prior to placements. During placements, students agreed they were able to contact University staff when needed, but felt the amount and mode of communication was inadequate, preferring individual face-to-face and regular telephone contact. These results are part of a design-based research approach involving students in a cyclic enquiry to inform timely improvements to the curriculum and placement support structures. The results have been used to enhance student preparation and support in subsequent cohorts, including more visits to clinics and health care facilities and additional (real and simulated) practice-based activities prior to placement, and more regular onsite communications from University staff.

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CONFIDENCE TO COMMENCE PROFESSIONAL PLACEMENTS CAN INFORM IMPROVEMENTS TO PRE-PLACEMENT WEEK ACTIVITIES

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Griffith University provides Pre-placement Week for Nutrition & Dietetics to enhance students' readiness for professional placements. Activities include an overview of the placement domains – Individual Case Management (ICM), Food Service Management (FSM) and Community and Public Health Nutrition (CPHN), supervisor expectations and assessments, learning modules, a project workshop, ward simulations and training in peer-assisted learning. This research is part of a design-based research approach involving students in a cyclic enquiry to inform curriculum development. The aim of this study was to evaluate student confidence before and after pre-placement week. The 2014 cohort of Griffith University Nutrition & Dietetics students completed surveys before (n = 32, 91%) and after (n = 34, 97%) pre-placement week. On a 5-point Likert scale ('5' very confident; '1' not confident) students indicated their level of confidence to commence placements in ICM, FSM and CPHN domains. Before pre-placement week, a minority of students reported being 'confident' or 'very confident' to commence placements: 14% overall, ICM 3%, FSM 41%, CPHN 44%. After pre-placement week, the number of students reporting 'confident' and 'very confident' for individual tasks increased: perform a nutrition assessment (before 25%; after 59%); implement an on-site food service project (44%; 84%); implement a community program (22%; 42%). Students were much less confident to conduct an outpatient clinic (remained at 9%). The level of student confidence significantly increased following

pre-placement week activities, especially for tasks related to FSM and CPHN. Lack of confidence in ICM activities indicates areas for future focus.

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LONG-TERM MAINTENANCE OF NUTRITION BEHAVIOURS IN HEALTHY ADULTS: A SYSTEMATIC REVIEW

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There is a large and compelling body of evidence that demonstrates the importance of a healthy diet in lowering risk of chronic diseases later in life. Many interventions nowadays incorporate dietary behaviour as a lifestyle intervention; however, it remains unknown whether these newly adopted behaviours are maintained long-term. This systematic review assessed the maintenance of nutrition behaviours using three definitions of maintenance. Systematic searches were conducted through ten databases: Medline, PreMedline, Embase, Web of Science, Informit, Lilacs, Cinahl, The Cochrane Library, PsycINFO and PubMed to identify relevant studies. The search was limited to randomised controlled trials or quasi-experimental designs for healthy adults in a diet or nutrition intervention with a behavioural theory component. The minimum maintenance period required for included studies was set as six months post-intervention. A total of 15 studies were included, 12 of which achieved some level of maintenance. Out of these, three studies achieved lenient, three moderate and six studies achieved strict maintenance. Intervention components that seemed to be particularly promising in the maintenance of nutrition behaviours area longer duration of intervention periods, longer follow-up periods, targeting a single nutrition behaviour, individual focus on participants and including some face-to-face contact. To our knowledge, this is the first systematic review solely focusing on nutrition behaviours in the long-term. The evidence of long-term maintenance for nutrition behaviour appears to be strong; however, the self-reported measure of the included studies remains a limitation.

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CONTRIBUTION OF UNIVERSITY FOODS TO DIET-QUALITY AND BODY MASS INDEX OF YOUNG ADULTS

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Tertiary education food environments have been linked with higher energy intake and excess weight gain in young adults. However, few data are available on the extent to which foods sold within universities affect overall diet quality in this population. This study assessed the effect of foods consumed at university on diet quality and body mass index (BMI) of young adults (103 urban university students, aged

19–24). A smartphone application incorporating the Australian food-nutrient database (AUSNUT 2007) supplemented by a database of 250 university foods was used to collect five-day weighed-food records (WFR). Our Healthy Eating Index for Australians (HEIFA-2013) was applied to measure diet quality and BMI calculated from measured height and weight. Logistic regression was used to assess the probability of a high ($\geq 50/100$) versus low ($< 50/100$) HEIFA score by number of days per week on campus and, proportion of university foods purchased within the 5-day period. Linear regression was used to test the relationship between proportion of university foods purchased and BMI. Participants who spent more days (> 2 days/week) on campus had a 22% increased odds (95% CI 1.15–1.35) for low HEIFA score (i.e. $< 50/100$) than those who spent fewer days. Similarly, participants who bought university foods \geq twice/week had a 25% increased odds (95% CI 1.22–1.46) for low HEIFA score. A greater proportion of university foods purchased was associated with higher BMI ($\beta = 0.038$; $P < 0.05$). Diet quality of young adults may benefit from interventions to improve the tertiary education food environment.

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HITTING THE GROUND RUNNING: A TIME IN MOTION STUDY OF NEW GRADUATE DIETITIANS IN A TERTIARY HOSPITAL

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Benchmarking the ideal number of patient consultations made per day for new graduate dietitians (< 2 years' experience) working in the hospital setting has proven challenging, primarily due to clinical caseload and facility differences. This project aimed to assess (1) number of patients reviewed daily by dietitians in a tertiary hospital (Gold Coast University Hospital, GCUH), (2) percentage and distribution of time across clinical (patient-attributable) and non-clinical activity and (3) to identify inefficiencies in daily activities and make recommendations to management. Four new graduate dietitians documented all daily activities over 5 consecutive working days. The groups' data were entered into Excel software and analysed for the average number of patients assessed and amount of time spent on clinical versus non-clinical activities. Dietitians assessed eight to nine patients per day with 80% of total working hours spent on direct patient-related activities. The remaining 20% of time was spent on non-clinical activities, mainly comprising attendance at journal clubs, professional development and professional supervision. The main inefficiency found was time spent on travelling between wards at opposite ends of the hospital. Recommendations were made to management to modify caseloads to decrease time spent on transit. As a result of the project, the GCUH Nutrition Department has set a benchmark for new graduate dietitians to assess eight to nine patients per day and spend $> 80\%$ of work time on clinical activities. These results could be used by other facilities as a benchmark when establishing local guidelines for new graduate dietitians.

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DO OVERWEIGHT AND OBESE MEN AND WOMEN REQUIRE DIFFERENT LIFESTYLE INTERVENTIONS?

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The Healthy Eating & Lifestyle Program (HELP) is a multidisciplinary secondary prevention lifestyle intervention program that focuses on

behaviour change in overweight and obese adults with co-morbid and/or orthopaedic conditions. This study evaluated the short-term benefits for men and women. This prospective observational study included 165 participants (female $n = 115$) who completed the 8–10 week program at a tertiary hospital or at one of two community settings. Anthropometric data (weight, height, body mass index (BMI) and waist circumference) were collected at pre- and post-intervention. Self-efficacy (Intuitive Eating Scale) and Quality of Life (SF-12) were assessed. All three settings achieved similar reductions in weight (-1.81 ± 3.28), waist (-3.45 ± 7.70) and BMI (-0.68 ± 3.49) ($p < 0.05$). All domains of intuitive eating improved ($p < 0.01$) and mental and physical quality of life improved from pre- to post-intervention (not significant). Men lost more weight than women (not significant); men were more likely to eat for physical rather than emotional reasons pre-intervention; both men and women improved their reliance on hunger and satiety cues, but only women improved scores for unconditional permission to eat ($p = 0.001$); women improved mental quality of life scores ($p = 0.05$), while men improved physical quality of life scores ($p = 0.078$). Completing a multidisciplinary behaviour change program had positive effects on weight loss, self-efficacy and quality of life in overweight and obese adults with existing comorbid conditions. Gender differences for emotional and physical eating cues require further assessment of the long-term benefits of the program, with possible implications for the design of future lifestyle interventions for men versus women.

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WHEN A CANCER PATIENT IN THE WAITING ROOM IS A RARITY: REVIEW AND NATIONALISATION OF AN ONCOLOGY-SPECIFIC RESOURCE TO SUPPORT GENERALIST PRIVATE PRACTICE AND COMMUNITY DIETITIANS ACROSS AUSTRALIA

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Many dietitians do not specialise in oncology but are required to provide cancer-specific information and support to patients. Informed by expressed need, an electronic resource kit, largely consisting of pre-existing guidelines and practical education tools, was compiled and distributed in phase 1 of this project. Phase 2 aimed to evaluate the usefulness of the resource kit to Australian Private practice Accredited Practising Dietitians who listed oncology as an 'area of practice' on the DAA publically searchable listings ($n = 210$) plus members of the DAA oncology interest group ($n \geq 1000$) were invited to complete an evaluation of the resource kit during September 2015. Questions focused on accessibility, frequency of use, support for practice, usefulness and unmet professional needs. Data were analysed using descriptive statistics and frequency counts. Surveys were completed by 60 dietitians Australia-wide. Eight respondents had used the resource guide on one or more occasions over the course of the year, with majority stating the resources for dietitians and patient education resource components of the guide were of most use in practice. Dietitians requested additional sections and features, most commonly information about dietary components, CAMs and supplement ordering nation wide. The outcome of evaluation was Cancer Council's updated *Oncology Resource Guide for Dietitians*. It is a comprehensive collation of pre-existing evidence-based materials that includes resources for dietitians, patient education materials, support services and programs and details on how to find a dietitian across Australia. The guide is intended to support the information needs of

Australian dietitians. It is of high clinical utility and offers a prototype for condition-specific resource suites to be developed for dietetic practice.

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ASSESSMENT OF THE NUTRIENT CONTENT AND PORTION SIZE OF SELECTED MEALS PROVIDED BY A MEALS-ON-WHEELS PROGRAM IN AUSTRALIA, IN COMPARISON TO RECOMMENDATIONS FOR HOME-DELIVERED MEALS: A DESCRIPTIVE STUDY

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Evidence suggests that Meals-on-Wheels (MOW) recipients are at increased risk of poor nutritional status, yet there are limited data to determine if MOW meals are nutritionally adequate. This study aimed to (1) examine the extent to which MOW meals produced by a service provider in Victoria, Australia, complied with nutrient and portion size guidelines for home-delivered meals, and to (2) provide recommendations to improve the nutritional quality of the meals. A sample of five meals was analysed to determine their nutrient content, and individual meal components of a sample of three meals were weighed separately to determine portion size. These results were evaluated against the Home and Community Care (HACC) program guidelines for home-delivered meals. The meals met recommendations for energy (3003 ± 488 kJ), iron (4.5 ± 1.1 mg) and vitamin C (133.6 ± 13.4 mg), but not calcium (273.6 ± 177.2 mg), folate (182.6 ± 38.4 µg) and vitamin D (1.12 ± 0.8 µg). Protein (35 ± 3 g) met recommendations for older females, but not older males. Each meal provided 72 ± 7 g of carbohydrate, 29 ± 12 g of fat, 13 ± 4 g of saturated fat and 14 ± 2 g of fibre. All but four meal components (rice/pasta/bread, yellow/orange vegetables, fruit, dairy) met portion recommendations. Meals were generally nutritionally adequate but were high in saturated fat and lacking in key nutrients including protein, calcium and folate. MOW providers and food service dietitians should consider strategies such as food fortification and modifying container type/size to ensure that meals meet recommendations for these nutrients. Further research to determine the optimal meal provision of carbohydrate, fat and fibre is needed to enhance the nutritional quality of MOW meals

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EVALUATING A MULTIDISCIPLINARY ALLIED HEALTH RAPID ASSESSMENT PRIORITISATION AND REFERRAL TOOL IN A HOSPITAL MEDICAL ASSESSMENT AND PLANNING UNIT (MAPU)

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The Rapid Assessment Prioritisation and Referral Tool (RAPaRT) for identifying patients for referral to dietitians or other allied health (AH) professions was recently developed. However, this tool remains untested

in usual care outside the facility where it was developed. This study examined whether administering the RAPaRT as part of usual care in a MAPU (target length of stay ≤ 48 hrs) led to appropriate patient referrals to AH staff, including dietitians, and considered the most appropriate referral triggers. The eight-item RAPaRT tool was completed by nursing staff for all weekday MAPU admissions. AH staff (dietetics, occupational therapy, physiotherapy, social work and speech pathology) independently screened all patients to determine whether intervention prior to discharge was required. Receiver operating characteristic (ROC) area (sensitivity, specificity) and proportion of cases correctly classified from the RAPaRT were determined by comparing to AH screens. One hundred and ninety-five participants were included (59 ± 20 yrs; $109(56\%)F$). AH screening indicated $n = 117$ (60%) participants were appropriate for referral to ≥ 1 AH staff. Area under the ROC curve (95% CI) for the RAPaRT was 0.74 (0.67, 0.81). The instrument correctly classified 66%, 72%, or 65% of patients as requiring an AH referral (or not) when cut points of one, two or three positive item responses were used, respectively. As expected, the malnutrition item (based on the Malnutrition Screening Tool) performed best for identifying dietetics referrals (correctly classifying 70% of patients). The RAPaRT may promote early, efficient referrals in a hospital ward with a short length of stay when administered as part of usual care.

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IDENTIFYING PATIENT AND TREATMENT-RELATED ASSOCIATIONS OF NUTRITIONAL RISK IN NON-TRANSPLANT PATIENTS WITH A HAEMATOLOGICAL MALIGNANCY

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Unintentional weight loss (WL) and malnutrition in patients receiving chemotherapy for haematological malignancy (HM) is under-researched. This retrospective study aimed to identify the prevalence and patient- and treatment-related factors associated with WL or malnutrition risk in 125 patients receiving non-stem cell transplant chemotherapy for a HM admitted to Peter MacCallum Cancer Centre between June 2013 and January 2015. Medical records were reviewed for age, gender, body weight, disease type, chemotherapy regimen, total cycles completed, neutrophil counts and malnutrition risk as assessed using the Malnutrition Screening Tool (MST). WL of $\geq 5\%$ body weight was considered a clinically significant indicator of malnutrition. WL ($\geq 5\%$) and malnutrition risk (MST ≥ 2) prevalence was 25.6% ($n = 32$) and 32.8% ($n = 41$), respectively. Average WL was greatest during the first cycle of chemotherapy (mean = 2.0 kg loss, SD = 2.6 kg); however, WL, as well as proportion of patients at risk of malnutrition, decreased with number of cycles. The study found $\geq 5\%$ WL was associated with chemotherapy regimen, cancer type and neutropenia (all at $p < 0.005$). The disease types with the highest prevalence of $\geq 5\%$ WL were acute myeloid leukaemia, acute lymphoblastic leukaemia and chronic lymphoid leukaemia. Subsequently, chemotherapy regimens used to treat these disease types were also associated with $\geq 5\%$ WL. No outcomes were significantly associated with malnutrition risk. Larger prospectively designed studies are required to identify specific high nutritional risk chemotherapy regimens to assist in preventing malnutrition and associated poor outcomes.

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NUTRITION SCREENING MORE THAN MALNUTRITION RISK: A PATIENT-CENTRED APPROACH IN PALLIATIVE CARE

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Olivia Newton-John Cancer and Wellness Centre uses an acute palliative care model including symptom management, complex discharge planning and end-of-life care. The primary focus is to provide holistic, quality, patient-centred care to ensure each patient's experience is exceptional. Allied Health staff identified that service provision was linked with the admission classification of discharge planning rather than patient need. In January 2014, an Interdisciplinary Allied Health Assistant (AHA) was appointed. A nutrition-screening process was included as part of the AHA role. This patient-centred approach focuses on engaging patients with their nutrition care plan, identifying food preferences and enables nutrition screening and triage of dietetic patient care. The aim was to improve patient experience and allow for timely and targeted dietetic intervention. An audit of the screening, referral and review system was conducted for three months before and after implementation. Patient journeys were mapped documenting timing of intervention, goals and outcomes of nutrition management. Initial analysis of the nutrition screening process has demonstrated increased patient engagement with 35 percent more patients gaining access to individualised nutrition care plans and improved timeliness of intervention with time to both dietetic assessment and review reduced from 2.5 to 1.8 and from 6 to 4 days, respectively. The information collected in the screening process allows efficient prioritisation of dietetic intervention based on patient need. A patient-centred nutrition screening process improves patient experience and engagement by increasing timely access to individualised nutrition care plans based on the patient's identified needs.

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DIETS OF CHILDREN UNDER 5 YEARS OF AGE: COMPARISON TO AUSTRALIAN DIETARY GUIDELINES AND TRACKING OVER EARLY LIFE

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Diets of young children, especially intakes of fruits, vegetables and discretionary foods, impact their short- and long-term health. However, there are little data on diets of children under 2 years in Australia. Furthermore, few studies have assessed tracking of early childhood diets to determine associations between intakes in the first 2 years and intakes in later years. The Melbourne InFANT Program was a health promotion randomised controlled trial. Diet was assessed at 9 months (n = 466), 1.5 years (n = 404), 3.5 years (n = 255) and 5 years of age (n = 258), using parent-reported multiple 24-hour telephone recalls. Intakes were compared to the Australian Dietary Guidelines, and tracking was assessed using linear regression. At 9 months of age, 90% of children met vegetable guidelines (median intake 99 g, IQR 64–152 g), but this dropped to <10% at all subsequent ages (at 5 years, median intake 121 g, IQR 72–174 g). The percentage meeting fruit guidelines decreased at each age, from 94% at 9 months (median intake 89 g, IQR 51–141 g) to 37% at 5 years (median intake 186 g, IQR 132–279 g). The percentage meeting discretionary food guidelines was consistently low (<20%). These foods were providing >25% of energy intakes at 3.5 and 5 years. Tracking of all food groups across ages was evident, in particular for discretionary foods. In conclusion, diets of most children in this study did not meet recommendations, and intakes tracked from

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9 months of age, thus highlighting the importance of nutrition promotion in early life, to encourage healthy intakes from the time foods are first introduced.

Funding source: NHMRC

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STOREHOUSE: AN ONLINE NUTRITION BLOGGERS DIRECTORY STOCKED WITH HEALTHY BLOGS

HTTP://STOREHOUSE.SCOOPNUTRITION.COM

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Storehouse is a directory and community of like-minded Accredited Practising Dietitians, Accredited Sports Dietitians, Registered Nutritionists and student dietitians who enjoy blogging as a means of sharing credible, evidence-based nutrition information. It is a searchable web platform where blog RSS (Rich Site Summary) feeds are channelled to one location that then generates an automated tweet to a twitter account @storehousescoop. This enables reliable, credible nutrition information to be found online and shared via social media. Storehouse is a promotional tool for members to showcase their blog and let others, such as media and industry, find qualified nutrition professional consultants and spokespeople. Storehouse was developed in 2014 and launched in February 2015 during peak paleo diet fadism – when the Dietitians Association of Australia and its members' professionalism and credentials were being called into question. To date, there are 92 nutrition bloggers stocked in the Storehouse. Baseline website and social media statistics were recorded over four months (from May to August 2015) for comparison after one year. During this time, there were 10 573 visitors to the website, 37 148 page views and Storehouse was well positioned as the fourth entry on page 1 of a Google Search on 'nutrition bloggers directory'. To date, there are 623 followers on Twitter and through tweets and retweets generating a reach of 197 000 and an engagement rate of 2.1% above industry standards. Storehouse was developed through a three-way partnership between Scoop on Nutrition, Nuts for Life and Bite Communications – a PR and design agency

Funding source: Program sponsor Nuts for Life and Bite Communication.

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ONLINE NUTRITION INFORMATION FOR PREGNANT WOMEN: A CONTENT ANALYSIS

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Pregnant women actively seek health information online, including nutrition and food-related topics. However, the accuracy and readability of this information have not been evaluated. The aim of this study was to describe and evaluate pregnancy-related food and nutrition information available online. Google, Google Blogs, Yahoo and Bing were used to search for pregnancy-related nutrition webpages. Content analysis of webpages was performed. Flesch–Kincaid (F-K), Simple Measure of Gobbledygook (SMOG), Gunning–Fog Index (FOG) and Flesch Reading Ease (FRE) formulas were used to assess readability. Data were analysed descriptively. Spearman's correlation was used to assess the relationship between webpage characteristics. Kruskal–Wallis test was used to check for differences among readability and other webpage

characteristics. A total of 693 webpages were included in the analysis. Webpage types included commercial (n = 340), not-for-profit (n = 113), blogs (n = 112), government (n = 89), personal (n = 36) and educational (n = 3). The accuracy of online nutrition information varied with 39.7% of webpages containing accurate information, 22.8% containing mixed information and 37.5% containing inaccurate information. The average reading grade of all pages analysed measured by F-K, SMOG and FOG was 11.8. The mean FRE was 51.6, a 'fairly difficult to read' score. Only 0.5% of webpages were written at or below grade 6 according to F-K, SMOG and FOG. The findings suggest that accuracy and readability of pregnancy-related nutrition information is a problem on the Internet. Health professionals should therefore take accuracy and readability into account when recommending websites containing nutrition information to clients.

Funding source: University of the Sunshine Coast

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EAT FOR HEALTH: ABORIGINAL AND TORRES STRAIT ISLANDER GUIDE TO HEALTHY EATING FIONA STYLES

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The *Australian Guide to Healthy Eating* (GTHE) is the key educational tool supporting the Australian Dietary Guidelines that visually translates the Five Food Groups into a 'plate' graphic. In recognition of the poorer nutrition and health outcomes for the Aboriginal and Torres Strait Islander population, the need to adapt the AGTHE was identified. The new Indigenous GTHE aims to promote a diet consistent with the Australian Dietary Guidelines and take into account the Indigenous cultural preferences and food availability in urban, rural and remote regions throughout Australia. A draft Indigenous GTHE was developed based on feedback received through stakeholder consultation including the need for readily identifiable packaging, realistic images, Indigenous foods, simple language, complementary information and photos of real people. The draft also drew on the *National Aboriginal and Torres Strait Islander Nutrition and Physical Activity Survey* results to identify the most commonly consumed foods within the Five Food Groups, and popular Discretionary choices. Focus testing with the target audience occurred in 43 groups throughout Australia to ensure the key messages and format of the Indigenous GTHE were well understood and culturally acceptable. An on-line survey for health professionals and educators was also undertaken with 553 responses. The new Indigenous GTHE is a key nutrition education tool for use by dietitians and nutrition educators in a range of settings throughout Australia. Print copies can be ordered in A4, A3 and A1 Poster format through the Eat for Health website at <http://www.eatforhealth.gov.au/guidelines>.

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HOW MUCH MEAT ARE AUSTRALIANS EATING: SECONDARY ANALYSIS OF THE AUSTRALIAN HEALTH SURVEY 2011–12

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The Australian dietary guidelines recommend consumption of lean meat, poultry, fish or alternatives but limit consumption of processed meat/poultry/fish. This paper aims to examine the consumption of meat/poultry/fish (MPF) in a representative sample of Australians over the period 2011–12, by gender, age group, and socio-economic category and compare to current dietary guidelines. This study utilised 24-hour recalls of 12 153 people aged 2 years and over participating in the

2011–12 National Nutrition and Physical Activity Survey. MPF consumption data (proportion, mean intake per-capita) was captured in detail from all meals and recipes. Approximately 91% of all respondents consumed some MPF, with 49% consuming red meat, 38% poultry, 23% fish/seafood, and 39% processed MPF. The most frequently consumed meat types were beef (38%), chicken (37%), ham (18%), bacon (14%), finfish (10%), and sausages (7%). The mean per-capita intake of all MPF was 152 g including red meat (57 g), poultry (46 g), fish/seafood (21 g) and processed MPF products (28 g). Red meat consumption was below the recommended 65 g/day in children (35 g for girls and 48 g for boys) and adult females (50 g) and above for men (75 g). Socio-economic status had little effect on meat consumption, except for higher fish intake and more fat-trimming practices used in those of higher socio-economic status. These findings provide dietitians with a more contemporary understanding of food intake in Australia, and to inform their practice with the most up-to-date representative information since 1995.

Funding source: Meat & Livestock Australia

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COMMUNITY EAT WELL PROGRAM: SUPPORTING OLDER ADULTS AND THEIR CARERS

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The ageing population in Australia is steadily increasing and the number of people providing care for an older family member or partner is common. Social isolation and depression are significant issues for older adults in the community in both the carer and care recipient. Support for the carers is limited despite being known to reduce mortality and carer burden and similarly care recipients can be further isolated by lack of control over activities of daily living. Being able to prepare own meals is a significant determinant for keeping older adults in their own homes but in the case of older adults without live in carers this can be challenging. The Horsham 'Eat Well' cooking group was a new initiative designed jointly by the clinical Occupational Therapist and Dietitian to provide nutrition education and cooking skills to older adults and their carers but also to provide support and social connections for all participants. On evaluation of the program more than half of the participants (n = 12) had increased nutrition knowledge and felt more confident to prepare simple meals at home. In particular, the social aspect of the group was a success with all participants keen to continue meeting. Further 'Eat Well' groups are planned with more qualitative analysis to better evaluate changes in quality of life for both carer and care recipient and refine format of the groups.

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DEVELOPING COMPETENCY STANDARDS FOR DIETITIANS WORKING IN THE DISABILITY SECTOR

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The disability sector is undergoing significant change, within both government and non-government agencies. The National Disability Insurance Scheme (NDIS) is rolling out across Australia and many disability services, including allied health, are registering to become service providers for people with a disability. The New South Wales (NSW) State

Government, Department of Aging Disability and Home Care (ADHC), will cease funding public disability services by 2018. The non-government sector will then need to fill any gaps in service. Within ADHC, the Clinical Innovation and Governance Unit (CIG), has established several discipline-specific Core Standards for practitioners working with people with a disability. These standards promote professional development and continuous improvement by outlining the minimum requirements necessary for practitioners to fulfill their roles. The absence of Core Standards for dietitians was identified as a priority, and a project was initiated to develop these prior to NDIS national rollout. These standards will be used within ADHC, and the wider disability sector to promote competency of disability sector dietitians. The key project activities conducted include engagement of key stakeholders, review of relevant literature, development of the standards and complementary training packages. The literature review found similar standards did not exist nationally or internationally, with a minimal level of evidence base in nutrition assessment and intervention for people with a disability. This project provides foundation for ongoing improvement of dietitian services in NSW, and potentially nationally. Funding was provided by the Department of Family and Community Services, tendered through a procurement process to the Cerebral Palsy Alliance.

Funding source: NSW Department of Family and Community Services tendered to the Cerebral Palsy Alliance

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ARE VITAMIN D TESTING CRITERIA MISSING A PROPORTION OF AT-RISK PREGNANT WOMEN?

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New Medicare rebate criteria for vitamin D testing may miss a proportion of at-risk pregnant women. Criteria relevant to pregnancy are 'deeply pigmented skin' and 'chronic and severe lack of sun exposure'. As sun exposure is difficult for health professionals to ascertain, at-risk patients may be overlooked. A database of patient information was used to look for alternative indicators of risk. Of 14 161 patients attending their first antenatal visit in 2013/14, 68% had vitamin D levels listed. 34% of these were deficient (<50 nmol/L). The Royal Women's Hospital has a multicultural population with 31% born overseas. When the database was filtered by country of birth, deficiency levels were higher for Lebanon 64%, India 55%, Sudan 61%, versus Australia 26%. Similar results were found using language, with Arabic 57%, Bengali 51% and Dinka 70%, or religion, with Islam 58% and Hinduism 44%. These results are not surprising as they reflect skin colour or inadequate sun exposure due to concealing clothing. However, the database also indicated high levels of deficiency in certain specialty clinics with pregnant teenagers at 56%, drug users 41%, and diabetes 38%. In contrast, only 18% of private patients were deficient and 19% of low-risk pregnant women attending public midwife-led clinics. Deficiency increased with BMI from 29% for BMI 19–24 to 50% in BMI ≥ 40. Vitamin D supplementation and testing need to be considered outside the Medicare criteria as poor nutrition, higher BMI, younger age, diabetes and lightly pigmented skin (as in Indians) increase risk of deficiency.

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SOLVING A WEIGHTY ISSUE: A SYSTEMATIC REVIEW AND META-ANALYSIS OF NUTRITION INTERVENTIONS IN SEVERE MENTAL ILLNESS

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The twenty-year life expectancy gap for people living with severe mental illness (SMI) compared to the general population is primarily driven by cardiometabolic complications. There is great potential for nutrition interventions in people with conditions such as schizophrenia and bipolar affective disorder. As mental health teams begin to incorporate nutritional interventions, evidence needs to guide clinical practice. Until now, nutritional interventions have not been systematically reviewed to determine the most effective intervention components in this highly vulnerable group. A systematic review and meta-analysis were performed to assess whether nutrition interventions improve (a) anthropometric and biochemical measures, and (b) nutritional intake in people experiencing SMI. An electronic database search was completed from earliest record to February 2015 using key nutritional, anthropometric and psychiatric terminology. Twenty trials were pooled for meta-analysis. Nutrition interventions resulted in significant weight loss (19 studies, $g = -0.39$, $p < 0.001$), reduced body mass index (17 studies, $g = -0.39$, $p = 0.001$), decreased waist circumference (11 studies, $g = -0.27$, $p < 0.001$) and lower blood glucose levels (5 studies, $g = -0.37$, $p = 0.02$). Dietitian-led interventions ($g = -0.90$) and trials focusing on preventing weight gain ($g = -0.61$) were the most effective. Dietitian-led interventions were effective independent of concomitant exercise interventions ($B = -0.72$, $p < 0.001$). There was high heterogeneity for nutritional assessment tools and dietary components measured so it could not be pooled for meta-analysis. Nutrition interventions were effective in improving the physical health of people with SMI. The integration of nutrition interventions into standard care will be enhanced by further randomised controlled trials and implementation studies targeting prevention of antipsychotic-induced weight gain, delivered by specialist clinicians such as dietitians.

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KEEPING OUR STAFF IN MIND (KOSIM): AN INTERVENTION TO IMPROVE THE KNOWLEDGE, CONFIDENCE AND PHYSICAL HEALTH OF MENTAL HEALTH CLINICIANS WORKING WITH PEOPLE EXPERIENCING SEVERE MENTAL ILLNESS

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Mental health teams have traditionally been equipped to provide pharmacological and psychosocial intervention to those experiencing psychosis. However, with certain characteristics of psychotic illness, combined with significant medication side-effects, those experiencing psychosis are predisposed to premature cardiometabolic complications. These severe health disparities need to be made part of core business. A structured lifestyle intervention was developed for mental health clinicians to assist the transition of dietitians and exercise physiologists into mental health teams. Mental health clinicians from a South Eastern Sydney Local Health District were offered the opportunity to take part in the intervention. After an initial assessment with both a Dietitian and Exercise Physiologist, participants were offered a total of four individual consultations with the Dietitian and/or Exercise Physiologist, with a 16-week follow-up timeframe. Outcome measures included knowledge and confidence in cardiometabolic health (M-BACK), dietary intake (Dietary Questionnaire for Epidemiological Studies), and anthropometric measures. Thirty-eight participants completed the 16-week follow-up. Improvements were seen in cardiometabolic health knowledge and confidence (4.9u, $p < 0.001$). There was a reduction in energy intake (-1393 kJ, $p = 0.004$), sodium intake (-478 mg, $p = 0.01$) and glycaemic index (-17.8u, $p = 0.01$). A trend to significance was found in diet quality (2.2u, $p = 0.06$), primarily driven by the vegetable subgroup (1.4u, $p = 0.03$). There was an average reduction in weight of 1.2 kg ($n = 30$, $p = 0.04$) and waist circumference of 2.4 cm ($n = 30$, $p < 0.001$), in those who were overweight or obese at baseline. Lifestyle intervention provided to mental health clinicians can assist in making cardiometabolic health core business in mental health teams, whilst improving physical health.

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DOES THE PRESENCE OF CVD RISK FACTORS OR DISEASE INFLUENCE THE DIETARY INTAKE OF AFFECTED ADULTS AND CHILDREN RESIDING IN THE SAME HOUSEHOLD: A SECONDARY ANALYSIS OF THE AUSTRALIAN HEALTH SURVEY

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Little is known whether risk factors or established cardiovascular disease (CVD) has an impact on dietary intakes of adults and children in

Australia. Data were sourced from the National Nutrition and Physical Activity Survey 2011–2012 for (A) adults ≥ 18 years with risk factors or established CVD and (B) children 2–17 years residing in the same household as adults in (A). Nutrient intakes of (A) and (B) were compared to national recommendations for key nutrients and to the intakes of all other adults and children surveyed. Standard errors of the estimates were calculated using the replicate weight method, and an alpha value of < 0.05 is considered statistically significant. 6265 of 8445 adults belonged to (A) and of these 1609 had a child who was also sampled in this survey (B). Adults in (A) were more likely to achieve sodium recommendations compared to other adults. Mean intake of energy and total fat was lower for those in (A) while mean fibre intake was higher. A lower proportion of adults in (A) achieved alcohol recommendations. While there was no difference in dietary intake of total long chain omega-3 fatty acids (LCN3) between (A) and other adults, (A) consumed a significantly greater amount from supplements. There was no statistically significant difference for key nutrients between (B) and other children surveyed, except for LCN3 where intake was higher in (B). Public health initiatives need to be strengthened to facilitate improvements in nutrient intakes to assist adults and children in meeting dietary recommendations and prevent increases in current and future health care expenditure.

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OPTIMISING PRE-OPERATIVE NUTRITION IN A GYNAEONCOLOGY SERVICE

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An effective nutritional model of care (MOC) for patients pre-operatively is a vital component of care. A best-practice MOC should include malnutrition screening and intervention, minimal fasting times, and pre-operative carbohydrate loading due to associations with length of stay (LOS), risk of infectious complications, mortality, early mobilisation and improved insulin sensitivity. Assessment of our gynaecology MOC as part of a department wide review of evidence-practice gaps highlighted that no patients in this population were receiving any best-practice interventions prior to surgery. The aim of this project was to design, implement, and evaluate a best-practice pre-operative nutrition MOC for gynaecology patients at our tertiary hospital to improve surgical outcomes. We informed the MOC's implementation through data and strategies determined from the literature, clinic observation, and extensive consultation with stakeholders. Key implementation points for our MOC were at the initial outpatient appointment (screening and referral) and pre-admission clinic (assessment of suitability for carbohydrate loading and supplement provision). Adoption of these steps will be through incorporation into relevant clinical care pathways. Minimal fasting times will be enforced via a hospital wide policy change. We are assessing the effectiveness of the MOC implementation with an initial one month, and then 3-monthly auditing for one year from January 2016. The primary outcome measure will be post-operative LOS and secondary outcomes will be adherence to each evidence-based step in the care pathway. Implementation of this MOC is expected to facilitate improved dietetic service delivery and decreased length of stay.

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HOSPITAL MEALTIME ASSISTANCE PROGRAMS: HOW DO THEY AFFECT PATIENT INTAKE AND ANTHROPOMETRY?

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Malnutrition in hospitals is a serious concern with an ongoing prevalence of 20–50%. Mealtime assistance programs seek to improve patient nutritional and anthropometric outcomes. This systematic review of the literature aimed to determine the effect of mealtime assistance provided to hospitalised patients (65 years and older) by nurses, trained staff or volunteers on nutritional and anthropometric outcomes. This review was registered on the PROSPERO international register of systematic reviews. The following electronic databases: CINAHL Plus, Cochrane Library, ProQuest Nursing and Allied Health Source, Scopus, PsycINFO and MEDLINE, were searched from their inception to August 2014. Inclusion criteria were hospitalised patients 65 years and older, provided mealtime assistance by nurses, volunteers or trained staff. Inclusion of studies was guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol. Studies were assessed for quality and risk of bias using the Academy of Nutrition and Dietetics Quality Checklist. Of 5458 publications, five studies met the inclusion criteria. Outcome data were combined narratively and by meta-analyses. Observation and sampling bias were identified and reporting of adherence to study protocols was variable. When mealtime assistance was provided, daily protein and energy intake significantly increased; however, anthropometric outcomes did not change significantly. Results indicate mealtime assistance provided to hospitalised patients (65 years and older) increases energy and protein intake. Such increases may hold clinical significance for patients by reducing the gap between energy and protein requirements and actual intake. The efficacy of mealtime assistance to reduce malnutrition in hospitals requires more robust research.

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ARE WE FAILING IN PROVIDING ADEQUATE NUTRITION FOR INPATIENTS WITH DYSPHAGIA AT A METROPOLITAN HEALTH SERVICE?

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Dysphagia affects an estimated 25–60% of hospitalised patients and is commonly managed with thickened fluids and texture modified diets. Research indicates poor nutrient and fluid intake and increased malnutrition risk in these patients; however, clear identification of all the contributing factors and their impact on intake are not well documented. Acute and sub-acute patients on thickened fluid diet codes were identified. A prospective cohort study examined: (1) plate waste utilising a validated digital photographic method; (2) fluid intake using fluid balance charts; and (3) barriers to adequate nutrition and hydration through patient meal time observation. Patients on thickened fluids met 55% of estimated fluid requirements while this increased to 78% for those receiving intravenous fluids ± nasogastric feeding. Overall plate wastage was 46% with wastage highest for hot main meals (>50%) and lowest for dessert. More than 25% of thickened fluids sent to patients were wasted. Barriers during meal times included assistance required prior to feeding (>80%), difficulty opening food packaging (>80%) and mealtime interruptions (75%). Hospital inpatients requiring thickened fluids do not meet their fluid requirements and have sub-optimal food intake which increases their risk of dehydration and malnutrition. Interventions designed to mitigate the barriers to intake are warranted in this population. A co-design project will be undertaken to develop strategies

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to improve mealtime experience, and fluid and nutrient intake in this high-risk patient group. This will be undertaken with patients, their carers, ward staff, food services and a team from Patient Experience, Speech Pathology and Dietetics.

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INVESTIGATING ADHERENCE TO DIETARY AND PHYSICAL ACTIVITY GUIDELINES IN SUFFERERS OF CARDIOVASCULAR DISEASE

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Cardiovascular diseases (CVD) are the leading causes of death worldwide, and as chronic conditions they are responsible for considerable financial burden on the healthcare system. Sufficient physical activity (PA) and healthy diet are encouraged for CVD sufferers as both factors can help reduce the risk of subsequent cardiac events. Although not tailored specifically to CVD treatment, the Australian Guide to Healthy Eating (AGHE) advocates a way of eating according to the five food groups, which promotes optimal health, while The Department of Health publishes similarly evidence-based guidelines for PA. Utilising a cross-sectional study design, demographic and anthropometric data, diet and exercise habits of 29 Australian men (mean age = 67 ± 10 years) suffering from CVD were collected to determine adherence to these guidelines in a particularly vulnerable population. The association between guideline adherence and anthropometric measures as well as sociodemographic characteristics was explored. Adherence to AGHE recommended daily serves was generally low among the group (vegetables: 16.7%, fruit: 51.7%, meat or alternatives: 31%, grains: 24.1%, dairy: 31%), while PA was evenly distributed (51.7% adherence). Significant results showed those born overseas were more likely to achieve vegetable guidelines (median daily serves: 4.8 vs. 2.5, $p = 0.015$) and body mass index was lower in those meeting PA guidelines (27.1 kg/m² vs. 32 kg/m², $p = 0.009$). The results suggest that, in this group of CVD sufferers, AGHE recommendations are not being followed and PA guidelines are somewhat adhered to and may contribute to weight management. Additional healthy lifestyle education may be warranted for this high-risk group.

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EFFECT OF VITAMIN D AND CALCIUM SUPPLEMENTATION ON BLOOD PRESSURE AND CHOLESTEROL IN THE ELDERLY: A REVIEW

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High blood pressure and hyperlipidaemia are leading causes of cardiovascular disease. This review evaluates the evidence for the use of vitamin D and calcium supplementation to correct high blood pressure and hyperlipidaemia in elderly adults. Recent meta-analyses on the effects of vitamin D or calcium on cardiovascular health have shown mixed results and relatively little research has been conducted specifically on elderly participants. For the purposes of this review, a literature search on five major electronic databases (PubMed, Cochrane Library, Scopus, CINAHL and ISI Web of Science) was performed and nine randomized controlled trials were included. Findings indicated that vitamin D supplementation had minimal or no significant treatment effect on blood pressure or cholesterol, while calcium supplementation had a small treatment effect. A combination of Vitamin D and calcium supplementation did not result in significant improvements in blood

pressure. There were no studies that measured the combined effect of vitamin D and calcium on cholesterol in the elderly. In conclusion, there is limited evidence to support the use of vitamin D and calcium supplementation to treat or prevent cardiovascular disease in this age group.

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MATERNAL WEIGHT GAIN AND DIETARY INTAKES OF WOMEN DURING PREGNANCY: IS THERE A NEED FOR BETTER PROVISION OF SUPPORT FROM HEALTHCARE PRACTITIONERS?

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Excess gestational weight gain (GWG) and poor diet quality during pregnancy are independently associated with multiple health complications for the mother and foetus. Advice from antenatal clinicians may assist women to achieve optimal weight and diet outcomes. This study assessed the association of advice provided by antenatal clinicians with GWG and intake of fruit and vegetables, soft drinks and non-core snack foods during pregnancy. Women (n = 448) enrolled in the Melbourne InFANT Extend randomised controlled trial completed a cross-sectional questionnaire at ~3 months postpartum. Pre-pregnancy weight and GWG were self-reported. The Cancer Council of Australia's food frequency questionnaire retrospectively assessed dietary intake. Self-reported questionnaire items assessed advice provided by antenatal clinicians regarding GWG and healthy eating. Linear and logistic regression assessed associations of advice with maternal weight and diet. Overall, 41% of women experienced excess GWG when compared to Institute of Medicine recommendations. 7.2% of women met Australian guidelines for fruit and vegetable intake. 13.7% of women consumed more than one glass of soft drink daily and mean total non-core snack food Daily Equivalent Frequency score was 1.39 ± 1.18 . Approximately half (54.5%) of women received advice regarding recommended GWG and 87.1% received advice to eat a healthy diet during pregnancy. There was no significant association found between clinician advice and GWG or dietary intake. Strategies to support women to attain healthy weight gain and healthy dietary intakes during pregnancy are needed. More intensive approaches than provision of advice alone may better assist women to achieve best maternal and child health outcomes.

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MEASURING PERCEPTIONS OF 2:1 AND 3:1 MODELS OF PEER LEARNING IN CLINICAL PLACEMENT

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Increases in the number of courses offering dietetics training also increases pressure on teaching hospitals to supervise students in an environment where clinical supervision remains an essential core element of developing and measuring clinical competence. A study was conducted with ethics approval to compare and evaluate the traditional 2:1 (student to supervisor) model and a new 3:1 model in 2014. This model relies on peer learning and necessitates a changing role for the supervisor as they evolve from teaching and modelling as a healthcare treating team, to acting as a consultant to the student team, finally facilitating student discussion as professional peers in individual case management. This project was evaluated using a newly developed

purpose fit Collaborative Clinical Placement Learning Environment Inventory (CCPLEI) for 53 final year dietetic students after a seven-week placement where 35 continued the traditional model whilst 18 piloted the 3:1. A question set was developed to measure students' perception of key domains in a peer-learning environment: student centeredness, task orientation, relationships, satisfaction, confidence and the two models compared. Focus groups were conducted with both students and supervisors to ascertain the quality of the learning experience, approaches to peer learning that are most effective, identify potential barriers that need to be addressed and essential resources enabling supervisors to widely adopt peer learning. Commencing a new model of supervision requires intense resourcing and training of all to ensure it is readily adopted by the profession. This presentation will highlight key findings of this research.

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START THEM RIGHT: A LESSON ON MAKING EARLY CHILDHOOD FEEDING INFORMATION ACCESSIBLE TO PARENTS

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Evidence shows early feeding practices and nutritional intake affect later eating behaviours and health outcomes. It is important for parents to be able to access credible information to make informed choices about feeding their child. More than half of all Tasmanians aged 15–74 are functionally illiterate and innumerate (Australian Bureau of Statistics 2011–2012), so it is crucial to consider health literacy principles in the development of consumer information. *Start Them Right – a parent's guide to eating for under 5s* is a visual easy to read resource that aims to support parents to make protective choices around food and feeding methods, irrespective of socio-economic status and literacy levels. This in turn supports children to develop a positive and healthy relationship with food and eating from an early age. *Start Them Right – a parent's guide to eating for under 5s* presents information from the Infant Feeding Guidelines (2013) and Australian Dietary Guidelines (2013) in an easy-to-understand way. Information from a series of focus groups with parents about what they wanted to know along with the Department of Health and Human Services (DHHS) Health Literacy toolkit guided the language and format of the resource. *Start Them Right – a parent's guide to eating for under 5s* was developed by Public Health Services (DHHS) in partnership with Lady Gowrie Tasmania. Community engagement has also helped improve the distribution of the resource. Parents, educators, community workers and dietitians developed a sense of ownership through the redevelopment process. The booklet is available in hard copy and as an E-book. It has an online presence in social media through Public Health Services' early childhood partners.

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DIETETIC INTERVENTION FOR LONG WAIT ORTHOPAEDIC SURGERY PATIENTS

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A high proportion of patients on the waiting list to see an orthopaedic surgeon can be managed conservatively (non-surgically), so treatment can commence at an earlier stage. The conservative musculoskeletal clinic was a service offered for a 2-month period at the QEII Hospital (Brisbane) in a bid to reduce the orthopaedic waiting list. The Dietetic component of the project offered the Healthy Eating and Lifestyle Program (HELP), which is an evidenced-based program for patients identified as overweight or obese. A dual referral method (nursing staff

and physiotherapists) was used to offer patients the opportunity to participate. The inclusion criteria included men or women aged 18–70 who had a body mass index over 27 kg/m² on the orthopaedic long wait list (76% screened as overweight/obese). At the completion of the pilot project, 58 patients were seen in total through a combination of six HELP classes and two separate out patient clinics. Of the 32 patients who began the HELP program, 25 finished it (78% completion rate). There was an average weight loss of 1.55 kg and an average waist reduction of 2.46 cm over 6.5 weeks (n = 23). Ninety-one percent of attendees made a positive shift in their stage of change. One hundred percent of participants either agreed (50%) or strongly agreed (50%) that the HELP Program had made it easier to achieve their general healthy eating and lifestyle goals. Overall, this was a useful pilot to inform the prevalence of overweight/obesity in this group and shows positive outcomes for conservative treatment to begin at an earlier stage.

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GUIDING PRIMARY SCHOOL CHILDREN TO BETTER HEALTH THROUGH FOOD LITERACY AND NUTRITION EDUCATION

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Australian children are not eating enough vegetables, contributing to childhood obesity and chronic disease. Exposing children to vegetable variety helps establish lifelong healthy eating patterns, improving health outcomes. Barriers to trying new vegetables and increasing intake include poor familiarity with vegetables; parental concerns about wasting food; and poor food literacy. Nutrition Australia Queensland (NAQ) developed, delivered and evaluated curriculum-based 'I'll have a rainbow for dinner' (IHARFD) program for primary school-aged children to increase food literacy through fun, innovative workshops/activities. Workshop and supporting materials were developed incorporating all learning domains, meeting learners' needs. Real food images and vegetables were utilized throughout workshops to enhance student vegetable recognition and improve food literacy. Workshops and a teachers' resource kit were developed to meet 'desired outcomes' linked to Grade 3 and 4 Australian curriculum. Kits were left with participating schools encouraging ongoing classroom nutrition education. 18 workshops were delivered at six schools in three high SEIFA Queensland regions – 383 students attended. Participating students received take-home resources promoting family healthy eating discussion. Evaluation included pre- and post-workshop student surveys; post-workshop teacher surveys. Workshops were effective, well-received by schools, and successfully engaged students. Results included students' vegetable recognition improved (61–81%); awareness of recommended vegetables serves/day increased (14–74%); teachers: 'strongly agreed' or 'agreed' the program was beneficial, enjoyable and suitable for children 7–9 years; resource kit was easy to understand and useful; were confident in delivering these classroom activities. Utilizing fun, innovative strategies such as IHARFD workshops exposes primary school students to healthy food experiences, building food literacy and healthy habits for life.

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A COMPARISON OF STANDARD MALNUTRITION SCREENING AND ASSESSMENT TOOLS WITH CHRONIC LIVER DISEASE-SPECIFIC TOOLS: A PILOT PROSPECTIVE STUDY

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Malnutrition is highly prevalent in patients with chronic liver disease (CLD). Currently all patients admitted with CLD are assessed by the dietitian which is inefficient. Early identification of malnutrition risk allows for more timely dietetic intervention. Traditional screening and diagnostic tools are not CLD specific, thus have the potential to underestimate. The aim of this study was to compare CLD adjusted tools against standard practice – Screening using Malnutrition Universal Screening Tool (MUST) and assessment using Subjective Global Assessment (SGA). Data collection occurred over a three-month period on patients admitted with CLD to a gastroenterology ward at Dandenong Hospital. Patients were screened using MUST compared with MUST with mid-arm circumference (MAC). Assessment was completed using Subjective Global Assessment (SGA) compared with Baylor University Medical Centre (BUMC) revised-SGA. Data analysis compared rates of malnutrition risk and diagnosis between the different tools and chi-squared test conducted. Of the 20 patients included in this pilot study, there was no significant difference between malnutrition risk (30%) and diagnosis (65%) comparing both screening tools (P = 0.00) and assessment tools (P = 0.00), respectively. Of the diagnosed malnourished patients, 35% were screened as 'not at risk' by both the MUST and MUST with MAC (P = 0.03). There was no difference in malnutrition risk identification or diagnosis between the tools. Further investigation in a larger cohort of patients for a validated CLD-adjusted screening tool is recommended to improve dietetic efficiency and to ensure high-risk patients are identified correctly.

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INVESTIGATING VITAMIN C LOSS IN HOSPITAL FOOD

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When menu planning for hospitals, if nutrient goals for key macronutrients are met, micronutrient targets should also be sufficient to meet Recommended Dietary Intakes (RDIs). Whilst it is recognised that cooking processes cause unavoidable nutrient losses, the guidance on cook-chilling or hot-holding techniques to maximise nutrient retention of vitamin C is rarely practiced. Although supplementing with fruit juice or raw fruit can easily compensate for cooking losses of vitamin C, many patients have small appetites and may not order these items as an option during admission. This study collected five vegetable samples at delivery and at plating in a Melbourne hospital for testing of vitamin C. Sixty-seven patients' daily meal orders were also assessed to determine if patients order sufficient vitamin C. Sampled food contained considerably less vitamin C when compared to NUTTAB 2010 values, with a 10–100% difference. As expected, the nutrient quality of vitamin C reduced by 66–88% as the food processing increased, with greater losses seen in food prepared using the cook-chill method. Sixty-seven percent of patient's meal orders met the Vitamin C RDI with a mean vitamin C order of 114 mg (±83). Patients must order orange juice or fruit salad to meet the vitamin C RDI. The vitamin C losses were greater than expected, and dietitians should ensure cooking processes are in place to minimize nutrient loss. Cooked vegetables contribute 9% of vitamin C availability, and hospital menus should be planned with daily orange juice and fresh fruit to ensure most patients can order sufficient vitamin C.

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‘THE CHALLENGE OF THE DEVELOPMENT OF HOSPITAL DIETETICS IN THE WHOLE OF AUSTRALIA’: MABEL G FLANLEY AND THE WOMAN PUBLICS

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Auxiliary complaints about the Alfred Hospital food in 1925 were considered by the Board of Management. Extensive review of the hospital archives and the global literature has now revealed their subsequent and pioneering decisions. The support of Dr MT MacEachern and the Victorian Charities Board led to the appointment of American Mabel Gertrude Flanley B.S. as Dietitian from January 1930. Within months, she had improved the hospital food service and begun the first Dietitian Training Program in Australia. Flanley expressed interest in ‘the challenge of the development of Hospital dietetics in the whole of Australia’, but this aspiration was somewhat too grand for the Alfred Hospital to renew her contract (initially up to 18 months) and she returned home. Her Master of Science Degree was completed at the University of Washington in Seattle, with a thesis about her experiences at the Hospital. She also resumed her pioneering consumer and public relations work with the Borden Company, amongst many other pursuits. She remained interested in Australia and was instrumental (with Dr MacEachern) in the 1936 appointment of the first Dietitian (Edith Tilton) at the Royal Prince Alfred Hospital in Sydney. In 1944, she set up Flanley and Woodward at 5th Avenue New York. It was a Public Relations Company with a focus on the woman publics. This venture supported her work in public relations and education and won her wide recognition to the present day. Mabel Gertrude Flanley had an extraordinary career and has given us an important inspirational legacy.

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AN ONLINE SURVEY TO DETERMINE THE FOOD PREFERENCES AND SATISFACTION OF STAFF REGARDING THE CAMPUS FOOD ENVIRONMENT

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Tertiary institutions employ a large number of staff who spend a large proportion of their time on campus. The food environment on campus

has the potential to influence their food choice, impacting their health status. This study examines the preferences, opinions and satisfaction of staff from a large urban university in regards to the campus food environment. A convenience sample of staff working at a large, urban university was recruited to participate in an online survey to obtain their opinions on the campus food environment. The survey included closed (n = 22) and open (n = 4) ended items to examine the food purchasing behaviours, opinions and recommendations for changes to the campus food environment. A sample of 336 participants (females: n = 259; males: n = 77) was recruited with a majority aged 45–54 years. Most respondents (n = 323) reported consuming food/beverages from university outlets. Taste was the biggest determinant in terms of food selection. A higher proportion of younger staff consumed unhealthy options such as soft drinks (p = 0.039) than older staff (>35 years), who reported consuming more vegetables/salads. Majority of staff (n = 285) wanted to see more food variety with a reduction in cost, especially healthy food options. Nutritional labelling at point of purchase was requested by staff (n = 228) to assist in purchasing healthier options. Modifying the food environment on campus by increasing the variety of tasty, healthy foods at an accessible price, may positively impact the eating habits of staff and their food preferences. Findings from this survey may help inform future interventions.

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