

## Practical implementation

### 9 FACTORS INFLUENCING THE UPTAKE AND IMPLEMENTATION OF THE SCHOOL MILK SCHEME IN IRELAND: A QUALITATIVE STUDY AMONG SCHOOL STAFF MEMBERS AND PARENTS FROM DISADVANTAGED SCHOOLS

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**Background** Milk and dairy products are an important source of calcium, necessary for bone health across the lifespan. However, children's milk consumption has decreased over the past decade in Ireland and in other developed countries. The EU School Milk Scheme (SMS) supports the provision of subsidised or free milk to schoolchildren. However, participation in the SMS in Ireland is declining.

**Objectives** To explore the factors influencing the uptake and implementation of the SMS in disadvantaged primary schools.

**Methods** Semi-structured interviews were conducted with teachers (n=5) and with parents of children (aged 8 to 11 years) attending disadvantaged primary schools (n=6). Participants were recruited from disadvantaged primary schools as part of a larger evaluation of the EU School Fruit, Vegetables and Milk Scheme in Ireland. Interviews included questions surrounding participants' views on milk provision in primary schools and their experience with the SMS. Interviews were recorded, transcribed and thematically analysed.

**Results** Overall, participants felt positively towards milk provision in schools. Socioeconomic disadvantage was cited as a reason for schools' participation in the SMS and contributed to parents' reasoning as to why they felt that the SMS was beneficial. Past experience with receiving school milk influenced participants' attitudes towards the current scheme, both in cases where participants had positive and negative experiences. A barrier to participation in the SMS at a school-level were the practical issues associated with storing and serving milk at a suitable temperature. The COVID-19 crisis also hindered participation in and implementation of the scheme.

**Conclusions** Participants viewed the SMS as valuable in making milk available to children who may not receive it outside of the school environment. However, practical issues with storage and distribution negatively impact its uptake and implementation. Further supports are necessary in primary schools to mitigate the issues experienced when implementing the SMS.

### 10 DEVELOPING METHODS TO INVESTIGATE POTENTIAL USEFUL 'SIDE EFFECTS' OF THE MOBILE TEACHING KITCHEN: EXPLORING LANGUAGE AND COGNITION

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**Background** Teaching kitchens may have impacts beyond the fields of nutrition and health. Depending on the model of delivery, they may depend upon participants' cognitive and linguistic skills for success. The NNEdPro Mobile Teaching Kitchens (MTK) initiative employs a 'See One, Do One, Teach

One' (SODOTO) model of knowledge transfer. The first aim of this interdisciplinary research was to establish a methodological approach to investigate the hypothesis that SODOTO has associations and potential 'side effects' in the domains of cognitive flexibility and oral language.

**Methods** A mixed methods battery was developed for delivery alongside the MTK in Kolkata, India, which already involves measures of knowledge, attitudes, and practices, and health status. Baseline measures included the ASER reading task and a demographic and language questionnaire. Four tasks were included: 1) Category Naming, measuring verbal fluency, 2) Film Narrative, measuring oral language and storytelling skills, 3) Picture 2-back, measuring working memory, and 4) Picture Sequencing, measuring cognitive flexibility. Finally, group interview prompts were developed, covering the themes of knowledge transfer, communication, and changing attitudes and practices. All materials were produced in Bengali language (Bangla).

**Results** Between February and May 2022, 18 female participants aged 21-40 years (mean=27.94yrs, SD=6.23) enrolled and took part in the pre-intervention, SODOTO, and post-intervention sessions. Post-intervention sessions took place 4-6 weeks after SODOTO. Overall, the tasks were enthusiastically received, despite being an unfamiliar experience. Several challenges emerged, predominantly originating from the busy field environment where participants can feel self-conscious, providing key implementation insights for future work.

**Conclusions** Delivery of these measures alongside the MTK proved successful. Multiple areas for adaptation were highlighted and will be actioned ahead of further use, to progressively tailor the measures to the population. Cross-sectional and longitudinal analysis will allow understanding of possible links and predictive effects, which will be presented in future work.

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### 11 PARENTAL ATTITUDES AS AN INFLUENCING FACTOR OF CHILDREN'S FRUIT AND VEGETABLE CONSUMPTION IN IRELAND

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**Background** Childhood nutrition influences growth and the development of lifelong eating behaviours. Fruit and vegetable (F&V) intakes significantly below the recommended five portions of F&V per day have been observed among children (age 5-12) in Ireland. Parents play a pivotal role in influencing their children's dietary behaviour. This study aimed to assess whether parental attitudes towards F&V influence their children's F&V daily consumption levels.

**Methods** As part of an evaluation of the EU School Fruit, Vegetables, and Milk Scheme, parents of 1st, 3rd and 5th class children were invited to complete an online questionnaire. Questions assessed parents' and children's intake of various foods, including F&V. Parental attitudes towards the importance of F&V in children's diets were also examined. Descriptive statistics and Pearson Chi-square tests were performed.

**Results** A total of 422 parents participated in this study. 19% of parents reported that their children consumed at least four servings of F&V per day. No statistically significant difference was observed in parental attitudes across children's vegetable consumption levels. A significant difference ( $p = 0.004$ ) in the importance of fruit in children's diets across consumption levels was observed. 91% of parents whose children consumed F&V less than daily agreed with the statement that 'It is important to me that my child eats fruit', compared to 100% of parents whose children consumed at least four servings of F&V per day.

**Conclusion** In this study, most primary school children did not eat the recommended daily servings of F&V. Although one difference was observed in the importance of fruit in children's diets across consumption levels, parental attitudes towards vegetables did not influence children's intake. Therefore, future analysis should consider other parental factors that may influence child F&V intake levels, including food availability and parental consumption.

## Health systems

### 12 DEVELOPMENT OF A SCREENING ETOOL FOR PRE-DIABETES AMONG KAZAKH POPULATION AND ITS APPLICATIONS: PERSPECTIVES FROM MEDICAL DOCTORS

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**Background** Diabetes is identified as one of the most important healthcare challenges for many countries. The high prevalence of prediabetes with its long asymptomatic phase of the disease are strong arguments for screening. Currently, such tool is not routinely used in the clinical settings in Kazakhstan.

**Objectives** We developed a screening tool for prediabetes among Kazakh population. This screening tool includes family history, dietary and other lifestyle risk factors. The aim of this pilot project is to gather feedback and comments from doctors about the application of this new tool.

**Methods** Based on qualitative methods, semi-structured interviews were conducted with 9 doctors. Participants were purposively selected based on their roles and clinical experience in diabetes management.

**Results** All the respondents agreed that using screening tool at the early stage will be a useful healthcare intervention strategies. Cost-effectiveness was one of reasons suggested for using screening tools. Participants discussed each part of the screening tool which was included in the questionnaire, assessed their importance and applicability. Some of the health professionals in our study noted some barriers to developmental tool in general, which included difficulties with interpretation and self-management.

**Conclusions** Based on the findings, the new tool will be potentially useful as a diagnostic tool at the early stage, allowing individuals with undiagnosed diabetes to seek timely medical care.

## Health systems; food systems

### 13 AI APPLICATIONS FOR DIETARY INTERVENTIONS: PERSPECTIVES FROM EAST & CENTRAL ASIA

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**Background** Assessment of dietary intakes is notoriously laborious and generates information that requires a lot of effort in coding and subsequent analysis. Furthermore, keeping track of the everyday diet via taking photos of the meals might enhance the accuracy of the dietary assessment and reduce reporting and recall biases. Currently, Computer Vision (CV), which is a subfield of Artificial Intelligence (AI) is being utilized for various applications in food recognition such as *smart* restaurants, supermarkets, and nutritional assessment to increase social awareness of a healthy lifestyle. Thus, information mined from *food images using CV could have considerable potential in dietary interventions*.

**Objectives** The overarching project aims to apply CV techniques to identify main dietary factors in association with corresponding cardio-metabolic factors in Kazakhstan. In order to achieve this, we have to first develop a model for detecting and identifying food items unique to local Central Asian cuisine. We will then apply transfer learning from pre-trained food classification models to our custom dataset. Further, we will link the nutritional content to the food classes, such that the model will provide the assessment based on the longitudinal dietary patterns.

**Methods** A Telegram Bot was created to collect food images unique to Central Asia as well as other dietary and lifestyle factors. For each food class, approximately 1,000 images are to be collected and annotated. In the case of rare food items, data augmentation techniques will be applied.

**Results** To date, we have collected images for about 8 classes of foods and 2 classes of beverages unique to Kazakhstan. More than 4,000 images have been collected and annotated. While the rest of the classes are being pre-processed, we are now performing parametric experiments with EfficientNet and ResNet deep learning models. Further details will be provided during the presentation.

**Conclusions** The creation of the Central Asia food datasets will help to better explore and examine the dietary patterns which will allow researchers to conduct both nutrition and dietary surveillance in a more effective manner.

## Practical implementation

### 14 A BASIC NUTRITION CURRICULUM FOR ALL: CASE STUDY OF RURAL WOMEN, BASSI PATHANA, PUNJAB (INDIA)

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**Background** Good health and wellbeing is closely associated with nutritional food intake and healthy eating habits; this