

International League Against Epilepsy (ILAE) epidemiologic guidelines [2]. Definite and probable cases of seizures and epilepsy were classified according to 2017 ILAE classification systems as focal, generalized or unknown [3, 4]. Data were analysed using SPSS, version 24.

Results From a population of 542,869 adults and children, 1942 potential cases were identified, of whom 611 were excluded as neonatal or febrile seizures, did not meet the geographic criteria or had a previous diagnosis of seizures or epilepsy. Incidence rates of first seizure (both provoked and unprovoked) was 102 per 100,000 population, of new diagnosis of epilepsy was 64 per 100,000, and of seizure mimics was 96 per 100,000. In concordance with most international studies, age-specific incidence rates for both first seizures and new diagnosis of epilepsy demonstrated a bimodal distribution, with highest rates in the very young and in later life. As expected, the most commonly encountered seizure mimic was syncope (30%).

Conclusion We applied a rigorous study protocol for investigation of the incidence of first seizures, new diagnosis of epilepsy and seizure mimics in a geographically defined region which is adherent to recently published international guidelines for epidemiological studies and epilepsy classification. This study highlights the significant burden that seizure mimics place on diagnostic services given that they occur as frequently as first seizures.

P72

CARING FOR CRITICALLY ILL WOMEN IN OBSTETRICS IN IRELAND: 2014–2016

E Manning*, P Corcoran, I Farrell, S Leitao, R Greene. *Obstetrics and Gynaecology, National Perinatal Epidemiology Centre, Cork, Ireland*

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Background The provision of safe maternal critical care requires resource planning and development of relevant competencies among healthcare professionals. However, there are no national data recording the activity of higher levels of care in obstetrics. The objective of this study was to establish the incidence, location of care and underlying maternal morbidity associated with Critical Care in Obstetrics in Ireland.

Methods For 2014–2016, 15 Irish maternity units provided anonymised data on pregnant or recently pregnant women requiring Level 2 Care (invasive monitoring or support for a single failing organ system) or Level 3 Care (requiring mechanical ventilation alone or support of two or more organ systems). Morbidities were classified using both the World Health Organisation and the National Perinatal Epidemiology Centre definitions of severe maternal morbidity.

Results Among 124,135 maternities, 900 women required Level 2 Care (7.3 per 1,000 maternities) and 61 women required Level 3 Care (0.5 per 1,000 maternities). While Level 3 Care was provided in an ICU facility, the location of Level 2 Care varied by maternity unit - the smaller the unit, the greater the utilisation of the ICU. Respectively, hypertensive disorders and obstetric haemorrhage affected 54.2% and 27.3% of women requiring Level 2 Care and 11.5% and 44.3% of women requiring Level 3 Care. The need for higher level of care was not predictable in approximately half of the women. All woman requiring Level 3 Care and 37.1% of women requiring Level 2 Care met the criteria of organ dysfunction as specified by the national clinical audit of severe maternal morbidity.

Conclusion A significant number of women requiring Level 2 Care do not experience organ dysfunction as their clinical needs were identified and treated before organ dysfunction occurred. Thus, there are limitations of existing classification systems on severe maternal morbidity in quantifying level of care provided. The variation in location of Level 2 Care has implications for staff training in both maternity units and ICU.

P73

IDENTIFYING THE ACTIVE INGREDIENTS IN IMPLEMENTATION: QUALITATIVE CONTENT ANALYSIS OF THE OVERLAP BETWEEN BEHAVIOUR CHANGE TECHNIQUES AND IMPLEMENTATION STRATEGIES

¹S McHugh*, ²J Presseau, ³C Luecking, ³B Powell. ¹*School of Public Health, University College Cork, Cork, Ireland*; ²*School of Epidemiology and Public Health, University of Ottawa, Ottawa, Canada*; ³*Department of Health Policy and Management, University of North Carolina, Chapel Hill, USA*

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Background Evidence-based healthcare innovations require complementary evidence-based implementation strategies to support their translation into practice. Efforts to test, refine and replicate implementation strategies are frustrated by insufficient description. Our aim was to examine the extent to which implementation strategies could be specified using the Behaviour Change Technique (BCT) taxonomy, a behavioural science tool for describing the active ingredients of interventions.

Methods The data source was a compilation of 73 implementation strategies, developed through evidence synthesis and expert consensus. The definition of each strategy (n=73) was deductively coded using the BCT Taxonomy, containing 93 discrete techniques. A typology was developed iteratively to categorise the extent of overlap between strategies and BCTs. The number of BCTs per strategy and extent of overlap was estimated. In the next stage, 3 experts will independently rate 1) their level of agreement with the categorisation and 2) level of agreement with the BCT(S) identified within each strategy.

Results During preliminary analysis, 87 BCTs were coded across 73 strategies (average 1.2 per strategy). Five types of overlap were identified. For 8% of strategies (n=6), there was direct overlap between the strategy description and BCT (e.g. strategy: remind clinicians/BCT: prompts and cues). For 36% of strategies (n=26), there was at least 1 BCT clearly subsumed under the strategy description which could be used to guide initial operationalisation (e.g. strategy: provide clinical supervision/BCT: restructure social environment). For 26% of strategies (n=19), a BCT(s) was probably subsumed under the strategy given its definition and/or title but other BCTs were possible depending on how the strategy is operationalised (e.g. strategy: visit other implementation sites/BCT: social comparison). For 11% (n=8), there were no BCTs clearly indicated in the strategy definition or title (e.g. strategy: make training dynamic). Finally, 19% of strategies (n=14) did not focus on behaviour change to support implementation (e.g. strategy: access new funding).

Conclusion Many implementation strategies require further specification in order to apply them in a setting, relying on assumptions and inference on the part of the intervention developer, be it researcher or practitioner. This creates an

opportunity for inconsistent application and limits the potential for replication and synthesis of evidence of effectiveness.

This study is the first step towards moving from general descriptions of implementation strategies to full descriptions of their active ingredients. This is essential to understand how strategies at an organisational and professional level can lead to observable changes in individual behaviour.

P74

UNDERSTANDING THE IMPETUS FOR MAJOR SYSTEMS CHANGE: A MULTIPLE CASE STUDY OF DECISIONS AND NON-DECISIONS TO RECONFIGURE EMERGENCY AND URGENT CARE SERVICES

¹S McHugh*, ²E Droog, ¹C Foley, ¹M Boyce, ²O Healy, ¹J Browne. ¹School of Public Health, University College Cork, Cork, Ireland; ²South/South West Hospital Group, Health Service Executive, Cork, Ireland

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Background The optimal organisation of emergency and urgent care services (EUCS) is a perennial problem internationally. Similar to other countries, the Health Service Executive in Ireland pursued EUCS reconfiguration in response to quality and safety concerns, unsustainable costs and workforce issues. However, the implementation of reconfiguration has been inconsistent at a regional level. Our aim was to identify the factors that led to this inconsistency.

Methods Using a multiple case study design, case study regions were selected based on the extent of emergency department reconfiguration in the region (categorised as full, partial and little/no reconfiguration). Semi-structured interviews were conducted with a purposive sample of stakeholders who were centrally involved in the reconfiguration process in each region. Interview data were supplemented with documentary analysis of proposals for EUCS in each region. Data were analysed using a framework approach, drawing on an existing conceptual framework for major system change. Cross-case analysis was conducted iteratively to identify patterns and differences across the regions.

Results Six regions were selected for analysis and 42 interviews were analysed. The impetus to reconfigure ED services was triggered by patient safety events, and to a lesser extent by having a region-specific plan and an obvious starting point for changes. However, the complexity of the next steps and political influence impeded reconfiguration in several regions. Implementation was more strategic in regions that reconfigured later, facilitated by clinical leadership and 'lead-in time' to plan and sell changes.

Conclusion While the global shift towards centralisation of EUCS is driven by universal challenges, decisions about when, where and how much to implement are influenced by local drivers including context, people and politics. This can contribute to a public perception of inequity and distrust in proposals for major systems change.

P75

EXAMINING TOTAL AND DOMAIN-SPECIFIC SEDENTARY BEHAVIOUR USING THE SOCIO-ECOLOGICAL MODEL – A CROSS-SECTIONAL STUDY OF IRISH ADULTS

H Nicolson*, Darker, Hayes. *Public Health and Primary Care, Trinity College Dublin, Dublin, Ireland*

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Background Sedentary behaviour has been linked with detrimental effects on morbidity and mortality. This study aims to identify the individual, social and environmental correlates of total sedentary behaviour as well as across the contexts that sitting time accumulates in an Irish adult cohort.

Methods Cross-sectional analysis of data from 7,305 adults of the nationally representative Healthy Ireland Survey. Multivariate regression analyses were used to examine participants' socio-demographic characteristics, lifestyle factors, workplace activity patterns, physical and mental health status, and environmental factors, and their association with participants' total daily sitting times and sitting times across the domains of work, travel, leisure and screen-time.

Results Overall median of sitting time per day was 360 minutes (6 hours). Workplace sitting was the strongest predictor of sedentary behaviour. Male gender, higher education attainment, higher socio-economic classification and living in an urban dwelling were all associated with increased total and occupational sitting time ($p < 0.05$). Insufficient physical activity levels was also associated with total sitting time ($p < 0.001$). Male gender, lower education attainment, a possible mental health problem, smoking and insufficient physical activity were all associated with increased screen-time sitting ($p < 0.05$). Higher education attainment, physical illness, a possible mental health problem, alcohol consumption and lower perceived neighbourhood attributes were all associated with higher transportation/leisure sitting times ($p < 0.05$). Variance of the multivariate model for occupational sitting was 39.0% and 25.8% for total sitting.

Conclusion Having a sedentary occupation was the strongest predictor of sitting time in this population. The results of this study provide a starting position for the development of targeted interventions aimed at the most sedentary groups, such as professional and higher educated males with sedentary occupations.

P76

SECULAR TRENDS AND COSTS OF MANAGEMENT OF ACUTE MYELOID LEUKAEMIA: EVIDENCE FROM POPULATION-BASED CANCER REGISTRATION DATA

¹AO Ceilleachair*, ²M Cahill, ³R McMorrow, ³C Donnelly. ¹School of Public Health, UCC, Cork, Ireland; ²Haematology Dept., Cork University Hospital, Cork, Ireland; ³National Cancer Registry Ireland, Cork, Ireland

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Background Acute myeloid leukaemia (AML) is an aggressive blood cancer that, left untreated, proves fatal within a short period. Though numbers diagnosed annually are relatively small, treatment costs from induction therapy through to clinical remission potentially are in excess of €200,000. We present, for the first time, using cancer registration data, evidence on trends in the incidence of AML for Ireland, together with an assessment of the costs of managing the disease.

Methods Cancer registration data on individuals aged 20 years and older diagnosed with AML (ICD-10 C92.0) 1994–2013 were extracted from a population register. EASR and crude incidence rates were calculated with 95% confidence intervals by five-year age bands. Cases were assigned to one of four treatment pathways on the basis of patient characteristics. These were an intensive chemotherapy pathway, a pathway with bone marrow transplantation, a low intensity chemotherapy pathway and a best supportive care pathway. Resource use for each pathway was determined using clinical guidelines,