Conclusion We found no evidence of a protective effect of hard water against acute MI admission, contrary to other published studies. This may be because our methods allowed us to better account for possible confounding variables. We go on to hypothesise that as water supply networks developed historically, with soft water from upland areas being used supply the needs of rapidly industrialising areas and other areas left to use local groundwater, some interesting accidental correlations between neighbourhood socio-economic status and water hardness arose which may have confounded previous work. However, mass differential exposure to highly bio-available minerals, especially calcium and magnesium, does raise some interesting further questions about the relationship between water supply and population health, which our methods can be used to investigate further.

Background Telephone triage plays an important role in managing demand for healthcare. In recent years there has been an increasing use of telephone triage in managing demand for unscheduled health care for general health problems. Policy makers, service providers and service evaluators are interested in the appropriateness of triage decisions in the context of offering an effective and safe service. In 2009 the Department of Health in England announced the establishment of a small number of pilot sites to test a new telephone triage service called ‘NHS 111’. The service offers telephone triage to members of the general population calling about urgent but non-emergency health problems. Calls are triaged by trained non-clinical call advisors and directed to a range of services such as an emergency department, or a general practitioner.

Methods As part of an evaluation of these pilots, in order to provide context for understanding the findings, a rapid evidence assessment was undertaken of the appropriateness of, and compliance with, telephone triage to synthesise the evidence on the percentage of telephone triage decisions assessed as appropriate and the percentage which callers complied with. The aim of this paper is to report on a systematic review of the literature on appropriateness of, and compliance with, telephone triage decisions. The study focused on telephone triage services directing patients to an appropriate health care provider. The principles of rapid evidence assessment were followed.

Results We identified 54 relevant papers; 26 papers reported appropriateness of triage decision, 26 papers reported compliance with triage decision and 2 papers reported both. Nurses triaged calls in most of the studies (n=49). Triage decisions rated as appropriate varied between 44% and 98% (median 75%); compliance ranged from 56% to 98% (median 77%). Variation could not be explained by type of service or method of assessing appropriateness. However, inconsistent definitions of appropriateness may explain some variation. Triage decisions to contact primary care (median 66%, range 25%–91%) may have lower compliance than decisions to contact emergency services (median 75%, range 29%–100%) or self care (median 77%, range 26%–100%).

Conclusion Telephone triage services can offer appropriate decisions, and decisions that callers comply with. However the association between the appropriateness of a decision and subsequent compliance requires further investigation and further consideration needs to be given to the minority of calls which are inappropriately managed. We suggest that a definition of appropriateness incorporating both accuracy and adequacy of triage decision should be encouraged.

Background Diabetes is associated with a significant risk of LEA (lower extremity amputation). LEA rates vary between communities, 46–9,600 per 105 people with diabetes, for many reasons. The effects of clinical and socio-demographic risk factors on the occurrence of a LEA have been well documented in people with diabetes. However, the effect of patient contact with a podiatrist on the prevention of LEA in people with diabetes is less well explored. The objective of this study was to determine if contact with a podiatrist prevents the occurrence of lower extremity amputation in people with diabetes.

Methods We conducted a systematic review of available published literature on the effect of contact with a podiatrist on the prevention of lower extremity amputation in people with diabetes. Eligible
studies were identified through searches of PUBMED, CINAHL, EMBASE (Excerpta Medica), and Cochrane databases. Reference lists of all relevant papers were reviewed for additional eligible articles. Randomised and non-randomised studies of the effect of contact with a podiatrist on risk of LEAs in people with diabetes (type 1 or 2) were included. Two reviewers independently assessed titles, abstracts, and full articles to identify eligible studies. Meta-analysis was performed separately for randomised and non-randomised studies.

**Results** Four hundred and ninety-nine titles were retrieved from searches of electronic databases. Duplicates (138) were removed and 361 titles/abstracts were reviewed. Nineteen papers were considered for review after initial screening of titles and abstracts. Three further studies were identified as potentially eligible from reference checking. After reviewing the full text articles, 6 studies met the inclusion criteria. The identified studies were heterogeneous in design (2 RCTs and 4 cohort studies) and included people with diabetes at both low and high risk of amputation. In a meta-analysis of available data from RCTs, the pooled RR of LEA was 1.4 (95% CI 0.2–9.3). The pooled RR from available cohort studies suggested a protective effect of podiatry but the estimate was unreliable, RR of 0.7 (95% CI 0.09–5.68).

**Conclusion** There is very limited data available on the effect of contact with a podiatrist on risk of LEA in people with diabetes. Further research in this area is warranted. An adequately powered RCT with a reasonably homogenous population regarding risk profiles would be the ideal way to answer this question if possible. A systematic review looking at the effect of podiatry as part of a multidisciplinary foot team on the risk of LEA in people with diabetes would also be prudent.

**PS12 DIABETES AND PRE-DIABETES PREVALENCE RATES IN THE SURVEY OF LIFESTYLES, ATTITUDE AND NUTRITION (SLAN) IN THE REPUBLIC OF IRELAND**

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CM Buckley, PM Kearney, S McHugh, U Harrington, OP Bradley, JU Penny. Department of General Practice, UCC, Cork; Department of Epidemiology and Public Health, UCC, Cork.

**Background** To date estimates of the prevalence of diabetes in Ireland have been based on models of UK data. Since 2009 the International Expert Committee has recommended that the diagnosis of diabetes and pre-diabetes can be made on the basis of HbA1c levels. The objectives of this study are to estimate the prevalence of diabetes and pre-diabetes in a nationally representative sample of adults living in private households in Ireland and to assess whether the discrepancy between self-report and objective diabetes status is influenced by socio-demographic characteristics.

**Methods** Estimates were based on a nationally representative sample of participants in the Survey of Lifestyles, Attitude and Nutrition (SLAN) whom provided a blood sample at the physical examination. Diabetes was diagnosed based on an HbA1c level ≥6.5% or self-report of occurrence of diabetes or reporting of diabetes medications. Pre-diabetes was diagnosed based on HbA1c level ≥5.7% and <6.5% and no self-report of diabetes or diabetes medications. Prevalences are reported with their 95% confidence intervals. Comparisons between men and women were carried out using the design-adjusted chi² test. A p-value of less than 0.05 was considered statistically significant.

**Results** The overall response rate among eligible adults (18+ years) was 62% for the main survey (n=10,364) and 66% for the physical examination subsurvey (aged 45+, n=1202). Among the 1202 participants who underwent a physical examination, 8 were excluded because they did not complete the questions on diabetes history and 65 were excluded from the analysis because they did not have HbA1c measurements. Among the remaining 1132 participants, 54 had diagnosed diabetes and 34 had undiagnosed diabetes based on HbA1c levels. Based on the HbA1c threshold, prediabetes was found in 214 individuals. The overall prevalence of diabetes was 7.7% (95% CI 6.2–9.4) and of pre-diabetes was 18.7% (95% CI 16.5–21). Prevalence of both diabetes and pre-diabetes were higher among men than women. A logistic regression model was used to investigate risk factors for undiagnosed diabetes.

**Conclusion** The prevalence of diabetes and pre-diabetes in this study is high. Pre-diabetes is a well-established risk factor for progression to diabetes and of cardiovascular disease. Despite efforts to increase awareness and screening for diabetes, some individuals with diabetes remain undiagnosed. Undiagnosed diabetes is highest in younger men (46–64 years). Increased efforts are required to improve detection of diabetes and pre-diabetes and thus, identify and manage this high-risk population.