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FACULTY OF PUBLIC HEALTH MEDICINE

ROYAL COLLEGE OF PHYSICIANS OF IRELAND

Faculty of Public Health Medicine Summer Scientific Meeting 23th & 24th May 2023

Abstract

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Changes in Gonorrhoea Epidemiology in Cork & Kerry (2016 – 2022)

Topic / Dept: Health Intelligence

Author: Dr Michael Hanrahan

Co Author: Cliodhna Ni Bhuachalla

Co Author: Epidemiologist Orla Bruton

Co Author: Mrs Catherine D'arcy Walsh

Co Author: Olga Jackson

Abstract:

Gonorrhoea is one of the most common sexually transmitted infections (STIs). There was a significant increase in the number of gonorrhoea cases notified to public health in 2022 however it is uncertain whether this increase is a consequence of untreated cases during the COVID-19 pandemic or if it is due to a change in sexual risk behaviour, changes in testing practices, or changes in testing availability (e.g. introduction of free STI home test-kits). The aim of this research was to examine changes in gonorrhoea epidemiology and testing in Cork and Kerry from 2016 to 2022.

Data relating to gonorrhoea notifications within Cork and Kerry from 2016 to 2022 was extracted from the Computerised Infectious Disease Reporting system on 01/02/2023. Additional data relating to specimen site(s) of positive samples were extracted from the local laboratory system for a sub-set of notifications which occurred in the first six months of 2016, 2019 and 2022.

Four-hundred and six cases of gonorrhoea were notified in Cork and Kerry in 2022 which represents a three fold increase in notifications compared to 2016 and is almost double the number of notifications from 2019. The majority of cases in 2022 were among males (76%) and those aged 20 – 29 years (55%). The largest increase over time was observed in those aged 20 – 24 years. There has been a change in testing with significant increases in positive urine, throat and vaginal swabs in 2022 compared to 2016. Of note, 34% of cases in 2022 were initially detected using home STI test kits.

A combination of factors have likely resulted in the increase in gonorrhoea notifications in 2022. As home STI testing is generally only advised for asymptomatic people, this initiative may have prevented an uncountable number of additional gonorrhoea infections. Additional health promotion messages have also been circulated to third-level students in Cork and Kerry to highlight this issue and promote symptom awareness, safe sexual behaviours and regular STI testing.

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Examination of the increased rate of new HIV notifications in Cork and Kerry (2012 – 2022)

Topic / Dept: Health Intelligence

Author: Dr Michael Hanrahan

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Co Author: Senior Medical Officer Public Health Anne Dolores Mercedes Dillon

Co Author: Mrs Catherine D'arcy Walsh

Co Author: Olga Jackson

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Co Author: Peter Barrett

Abstract

Ireland has seen a significant increase in immigration from regions with a high prevalence of Human Immunodeficiency Virus (HIV) in the past year. The number of new notifications of HIV made to the Health Protection Surveillance Centre increased by more than 65% in 2022 compared to any year in the last decade. The aim of this research was to examine how the epidemiology of HIV has changed in Cork and Kerry between 2012 and 2022 in order to inform service planning and public health response.

Data relating to HIV notifications within Cork and Kerry from 2012 to 2022 was extracted from the Computerised Infectious Disease Reporting system on 08/03/2023. Additional data on HIV viral load was extracted from the local laboratory system. Migration status for individuals was assigned based on patient ethnicity and addresses of known Direct Provision Centres/ Ukrainian Accommodation Centres.

Eighty-eight cases of HIV were notified within Cork and Kerry in 2022. This is 3.1 times greater than the number of HIV notifications in 2021 and 2.3 times greater than pre-pandemic levels reported in 2019. The largest increase was seen among adults aged 31-40 years who accounted for 45% of new HIV notifications in 2022. Females accounted for 41% of HIV notifications in 2022 compared to 26% in 2019. There has been a 6.2 fold increase in HIV notifications among people previously diagnosed outside of Ireland in 2022 compared to 2021 and represent the majority (85%) of cases, where known. Of those previously diagnosed abroad 82% presented with an undetectable/low viral load. Those from Ukraine and living in Direct Provision were predominantly heterosexual females while those who were born in Ireland/ other migrants were predominately men who have sex with men.

The epidemiology of HIV has changed within Cork and Kerry. Many migrants who come to Ireland with HIV know their status and seek out treatment. However, individuals who have not been previously diagnosed may not be aware of their HIV status and therefore not seek treatment/ may not know how to access treatment. Measures should be taken to screen migrants for HIV in order to prevent deterioration of health and onward transmission.

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A review of influenza vaccination coverage rate (VCR) among hospitalized influenza cases aged 2-14 years in Area D from 1st September 2022 to 31st January 2023

Topic / Dept: Health Protection

Author: Dr Nicola Murphy

Co Author :Staff Nurse Majella Bradley

Co Author: Surveillance Assistant Alma Bermeuller

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Co Author: Anne Sheahan

Abstract:

The World Health Organization (WHO) recommend that children aged 6 months-5 years receive the seasonal influenza vaccination due to the high burden of disease experienced by this age cohort. The live attenuated influenza vaccine (LAIV) is recommended for children aged 2-17 years in Ireland.

The aim of this review is to calculate the influenza vaccination coverage rate (VCR) among hospitalized influenza cases aged 2-14 years old in Area D during the 2022/2023 influenza season and to identify any potential barriers to vaccination among guardians.

All hospitalised laboratory confirmed cases of influenza in children aged 0-14 years were extracted from the Computerised Infectious Disease Reporting (CIDR) system from 01/09/2022-31/01/2023 and analysed using Microsoft Excel. Vaccination status was sought from COVAX database and enhanced surveillance forms, where available. Vaccination status of the remaining cases were sought by phoning the guardian of the case.

85 laboratory confirmed cases were analysed, of whom 70 were contacted. 78% were unvaccinated against influenza. 14% were vaccinated. 8% were unknown. Of the 66 unvaccinated cases, 36% expressed some vaccine hesitancy. 18% expressed a lack of awareness. Of those who intended to vaccinate but did not, 18% cited illness as the reason, 15% cited time constraints and 3% had difficulty accessing the vaccine. The reason was unknown for 7.5%.

The 14% VCR of paediatric influenza cases in Area D is similar to the national average of 15%, but well below the WHO/ECDC standard of 75%. Public education media campaigns regarding vaccination of children should be incorporated into the annual flu vaccine campaign. Promotional campaigns among healthcare workers may improve uptake. A national immunisation database and national case and incident management system would allow for rapid and accurate analysis of influenza VCR annually.

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Is COVID-19 finally now "just a bad 'flu"? Follow-up study on comparison of disease severity among COVID-19 episodes and seasonal influenza across the pandemic waves in Ireland.

Topic / Dept: Health Inteligence

Author: Dr. Anne O'Farrell

Co Author :Dr Paul Kavanagh

Co Author: Howard Johnson

Abstract:

COVID-19 was clearly a more severe illness than seasonal influenza in hospitalised cohorts during Wave 1 of the pandemic. This study's aim was to determine if COVID-19 severity, relative to seasonal influenza, evolved across subsequent waves.

This study used Hospital In-Patient Enquiry (HIPE) to compare COVID-19 hospitalisations over five pandemic waves with influenza hospitalisations during 2018/ 2019 across parameters of length of stay (LOS), intensive care unit (ICU) admission, ventilatory support, dialysis and in-hospital mortality. Regression measured relative severity with odds ratios (ORs) adjusted for age and gender.

Compared to influenza episodes, COVID-19 episodes had a longer mean LOS (14.2 days, vs. 9.2 day, t-ratio 20.5, $p<0.001$); were more likely to receive ICU care (OR 1.3, 95% CI 1.2-1.4, $p<0.001$); more likely to need ventilatory support (OR 2.3 95% CI 1.2-1.5, $p<0.001$); and dialysis (OR 2.5, 95% CI 1.2-1.8, $p<0.001$) also more likely to die in hospital (OR 2.9, 95% CI 2.6-3.2, $p<0.001$). COVID-19 episodes were more likely to experience severe disease progression during the first four pandemic waves. However, in wave 5 COVID-19 episodes were significantly less likely to need ventilatory support (OR 0.87, 95% CI 0.78-0.97, $p<0.05$) or ITU care (OR 0.77, 95% CI 0.70-0.85, $p<0.05$). There was a downward trend for in-hospital mortality for COVID from Wave 1 to Wave 5 (14.8% to 5.6%, Cochrane Armitage, $p<0.001$). However, in-hospital mortality remained higher in COVID episodes in all five waves. COVID-19 severity relative to influenza has reduced over pandemic waves likely reflecting changes in strain, population immunity, vaccination and treatment.

In-hospital mortality remained higher in COVID-19 relative to influenza, in all five waves. Strong vaccine uptake needs to be maintained.

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Derivation and validation of clinical prediction rules for diagnosis of infectious mononucleosis: a prospective cohort study

Topic / Dept: Health Protection

Author: Muireann De Paor

Abstract:

Background and objectives: Infectious mononucleosis (IM) is a clinical syndrome that is characterised by lymphadenopathy, fever and sore throat. It is a common differential diagnosis for the presentation of sore throat, and accurate clinical diagnosis and appropriate management can reduce the need to prescribe unnecessary antibiotics. Although generally not considered a serious illness, IM can lead to significant loss of time from school or work due to profound fatigue, or the development of chronic illness. This study aimed to derive and externally validate clinical prediction rules (CPRs) for IM caused by Epstein-Barr virus (EBV).

Design Prospective cohort study.

Setting and participants 328 participants were recruited prospectively for the derivation cohort, from seven university-affiliated student health centres in Ireland. Participants were young adults (17–39 years old, mean age 20.6 years) with sore throat and one other additional symptom suggestive of IM. The validation cohort was a retrospective cohort of 1498 participants from a student health centre at the University of Georgia, USA.

Main outcome measures Regression analyses were used to develop four CPR models, internally validated in the derivation cohort. External validation was carried out in the geographically separate validation cohort.

Results In the derivation cohort, there were 328 participants, of whom 42 (12.8%) had a positive EBV serology test result. Of 1498 participants in the validation cohort, 243 (16.2%) had positive heterophile antibody tests for IM. Four alternative CPR models were developed and compared. There was moderate discrimination and good calibration for all models. The sparsest CPR included presence of enlarged/tender posterior cervical lymph nodes and presence of exudate on the pharynx. This model had moderate discrimination (area under the receiver operating characteristic curve (AUC): 0.70; 95% CI: 0.62–0.79) and good calibration. On external validation, this model demonstrated reasonable discrimination (AUC: 0.69; 95% CI: 0.67–0.72) and good calibration.

Conclusions The alternative CPRs proposed can provide quantitative probability estimates of IM. Used in conjunction with serological testing for atypical lymphocytosis and immunoglobulin testing for viral capsid antigen, CPRs can enhance diagnostic decision-making for IM in community settings. More accurate diagnosis of sore throat guides clinical management, including reducing unnecessary antibiotic prescriptions.

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The impact of demographic change on health service utilisation

Topic / Dept: Health Intelligence

Author: Triona McNicholas

Co Author : Howard Johnson

Co Author: Dr Paul Kavanagh

Abstract

1. The National Health Intelligence Unit, Health Service Executive

The demographic profile in Ireland is changing, placing substantial pressure on health services. The population is growing, with the most significant growth in older age groups. This population ageing is a great public health success; however it is important that the system is prepared to meet the demand arising from these demographic shifts. The aim of this study was to develop projections of hospital and community healthcare utilisation levels from 2019-2040.

Projections of health service utilisation were developed based on age standardised rates of activity in 2019 (the last full year prior to the pandemic). Population projections are based on data from the Central Statistics Office. Data from the hospital Inpatient Enquiry system (HIPE) were used to obtain hospital activity levels in 2019. Data on the number of Emergency Department (ED) attendances in 2019 were obtained from the Patient Experience Time (PET) database. Data on medical card holders for 2019 were obtained from PCRS.

The total number of hospital discharges is expected to increase 11% by 2025, from 1,688,790 in 2019 to 1,876,590, by 31% to 2,214,708 in 2035, and by 41% to 2,377,240 in 2040. The total number of beds used is expected to increase 14% by 2025, from 11,242 in 2019 to 12,907, by 45% to 16,294 in 2035, and by 60% to 18,038 in 2040. The total number of ED attendances is expected to increase 7% from 2019 levels by 2025, by 19% by 2035 and by 25% by 2040. The total number of eligible medical card holders is projected to increase 7% from 2019 levels by 2025, by 19% by 2035 and by 26% by 2040.

Increasing demand for health services will be seen in the coming years. These projections are based on age-standardised rates only and other changing demographics such as changing lifestyle habits and increasing levels of chronic disease and multimorbidity are likely to place further demand on the system.

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Rapid evaluation of the Mpox vaccination programme in Ireland

Topic / Dept: Health Protection, Health Service Improvement

Author: Dr. Ruth Ceannt

Co Author :Consultant in Public Health Medicine Aparna Keegan

Abstract

This was a rapidly conducted mixed methods evaluation of the Mpox vaccination programme in Ireland. The purpose of the evaluation was to assess the programme on key metrics to see if it met its overarching objective of mitigating the impact of Mpox amongst the population at high risk in Ireland, to assess demand, and to inform the direction of any future Mpox vaccination programmes.

A logic model was constructed with key activities, inputs, outputs and impacts, to ascertain whether these had been met. Descriptive quantitative data from multiple sources, including the Mpox Booking Portal Appointment System, the Mpox Vaccination system (Swiftqueue and IIS Dashboard), Mpox Close Contact databases (HPSC), Mpox weekly epidemiology reports (HPSC), and WHO global data, was analysed and presented. Focus groups, key informant interviews and surveys were run to gain a deeper insight into the high risk community's experiences of the vaccine programme and to provide qualitative indicators on the success of the programme.

657 close contacts of cases were recorded, 56.2% of all eligible close contacts have completed vaccination. 4,190 people have received 2 PrEP doses. There have been no deaths, and 15 cases hospitalised for clinical care. 5 participants took part in the focus groups/interviews, and there were a total of 39 responses to 2 surveys. Overall feedback was positive, with some room for improvement particularly in the area of communication, and stigma reduction.

A coordinated response including testing, surveillance, risk communication, contact tracing (and isolation) and vaccination was key to reducing cases and controlling this outbreak. Research gaps remain on vaccine effectiveness and duration of protection, however a continued need for robust post-exposure vaccination pathways should be retained, and there is likely an ongoing role for pre-exposure vaccinations.

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Determining health protection research priorities in Ireland

Topic / Dept: Health Protection

Author: Dr Randal Parlour

Co Author :Health Protection Researcher Claire Gilbourne

Abstract

The primary purpose of this study is to further develop and expand a framework for health protection research that supports a culture of best practice and is based on scientific knowledge, data and evidence. This study aims to identify health protection research priorities in Ireland through a modified e-Delphi approach and the Nominal Group Technique (NGT) conducted with an expert panel.

This study is guided by the Reporting Guideline for Priority Setting of Health Research (REPRISE). The methodology for this study is founded upon collaborative processes for consensus building that include a modified e-Delphi approach and nominal group technique. In the first instance, a modified e-Delphi approach will be utilised to determine if there exists emerging patterns or consensus on health protection research priorities within a panel of experts across the Health Service Executive (HSE).

Approximately 40-50 participants will be recruited to participate in the e-Delphi process. The Nominal Group Technique will be adopted for rounds two and three of the process. Data from Round one will be collated and redistributed to the expert panel at the commencement of Round two (NGT). During the third and final round the themes, on which there was consensus in round two, will be distributed to the same expert panel who had participated previously. The aim, at this juncture, will be to achieve consensus on a definitive set of priorities that will become the focus of work within a developing programme of health protection research. It is expected that the panel of experts that participates within the NGT process will comprise 10 participants in total.

This study is scheduled to commence in April 2023 and conclude during May 2023. It is anticipated that early data and results will be available in May 2023 prior to The Faculty of Public Health Medicine Summer Scientific Meeting.It is further expected that this study will inform the development of a national health protection research strategy that includes both local and international collaboration as outlined in the National Health Protection Research Strategy 2022-2027.

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A case-case study design using national surveillance data to assess the role of immunocompromise among vaccinated versus unvaccinated COVID-19 cases requiring critical care in Ireland in 2021

Topic / Dept: Health Protection

Author: Dr David Kelly

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Abstract:

As the COVID-19 pandemic progressed through 2021, so too did the proportion of cases admitted to critical care in Ireland who had received 2-doses of a COVID-19 vaccine. Reporting of this observation has public health implications for public confidence in COVID-19 vaccination. A potential explanation is the reduced ability of those who are immunocompromised to produce an adequate and sustained immune response to vaccination.

We analysed surveillance data from a national database of COVID-19 critical care admissions from 1 July to 29 October 2021, using a case-case study design to measure the association between COVID-19 vaccination status and underlying degree of immunocompromise. We compared the distribution of vaccinated versus unvaccinated COVID-19 cases using a Chi-squared test of heterogeneity. We used multinomial logistic regression to estimate the odds ratio of immunocompromise among vaccinated COVID-19 cases in critical care compared to unvaccinated cases.

We included 365 critical care COVID-19 patients in the study (139 fully vaccinated versus 226 unvaccinated), of which 28% (101/365) had immunocompromise. Vaccinated patients were significantly more likely to be aged over 65 (60% versus 24%), immunocompromised (57% versus 10%), and admitted later in the study period (September, October) (65% versus 56%). Vaccinated patients were significantly more likely to be highly (crude OR=19.3, 95% CI 7.7 – 48.1) or moderately immunocompromised (crude OR=9.6, CI 5.0 – 18.1) compared to unvaccinated patients in critical care.

The findings support the hypothesis that highly immunocompromised patients are less likely to produce an adequate and sustained immune response to 2-doses of COVID-19 vaccination, and are therefore more likely to require critical care admission for COVID-19 infection. This supports current recommendations for additional booster doses of COVID-19 vaccination for those with immunocompromise.

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Toxigenic Corneybacterium Ulcerans in domestic cats: a potential public health CATastrophe?

Topic /Dept: Health Protection

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Abstract

Diphtheria is an acute infectious disease affecting the respiratory tract and occasionally skin. The fatality rate is 5-10%. Following introduction of DTP vaccination in 1952, there were no reported cases in Ireland from 1968- 2015; when there was one case, and another in 2016. However globally, diphtheria continues to be a major public health problem, with 10,107 cases reported in 2020.

Until the early 1990s, toxigenic diphtheria infections were commonly caused by C. diphtheria, however since 2016, approximately 50% of cases in the EU/EEA/UK regions have been caused by C. Ulcerans. Transmission of C.Ulcerans is via direct contact with cutaneous lesions, infected secretions, or consumption of unpasteurised products. It has also been associated with contact with infected companion animals. Since 2009, 34 cases of C. Ulcerans in England had had contact with domestic pets; in 7 cases, at least one companion animal screened positive for toxigenic C. ulcerans.

In February 2023, an outbreak of C.Ulcerans was declared in domestic cats linked to an animal shelter in Ireland. Two cats from a reported colony of twelve were identified as having toxigenic C.Ulcerans. The public health response focused on contact tracing, swabbing, provision of chemoprophylaxis and vaccination of human contacts. Ten staff and three household contacts were identified and followed up.

Whilst to date, no human cases have been linked to this outbreak, this incident, coupled with the recent increase in cases of diphtheria amongst the migrant population in Europe highlights the pressing need to scale up vaccination efforts. Even among immunised populations immunity decreases with age; approximately 65% of the Irish population over 30 years of age may be susceptible to diphtheria. A review of the current immunisation guidelines is currently underway with a view to possibly extending booster vaccinations to high risk groups.

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A cluster of Histamine Fish Poisoning associated with the ingestion of tuna

Topic / Dept: Health Protection

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Co Author :Senior Medical Officer Shaunna Kelly

Co Author: Kieran O'Connor

Co Author: Helena Murray

Co Author: Area Director of Public Health - HSE Area C Carmel Mullaney

Abstract

Histamine fish poisoning, also known as scombroid poisoning, arises from the improper handling and refrigeration of scombroid fish that contain naturally occurring histidine such as tuna, mackerel and swordfish. Histidine is converted to histamine when these fish inadequately chilled.

Histamine fish poisoning is generally associated with levels greater than 500 mg/kg but poisonings have been observed at lower levels (e.g. >200 mg/kg). European legislation states that scombroid fish species should be tested for the presence of histamine and mean values should be <100mg/kg.

The authors report a cluster of probable histamine fish poisoning in three individuals following ingestion of tuna. The tuna was bought in a local store. It was cooked and eaten by the 3 cases at home for their evening meal. Symptom onset occurred between 30 minutes and two hours after ingestion and included flushing, facial/lip swelling, an itchy rash and palpitations. All three cases attended the Emergency Department (ED) requiring oral or Intravenous (IV) anti-histamine and/or oral steroids and IV fluids. Fortunately, all cases recovered fully and were discharged from the ED. The public health actions that were taken, crucially included rapid coordination with the Environmental Health Service (EHS).

Temperature control is the crucial step in preventing histamine fish poisoning. The Food Safety Authority of Ireland and the Irish Sea Fisheries Board highlight the importance of proper handling and chilling of fish from time of catch through to transportation, processing, storage and distribution. This report highlights the importance of timely and coordinated public and environmental health responses to histamine fish poisoning cases. National Clinical Guidelines are currently being developed in conjunction with the Irish Association for Emergency Medicine (IAEM) on the Management of Histamine Fish Poisoning/Histamine Poisoning in Adult Patients.

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Lessons from John Snow: The Use of Tableau in Geo-Spatial Analysis of Infectious Diseases – Unlocking the Potential for Public Health in Ireland

Topic/ Dept: Health Protection

Author: Donna Kilmartin Ph.D.

Co Author :Snr Epidemiologist Richard Cloughley

Co Author: Emer O'Connell

Abstract

Lessons from John Snow: The Use of Tableau in Geo-Spatial Analysis of Infectious Diseases – Unlocking the Potential for Public Health in Ireland.

Authors: Donna Kilmartin, Richard Cloughley, Emer O'Connell

Location: Area F Public Health Regional Area, Merlin Park University Hospital, Galway, Ireland.

Public Health Area F (Galway, Mayo and Roscommon) has received 167,137 disease notifications to date since the start of 2020. Prompt identification and analysis of clusters of infection are important, to allow timely action and prevent spread. Prior to the implementation of geospatial analysis using Tableau, this work required visual scanning of addresses and surnames. This method is time-consuming and prone to omissions. Geospatial analysis, using Tableau allows for the visualisation of all disease notification locations on a map, making the identification of clusters of infection quicker and easier, particularly clusters involving multiple pathogens.

This work involved obtaining geo-coordinates for all notifiable disease cases (excluding C. difficile) residing in Galway, Mayo or Roscommon since 2022. Precise co-ordinates were obtained for addresses containing an eircode. In cases without eircodes, proxy co-ordinates were manually determined. Tableau can convert geo-coordinates into dots on a map, and the different diseases can be colour coded. The dot size can increase to reflect the number of cases of a specific disease in a cluster. Filter application, allow the user to search within diseases, townlands and timeframes.

In the short period of time, since this work was implemented, it has led the authors to identify a cluster of gastrointestinal illnesses in a family over a 10 month period. Two family members have had confirmed diagnosis of cryptosporidiosis, giardiasis and campylobacteriosis. Routine follow-up is not performed in Public Health Regional Areas (PHRA) F on cases of camplyobacteriosis, and it is unlikely that without the use of geo-spatial mapping this cluster of illness would have been identified. Public health action was taken, to determine the cause of the multiple infections.

To the author's knowledge, PHRA F are the only PHRA that are routinely mapping disease notifications using geo-spatial techniques. Therefore, Tableau as a geo-spatial analysis tool would be valuable to all PHRAs, allowing them to probe their data in a multitude of ways, with minimal training requirements.

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Going Places? A Case Study of How Spatial and Transport Planning Could Affect Health and Health Inequalities

Topic / Dept: Health and Wellbeing

Author: Dr James O'Connell

Abstract:

The built environment and how populations move around it are well-recognised determinants of health. Their impacts on environmental noise and air, water and soil quality are routinely assessed in depth during project planning. However, their impacts on healthy lifestyles (e.g., physical activity), community cohesion and health inequalities are infrequently assessed in depth.

The aim of this case study was to identify the potential impacts of spatial and transport planning in Galway on healthy lifestyles, community cohesion and health inequalities. Spatial, transport and health policies were reviewed and a narrative discussion is presented with worked visual examples of suboptimal and best practices from Ireland and abroad.

Promoting physical activity is a national health priority to prevent heart disease, cancer, obesity and diabetes. Compared with the general population, older people, women and people in lower socioeconomic groups tend to have lower physical activity levels. As a population group, children have the greatest potential health gain from physical activity. Compact development, safe, coherent, direct, attractive and comfortable active travel infrastructure (integrated with public transport) and behavioural change programmes could promote physical activity in these groups in Galway and reduce health inequalities.

Loneliness and social isolation are associated with premature death, dementia, heart disease, stroke and poor mental health. Addressing these are national health priorities. Older people and people with disabilities have a particularly high risk of experiencing loneliness. Compact mixed-use development, communal spaces, increased permeability, reduced residential segregation and universally designed active travel infrastructure could promote community cohesion with beneficial impacts on loneliness and social isolation. For older people and people with disabilities in Galway, this could improve health and reduce health inequalities between them and the general population.

Public health practitioners, as part of interdisciplinary teams, have a role in highlighting the impacts of spatial and transport planning on health and health inequalities.

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COMPARISON OF CHALLENGE OF LIVING WITH CYSTIC FIBROSIS-SHORT FORM AND CarerQol QUESTIONNAIRES AMONG PARENTS OF CHILDREN WITH CYSTIC FIBROSIS: IRISH COMPARATIVE OUTCOME STUDY

Topic / Dept: Health and Wellbeing

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Abstract:

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The Irish Comparative Outcomes Study of CF (ICOS) is a cohort study of children with CF (CwCF). This study sought to determine extent of caregiving burden experienced by parents of CwCF recruited, and to compare two validated tools.

Study population included parents of CwCF born between 2008 and 2022. Two validated tools to measure caregiver burden were used: CarerQol, which assesses overall impact of informal care on caregivers of children with long term childhood illness, and Challenge of Living with CF-Short Form (CLCF-SF), a newly developed, validated questionnaire specifically designed for CF caregivers. Age-matched comparisons for both questionnaires where questions allowed, and Spearman's rho correlation were conducted.

Overall, 25.4% were parents of children aged <5 years. Parents with older children (≥5 years) reported more financial concerns in both questionnaires (50% vs. 29.4%; p=0.037), significantly so for CLCF-SF questionnaire. A significantly greater proportion of parents of older children reported relational issues with their CwCF in CLCF-SF (47% vs.26.5%; p=0.036), however, no significant difference observed in CareQol. In CarerQol survey, a significantly larger number of parents of older children reported issues in combining their child's care tasks with their daily activities (61% vs. 41.2%; p=0.044); this difference was not observed using CLCF-SF. A weak negative association was observed between weighted scores of CarerQol and CLCF-SF questionnaires (rs= -0.3, p<0.001).

This study marks the first use of CLCF-SF in a population setting. We found that it measures distinct constructs from CarerQol overall, although some questions explore similar domains. Carer challenges increased with child's age. More psychological support for parents of children with long term illness is key; adequate age-related financial support should be considered by HSE.

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Introduction of a minimum legal age of sale of 21 for tobacco in Ireland – results from a rapid review of evidence

Topic / Dept: Health and Wellbeing

Author: Ms. Lauren Rodriguez

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Abstract

Ireland's Tobacco Free Ireland policy sets a goal of less than 5% smoking prevalence. Latest survey data suggest Ireland may be losing ground in terms of reducing smoking prevalence among children. In the United States, data suggests close to 90% of current smokers started smoking before the age of 18 years (Faber, 2016). Increasing the minimum legal age of sale of tobacco to 21 (known as T21) is a targeted policy measure which could be applied specifically to address the observed trends in childhood initiation of tobacco use. In 2019, the USA became the largest country to implement federal T21 legislation in 2019. Other countries included Singapore (2021), Ethiopia (2019), Uganda (2016), Mongolia (2013) and Sri Lanka (2006) to implement the policy.

A rapid review was conducted of studies published in jurisdictions that had implemented the T21 policy. The search covered the years 2014-2023. 42 studies met the inclusion criteria. There were no systematic reviews, but observational, case studies, cross sectional and longitudinal studies as well as qualitive studies were evident. The studies were summarised in a table and critical appraisal was applied. The evidence was used to inform a position paper of the RCPI Policy Group on Tobacco published in September 2022.

Most studies found that Tobacco 21 policies were associated with a reduction in youth smoking rates and tobacco sales at national and state level. The first longitudinal study at state and national level, found that T21 did not have a reduction effect for e-cigarette use or intention to use. No conclusion could be reached on the equity or gender impact of T-21 policies. Some weak evidence suggested that reductions in youth illicit tobacco sales were associated with the policy.

There were some implementation challenges including enforcement gaps, retailer awareness, lack of retailer education and support for enforcement and regulation. International studies, including Irish surveys, demonstrated consistent and majority public support for T-21 policies, including among smokers 64.1% (Cosgrave 2022).

The evidence suggests that T-21 has merit, and is feasible, as an add-on to existing measures to reduce the accessibility of tobacco to children and young people. However, a range of more ambitious regulatory measures are needed if endgame is to become a reality in Ireland.

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The impact of the COVID-19 pandemic on Salmonella notification, Ireland, 2015-2021

Topic / Dept: Health Protection

Author: Charlotte Nielsen

Co Author : Aoife Colgan

Co Author: Paul McKeown

Co Author: Dr Patricia Garvey

Abstract: The impact of the COVID-19 pandemic on Salmonella notification, Ireland, 2015-2021

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1 Health Service Executive (HSE) - Health Protection Surveillance Centre (HPSC), Dublin, Ireland

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On 12 March 2020, nationwide restrictions were introduced in Ireland, affecting travel, social activities and workplaces, to reduce spread of SARS-CoV-2. Internationally, implemented COVID-19 measures have been observed to influence the reported incidence of infectious diseases other than COVID-19. We aimed to evaluate the effect of pandemic restrictions on laboratory confirmed Salmonella notifications in Ireland.

We conducted an interrupted timeseries analysis using negative binomial regression modelling of weekly case counts of laboratory confirmed Salmonella notifications from 2015-2021. Models accounted for secular trend, seasonality, and the interruption as a binary variable defining the periods before and after 12 March 2020. In subset analyses, we investigated differences in hospital admission, serotypes and age groups.

From 2015-2021, 1,978 Salmonella notifications were made, of which 343 were notified after 12 March 2020. After adjusting for seasonality and underlying trend, we observed a 54% (95% CI 45-62%) reduction in notified Salmonella cases after 12 March 2020, with notifications of hospitalised cases reduced by 47% (95% CI 32-59%). The reduction in notifications was greater for S. Enteritidis [73% (95% CI 60-82%)] than for S. Typhimurium [59% (95% CI 39-72%)], and for 20-44-year-olds [68% (95% CI 56-76%)] compared to younger [42% (95% CI 23-57%)] and older age groups [51% (95% CI 34-63%)].

The smaller effect on reporting of hospitalised salmonellosis cases suggests that containment measures likely affected incidence; and the reduction in reported incidence was not solely due to reduced access to health services. Given the known Salmonella risk factors in Ireland, the larger effect in certain subgroups (S. Enteritidis and younger adults) is likely related to the greater impact of restrictions on foreign travel and eating out in these groups.

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Investigation of a monophasic Salmonella Typhimurium outbreak linked to chocolate products as part of wider international outbreak, a matched case-control study, Ireland, 2022

Topic / Dept: Health Protection

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Abstract

Investigation of a monophasic Salmonella Typhimurium outbreak linked to chocolate products as part of wider international outbreak, a matched case-control study, Ireland, 2022

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An EpiPulse alert was issued by the UK on a monophasic Salmonella Typhimurium outbreak on 17/02/2022. Responses to this alert indicated an extensive outbreak. On 23/03/2022, an outbreak investigation was initiated in Ireland after identifying seven cases with a sequence identical to the strain responsible for the wider international outbreak. International descriptive epidemiological investigations indicated a link to chocolate products, which triggered a recall of products from a single producer.

We conducted a matched case-control study to determine if exposure to the implicated products was associated with illness. Confirmed cases of monophasic S. Typhimurium indistinguishable from the outbreak strain notified after 07/03/2022 were matched by age and sex to other gastrointestinal disease cases (ratio 1:3) notified within the same two-week period. Conditional logistic regression was used to estimate matched odds ratios (mOR) and 95% confidence intervals (CI).

We identified 16 outbreak cases primarily females and below 10 years (81%). Among those, 44% had bloody diarrhoea and 25% were hospitalised. Nine cases and 24 matched controls were included in the study. The highest odds of disease due to monophasic S. Typhimurium versus other gastrointestinal disease was obtained for chocolate Product A [mOR=7.8, 95% CI: 0.9–67.2]. Product

A was consumed by seven of nine cases (78%). The odds of disease due to monophasic S. Typhimurium versus other gastrointestinal disease were 10 times higher with consumption of at least one of the recalled products [mOR=10.50, 95% CI: 1.2–88.6].

This analytical study provided additional evidence to support collaborative international epidemiological and microbiological findings. Owing to the rapid decline in cases in the weeks following the recall of the implicated products, the control measures were considered to have been effective.

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Treat Climate Change like the Public Health Emergency it is

Topic / Dept: Health Protection, Health and Wellbeing

Author: Dr Margaret Brennan

Co Author : Síle Kelly

Co Author: Doctor Ann Herlihy

Co Author: Cale Lawlor

Co Author: Dr Laura Heavey

Abstract:

Climate change threatens global health. The first UN Framework Convention on Climate Change agreed to prevent dangerous anthropogenic climate change 30 years ago. Despite this, the world has continued to warm at alarming rates. The 2023 IPCC reported a 50% likelihood of exceeding 1.5°C temperature rise. Worse still, projections indicate warming is likely to exceed a disastrous 2.7°C by the end of the century. There is a rapidly closing window of opportunity to secure a liveable future.

Given the importance of this issue a climate change advocacy working group comprising members of the ISSPHM was convened in April 2022. A climate change position paper was developed as a basis for all further advocacy work.

This position paper was shared on ISSPHM website to coincide with COP27 in November 2022 and subsequently published in the IMJ in January 2023. In addition, it was sent directly to government and opposition representatives, and personal communication ensued. To add impetus to the issue, a letter to the editor of the Irish Times was sent in February 2023 in relation to Shell's record breaking profits, despite global consensus for the need for radical reduction in emissions.

It is certain that the consequences of climate change will continue to intensify to the detriment of global health without comprehensive climate mitigation and adaptation. Despite this bleak outlook, there are reasons for hope, as clear solutions are available. However, a whole of government and societal response is urgently needed for their rapid and successful implementation. As the specialty of Public Health undergoes reform and takes on an expanded remit in the Republic of Ireland, public health physicians are well-positioned to advocate, communicate and implement climate action that protects and improves population health. The ISSPHM provides a valuable avenue for public health climate advocacy.

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CO-DEVELOPMENT OF A TAILORED SMOKING CESSATION PROTOCOL FOR AND WITH CANCER PATIENTS: RESULTS FROM A MULTI-METHOD STUDY

Topic / Dept: Health and Wellbeing

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Co Author: Amanda McCann

Co Author: Professor Patricia Fox

Abstract:

The benefits of smoking cessation (SC) after cancer diagnosis are well documented, however, a lack of emphasis is reported. Our Irish Cancer Society funded research assessed the novel co-development of a SC framework for patients with cancer in Ireland.

There were 6 work packages: a rapid review of SC in cancer patients; review of national smoking rates among cancer patients (2014-2018); a national audit of existing SC services (SCS) across all adult cancer hospitals; semi-structured interviews with both cancer patients who smoke or quit at diagnosis and with cancer healthcare professionals (HCPs), and a Patient Voice in Cancer Research (PVCR) workshop.

Smoking rates among patients with cancer have plateaued or continue to rise while national rates have decreased; hospital audits identified variation in SCS and limited referrals from oncology services. Qualitative analysis identified key themes including variable SC assessment and support, patients' striving but struggling to quit; need for a well-defined referral system and ongoing support. Barriers included limited knowledge of SC support, lack of family support and willpower, and poor prognosis. HCPs showed interest but need more time and training to promote referrals to SCS among cancer patients. HCPs advocated an integrated or parallel SCS, with longer term follow up. Rapid review suggested limited evidence to identify an optimal SC intervention specific to cancer patients. After further discussion of results at a PVCR workshop, a set of recommendations was developed to incorporate SC with comprehensive cancer care across specialist hospitals.

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Prominent gaps in available services and a lack of a systematic approach are highlighted by our research. Our results-based recommendations for the Irish Cancer Society should reduce inequity and promote SC.

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Lifestyle Factors in Triple-Negative Breast Cancer

Topic / Dept: Health Intelligence

Author: Dr Darren Kilmartin

Abstract

Triple-negative breast cancer (TNBC) is a unique disease characterised by an absence of oestrogen receptor (ER), progesterone receptor (PR) and HER-2. In this retrospective cohort study, we examined the impact of lifestyle factors on incidence rates and clinical outcomes of TNBC.

The data of 401 patients diagnosed with TNBC at our department between 2000 and 2017 were collected. 5-year follow-up was recorded for all patients. Kaplan-Meier survival estimates and Cox regression analyses for hazard ratios were performed, adjusting for age, stage, and chemotherapy status. Binary logistic regression analyses were performed with odds ratios obtained. A p-value <0.05 was considered statistically significant.

61% of patients had a body mass index (BMI) >25, with 30% obese. The mean BMI was 27.4, median 26.6 (range 18.7-47.7). 77% of patients regularly consumed alcohol. 41% of the cohort were smokers, of which 60% had a 20 pack-year history. 51% used the oral contraceptive pill and 16% were nulliparous. Of parous women, 71% never breastfed and 59% had their first pregnancy after 25 years of age. Overweight women were 3.8 times more likely to have a larger residual tumour size post neoadjuvant chemotherapy (p=0.024), while obese women were more 4 times more likely to have a higher tumour stage at presentation (p=0.018) than normal weight women. Smoking was positively associated with both alcohol consumption (OR=2.33, p=0.040) and a higher BMI (OR=5.95, p=0.009). On univariate analysis, smoking was significant as a positive risk factor for developing distant metastasis within 5 years (HR=8.57, p=0.047).

Our results reflect the increased risk and worse prognosis of TNBC associated with modifiable lifestyle factors, namely smoking, alcohol consumption and increased BMI, and emphasise the importance of public health prevention measures and policy in targeting these risk factors.

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Medical Students' Perceptions of Climate Change and Sustainability

Topic / Dept: Health Intelligence

Author: Dr Darren Kilmartin

Abstract:

There is a clear link between climate change and health ramifications. The purpose of this study was to explore medical student views on climate change and sustainability.

115 3rd year medical students from an Irish medical school were surveyed. The survey comprised free-text demographic questions and Likert-scale statements. Descriptive statistics and regression analyses were performed.

84% (n=96) agreed that climate change is an important issue for the field of medicine, with 68% (n=78) agreeing that climate change and its effects on population health should be a core part of the medical curriculum. Social media was the main source of climate change information for 62% (n=72) of respondents. 56% (n=61) stated they had already made sustainable changes to their lifestyle. Female students reported significantly higher values for: engagement with the topic of climate change; desire to work within a medical field that focuses on addressing climate change; and agreement that climate change will affect their physical health.

Most students believe that climate change should be a core part of medical school education, and a majority currently receive their information from other sources. This study highlights the appeal for climate health education in medical school curricula development.

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Rural-Urban Disparity in Triple-Negative Breast Cancer

Topic / Dept: Health Intelligence

Author: Dr Darren Kilmartin

Co Author :Prof. Grace Callagy

Abstract

Several studies have assessed the disparity in breast cancer survival between rural and urban patients, showing worse outcome for patients from rural backgrounds; however, the findings are inconsistent. Rural patients may often be at a socioeconomic disadvantage with less access to healthcare resources, which may result in delays in the diagnosis and treatment of cancer. Few studies have focused on the relevance of urban versus rural dwelling in triple-negative breast cancer (TNBC). We aimed to evaluate the effect of urban versus rural dwelling on outcome in patients diagnosed with TNBC.

Data from 401 patients diagnosed with TNBC between 2000 and 2017 at Galway University Hospital were collated in a database which included tumour stage, grade, and type; pathological response to neoadjuvant chemotherapy; demographic factors including location of residence; and 5-year follow-up. Logistic regression analysis was performed to calculate likelihood of a pathological complete response (pCR). Kaplan-Meier estimator survival curves and Cox regression analysis was performed to calculate 5-year disease-free, metastasis-free and breast cancer-specific survival.

Rural patients were significantly more likely to not achieve a pCR (OR=8.62, p=0.043). Mean nodal status at diagnosis, local recurrence, metastasis, and mortality from breast cancer were higher in rural than urban patients albeit not statistically significant. There was no difference in tumour size or grade between the two groups.

Higher rates of local recurrence and metastasis in rural patients and higher rates of non-pCR and smoking – which are associated with poorer long-term outcome – warrant further investigation. Our study is limited by a relatively small number of rural patients, and incomplete data. We propose that urban/rural dwelling status be obtained and assessed as a factor in future TNBC datasets.

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The incidence of in-patient hospitalisations due to dog bites in Ireland from 2012-2021

Topic / Dept: Health and Wellbeing

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Co Author :Dr Anne O'Farrell

Co Author: Lecturer in Psychology, Research Coordinator on the Doctoral Programme in Clinical Psychology Paraic O Suilleabhain

Abstract

Dog bites are a global health issue that can lead to severe health outcomes including open wounds, fractures leading to temporary or permanent disability, mental trauma, anxiety and premature mortality. There is limited information on dog bites in Ireland. The aim of this study was to analyse in-patient hospital records data (HIPE) to describe the characteristics of patients admitted to an acute hospital with a dog bite diagnosis.

All in-patient hospital discharges during the period 2012-2021 with a dog bite diagnosis were identified using the ICD 10-AM W54 code and extracted from the Hospital In-Patient Enquiry (HIPE) system. Univariate analysis and bivariate analysis using ANOVA and Pearson's $\chi 2$ were carried to describe the patient population. An age standardised rate by county using person-years at risk was calculated to determine if there were differences in county rates over the study period.

There were 3,158 in-patient hospitalisations with dog bite diagnosis during the 10 year study period. The rate increased significantly from 5.6 (95% CI 5.0-6.3) per 100,000 population in 2012 to 8.7 (95%CI 7.9-9.5) per 100,000 population in 2022, p=0.04). The rates were highest among children (0-14 years). The age standardised rate was highest in Co. Louth and lowest in Co. Kilkenny (9.58 vs. 3.82 per 100,000 population, p<0.001). The mean age over the study period was 31.1 (SD 25.7) with an equal proportion of males and females. The most common principal diagnoses were open wounds (2397, 75.9%), fractures (246, 7.3%) and infection (175, 5.5%). The average length of stay was 2.2 days (SD 4.8) with no significant change over study period (F ratio 1.3, p=0.22). The number of bed days occupied was 7,069 of which 105 (3.3%) were ITU bed days. With an average acute bed costing approximately €900, the economic burden on the acute hospital budget was significant.

This data represents dog bites so serious as to warrant an in-hospital stay, and thus reflect only the more severe end of a spectrum of public health harm. The findings support the case for additional policy interventions to reduce dog bites, which could include responsible dog ownership campaigns, public education, and improved dog control legislation and enforcement.

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The Impact Of Vaccine Disinformation And Misinformation In Disadvantaged Educational Settings In Ireland: A Multi-Year Analysis Of The Schools Immunisation System Human Papilloma Virus Vaccine Dataset

Topic / Dept: Health Protection, Health Service Improvement

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Co Author: Vicky McKenna

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Co Author: Tony Fitzgerald

Co Author: Chantal Migone

Abstract

Educational Settings In Ireland: A Multi-Year Analysis Of The Schools Immunisation System Human Papilloma Virus Vaccine Dataset

HPV vaccine was introduced to the Irish immunisation schedule in 2010 and is delivered via school immunisation teams. Equity is an important concern in all vaccine programmes. The HPV vaccine programme experienced vaccine misinformation and disinformation (2015-2016/2016-2017) and subsequent vaccine hesitancy. The aim of this study is to determine if the vaccine misinformation disproportionately affected DEIS (Delivering Equality of Opportunity in Schools) compared to non-DEIS schools.

This is a register-based cohort study using data on HPV vaccination uptake in the schools immunisation programme, combined with data on school characteristics from the Department of Education. Immunisation data is at aggregate schools level and not patient level. Boys-only schools, and schools for students with special needs, were excluded. The analysis includes data from the academic years 2013-2014 through to 2018-2019, with three defined periods: Prior to misinformation (2013-2014/2014-2015), During the misinformation (2015-2016/2016-2017) and Recovery and HSE response (2017-2018/2018-2019)

A descriptive analysis of schools HPV vaccination uptake data was performed examining overall uptake and uptake by DEIS status. The general linear model function examined the difference in HPV vaccine uptake between DEIS and non-DEIS schools by academic year.

Table 1 Mean HPV Vaccination Rate in Schools by DEIS status and Academic Year

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Academic Year---Mean HPV Vaccination Rate for Non-DEIS/DEIS schools (%)---Mean Difference in Percentage Uptake (%)

2013-2014---86.0/81.6---4.4

2014-2015--- 86.1/81.6---4.5

2015-2016--- 75.0/70.7 ---4.3

2016-2017---57.6/49.6 ---8.0

2017-2018---67.6/55.2 ---12.4

2018-2019---76.5/64.5---12.0

Table 1 shows a notable difference in HPV vaccine uptake between the DEIS and non-DEIS schools, with the mean percentage difference between the groups varying. The interaction between DEIS status and academic year is significant showing the difference between DEIS and non-DEIS schools changes with academic year.

The misinformation campaign appears to have had a disproportionate effect on DEIS schools. The disparity in HPV vaccine uptake needs to be further addressed by targeted interventions in the DEIS school.

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Factors associated with oral healthcare utilisation among adults aged 50+ in Ireland

Topic / Dept: Health Intelligence

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Co Author: Howard Johnson

Abstract

Poor oral health disproportionally affects disadvantaged groups and has been linked to diabetes, cardiovascular disease and poor mental health, indicating how oral health is an important facet of overall health. Regular dental attendance is important to optimise oral health and general well-being, especially among older adults who have distinct and increasing oral health needs.

This study aimed to estimate prevalence and factors associated with oral healthcare utilisation among older Irish adults through secondary analysis of The Irish Longitudinal Study on Ageing Wave 4. The parent survey conducted in 2016 measured attendances at state and private dental services in the preceding year. Prevalence of service utilisation was calculated with 95% Confidence Intervals (CIs). Multiple logistic regression determined factors associated with key responses using Adjusted Odds Ratios (aORs).

Response rate was 62.0% (N=5,713). One third (33.0%) had attended dental services in the previous year: 7.8% attended state dental services; 26.5% attended private dental services; 4.6% reported perceived unmet dental care needs. Compared to those aged 50-69 years those aged 70 or older were significantly more likely to attend state dental services (aOR 1.24, 95%CI 1.01-1.53). Conversely, those under 70 were significantly more likely to attend private dental services (aOR 1.27, 95%CI 1.07-1.51), as were females and those of higher education compared to comparative counterparts.

Findings suggest most older Irish adults do not attend dental services annually suggesting potential unmet need for oral health promotion, treatment and oral cancer screening. Findings of socio-demographic variation in oral health service utilisation, especially among over 70s, should be used to inform appropriate allocation of services as part of the implementation of the Irish National Oral Health Policy 2019.

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Excess mortality during the 2022/2023 season in Ireland

Topic / Dept: Health Protection

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Abstract

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The Health Protection Surveillance Centre monitors excess all-cause mortality in Ireland, as part of the European Mortality Monitoring Project (EuroMOMO). We aimed to estimate excess all-cause mortality in Ireland during the 2022/2023 season.

Excess mortality was estimated using the EuroMOMO statistical algorithm, on data from the General Register Office on all deaths from all-causes registered in Ireland, 2014-2023. Delays in death registrations were corrected using a delay adjustment.

Statistically significant excess all-cause mortality was observed during the 2022/2023 season (3rd October 2023-19th March 2023 - as of 20/03/2023) in Ireland over four consecutive weeks from mid-December until mid-January, reaching moderate levels at the end of December/early January. Excess Pneumonia and Influenza mortality was also reported over the same four consecutive weeks (weeks 51 2022-2 2023). By age group, excess all-cause mortality was observed in those aged ≥65-years, 75-84-years, and ≥85-years. The 75-84-year age group was most impacted with excess mortality seen over nine consecutive weeks, reaching moderate levels over four weeks in December/January.

Whilst excess all-cause mortality in March/April 2020 and January/February 2021 could

be attributed to the direct and indirect impacts of the COVID-19 pandemic, excess mortality during the 2022/2023 season could not be directly attributed solely to COVID-19. High levels of influenza activity were seen Ireland during December 2022 and early-mid January 2023, with a high number of

influenza hospitalisations reported. Excess mortality has been observed during previous seasons when influenza viruses circulated at high levels in Ireland. Other important factors that may impact excess mortality include the ongoing COVID-19 pandemic, circulation of other respiratory viruses, impacts of cold weather, an ageing population, health seeking behaviour and access to healthcare. Excess mortality monitoring is an invaluable tool for informing policy, public health actions and response measures.

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Prevalence of chronic conditions and multimorbidity in Ireland: results from a national survey

Topic / Dept: Health and Wellbeing

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Abstract: Prevalence of chronic conditions and multimorbidity in Ireland: results from a national survey

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Keywords: chronic disease, multimorbidity

Background: Chronic diseases are the leading cause of death throughout Europe, and their prevalence is expected to increase due to global population ageing.

Methods: Secondary analysis of the 5th wave of Healthy Ireland, an interview-administered and nationally representative survey conducted between in 2018 and 2019. The study involved 7223 participants aged 18+. Eight chronic diseases were included: diabetes, coronary heart disease, asthma, chronic obstructive pulmonary disease, stroke, atrial fibrillation, transient ischemic attack and heart failure. We estimated the overall prevalence of chronic diseases and multimorbidity by age, gender and quintiles of deprivation distribution. Binomial logistic regression was used to study their association with chronic disease.

Results: There were 1349 participants (18.7%) with at least one chronic condition and 259 (3.6%) had multimorbidity. Prevalence of at least one chronic condition was higher in men than in women, 20.8% vs 16.8% respectively, and increased with age from 8.8% in those aged 18 to 44 to 37.2% in those aged over 75. The corresponding values for multimorbidity were 4.3% vs 2.9% and 0.4% to 11.0%. In the multivariable logistic regression model adjusted for age, male gender and the 1st deprivation quintile were associated with increase in the risk for one or more conditions (ORmale =1.23, 95% CI: 1.10-1.37; OR1st quintile= 1.25, 95%CI: 1.10-1.42). Male gender was associated with increase in the risk for multimorbidity (ORmale =1.48, 95% CI: 1.16-1.90).

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Conclusion: There is a marked difference in the prevalence of chronic conditions and multimorbidity by age and gender. The results were used to develop a national chronic disease policy brief and should inform and support the decisions of public health policymakers in Ireland.

Main messages: Successful management of chronic conditions must account for demographic and socioeconomic differences in the population. A bigger focus should be given to disease prevention.

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Barriers and enablers to participation in population screening: A rapid review of systematic reviews

Topic / Dept: Health Service Improvement, Health and Wellbeing

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Abstract: The National Screening Service (NSS) is currently developing a Strategic Framework to improve Equity in Screening. A rapid review of systematic reviews on the barriers and enablers to participation in population screening programmes was required to inform the development of the framework.

A search strategy was built using Medical Subject Headings (MeSH) terms and title and abstracts were searched on PubMed. The search was refined to systematic reviews published in the last five years, in English, available in full text and only including the four screening programmes currently organised by the NSS.

45 papers were screened and 14 included based on inclusion and exclusion criteria . The barriers and enablers experienced in participating in screening were extracted from the literature and categorised under five headings: psychological, cognitive, structural, social/cultural and financial. Of the 37 barriers and 23 enablers extracted from the included papers, 6 barriers and 9 enablers were found to be programme specific, with all others experienced by service users in respect of >1 programme . The barriers and enablers associated with relationships (personal and consistent healthcare professional) and knowledge/understanding of screening emerged strongly across all programmes.

Why a person chooses to participate in screening is multifactorial and is unlikely to be the result of one singular barrier or enabler. The results of this review illustrate the need to address barriers in a systematic way and across the entire screening pathway. Technology, past adverse experiences, confidence or low self-esteem, and the multi-step process involved in screening were not listed in the papers included in this review despite being accepted and known barriers by healthcare professionals in the service. While included studies were conducted in both high- and low-income settings, the results are likely generalisable to Ireland's multi-cultural population. Further research to identify the most significant barriers for under-screened communities in Ireland would be of benefit and could aid the identification of interventions to address them.

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Irish population knowledge, attitudes, and perceptions to air pollution

Topic / Dept: Health Protection

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Abstract:

Air pollution remains a major global public health challenge; and Ireland is no exception to the human health implications of exposure ambient air pollutants. Accurate and timely information can be critical to mitigate the harmful effects of air pollution. This study aimed to assess the knowledge, perceptions, and attitudes to poor air quality in Ireland to assist stakeholders in developing and implementing effective communication pieces and policies about the management of air pollution.

STUDY DESIGN

Cross-sectional population-based cohort.

METHOD

Quantitative data on knowledge, attitudes, and perceptions (KAP) were collected from respondents living across Ireland, and the results were analysed with SPSS (Version 28.0).

RESULTS

Among the 1,005 respondents included in this study, the mean [SD] age was 46.1 [15.3] years; 53% were female (n=530); and 66% and 35% of respondents were aware of air pollution and its adverse effects on health at a national and local level respectively (n=668 and n=353 respectively). In addition, there were significant relationships between socio-demographic and air pollution awareness. There were correlation between respondent's age, gender, socio-economic group, and locality in Ireland.

CONCLUSION

This study demonstrates that environmental health literacy around air pollution in critically lacking among respondents. Given that air pollution is an increasingly important global priority, opportunities need to created to improve reach and impact of communication of air quality health risk and mitigation measures.

KEYWORDS

Air quality; air pollution; environmental health literacy; public health.

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The impact of Rotarix™ vaccine in reducing disease burden, hospitalisation and inpatient bed days in HSE Mid-West Ireland, a 10-year study.

Topic / Dept:

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Co Author: Mai Mannix

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Abstract

Rotavirus is a double-stranded RNA virus belonging to the family Reoviridae. Globally Rotavirus is the principal cause of paediatric gastrointestinal infection. Children who contract the virus often require hospitalisation due to dehydration. Although infants and young children are most vulnerable to rotavirus infection; older children and the elderly may also become infected. Under the Infectious Disease Regulations Rotavirus is a notifiable disease in Ireland. In 2009 the World Health Organisation (WHO) recommended that the rotavirus vaccine should be included in countries primary immunisation programs. In December 2016 the Rotarix™ vaccine was introduced in Ireland as part of the Irish primary immunisation schedule. The vaccine is available for all babies born from 1st October 2016 onwards, administered at 2 months and 4 months and must be given before the child is 8 months old.

From 2011-2015 (pre-vaccination) there was approximately 2,500 cases of rotavirus notified per year in Ireland, with up to 200 of these cases per year resident in HSE-Mid West (MW), (Area E). From 2016 (post-vaccination) onwards there was a reduction in the number of rotavirus cases notified per year in Ireland, and in the HSE-MW. This study examined the impact of the rotavirus vaccine in reducing disease burden, hospitalisation and inpatient bed days among the Mid-West population.

Data on MW rotavirus cases was extracted from the national reporting system- Computerised Infectious Disease Reporting (CIDR). A gap analysis was completed, and the relevant data was obtained from other databases and systems. To determine the number of bed days used by each hospitalised rotavirus case, admission and discharge dates were gathered for inpatients using ICNet (Clinical Surveillance Software), for cases hospitalised in hospitals within the University Hospital Limerick Group (UHLG). For admission and discharge dates for MW cases hospitalised outside UHLG hospitals data was requested from the relevant areas. Information on dates of vaccination and vaccination status of cases of rotavirus that would have been eligible for the vaccine (born after 1st of October 2016) was gathered from the Mid-West Public Health Records (PHR) system. All admission/discharge dates and vaccination information was updated to CIDR and a final report was extracted. The report was exported to Excel to allow data manipulation and analysis. The data was used to generate time series graphs to represent how the vaccination has reduced disease burden, hospitalisation, and bed days. The inclusion/exclusion criteria included Case Numbers: All rotavirus cases resident in HSE Mid-West notified in 2011 to 2020 were analysed. From 2011-2015 (pre-

vaccination) there was approximately 180 rotavirus cases per year in the MW. From 2016 (post vaccination) onwards there was a significant reduction in the number of rotavirus cases notified per year, with only 38 cases notified in 2018. There was an increase in the number of cases notified in 2019 (89 cases), which may be as a result of the introduction of the more sensitive PCR method. The majority of cases that contracted rotavirus post vaccination (>2016) were not eligible for the vaccination. In a number of cases vaccination was not complete or unknown. A small proportion were fully/age appropriated vaccinated, whole genome sequencing was not performed on such cases to establish if infection was due to a non-vaccine strain. Whole genome sequencing did identify cases diagnosed in 2022 due to the vaccine strain diagnosed <15 days post vaccination. Rotavirus infection resulted in 85-91% of cases requiring hospitalisation in the MW. On average each year up until 2016 approximately 500 bed days were used by patients been treated with rotavirus in the MW, the majority of cases were children under 4 years of age. Following vaccination, the number of bed days decreased, this reduction was evident across all age categories.

It is evident that the introduction of the Rotarix™ vaccine into the childhood primary immunisation schedule has reduced disease burden, hospitalisation and bed days among the MW population. In addition, the vaccine has provided indirect protection to siblings, older children and the elderly.

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The real-time capture of patient reported experience measures (PREMs) in BowelScreen – The National Bowel Screening Programme – a digital solution

Topic / Dept: Health Service Improvement

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Abstract

Bowel cancer is the second most common cancer in men and the third most common cancer in women in Ireland. BowelScreen – the national bowel screening programme is offered to people aged 60-69 every two years. The purpose of the survey was to gather in-depth real time patient experience feedback. The National Screening Service is committed to providing person-centred care and the survey results will be used to improve bowel cancer screening programme's key functions.

A patient experience survey was designed to capture the screening participants experience throughout the entire screening pathway – from the invitation to participate with the Faecal Immunochemical Test (FIT) and their colonoscopy procedure (if applicable). The survey was entirely digital. Between April 2022 to December 2022, a selection of BowelScreen Fit negative participants (n=2,306) and FIT positive participants (n=2,736) received the online survey by SMS (text) message. All responses were anonymised and aggregated.

Total response rate was 42%, with 49% of FIT positive participants completing the survey. Fifty-one percent of respondents were male and 49% female. Eighty-nine percent of respondents rated BowelScreen as 'Good' or 'very good'. Overall, BowelScreen participants reported high levels of satisfaction with the programme achieving a net promoter score of >73%, a score considered exceptional.

The survey methodology is a first and an innovative approach for the HSE in Ireland. With a response rate ranging between 42-49% it is considerably higher than traditional paper-based surveys. The project has confirmed the feasibility and acceptability of using SMS messaging to capture real-time patient experience. The real-time analytical software allows for customisable reporting dashboards from a qualitative and quantitative perspective. The survey methodology is currently being rolled out across the other three national screening programmes beginning with BreastCheck – The National Breast Screening Programme in 2023.

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"That's what wellbeing meant to me": Qualitative analysis of health and wellbeing impacts of dancing intervention among patients with pulmonary fibrosis.

Topic / Dept: Health and Wellbeing

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Abstract

Pulmonary rehabilitation improves health outcomes among pulmonary fibrosis (PF) patients, by promoting sustainable behavioural change through exercise activities that are valued, enjoyed and considered meaningful. Dance is one exercise form, but COVID-19 may have negatively impacted participation and quality of life of vulnerable populations due to lockdown and consequent isolation. This qualitative study aimed to investigate the perspectives of adults living with PF who had participated in a dance intervention.

A group of patients with PF, members of the Irish Lung Fibrosis Association, participated in 75 minutes online dance intervention for eight weeks delivered by an experienced choreographer. An exploratory qualitative study using thematic analysis of semi structured interviews was carried out to understand feasibility as well as health and wellbeing impacts of dancing.

Eight participants (6 Female, 2 male; mean age 72.3 years) were recruited. Four key themes emerged: 1) Dance is fun – we're not exercising 2) Improved sense of wellbeing 3) Positive impact of own online social space 4) Connecting dance impacts to clinical health. Overall, our virtual dance intervention was acceptable, enjoyable, preferable, and feasible among participants; who strongly perceived health benefits especially breathing efficiency and mental health improvements for managing their day-to-day struggles with PF.

Emerging themes could influence the development and evaluation of dance as an alternate form of PA for patients with PF, exploring its benefits and sustainability. Virtual dance was acceptable, enjoyable, and feasible among participants; who strongly perceived health benefits especially breathing efficiency and mental health improvements for managing their day-to-day struggles with PF.

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Podiatrists' experience of implementing Ireland's National Model of Care for The Diabetic Foot

Topic / Dept: Health Intelligence, Health Service Improvement

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Abstract

A Model of Care outlines the way health services should be delivered in line with best practice for a population group as they progress through the stages of a condition. International evidence supports the need for an integrated multidisciplinary approach to diabetic foot management to prevent ulceration and amputation. In 2011, a model of care for diabetic foot was published in line with international recommendations.

This study explores podiatrists' experiences of providing diabetic foot care following the introduction of this national model for integrated diabetic foot care with the aim of identifying barriers to service delivery and areas for improvement.

Using a cross-section study design, between October 2017 and April 2018, an online survey comprising closed and open-ended questions on podiatrists' demographics, clinical activity, links with other services, continuous professional development activities and experiences of implementing the Model of Care was administered to hospital and community-based podiatrists (n=73) working for Ireland's Health Service Executive. Data were analysed using descriptive statistics and content analysis.

Response rate was 68% (n=50), with 46% (n=23), 38% (n=19) and 16% (n=8) working across hospital, community and both settings, respectively. This study found that most podiatrists work in line with national recommendations, including treating high-risk patients, treating patients with active foot disease, and educating people about the risk of diabetes to the lower limb. However, specific challenges with implementing the Model of Care were identified, including a lack of podiatry

managers, a perceived lack of awareness of the role of podiatry amongst other healthcare professionals, poor integration between hospital and community podiatry services and insufficient number of podiatrists to meet service demands.

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Impact of the COVID-19 pandemic on patterns of electronic referrals to rapid access clinics for suspected breast, lung, and prostate cancer in Ireland between 2019 and 2021

Topic / Dept: Health Service Improvement

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Abstract

The COVID-19 pandemic impacted cancer services worldwide. We examined the number of electronic (e)-referrals to rapid access clinics (RACs) for breast, lung, and prostate cancer during the first three pandemic waves in Ireland.

This study used a retrospective, repeated cross-sectional design with weekly e-referral data from general practitioners to RACs via Healthlink provided by the National Cancer Control Programme. The predicted weekly number of e-referrals by suspected cancer types from March 2020 to May 2021 was calculated for the scenario of an absence of the pandemic using the Holt-Winters seasonal smoothing method, based on the observed numbers from the pre-pandemic period (01/01/2019-01/03/2020). The difference between the predicted and observed numbers indicated the change in demand for cancer diagnostic services.

In the first pandemic wave, the observed number of e-referrals was lower than the predicted number of referrals to breast, lung, and prostate RACs (5071, 365, and 440 fewer e-referrals respectively). The recovery of e-referrals after the first wave varied by cancer type. The observed breast e-referral recovered from the start of the 2nd wave and exceeded the predicted level (458 & 1649 more e-referrals in the 2nd & 3rd waves). For lung e-referrals, the observed numbers remained mostly below the predicted level during the 2nd and 3rd waves (179 & 133 fewer e-referrals in the 2nd & 3rd waves). For prostate e-referrals, the observed number returned to the predicted level in

the 2nd wave but decreased in the 3rd wave (2 more e-referrals in the 2nd wave; 263 fewer e-referrals in the 3rd waves).

E-referrals were adversely impacted in the 1st pandemic wave with a large drop in e-referrals for breast, lung, and prostate cancer. Early identification of changes in health seeking behaviours enable a rapid response from cancer control programmes. In initial waves, NCCP and Department of Health launched a series of actions to encourage the presentation with symptoms and reassure the delivery of cancer services. These actions and the growth in understanding of the biology of COVID-19 meant a rapid recovery of e referrals, though projected levels were not reached for lung and prostate cancers.

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SOCIOECONOMIC DISPARITIES IN BELIEFS ABOUT CANCER: FINDINGS FROM THE FIRST NATIONAL CANCER AWARENESS SURVEY

Topic / Dept: Health and Wellbeing

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Abstract

For most tumour types survival varies according to socioeconomic position (SEP) and stage at diagnosis. Symptom recognition and early help-seeking are associated with lower stage at diagnosis and better outcomes. The aim of this study was to examine the association between SEP and beliefs about cancer in Ireland, and the impact of negative beliefs on symptom awareness and help-seeking. This is important as negative beliefs about cancer may represent a modifiable target in cancer awareness campaigns aimed at those most at risk - adults aged 50+ years.

A cross-sectional study of 1,327 adults aged 50+ years was conducted using data from the National Cancer Awareness Survey, 2022. SEP was indexed using educational attainment. Beliefs about cancer were assessed using the Awareness and Beliefs about Cancer measure, unprompted symptom awareness using the Cancer Awareness Measure, and anticipated help-seeking using the French Cancer Barometer. Latent Class Analysis (LCA) was used to identify unobserved 'beliefs about cancer' subgroups across belief items. Multivariable logistic regression, adjusted for age, sex, smoking status and cancer experience, was then used to identify associations between SEP and belief subgroups, and subsequently between belief subgroups and symptom awareness and anticipated help-seeking.

LCA identified two subgroups, classifying n=1,033 (77.7%) as broadly positive and n=294 (22.2%) as broadly negative. Those with primary education or less, and those with secondary education, were more likely to endorse negative beliefs relative to those with tertiary education (aOR 3.20 (95%CI 1.84, 5.53; p<0.001) and aOR 1.88(95%CI 1.32, 2.70; p<0.001) respectively). Compared to the positive beliefs subgroup, the negative subgroup were less aware of persistent cough as a potential cancer symptom (aOR 0.60(95%CI 0.40, 0.88); p=0.01) and less likely to anticipate seeing a doctor first with symptoms (aOR 1.52 (95%CI 1.11, 2.08; p=0.009)).

Negative beliefs about cancer are associated with lower SEP and may contribute to later stage at presentation. Negative beliefs about cancer should be targeted in health promotion campaigns seeking to increase awareness and help-seeking behaviour.

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Pilot implementation of patient reported outcome measures to support evaluation of the national chronic disease management programme

Topic / Dept: Health Service Improvement

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Abstract

The National Integrated Care Programme for Chronic Disease (ICPCD) aims to deliver end-to-end, patient-centred care across three clinical programmes; Heart, Respiratory and Diabetes. Patient-reported outcome measures (PROMs) are a means of objectively measuring changes in patients' subjectively-perceived health status over time in response to services and interventions. As such, PROMs facilitate monitoring and evaluation and are an important tool for the ICPCD to ensure optimal patient-centred, value-based healthcare delivery.

To select the most appropriate PROMs instrument for use across ICPCD services, comprehensive literature review was undertaken followed by a key stakeholder consultation process in winter 2022. Following consideration against a set of pre-determined criteria the EQ-5D-5L was selected as the most appropriate PROMs instrument for use within the ICPCD. The EQ-5D-5L is a well-validated, reliable PROMs instrument suitable for measuring the impact of chronic disease on functional status and well-being.

Following PROMs instrument selection ethical approval was granted from Galway University Hospital in March 2023 to pilot the administration of EQ-5D-5L for outcome evaluation purposes in one ICPCD ambulatory care hub service. Study design involves pilot implementation followed by mixed methods evaluation of patient and staff experience of the pilot.

Pilot implementation began on April 6th 2023 among a socio-demographically diverse sample of patients attending the diabetes structured education service in the Galway City ICPCD ambulatory care hub. The pilot will run for 6 weeks and results will be used to produce recommendations to support the development of a PROMs implementation plan at scale across the ICPCD in conjunction

with key stakeholders and ultimately to support the ongoing delivery of high quality patient-centred care within ICPCD services.

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A systematic review of the physical and mental health impact of dance interventions among patients with non-infectious pulmonary diseases

Topic / Dept: Health and Wellbeing

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Co Author: Andrew O'Regan

Abstract: Physical activity (PA) and structured exercise are adjuvants to improve health among patients with pulmonary diseases and chronic medical conditions. Dance is one such type of structured exercise considered as enjoyable, safe, and also beneficial for physical and mental health and general wellbeing. There is limited understanding of the extent to which dance interventions are effective and impactful among different patients groups, and research lacks a robust synthesis of the evidence. This systematic review investigates the impact of dance interventions on patients with non-infectious pulmonary diseases (NIPD).

Following the PRISMA guidelines, six electronic databases were searched in May 2022. Articles were included if they investigated any form of dance activity on patients, of any age, with NIPD. A thematic analysis was used to synthesise the qualitative data reported across the studies, whereas quantitative data were converted into effect sizes to provide robust evidence of the impact of dance on patients' health.

Of the 1,308 unique records identified, 7 studies across 4 countries were. Five studies used quantitative methods to investigate the effects of dance on patients with pulmonary conditions, whereas 2 studies used semi-structured interviews. Six studies investigated adult populations and one study explored the effect of dance on children with asthma. Improvements were found in relation to the quality of life, social cohesion, dyspnoea levels, balance, exercise tolerance, and general well-being.

Overall, this systematic review synthesised that dance interventions are enjoyable, effective and may improve health and well-being among patients with NIPD. More organised and continuous dance interventions in future may reveal cost-benefit ratio and impact on health outcomes.

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Early detection of risk factors for diabetic foot ulceration – does it meet the principles of population-based screening? A scoping review of the literature.

Topic / Dept: Health Intelligence, Health Service Improvement

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Abstract

Evidence-based and quality assured screening programmes can potentially improve public health outcomes, and when organised effectively can prevent disease, and reduce disability and mortality. In some regions, introduction of diabetic retinopathy into a structured screening programme has resulted in diabetes no longer being a leading cause of vision loss of working age adults. Diabetic foot screening is typically carried out opportunistically resulting in people either not receiving annual screening or not being followed up appropriately. Moving diabetic foot screening into a structured population health screening programme has the potential to reduce diabetes-related ulceration and amputation. However, before a population wide screening programme is introduced in a health service, certain principles or criteria should be fulfilled.

Using a scoping review methodology, in line with Arksey & O'Malley and the Joanna Briggs Institute, this study examined and mapped the evidence on prevention of diabetic foot ulcers (DFUs), and screening for risk factors, against the Wilson and Jungner (1968) principles of screening. Comprehensive searches based on principles of screening were conducted on Medline (EBSCO), Scopus, ScienceDirect and EMBASE databases.

Upon title, abstract and full text screening, 108 number of articles were eligible for inclusion. Following reference list searching, an additional 20 were identified. Results indicate that prevention of DFUs, and diabetic foot screening, meet many of the principles of screening. DFUs are an important health problem, with a natural history of disease and international agreement on who to treat as patients. However, we identified three areas where more robust evidence may be needed before diabetic foot screening can be recommended for introduction into a population health screening setting. These relate to reliability of screening tests, (cost) effectiveness of screening programmes and health system readiness.

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Greenhouse gas emissions from food system activities in Ireland 1990-2018.

Topic / Dept: Health Protection, Health and Wellbeing

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Abstract

Food systems encompass interconnected actors and activities that bring food from farm to fork and the broader environments (economic, societal and natural) they are embedded in . Food systems operate at high cost to human and environmental health. 20-30% of total human-created greenhouse gas (GHG) emissions globally are attributable to food system activities. The agri-food sector plays a vital role in the Irish economy. In 2021 agri-food exports valued €18.7 billion and provided 7.1% of jobs in Ireland. Economic growth in the sector has come at the expense of the environment. In 2018 Ireland had the highest GHG emissions from food systems per capita in the EU. This paper presents an overview of GHG emissions from Irish food system activities 1990-2018.

Data from the Emissions Database for Global Atmospheric Research were used to examine changes in food system emissions (Mt C02-equivalent(eq)) over time (1990-2018). Shares of total emissions by system stage (land use, production, processing, packaging, retail, transport, consumption and food waste) were also analysed.

After a decline from 2000 to 2011, food system emissions in Ireland are trending upwards. Total food system emissions in Ireland in 2018 measured 34Mt (C02-eq), accounting for 52% of all Irish emissions. 84% of food system emissions arose from production. Packaging and transport of food represented 3.7% each and consumption amounted to 0.84%.

Increasing sustainability in the food system requires an understanding of where and how emissions arise across the whole system. Research on Irish food-related emissions has focused on agriculture and land use but little is published on activities later in the system. Estimating GHG contribution across the Irish food system this analysis provides important information for targeted policy development for mitigating food system impacts on climate change and health.

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POST EXPOSURE PROPHYLAXIS SERVICE PROVISION OF CLOSE CONTACTS OF HEPATITIS B CASES IN PUBLIC HEALTH AREA A

Topic / Dept: Health Protection

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Abstract

The current practice in Area A for acute hepatitis B virus (HBV) notifications is to identify and arrange testing and post exposure prophylaxis (PEP) of household & sexual contacts of the index case (IC) via a GP, which includes vaccination and HBV immunoglobulin (HBIG) in line with NIAC Guidelines. For chronic HBV notifications, which make up the majority of cases, it is assumed this process is undertaken when the IC is referred to Infectious Disease (ID) or Hepatology.

We sought to identify where PEP is provided to close contacts in Area A through three surveys; one each for general practice (GP), general hospitals and specialist services (ID and Hepatology). All hospitals in Area A and other hospitals along with GPs who notified a case of HBV in 2022 were included. Surveys were emailed to GPs (n=31), General Physicians (n=25) or ID/Hepatology Physicians (n=24).

The response rate was 22% (GP n=5, General Physician n=5, ID/Hepatology n=8). Vaccination of close contacts was provided by 25% (n=2) of ID/Hepatology physicians, 20% (n=1) of the general physicians and 20% (n=1) of GPs. HBIG was provided by 38% (n=3) of ID/Hepatology physicians. 60% (n=3) of GPs reported they had been asked by specialist services to vaccinate close contacts. 22% (n=4) of the overall respondents thought PEP is provided by ID/Hepatology, 17% (n=3) Public Health, and 33% (n=6) GPs.

The identification of close contacts and provision of PEP is done by a minority of specialist services. Reasons listed included lack of funding, resources and capacity. There is disparity in the perception of who provides this service amongst clinicians from Public Health, GP, ID and Hepatology. Many cases of HBV are in migrants, where vulnerable close contacts may be overlooked. A coherent policy needs to be instituted nationally amongst the key stakeholder specialties.

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An outbreak of invasive Group A Streptoccocus in a residential care facility in the North-East of Ireland

Topic / Dept: Health Protection

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Abstract

An unseasonal increase in cases of invasive Group A Streptococcus (iGAS) has been observed in Ireland since October 2022. We describe the management of an iGAS outbreak involving three residents in a residential care facility (RCF) in North-East Ireland in early 2023.

HSE Public Health Area A were notified of a case of iGAS in a resident of a 69-bedded RCF on 31/01/2023. An outbreak was declared and an outbreak control team (OCT) convened on 07/02/2023 when two further cases of iGAS in the RCF were notified. Risk assessment of staff and resident contacts was undertaken based on United Kingdom guidelines. Surveillance for symptoms and signs of GAS/iGAS infection in residents and staff was commenced. The Health Protection team performed a site visit to provide infection prevention and control (IPC) support. Isolates for the three cases were sent for emm typing.

Screening of staff and residents was considered by the OCT, but prophylaxis was deemed preferable to reduce delays in instituting control measures. Prophylaxis was provided to 38 residents and 34 staff. Surveillance of staff and residents identified a probable localised GAS infection in a staff member; suspected localised GAS infection in a resident was ruled out by microbiological investigation. There were no further cases of iGAS identified. The recommendations from the site visit included advice on terminal cleaning and cleaning of shared equipment, and ongoing education on hand hygiene and masking. The emm type for all isolates was identical , type 18 (subtype 18.12), never previously detected in Ireland.

Rapid delivery of IPC support and prophylaxis were key outbreak control measures. emm18 is infrequently associated with GAS infections in Ireland and elsewhere; there is limited evidence on its pathogenicity. Irish national iGAS guidance should be expanded to include management of cases and outbreaks in RCFs.

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Measles IgG seroprevalence in 18-34-year olds in Ireland

Topic / Dept: Health Protection

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Abstract

The World Health Organization (WHO) identifies measles as a priority disease for elimination due to the associated high morbidity and mortality. In 2022, the Irish National Serosurveillance Programme (NSP) initiated a measles IgG seroprevalence study. This was to identify the proportion of adults who may be susceptible to measles infection, in order to inform the assessment of our national measles elimination status and to supplement current public health strategies required to maintain this goal.

Between October and December 2022, a cross-sectional sample of anonymised residual sera from adults aged 18-34 years (birth cohorts 1988-2004) sourced from primary care services via the NSP Laboratory Surveillance Network was collected. Data on age and sex was available for analysis. Sera were tested for IgG antibodies to measles virus at the National Virus Reference Laboratory (NVRL), facilitating an estimation of age and sex-specific seroprevalence.

Of 2,183 specimens, 330 (15.7%) were seronegative; 10.7% when adjusted for manufacturer reported test accuracy. The proportion of seronegative males was higher in younger birth cohorts, ranging from 17.9% for those born in 2003-2004 to 5.7% for those born in 1988-1992. Among females seronegativity ranged from 8.5% to 12.3% with no discernible trend.

Measles IgG seroprevalence estimates for Ireland are currently below the WHO elimination target of 95% for all birth cohorts (1988- 2004) except 1997, 2000, and 2003. The estimates are higher than

national measles vaccination uptake reported at 24 months for all birth cohorts except for 2004. This may reflect exposure to measles virus during past outbreaks and the effect of catch up vaccination campaigns for which national uptake information is not available. Of note, antibodies can wane over time, and seronegativity may not necessarily reflect susceptibility to infection. A measles vaccination catch-up programme, particularly for younger males with suboptimal protection, should be considered. Seroepidemiology of vaccine preventable diseases provides information at the population level and adds to the scientific evidence base to inform risk analysis and national vaccination policies and strategies.

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Building the evidence base to define acceptable transfer duration for women planning to give birth at home with the HSE Home Birth Service - a literature review

Topic / Dept: Health Service Improvement

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Abstract

Approximately 0.5% of births in Ireland currently take place at home. Assessment of eligibility for planned home birth (PHB) may include consideration of transfer duration to ensure that rapid access to emergency intervention can be facilitated. This review sought to explore the relationship between transfer duration from home to the nearest obstetric unit (OU) and maternal and/or neonatal outcomes to inform eligibility criteria for the HSE Home Birth Service.

A review of reviews comparing PHB with planned hospital birth was performed to determine if previous syntheses have explored the impact of transfer duration on PHB outcomes and to identify factors associated with improved outcomes. A review of primary research exploring transfer duration from home to OU and maternal and/or neonatal outcomes for PHB was also undertaken.

Transfer duration was not considered in nine included review articles. Neonatal outcomes were similar and maternal outcomes improved for PHB compared with planned hospital birth in low-risk women attended by a registered midwife. In eight studies which reported on transfer duration and PHB outcomes most transfers took place within one hour, though definitions of transfer duration varied. Two studies exploring the relationship between transfer duration and maternal or neonatal outcomes did not identify a significant increase in adverse outcomes with longer transfer duration. However, they were likely underpowered to detect a significant difference in adverse outcomes and were of limited quality and relevance.

There is limited evidence on the association between transfer duration from home to OU and maternal and/or neonatal outcomes for PHB. Further research on the relationship between transfer duration and maternal and/or neonatal outcomes and other factors which promote safe intrapartum transfer, is required to define acceptable transfer duration.

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17th August, 2023

Do neonates born exposed to prenatal passive tobacco smoke exposure have lower than average full-term birth weight or not? A systematic review.

Topic / Dept: Health and Wellbeing

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Co Author : Arya Sudhakaran Manat

Co Author: Diarmuid Stokes

Abstract

There is a lack of consistency in the findings of research that have been published on the topic of passive smoking and low birth weight. As a result, this particular systematic review was carried out to determine whether or not there is a relation between prenatal tobacco smoke exposure and full-term low birth weight infants.

Systematic searches were carried out in PubMed, CINAHL, PsycInfo, and Embase for cohort case-control studies the 31-year period from 1991 – 2022. Of the 2,877 articles identified, 835 duplicates were removed. Title screening was done for 2,126 articles. 25 articles met the inclusion criteria that were Peer reviewed full-text articles in the English language and related to low birth weight due to passive smoking only.

Out of the 25, 20 showed a significant relationship with an OR ranging between 2.14 and 54.9 respectively between exposure to environmental tobacco smoke (ETS) and low birth weight infants at term and 5 articles showed no association with an OR ranging between 0.48 and 1.51. A significant difference found between the sample size among the studies included influencing the outcome of the study(ranging from smallest (n=208) and largest (n=1741 2). Mean age of mother was 29.6±3.8 and mean birth weight was 3,212±467.1. Nicotine level > 4.1 ng/mL or duration of exposure 24.4 hours/week gives strong evidence of prevalence of LBW among SHS exposed mothers. Compiled evidence suggest that, there is a significant association between prenatal passive smoke exposure and neonatal birthweight at term.

There is a need for health researchers and public health experts to design and implement targeted programmes to reduce LBW due to passive smoke in our societies.

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Impact of diabetes mellitus on acute hospitals in Ireland 2015-2020

Topic / Dept: Health Intelligence

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Co Author :Dr Anne O'Farrell

Co Author: Declan Joseph Mckeown

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Abstract

COVID-19 was clearly a more severe illness than seasonal influenza in hospitalised cohorts during Wave 1 of the pandemic. This study's aim was to determine if COVID-19 severity, relative to seasonal influenza, evolved across subsequent waves.

This study used Hospital In-Patient Enquiry (HIPE) to compare COVID-19 hospitalisations over five pandemic waves with influenza hospitalisations during 2018/ 2019 across parameters of length of stay (LOS), intensive care unit (ICU) admission, ventilatory support, dialysis and in-hospital mortality. Regression measured relative severity with odds ratios (ORs) adjusted for age and gender.

Compared to influenza episodes, COVID-19 episodes had a longer mean LOS (14.2 days, vs. 9.2 day, t-ratio 20.5, p<0.001); were more likely to receive ICU care (OR 1.3, 95% CI 1.2-1.4, p<0.001); more likely to need ventilatory support (OR 2.3 95% CI 1.2-1.5, p<0.001); and dialysis (OR 2.5, 95% CI 1.2-1.8, p<0.001) also more likely to die in hospital (OR 2.9, 95% CI 2.6-3.2, p<0.001). COVID-19 episodes were more likely to experience severe disease progression during the first four pandemic waves. However, in wave 5 COVID-19 episodes were significantly less likely to need ventilatory support (OR 0.87, 95% CI 0.78-0.97, p<0.05) or ITU care (OR 0.77, 95% CI 0.70-0.85, p<0.05). There was a downward trend for in-hospital mortality for COVID from Wave 1 to Wave 5 (14.8% to 5.6%, Cochrane Armitage, p<0.001). However, in-hospital mortality remained higher in COVID episodes in all five waves. COVID-19 severity relative to influenza has reduced over pandemic waves likely reflecting changes in strain, population immunity, vaccination and treatment.

In-hospital mortality remained higher in COVID-19 relative to influenza, in all five waves. Strong vaccine uptake needs to be maintained.

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The impact of the COVID-19 pandemic on cancer incidence in Ireland: data from the National Cancer Registry

Topic / Dept: Health Intelligence

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Abstract

The onset of the COVID-19 pandemic caused unprecedented disruption to cancer services worldwide. To assess the impact of COVID-19 on cancer incidence in Ireland, we present the numbers of cases diagnosed in 2020 as well as preliminary numbers of cancer cases diagnosed in 2021 and assess the shortfall in diagnosed cancer cases in 2020 and 2021 as a result of COVID-19.

We modelled cancer cases from 1994 to 2019 to identify the last stable trends prior to the pandemic onset. 'Expected' case counts for 2020 and 2021 were projected from the model (representing the expected numbers for each cancer had COVID-19 not occurred) and compared to registered cancer cases for 2020 and 2021.

10% fewer cancer cases were diagnosed in Ireland in 2020 than expected based on pre-pandemic trends. For cancers diagnosed in Ireland in 2021, preliminary findings indicate that case counts were 6% lower than expected based on pre-pandemic trends, with largest percentage shortfalls in leukaemia, liver, kidney, and pancreatic cancers. Some cancers which had been severely impacted in 2020, such as colorectal and female breast cancer, fell within expected limits in 2021.

While the preliminary overall shortfall of 6% in cancers registered in 2021 indicates that the impact of COVID-19 on cancer diagnoses continued into 2021, this figure represents an improvement over 2020 shortfalls. The impact of COVID-19 on cancer varied by cancer type, with leukaemia, liver, kidney, and pancreatic cancers being most severely impacted according to preliminary numbers in 2021. Conversely, case counts of other cancers such as colorectal and female breast cancer in 2021 indicate a recovery in the diagnoses of these cancers from the impacts of the pandemic compared to 2020. While the 2021 case counts are currently preliminary, the National Cancer Registry expects to have definitive figures available by end of 2023.

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Developing Population Health Management in Ireland

Topic / Dept: Health Intelligence

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Abstract

Population Health Management (PHM) is the concept of aggregating population data with data from multiple care and service settings, the analysis of that data into a single, actionable patient record, and using the insights gained to identify that population's specific healthcare needs and develop a tailored response to them. This is achieved through the use of data analytics, artificial intelligence, and digital technologies, by stratifying populations according to the risk of deterioration in health. This stratification allows the development of early personalised interventions with an emphasis on prevention, which are key to better outcomes.

The overall aims of PHM are to improve the health and well-being of the population, and the patient experience of care, to reduce healthcare costs, to improve workforce well-being and engagement, and to address inequalities in health and care.

This discussion paper will cover the core building blocks for PHN, the tools required to carry out population health needs assessment, population segmentation, and risk stratification. The development of PHM and its use internationally will be discussed together with developments and opportunities provided in the context of Sláintecare. It will discuss the current status of PHM development in Ireland terms using a population health maturity matrix. Evidence and examples of impact will be provided and recommendations to advance its progression within the Irish healthcare system.

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Comparing the family characteristics, professional profile,and personality traits of COVID-19 volunteer andnonvolunteer frontline healthcare workers at the epicenter in Nigeria

Topic / Dept: Health Service Improvement

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Abstract

Emergency volunteering becomes a necessity in the face of unprecedented disasters like the coronavirus disease 2019 (COVID-19) pandemic. There is a paucity of empirical data on volunteerism not imported from the developed countries. It became necessary to evaluate the local-bred volunteerism with its peculiarity, as it emerged within the public health sector of Nigeria's COVID-19 epicenter.

The study aimed to compare the family characteristics, professional profiles, and personality traits of volunteer and nonvolunteer COVID-19 frontline healthcare workers (HCWs) and determine the significant predictors of volunteering as well as the deterrents to and motivation for volunteering.

A comparative cross-sectional study was conducted between May and August 2020 among COVID-19 volunteer and nonvolunteer HCWs serving at the six dedicated COVID-19 isolation/treatment centers and the 27 general hospitals, respectively. Using a stratified sampling technique, three professional categories of HCWs (doctors, nurses, and medical laboratory scientists) were randomly selected from the nonvolunteers while total enumeration of volunteers was done. The survey employed pilot-tested self-administered questionnaires. The univariate, bivariate, and multivariate analyses were carried out with IBM Statistical Package for Social Sciences (SPSS) version 23.0. The level of statistical significance was determined by a P-value of <.05.

A total of 244 volunteers and 736 nonvolunteers HCWs participated in this survey. Sex, ethnicity, professional level, income level, number of years of practice, and traits of agreeableness and conscientiousness were significantly different between volunteers and nonvolunteers ($P < .05$). Inadequate personal protective equipment (PPE), lack of insurance, and inadequate hazard allowance deterred nonvolunteers. After regression analysis, the significant predictors of volunteerism included sex (odds ratio [OR] = 2.644; confidence interval [CI]: 1.725-4.051), ethnicity (OR = 2.557; CI: 1.551-4.214), and professional level (matrons: OR = 0.417; CI: 0.254-0.684, consultants: OR = 0.171; CI: 0.038-0.757). HRH crisis in the face of high-danger situations such as the COVID-19 pandemic makes it urgent for health policymakers to address the identified barriers to volunteerism in order to optimize the health outcomes of the population.

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A systematic review of effectiveness of video-based intervention for oral health promotion in children compared to traditional intervention

Topic / Dept: Health and Wellbeing

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Abstract

WHO cited 3.5 billion people are affected by oral diseases and more than 530 million children suffer from tooth decay at an early stage. There is interest in how new technology can support oral health promotion, increase awareness, and prevent oral disease. A systematic review was conducted to compare video intervention with traditional intervention for oral health promotion in children.

The databases PubMed, CINAHL, PsycINFO, and Embase were searched for studies published in the 31-year period from 1991 – 2022. Of the 3,697 articles identified, 35 articles met the inclusion criteria that were Peer reviewed full-text articles in the English language, articles related to RCTs involving oral health promotion interventions – traditional face to face and video based.

Studies included were from 1991 – 2022, 75.5% of studies were from 2011- 2022 and the remaining 24.5 % were from 1991-2010. 16 articles were looking for knowledge parameters; in 8 the data showed significant improvement for knowledge where $p>0.001$. Periodontal health improved as plaque index and gingival index reduced with 6 of 13 articles showing a significant effect. 19 articles (54.3%) found traditional intervention the most effective method to conduct oral health promotion whereas 11 studies (31.4%) found video superior for oral health promotion and 5 studies (14.3%) found a combination of traditional and video intervention worked best.

We found traditional intervention is an effective way for oral health promotion in children and have better oral health outcomes when the instructions are either given verbally by the dentist or by teachers. More research is needed on how best to capture technology advances to an effective oral health promotion.

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Descriptive epidemiology of respiratory virus hospitalisations in Ireland during 2022/2023 winter period – an opportunity for learning

Topic / Dept: Health Protection

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Abstract

2022/2023 was the first winter season with significant co-circulation of COVID-19 and other respiratory viruses. We describe COVID-19, influenza and respiratory syncytial virus (RSV) hospital attendance during the season to inform future winter preparedness.

Data for COVID-19, influenza and RSV were extracted from the Computerised Infectious Disease Reporting system (CIDR) from week 40 2022 to week 11 2023.

There were 28974 hospitalised and emergency department (ED) cases of COVID-19, influenza and RSV recorded on CIDR, with cases of RSV (n=5735) and influenza (n=10262) surpassing all previous years since 2004. RSV activity began to surge in week 42 2022, with a peak in week 46 (n=614) and remained above baseline levels until week 4 2023. This RSV trend overlapped with COVID-19 and influenza activity which peaked in week 51 2022 (n=1114) and week 1 2023 (n=2127) respectively. Differences in age profiles of patients across pathogens was also evident. In addition to record levels of ED and hospitalised cases, a large number of hospital outbreaks were reported for COVID-19 (n= 340), influenza (n=67), RSV (n=8), and COVID-19 & influenza mixed outbreaks (n=2).

Co-circulation of SARS-CoV-2, influenza and RSV significantly burdened health services this winter. Reduced immunity to RSV and influenza due to COVID-19 mitigation measures may have contributed to the record levels. Nevertheless, multi-pathogenic winters will likely continue, requiring concerted efforts to mitigate the direct and indirect impact on hospitals and patients. Simultaneous peaks in respiratory virus activity and the added pressure of outbreaks should be anticipated in future winter seasons, with plans and control measures introduced in advance to limit spread. These data are an important potential resource to inform service planning and decision making for future winter seasons.

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County-level variation in hospital activity: implications for resource allocation and the new model of Public Health

Topic / Dept: Health Intelligence

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Abstract

Unwarranted geographic variation in health care utilisation is variation that is not driven by differences in patient characteristics, patient choice or illness characteristics. We aimed to investigate variation in county-level hospital activity in Ireland. This is important as addressing unwarranted geographical variation will be a key challenge for reformed Public Health.

An exploratory cross-sectional analysis of data extracted from the Hospital Inpatient Enquiry System 2019 was conducted. Using Health Atlas, indirectly Standardised Discharge Ratios (SDRs) and their 95% confidence intervals were calculated. Bayesian smoothing was used to account for small numbers. We compared SDRs according to county of residence across conditions considered internationally as 'higher variation' (elective hip repair, transient ischaemic attack (TIA)) and 'lower variation' (hip fracture repair and haemorrhagic and ischaemic stroke). Where observed discharges were statistically different from expected these were classified as either 'low' activity or 'high' activity areas for that condition.

Across 26 counties (28 geographical regions including North and South Dublin, and North and South Tipperary) there were 896 discharges for haemorrhagic stroke, 4,604 for ischaemic stroke, 3,114 for TIA, 4,054 for elective hip replacement and 2,319 for hip fracture repair. SDRs for haemorrhagic, ischaemic stroke and hip fracture did not vary according to county with only one area below expected numbers of discharges. However, there was evidence for county variation in SDRs for TIA and elective hip repair (9/28 (32.1%) high activity and 5/28 (17.8%) low activity areas for TIA; 6/28 (21.4%) high and 5/28 (17.8%) low activity areas for elective hip repair).

In line with international findings, initial data suggest that in Ireland there is little evidence of county variation in conditions examined where there is medical consensus on the benefits of admission and effective treatment. However, there is evidence of variation in conditions where medical opinion may be more important in the decision to admit. Policy proposals should aim to reduce unwarranted geographical variation and promote 'high value' c.

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Driving an All-Island perspective supporting Smoke-Free Homes – enabling patient and public involvement (PPI): voice and choice.

Topic / Dept: Health and Wellbeing

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Abstract

Tobacco control is a critical element in achieving Sustainable Development Goals (SDGs). The World Health Organization (WHO) concedes slow progress and seeks widening access to cessation support. There is no safe level of exposure to secondhand smoke (SHS); higher smoking prevalence rates exist in those who experience significant social disadvantages. Substantial health harms are associated with pregnancy; children's exposure to SHS occurs at home. Developments are urgent, with evidence of increased smoking rates at home during the COVID-19 pandemic, thereby increasing risks for those in greatest need. The aim of the PPI Workshop (WS) was to identify fit-for-purpose solutions to address challenges faced by at-risk populations.

A PPI WS was held in January 2022 as part of a funded IRC/ ESCR Smoke-Free Homes networking grant following low-risk ethical approval (LS-E-21-181). Invitations were sent to practitioners engaged in smoking cessation from all contexts: community, hospital [adult and maternity], and to researchers, academics, and people supporting at-risk groups located in Ireland and Northern Ireland. People who had quit smoking were invited via third-party networks.

14 PPI participants attended (70% (n=14/20)) a 2-hour facilitated online workshop focusing on three key areas 1) What creates and supports exposure to SHS in homes. 2) Engagement with quit services and visibility, 3) Solutions supporting engaged development with quit programmes and reducing SHS exposure. Eleven at-risk groups were described, including children and marginalised populations. Structural barriers contributing to the absence of engagement include a lack of awareness of the

impact of SHS exposure with limited communication of SHS messages generally and for at-risk populations.

A communication strategy emphasising the harms of SHS exposure is imperative, considering smoking as a disease – not solely a behavioural change/ personal issue. Using a systems lens, and an all-island PPI approach, for collaborative learning and wider context solutions is crucial to realise an endgame.

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Building towards vaccine acceptance: community co-design framework

Topic / Dept: Health Protection, Health Service Improvement

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Abstract

Background and objective

Vaccine hesitancy is a global public health threat. As the COVID-19 pandemic progressed, vaccines, particularly mRNA vaccines, have reduced overall disease severity and death but population coverage has fallen short and uncertainty about vaccination grown. Miscommunication, neglect of health inequities, failure to address vaccine access and other concerns sufficiently have affected trust between populations and healthcare systems. We built on existing models of increasing vaccine acceptance to develop a more comprehensive explanatory model for testing and evaluation.

Methods

We reviewed the literature on vaccine hesitancy/acceptance models in English and French from PUBMED, ScienceDirect and Google Scholar. We grouped search terms as disease (COVID-19), issue (Vaccine hesitancy) and timeline (COVID-19 pandemic). We explored their application using the Irish case study, including the Irish tailored communication model, and used the findings to build our model.

Results

Previous models had gaps in issues considered, planning and implementation. Many neglected wider determinants or health system responsibilities, treating vaccine acceptance as a one-dimensional issue not a continuum. While the need for vaccination programmes to be redesigned to counter known health inequities, gaps in health literacy, access difficulties, exclusionary practices and mistrust of authorities was recognised, few studies addressed these issues. Our analysis also identified the importance of co-creating delivery models with communities. The resulting model supports prioritisation of communities and individuals in line with need, exposure risk and barriers to immunisation, regardless of their nature or source. Ongoing communication provides space for people to move from vaccine hesitancy to shared understanding while authorities tackle barriers and concerns actively.

Conclusion

Emergency vaccination programmes require greater depth of shared communication and decision making between populations, practitioners, and policy makers. Our model, which incorporates tailored communication, provides a framework for building vaccine acceptance, widening and welcoming participation in development, design, delivery, and improvement.

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Risk and Protective factors for Cannabis use in Irish Adolescents

Topic / Dept: Health and Wellbeing

Author: Dr Teresa O'Dowd

Abstract

Background

Cannabis is the most commonly used illegal drug in Ireland and globally. Initiation of use in high-income countries primarily occurs during adolescence, when the developing brain is most vulnerable to cannabis-related harm.

Risk and protective factors for cannabis use have been studied extensively over the last decade. While similar patterns are observed across most high-income countries, there are cultural variations. This study aims to ascertain the prevalence of and determine the risk and protective factors for cannabis use among 15-16-year-olds in the North East of Ireland.

Methods

This study is a cross-sectional, secondary analysis of the 2021 Planet Youth survey. The population comprised a sample of 4404 adolescents aged 15-16 in Cavan, Monaghan and North Dublin. The outcome of interest was cannabis use in the last 30 days. Independent variables were selected a priori following a literature review. Associations between cannabis use and the independent variables were explored using logistic regression.

Results

The prevalence of current cannabis use among study participants was 7.3%. The odds of cannabis use were higher among current alcohol users (aOR 2.68, CI 1.79-4.02), smokers (aOR 3.17, CI 2.18-4.60), e-cigarette users (aOR 2.72, CI 1.87-3.96), adolescents who did not perceive its use as harmful (aOR 2.24, CI 1.51-3.32), felt their parents were not against cannabis (aOR 3.71, CI 2.43-5.66), had cannabis-using peers (aOR 9.81, CI 5.76-16.71) or felt peer pressure to use cannabis (aOR 1.91, CI 1.09-3.33). Low parental supervision was associated with higher odds of cannabis use.

Although some of the other independent variables included in this study showed a significant association with cannabis use on univariable analysis, they did not retain significance after adjusting for other factors in the multivariable analysis. Notably, there was no association between gender and cannabis use, a new finding in the Irish setting.

Conclusions

This study identified five risk factors and three protective factors associated with cannabis use which can be targeted by policymakers when designing drug prevention strategies.

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A "jab" well done –evaluation of an immunisation workshop for General Practice Nurses(GPNs) in Area B-Midlands

Topic / Dept: Health Protection

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Abstract

Improving the uptake of vaccination programmes is listed as a Public Health Key Objective in the HSE National Service Plan 2023. Uptake rates in Area B Midlands, despite historically being among the highest nationally, have fallen with rates of below 90% documented for some vaccines. General Practice Nurses (GPNs) in the region, important implementers of the PCI schedule, reported increasingly complex PCI contacts due to the migrant crisis and anecdotal post-pandemic increases in vaccine hesitancy. Many new GPNs had commenced in the region. Education of GP nurses was identified as a key enabler of improving immunisation uptake.

An immunisation workshop was planned by Public Health and the Regional Immunisations Co-ordinator. A blended approach of interactive face-to-face and online sessions was planned using case scenarios and role play. Sessions included practical tips for tracking and early identification of defaulters and dealing with common queries including the immunisation of migrants. An evaluation form was distributed. This included self-rated knowledge on a range of PCI topics assessed on an ordinal scale.

The immunisation workshop was fully-booked with 80 GPNs in attendance. The response rate to the evaluation was 78.8% (n=63). 98% of respondents were satisfied/ very satisfied with the workshop. Improvements in self-assessed knowledge were documented in all topics covered. Before the workshop, 70% of respondents rated their overall immunisation knowledge as "high/very high", this increased to 93% after. Most attendees (90%) reported low/low-moderate baseline knowledge around the immunisation of migrants. After the workshop 83% reported "high/very high" knowledge around the immunisation of migrants. 66% of respondents indicated plans to positively their practice as a result of the workshop, these included plans around communication strategies as well as putting registers in place and systems for tracking defaulters.

Our results indicate that there was high satisfaction among attendees of the immunisation workshop, and that the workshop improved overall immunisation knowledge and encouraged

positive changes in practice. Baseline knowledge around the immunisation of migrants was low, this improved significantly after the workshop. The public health multidisciplinary team delivered a blended programmed of education that included education, practical tips for the successful implementation of the PCI schedule in each practice as well as communication strategies to assist with more challenging interactions with parents. An evaluation to investigate whether this translates into improved uptake of vaccination in the region is planned. Lessons learned from session and the evaluation will feed into the immunisation programme for the CHO7 (urban) side of Area B. The model used by the Area B Public Health team could be rolled out to other areas to provide immunisation education to the frontline staff, especially GPNs, who are key deliverers of the Primary Childhood Immunisation Schedule.

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A multimodal, area wide, public health initiative of early engagement and education to support the local management of potential outbreaks of infectious diseases in Residential Care Facilities (RCFs)

Topic / Dept: Health Protection

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Abstract

As part of the reform, public health area B set out to streamline winter response for residential care facilities (RCF). A multidisciplinary team (MDT), timely engagement and communication is vital to achieve this. Thus, a multimodal communications strategy was designed and implemented to engage with RCF managers through webinars. Our aims were to facilitate an enhanced understanding of their role and the applications of the HPSC guidance to manage outbreaks in their context with autonomy where appropriate. Also to maximise PH resources to enable swift multidisciplinary PH team response during surge.

An (MDT) working group was created to streamline PH response to RCFs in respiratory outbreak across Area B; agree email templates, respiratory testing strategies, standardised PH responses to notifications of outbreaks, frequently asked questions (FAQs); draft infographics with public health guidance on infections most likely to impact older person settings such as flu, covid-19, gastrointestinal, shingles and scabies and; and compile key messages in the guidance pertaining to testing, vaccination, isolation and chemoprophylaxis in infographics and circulate to each RCF. A series of webinars were provided targeted at RCFs on winter preparedness, respiratory diseases outbreak management, immunisation in healthcare workers, PH guidance updates. The team partnered with community infection prevention and control, and COVID-19 response team colleagues and community health organisation leads.

A survey of Area B health protection nurses demonstrated that not only did the initiative enabled greater autonomy for RCF to manage their outbreaks, but also cut down the amount of resources required for RCF response by half when compared to winter 2021. The survey also proved that workload was reduced, resources were redirected to other health protection services, and eased transition to area wide working.

The interventions empowered managers of RCFs to implement an evidence-based approach to outbreak management that is informed by the guidance. Ultimately this result in greater availability

of Public Health resources to provide bespoke and nuanced advice when more complex and challenging situations arise.

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Report on an in-service workshop supporting Residential Care Facilities (RCF) to manage outbreaks of infectious diseases

Topic / Dept: Health Protection

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Co Author: Health Protection Nurse Cheryl McGauran

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Abstract

Residents in older person facilities are disproportionately affected by outbreaks of infectious diseases such as COVID-19 and influenza due to vulnerabilities based on age, co-morbidities and living in congregate settings. Information and effective communication is key to supporting residential care facilities (RCF) to prepare for, prevent and control infectious disease outbreaks. Anecdotal experiences of our health protection team highlighted the challenges for RCF managers keeping abreast of public health guidance updates on prevention and management of Cases and outbreaks of COVID-19, Influenza and other Respiratory Infections (Health Protection Surveillance Centre (HPSC, 2022). As part of winter planning, the RCF managers were engaged through webinars and a workshop. The aim being to proactively empower RCFs on the practical applications of the HPSC guidance in response to outbreak of infectious diseases in their settings. This was to enable greater autonomy for RCFs managers in planning and implementing outbreak measures.

The in-service workshop comprised of presentations by PH multidisciplinary team on winter preparedness, respiratory outbreak management, Healthcare worker (HCW) vaccination and finished with table top exercises on outbreak scenarios.

Pre- and post – knowledge assessment evaluation was completed. The greatest knowledge gains for the attendees were on influenza outbreak management, chemoprophylaxis and respiratory testing strategy. All the attendees agreed that they would use the knowledge gain to implement local changes such updating policies and procedures, staff information and education, introducing infection control drills and reviewing internal COVID-19 and influenza outbreak plans.

The interventions demonstrated that timely education and training supports facilitated by PH enabled and empowered managers to take ownership for planning, preparation for and managing outbreaks prior to surge activity.

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Disparities in oral health and oral healthcare attendance in Ireland: A cross-sectional study

Topic / Dept: Health Intelligence

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Abstract

Oral health is an intrinsic component of good overall health; poor oral health is associated with various non-communicable diseases many of which have shared risk factors, including diabetes and cardiovascular disease. The burden of oral diseases on health services is predicted to increase due to population ageing, with the highest need among disadvantaged groups.

To inform equitable service planning this study aimed to examine factors associated with oral health and oral healthcare attendance among Irish adults. Secondary analysis of the Healthy Ireland Survey 2018 was conducted to estimate prevalence of oral health and oral healthcare attendance with 95% Confidence Intervals (CIs). Multiple logistic regression determined factors associated with key responses using Adjusted Odds Ratios (aORs) both among the total sample and those aged 50 years and over (50+).

Response rate was 62.0% (N=7,701). Most (78.8%) of the total sample and 70.2% of those aged 50+ reported good oral health; 47.4% and 41.0% respectively had attended dental services in the preceding year. Compared to comparative counterparts, males (aOR 0.75, 95%CI 0.67-0.83), smokers (aOR 0.87, 95%CI 0.77-0.98) and medical card holders (aOR 0.68, 95%CI 0.61-0.75) were significantly less likely to have attended dental services. For those aged 50+, active dental issues (aOR 0.65, 95%CI 0.48-0.88) and lower socioeconomic status (aOR 0.51, 95%CI 0.39-0.68) were associated with decreased odds of dental attendance.

Disparities in oral health service utilisation identified in this study suggest potential unmet population oral health needs, especially among older adults. Combined with population ageing and a growing scarcity of dentists available to provide care to disadvantaged groups such service gaps are key considerations for oral healthcare planning, namely implementation of the National Oral Health Policy 2019.

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Development of Easy Read Materials for Bowel and Breast Screening – National Screening Service HSE

Topic / Dept: Health Service Improvement

Author: Lynn Swinburne

Abstract: 1) Easy Read Resources for Bowel and Breast Screening

2) Introduction:

Breast and bowel cancer have a combined incidence of nearly 7000 per year in Ireland. All public health efforts are needed to prevent breast and bowel cancer and to diagnose it early. All women in Ireland 50-69 years are invited for free breast screening every two years. Similarly men and women aged 60-69 years are invited for bowel screening biannually. Whilst screening participation is an individual choice, as service providers we must ensure that all service users have equal access to information about screening programmes.

At least 40% of Irish people have limited health literacy, with 1 in 6 adults finding everyday text such as medical instructions hard to read and understand (NALA, 2015). Many people now have the preferred communication style of easy read/plain English or picture based information. The onus is on service providers to ensure information is provided in a format that can be clearly understood to support people to make informed decisions. Information resources should depict the exact service a person will receive and pictorially show step by step what the person can expect to experience in the service. Where will they park, who will they meet, what does the building look like, what machinery is involved, what do the tests entail, these all need to be explained visually. Imagine explaining a story using pictures only and not relying on text to explain scenarios; this is what a good easy read project is tasked with.

3) Objectives:

This project had the aim of developing a suite of easy read materials for breast and bowel screening through forming partnerships and using a co-design methodology. The essence of this project was to use an ethos of co-design from beginning to end, involving stakeholders at every step to create something new, with high impact and added value to the service user experience.

Objectives:

•To develop a suite of easy to read materials for BreastCheck and BowelScreen

•To develop project partners to oversee the project

•To adhere to the principals of co-design

•To consolidate learning on good practice in developing easy read materials

4) Implementation, Tactics and Strategy:

This project was overseen by a project partnership made up of a communication expert in easy read, representatives from the disability sector and NSS staff. Many different staff members were involved from NSS including a project manager, radiographers, endoscopy staff, bowel screening nurses and access officers. Recruitment for a panel of people with lives experience of the screening

services was formed. These people came from our partners in the disability sector. This group ultimately was responsible for the content creation in the easy read resources developed. Their guidance, advice and lived experience were invaluable to this project.

To ensure our group of service users felt like equal partners in our project, we ensured a number of elements were implemented throughout this project:

•Transport was provided and paid for all meetings (disability transport)

•Staff support was provided for each person to participate in meetings

•Buildings were assessed to meet accessibility standards to hold meetings in

•All people got posted a meeting pack for each meeting indicating meeting details – this went to their home and their house manger got a pack also to help prepare the person to participate

•All communication was given in easy read format

•Consent forms were reissued in easy read formats

•The group had pre meetings with the project manager to ensure informed consent at each stage of the project, each person could withdraw their participation at any time in the project

•Each meeting had a purpose and all participants has some preparation complete coming to each meeting

•A process for content creation was developed to show project progress

•Photography for the project was managed by the project partners and not outsourced

•Our group had final say on content creation and picture selection

•We used a skilled facilitator to support people to participate

•We capped meetings at 2 hours and always finished with lunch

Through a series of meetings the content for the suite of materials was developed and finalised. The materials showcased what had meaning for people with disabilities, who use easy read when preparing to access screening services. Without the co-design process we would have missed much of this key content and we ultimately ended up with a richer and more informed project by using a co-design methodology.

5) Outcome

The easy read BreastCheck project produced:

•Guidance on supporting women with disabilities to use the BreastCheck resources

•Resource 1 Easy to Read Leaflet - About Breast Screening

•Resource 2 Plain English Information Leaflet - About Breast Screening

•Resource 3 Going for a mammogram - Photostory

•Resource 4 Going for a mammogram - Plain English story

•Resource 5 Going for a mammogram – the video

Resource 5 Going for a mammogram – the video (Subtitles)

•Resource 6 I need more tests - what happens now

•Resource 7 I need more tests - what happens now – Plain English version

•Resource 8 Easy to Read Information Leaflet - Checking your Breasts

•Resource 9 Plain English Leaflet - Checking your Breasts

Unit manager BreastCheck "I do recall a sister of a service user phoned to see if BreastCheck had any information that she could use to inform her sister who had an intellectual disability about her upcoming appointment, so that she wouldn't be frightened. She wanted to support her sister's decision and potential attendance at BreastCheck. I informed her that we had recently added easy read materials and videos to our website in different formats and I e-mailed her the link to these materials. I recalled that she replied to say that it was exactly what she needed to help her sister understand the appointment and thanked me for the information.

The easy read BowelScreen project produced:

•Information to Support Participation in BowelScreen

•Guidance on supporting persons with disabilities to use the BowelScreen programme

•Resource 1 Easy to Read Leaflet - About Bowel Screening

•Resource 2 Plain English Leaflet - About Bowel Screening

•Resource 3 Photo Story - Doing the BowelScreen test

•Resource 4 Plain English Story - Doing the BowelScreen test

•Resource 5 Easy to Read Leaflet - I need more tests

•Resource 6 Plain English Leaflet - I need more tests

•Resource 7 Photo Story - Having a Colonoscopy

•Resource 8 Plain English story - Having a Colonoscopy

•Resource 9 - BowelScreen Blank templates

BowelScreen liaison nurse feedback "in our work easy read materials are invaluable, these resources are offered to clients to support decision making, they can also be used by carers to enhance their decision making support around participation in the BowelScreen programme . We use them almost daily and they have enhanced the whole BowelScreen programme for service users leading to a more positive interaction and overall experience with the programme. Carers in particular would appreciate the documents for use in the community/residential setting".

6) Support Material:

BreastCheck easy read material: https://www.breastcheck.ie/content/publications

BowelScreen easy read material: https://www.bowelscreen.ie/bowelscreen-information-resources.132.html

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A randomised study of Video observed therapy versus Directly observed therapy in Tuberculosis care

Topic / Dept: Health Service Improvement

Author: Miss Lorraine Dolan

Co Author :Prof Annemarie Mc Laughlin

Co Author: Ms Eimear Galvin

Abstract

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[3] Respiratory Consultants, National TB Centre, St James Hospital.

Video observed therapy (VOT) is a novel alternative to Directly observed therapy (DOT) to assist compliance with Tuberculosis (TB) treatment. The aim of this study was to compare observed doses of VOT versus DOT, cost and assess patient satisfaction. Primary outcome was the number of patients who had ≥ 80% scheduled observations successfully completed two months following randomization.

We conducted a single centre randomised controlled study. Consecutive patients > 18 years commenced on TB treatment were randomised by a sealed envelope service to either standard DOT or VOT. VOT was carried out using dedicated smartphone app, DOT was carried out by Public health nurses. Patients who did not have access to a smartphone or those with less than two months of treatment remaining were excluded.

34 patients were recruited n=18 (VOT), n=16(DOT). 7 patients transferred from DOT to VOT due to inability to comply with DOT due to work schedule. 22 were male, mean age was 37. 63% had drug resistant TB. 17 (81%) of 21 patients on VOT successfully completed primary outcome, compared with 4 (67%) of 6 patients on DOT. The mean compliance within first two months was 91% on VOT versus 75% on DOT, mean overall compliance was 88% on VOT versus 59% on DOT.

Cost of once daily DOT per patient for 12 month period is €7,324 (includes 30 minute nurse visit) seven days a week. 50 patients can be observed with VOT at a cost of €11,500. Twice daily DOT observation increases to €14,648, whereas VOT cost does not increase.

Patient satisfaction was measured with 4 point Likert scale. VOT empowered participants to continue normal work/life routines and take medications at a time convenient to them. Patient comment “In my opinion app is the best way to observe as well as being a patient I feel it helped me being compliant with medication”.

This study has shown that VOT had higher levels of treatment observation in the first two months of treatment and remained consistently high throughout treatment compared to DOT. VOT is a much more cost effective solution with considerable cost savings for the HSE and can facilitate twice daily dosing at no additional cost. VOT is a more patient centered approach allowing patients to take medication at a time suitable to them as opposed to DOT which is more restrictive.

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Demand profile methodology: generating daily acute hospital baseline demand in the Integrated Service Model

Topic / Dept: Health Intelligence

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Co Author : Marian Keane

Co Author: Mr Ian Darbey

Co Author: Howard Johnson

Co Author: Dr Paul Kavanagh

Abstract

The Integrated Service Model (ISM) is a discrete-event simulation to support decision-making to improve health service planning. In the ISM, a day-by-day count of patients requiring care is queued for admission, representing national daily demand across hospitals. 2019 HIPE discharge data represented 2020/21 and 2021/22 national daily baseline demand. Generally baseline in health demand modelling uses one year of utilisation data. This study aimed to develop a new methodology using utilisation data over a longer period to produce a more comprehensive baseline incorporating post-C19 data.

Time series decomposition was applied to 2005-2022 inpatient admissions. Seasonal variation, long-term trends (pre-C19) and day-to-day variability were examined. Six separate models were fitted - {Elective|Emergency } x {age_15-64|age_65-79|age_80+}. Daily demand per 100k population was derived in each model. Expected demand per capita for 2023 was calibrated to observed annual non-demographic change 2018/19 rolled forward by 2 further annual periods. Population projections were incorporated along with data on Ukraine arrivals.

Elective inpatient admissions per capita declined in all age groups. Emergency demand per capita showed a more moderate decline for 15-64 and 65-79. At 80+, emergency demand did not exhibit a clear long-run trend. Post-C19 acute hospital demand patterns are not yet stable. This methodology was validated with historic data and is a more useful approach than single year methods. It will require review as acute demand patterns evolve. Important non-demographic pressures in acute demand have been delineated. Capacity constraint is leading to crowding out of elective inpatient demand by emergency inpatient demand. However, compression of morbidity and investment in community-based care may be evident in emerging non-demographic trends in demand for emergency inpatient care.

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A comparative analysis of Department of Public Health tuberculosis control activities - 2016 and 2022

Topic / Dept: Health Protection, Health Service Improvement

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Co Author :Director of Public Health, National TB Lead Mary O'Meara

Abstract

Tuberculosis (TB) is a preventable, curable disease. The World Health Organization aims to end the global TB epidemic by 2035. To achieve this, a robust TB control programme is required, including robust TB surveillance, screening, laboratory diagnosis, clinical management and contact tracing. This study sought to explore the resources available to Departments of Public Health (DPHs) to support TB control activities in 2022 and to compare these findings with results from a similar study in 2016.

A survey was issued to the TB leads in ten DPHs across the six Public Health Areas. Data were collected on TB staff allocation, TB control databases, testing and screening, treatment of active TB infection, treatment of latent TB infection and directly observed therapy (DOT). Participants were also asked to describe the strengths, weaknesses, opportunities and threats to TB control. Results were compared with findings from a survey in 2016.

Responses were received from nine DPHs, with differences in resource allocation and clinical practices across regions. Local TB control databases were in use in six regions. The experience and commitment of DPH staff, and relationships with hospitals and community TB teams were recognised as key strengths of TB control. Difficulties included a lack of national strategy and co-ordination for TB control activities, inadequate resources to respond to the needs of increasingly vulnerable and complex cases, and inadequate information systems. Most of these issues remain unchanged or have worsened since the previous survey in 2016, though difficulties with DOT was reported in fewer regions than in 2016.

National TB guidance and strategy needs to be updated to support the increasing complexity of TB control measures. Further resources and improved information technology are required to enable an effective TB control service in DPHs across Ireland.

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Epidemiology of Severe Acute Respiratory Infection (SARI) 2022-2023 season

Topic / Dept: Health Protection

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Co Author :Principal Epidemiologist Lisa Domegan

Co Author: Johanna Mary O'donnell

Abstract

Surveillance of severe acute respiratory infection (SARI) is important for monitoring the circulation of respiratory viruses and to assess the severity of associated illness. SARI surveillance was established in Ireland at one hospital site in 2021. We aimed to review the epidemiology of SARI cases during the 2022/2023 winter season.

Clinical symptoms from cases presenting to the Emergency Department were reviewed to identify those meeting the clinical SARI case definition. Data on underlying medical conditions, COVID-19 vaccination status, outcome and PCR results for SARS-CoV-2, influenza and RSV were analysed. The study population was limited to those aged 15 years and older.

During the 2022/2023 season (early October to 05/03/2023), 408 SARI cases were notified to HPSC, peaking in week 52 2022. The median age of cases was 74 years, IQR64-82 years. Among those with a positive laboratory PCR test (n=175; 42.9%), 38.9% (n=68) tested positive for SARS CoV-2, 37.7% (n=66) for influenza and 23.4% (n=41) for RSV. Among the 89.5% (n=365) with underlying medical conditions, 47.7% (n=174) reported three or more. Among cases with known outcome (n=224; 54.9%), 133 (59.4%) were admitted to ICU and/or required respiratory support, and 10 (4.5%) died in hospital; compared to 63.2% (168/266) and 12.8% (34/266) during 2021/2022 respectively. Among SARS CoV-2 positive cases with known vaccination status, 21 (36.2%) received a second booster vaccine dose more than 180 days prior to the episode of illness.

During the 2022/2023 season, all three viruses co-circulated in Ireland and were detected among SARI cases. COVID-19 vaccination appeared to protect against severe disease (ICU admission) and death, comparing to the 2021/2022 season. Further research on waning immunity by time since vaccination is required. SARI surveillance is currently expanding to include additional hospital sites.

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Celebrating 10 years of Cork as a WHO Healthy City – the role of a city in improving population health

Topic / Dept: Health and Wellbeing

Author: Judy Cronin

Abstract

Cork City is a designated World Health Organisation (WHO) Healthy City since 2012 - having participated in three separate phases of the World Health Organisation – European Healthy Cities Network (WHO-EHCN).

Healthy Cities is based on a recognition that population health is not merely a product of health sector activities but largely determined by policies and actions beyond the health sector. Health can be improved or harmed by social policy, transport policy, education policy and the built environment and has a particular impact on vulnerable groups in society. European health policy 'Health2020'1, puts increased emphasis on and brings new evidence on the right to health, equity, wellbeing and health in all policies through whole-of-government and whole of-society approaches.

A Healthy City balances policy and action and requires explicit political commitment at local authority level and city administration as well as an emphasis on intersectoral collaboration and action to address the determinants of health with a commitment to collaborative working across public, private, voluntary and community settings.

This paper will outline the whole-of-society Healthy Ireland funded approach taken by Cork Healthy Cities in leading out on a body of interagency work that has sought to support health improvement and a greater awareness of the need to reduce health inequalities across the City. The development of three City Profiles, a 10-year Action Plan (2020-2030)2 and a body of inter-agency partnerships working developed over the last decade, facilitated by a Cork Healthy Cities Co-Ordinator and steering committee, has now established Cork Healthy Cities as a key strategic vision for the City within the Cork City Development Plan 2022-2028.

References:

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Cork as a Trauma Sensitive City – Becoming Trauma Aware – the development of an inter-agency HSELanD eLearning training awareness module

Topic / Dept: Health and Wellbeing

Author: Judy Cronin

Abstract

Cork City Council has established a Trauma Inter-Agency Steering Group to progress Cork as a Trauma Informed City. Psychological trauma and Adverse Childhood Experiences (ACEs) are a harmful and costly Public Health problem.1 Addressing trauma requires a multi-agency public health approach that includes public education and awareness.3

Trauma informed front-line services are essential particularly so for the new shape of society and life post-COVID, with the effects on Mental Health Services in the community reinforcing the impact of the pandemic on the mental health of all across our society and already vulnerable communities with those marginalized in society suffering the most during lockdown. State agencies reported increased levels of stress, anxiety, suicide, addiction, gambling, violence, food poverty, depression and loneliness amongst clients across their services with children in particularly affected by their parent's problematic drinking, drug-use, absences from school and support services restrictions during the lockdown. 2

Now more than ever, we need to ensure that all staff working across our health and social services, community and voluntary agencies are trauma aware at a minimum and that our specialist services and organisations are trauma informed and trauma sensitive.

A key first action identified by the Cork Trauma Sensitive City was the development of a generic eLearning awareness raising module targeted at all our city-wide collective agencies to include the health sector, local authority, community and voluntary sector organisations, universities, policing, education and others to ensure staff members of these organisations have an understanding of how and why trauma is everyone's business. This paper describes the public health approach needed in facilitating a citywide trauma lens.

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2.Houses of the Oireachtas, The Sub-Committee on Mental Health Interim Report on COVID-19 and its effect on Mental Health Services in the Community, July 2021 https://data.oireachtas.ie/ie/oireachtas/committee/dail/33/joint_sub_committee_on_mental_health/reports/2021/2021-07-28_interim-report-on-covid-19-and-its-effect-on-mental-health-services-in-the-community_en.pdf

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A new partnership between the HSE Global Health Programme and the Tanzanian health sector for sustainable improvements in quality of primary healthcare in Tanzania

Topic / Dept: Health Service Improvement

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Abstract

A HSE Ireland team was invited to Tanzania in 2022 to explore potential opportunities to support primary healthcare (PHC) through engagement with various levels of the Tanzanian health sector. From the first visit in November, quality of PHC services was highlighted by Ministry of Health (MoH) and local healthcare staff as a priority area for HSE technical support. A comprehensive roadmap towards improving quality was shared with the HSE team by the Tanzanian President's Office – Regional Administration and Local Governments (PO-RALG).

In April 2023, the team returned to Tanzania to conduct a situation analysis to deepen understanding of PHC, to identify specific areas for HSE support for quality improvement (QI), and to develop long-term plans for partnership between the two countries.

Over one week, the HSE delegation visited the Irish Embassy, MoH, PO-RALG and multiple health facilities to learn more about quality of PHC in Tanzania. The World Health Organization Handbook for National Quality Policy and Strategy guided development of a situation analysis framework. PHC was analysed according to the WHO health systems building blocks: leadership & governance, service delivery, health workforce, medical products & health technology, health information & research and health financing. Health system resilience was also analysed using tools developed during the COVID-19 pandemic. Quality of care was assessed in relation to efficiency, safety, effectiveness, integration, equity, people-centredness and timeliness.

The final day of the programme involved a feedback and planning meeting between stakeholders, where the HSE team presented observations on the QI roadmap, and findings from meetings and visits to facilities. The meeting concluded with agreement on an Action Plan for HSE technical collaboration to achieve sustainable improvements quality of PHC.

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Impact of the COVID-19 Pandemic on STI Notifications in Ireland

Topic / Dept: Health Protection

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Co Author: Professor Deirdre Hollingsworth

Co Author: Dr Patricia Garvey

Abstract

COVID-19 and the resulting public health responses have had an indelible impact on healthcare in general, with substantial focus recently on their impact on the transmission and reporting of other infectious diseases. Reporting sexually transmitted infections (STIs) were affected by COVID-19 related changes to behaviours and healthcare services. Sexual health clinic diagnosis and treatment reduce transmission while contributing to reporting. We aimed to describe the impact of the pandemic on notification of three of the most common notifiable STIs in Ireland: chlamydia, gonorrhoea, and early infectious syphilis (EIS).

Using monthly cases counts (January 2017 - September 2022) extracted from the national Computerised Infectious Disease Reporting (CIDR) system, we undertook interrupted time series analysis using negative binomial regression. Models accounted for trend and change in trend at three time points: March 2020, June 2020, and June 2021.

The pandemic and subsequent public health response led to a sudden and sustained impact on notifications of all three infections studied. Reported infections dropped significantly in March 2020, with a decrease of 60% (CI 56% - 63%) for chlamydia, 60% (CI 55% - 65%) for gonorrhoea, and 65% (CI 60% - 69%) for EIS compared to the pre-pandemic period. This was followed by a smaller recovery of 20% (CI 15% - 25%), 20% (CI 12% - 29%), and 44% (CI 30% - 59%) respectively in June 2020 compared to the pre-pandemic period. The subsequent trajectory of notifications varied across pathogens, with chlamydia and gonorrhoea returning to levels predicted in the absence of the pandemic by March 2022, while EIS notifications remained substantially below the predicted trajectory.

The unprecedented COVID-19 pandemic led to altered behaviours and the interruption of Irish sexual health services, reducing notifications in the short term, with potentially long-term implications. This analysis helps planning for future public health emergencies. With information on the extent of disruption and the size of the effect, essential sexual health services need to be protected wherever possible.

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Health care utilization and costs attributable to cardiovascular disease in Ireland: results from the first wave of The Irish Longitudinal Study on Ageing

Topic / Dept: Health Service Improvement, Health and Wellbeing

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Abstract

Cardiovascular diseases (CVD) are the leading cause of mortality and disability globally. While the burden of CVD continues to increase as a consequence of rapidly ageing populations and improved survival of people affected by these conditions resulting in higher demand for health services and a further increase in health expenditure, the health services utilisation and costs associated with CVD in Ireland have not been adequately quantified. We aimed to provide robust estimates of health service use attributable to CVD and the corresponding costs in ROI.

Secondary analysis of the first wave of The Irish Longitudinal Study on Ageing (TILDA), a nationally representative prospective study of community-dwelling adults in the Republic of Ireland (ROI) aged 50+. The study involved 8163 participants who were considered as having CVD if they self-reported a doctor's diagnosis of heart attack (myocardial infarction), angina, heart failure (congestive cardiac failure), stroke (cerebrovascular accident), atrial fibrillation (abnormal heart rhythm), ministroke (transient ischaemic attack) or any other heart trouble. Participants self-reported the utilisation of health services over the 12 months preceding the interview. Negative binomial regression was used to model the effect of CVD on health service utilisation. Average marginal effects (AME) and their corresponding 95% confidence intervals (CI) were estimated to represent the additional number of general practitioner (GP) and outpatient department (OPD) visits, accident and emergency department (A&E) attendances and hospitalisations and to calculate the associated costs attributable to CVD. The unit costs of each studied health service were multiplied by its corresponding AME and the total number of people aged 50+ with CVD in ROI (i.e. the prevalence of CVD * the total Irish population aged 50+ (2016 Census)) to obtain the total additional costs attributable to CVD at the population level.

The prevalence of CVD in the sample was 18.3% (95% CI: 17.4, 19.2), and 5.7% (95% CI: 5.1, 6.2) had more than one cardiovascular condition. Participants with CVD reported significantly higher utilisation of health services over the 12 months preceding the interview across all studied outcomes. In the model adjusted for participant gender and age, location, education level, marital status, healthcare cover, diabetes and the interaction terms of age and gender with CVD, having CVD was associated with additional 1.43 (95% CI: 1.22 – 1.63) GP and 0.78 (0.65, 0.92) OPD visits over the past year. The total costs of the additional health service use attributable to CVD were estimated to €327.7 million (95% CI: €259.1, €396.5), 80% of which was due to hospitalisations. Total costs in the male population were higher than in the female population.

There are substantial additional use of health services and costs attributable to the management of CVD in ROI, with hospital admissions being the biggest contributor to the costs. While a shift towards the management of uncomplicated CVD cases in primary care is currently being implemented in ROI, continued efforts aimed at CVD primary prevention are required.

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Reported National Expenditure on Tuberculosis and Tuberculosis Incidence in Low- and Middle-Income Countries

Topic / Dept: Health Intelligence

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Co Author: Associate Professor, School of Computer Science Fintan Costello

Co Author: Lecturer, School of Public Health, Physiotherapy and Sports Science Darin Elabbasy

Abstract

Introduction

Tuberculosis (TB) is a leading cause of global morbidity and mortality. Ninety-eight percent of affected people live in low- and middle-income countries (LMICs). Generally, as health expenditure increases, population health improves, particularly in LMICs. However, less is known specifically about the relationship between expenditure on TB and TB incidence. The aims of this study were to describe this relationship in LMICs and to determine if it was mediated by programmatic effectiveness.

Methods

A retrospective analysis of expenditure per person with TB (inflation-adjusted purchasing power parity-adjusted dollars ($)) and TB incidence (with a two- and five-year lead) in 127 LMICs between 2000 and 2019 was conducted. LMICs were grouped according to their World Health Organization (WHO) Region, and WHO Regions were grouped into high-, intermediate-, and low-expenditure groups based on their expenditure per person with TB. Hierarchical mixed-effects regression, with levels at expenditure group and country, adjusting for socioeconomic, health-system and disease-level factors was performed in the entire sample and, for comparison, a baseline group (where changes in expenditure were relatively small). Treatment success and coverage rates, as measures of programmatic effectiveness, were tested for mediation.

Results

On multivariable regression, the natural log of expenditure per person with TB was associated with the natural log of TB incidence with a two-year lead (beta -0.156, 95% CI -0.175- -0.137, P<.001) and with a five-year lead (beta -.126, 95% CI -.148- -.104, P<.001). With a 1% higher expenditure on TB in LMICs in 2014 ($254.86m), there would have been 15,816 (95% CI 13,890-17,743) and 12,396 (95% CI 10,232-14,561) fewer new TB cases in 2016 and 2019, respectively. Neither treatment success or coverage mediated the associations. No such inverse associations were found in the baseline group.

Conclusion

Expenditure on TB and TB incidence in LMICs between 2000 and 2019 were inversely related. The findings support the current global agenda to increase expenditure on TB.

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Health Support System - registry of registries

Topic / Dept: Health Intelligence

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Abstract

Historically, health registries are narrowly focused with limited visibility of the patient experience, and tend to be manually dependent. A major challenge is leveraging available data to its full potential while protecting privacy in the absence of a national infrastructure within which data is collated, re-associated and de-duplicated across multiple existing data sets, subsequently moderated and safely and appropriately shared with stakeholders for the benefit of defined patient groups.

The Health Support System (HSS) addresses these challenges with an ambitious solution identified via an EY Charter. The HSS will be an operational and strategic asset for the Health Service Executive (HSE). Its legal foundation is considered in this context. The Health Act 2004, the Data Protection Act 2018, the Health Identifiers Act 2014 and the Health Research Regulations 2018 (and amendments) provide the core legal underpinnings for the HSS, with data sharing/transfer preceded by Data Protection Impact Assessment (DPIA) and enabled via a data sharing agreement (DSA) or data transfer record (DTR). Scientific study may require invocation of the Health Research Regulations (2018). The upcoming Health Information Bill may change the legal landscape. The HSS will leverage the existing HSE Integrated Information System (IIS) platform. Data re-association and de-duplication are key enablers, ideally through the Individual Health Identifier (IHI). The HSS governance will consist of strategic, tactical, and operational tiers aligned with the eHealth Knowledge & Information Strategy. Stakeholder engagement with the IIS, Data Access Information Management (DAIM), Data Protection Office, Strategy & Research, Research & Evidence, clinical programmes, patient representation and others will be critical.

No legal, technical or governance barriers to the creation of the HSS were identified. The HSS will support direct/indirect patient care, service delivery metrics, service planning and generate new knowledge. The HSS provides the framework whereby patient sub-groups with shared condition/s are identified and data re-associated across data sets – effectively creating a “registry of registries”.

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Stengthening Polio Surveillance in Ireland, 2023

Topic / Dept: Health Protection

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Abstract

Ireland shares a responsibility with other WHO member states to maintain its polio-free status through a robust disease surveillance system. Despite high poliovirus (PV) vaccine coverage, some countries have recently detected vaccine derived poliovirus (VDPV) during environmental surveillance, and cases of paralytic poliomyelitis have been reported in unvaccinated individuals, highlighting the importance of continued high immunisation coverage. Since 2001, Ireland has used inactivated polio vaccine, which does not confer mucosal gut immunity to prevent PV excretion and transmission. Areas of suboptimal vaccination coverage in Ireland could facilitate rapid spread of VDPV with a risk of paralytic poliomyelitis.

Surveillance enhances earlier detection of imported or circulating PV. In 2022/23 a National Health Protection/HPSC Polio working group raised awareness of reporting requirements of all paediatric acute flaccid paralysis (AFP) and suspect adult polio cases. In parallel, environmental wastewater surveillance for VDPV2 was introduced, and the HSE National Polio Plan and HPSC website materials updated. New clinician awareness material with an e-reporting system and hospital management guidelines were produced, consultation undertaken with adult neurology services, and an Epi-Insight article published. Improved clinician knowledge of poliomyelitis, the requirement to immediately notify AFP to Public Health and collect appropriate samples to confirm infection should facilitate rapid detection and containment.

Those communities with inadequate vaccine uptake are vulnerable to PV. Early detection of clinical cases and appropriate laboratory confirmation, in parallel with improved immunisation rates, can

offer better protection. Future developments, including broader rollout of novel oral PV2 vaccination with lower risk of virulent reversion might aid polio eradication.

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An Audit of the MPox PrEP Vaccination Programme for Phase 1A patients at CUH/SIVUH GUM/STI clinic

Topic / Dept: Health Protection

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Abstract

Introduction

The WHO declared the multi-country outbreak of MPox (human monkeypox infection) a Public Health Emergency of International Concern (PHEIC) on July 23rd, 2022. To date there have been 228 confirmed cases of mpox in Ireland, with the vast majority of cases affecting men who self-identify as gay, bisexual or other men who have sex with men (gbMSM). In July 2022, NIAC recommended that PrEP vaccination be offered to gbMSM at high risk of infection.

Methods

Mpox PrEP vaccination Phase 1A commenced through the GUM/STI clinic in October 2022 for gbMSM at high risk of infection, and a new diagnosis of early infectious syphilis (EIS) in the last year. Relevant patients were identified using HPSC CIDR data and local clinic records. A total of 49 patient records were reviewed for vaccination.

Suitable patients were vaccinated intradermally or subcutaneously with two doses of modified vaccina Ankara Bavarian Nordic live virus (MVA-BN) given at least 28 days apart.

Results

Of the 49 patient records reviewed for vaccination, two were excluded; 1 with previous documented mpox infection and 1 with late latent syphilis infection. 47 patients were contacted for vaccination. 22 (46.8%) patients completed the full vaccination course. 12 (25.5%) patients declined the vaccine, 10 (21.3%) were uncontactable, 2 (4.3%) received it elsewhere and 1 patient was lost to follow-up for 2nd dose.

Discussion

This audit highlights barriers to vaccination among at-risk patients attending our clinic, with less than 50% eligible completing the mpox PrEP vaccination schedule. Strategies to reduce vaccine hesitancy and improve patient contactability should be considered prior to future vaccination programmes in our clinic.

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Candlesticks and kerbs: an analysis of cyclist safety by infrastructure type in Dublin City

Topic / Dept: Health Intelligence, Health and Wellbeing

Author: Dr Robert Conway

Abstract

Achieving a higher proportion of people cycling to work and education is a priority area within Healthy Ireland and the National Physical Activity Plan. A rising number of cyclists in Dublin City is associated with an increase in road traffic collisions involving cyclists. Fear of being in a collision acts as a barrier to people engaging in cycling for transport. Most (91%) cyclist injuries on Irish public roads involve a collision with a motor vehicle. Road infrastructure which separates motor vehicles and cyclists where there are high traffic volumes has been implemented to varying degrees in the city. The aim of this study was to compare the safety of different cycling infrastructure types in use in Dublin City.

Three distinct types of cycling infrastructure in Dublin City were compared in a retrospective analysis. Safety was measured by count of road traffic collisions involving a cyclist. The study population included all cyclists who were recorded in Garda reports as having a collision during a year long period within the Dublin City canal cordon area. Data sources were Road Safety Authority maps of road traffic collisions and contemporary satellite and on street imagery from Google Maps and Google Earth. Comparison was made between the rate of cyclist collisions per kilometre of each of three types of cycling infrastructure in the study area. Incidence rate ratios (IRR) with 95% confidence intervals (CI) and associated p-values were calculated.

The rate of cyclist collisions on roadways with the type of infrastructure that creates most physical separation between motor vehicles and cyclists (kerb or physical barrier) is significantly lower than on roadways treated with painted cycle lanes (IRR 0.20, 95%CI [0.02 to 0.76], $p<0.01$).

On roads with high volumes of traffic in Dublin City, infrastructure which increases the physical separation of motor vehicles from cyclists is significantly associated with reduced rates of collision. The results of this study suggest that the impact of road infrastructure on cyclist safety is substantial. A renewed focus on improving cycling infrastructure on roadways in Dublin is recommended to improve cyclist safety and increase cycling for transport.

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Ver 1 National prevalence estimates of cardiometabolic diseases: findings from the Healthy Ireland Survey

Topic / Dept: Health Service Improvement, Health and Wellbeing

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Abstract

Cardiometabolic diseases, i.e. cardiovascular disease and/or diabetes place a high burden on health services worldwide. However, nationally representative data on the descriptive epidemiology of such conditions in Ireland is lacking. The aim of this study was to estimate the prevalence of cardiometabolic conditions in Ireland.

The 5th wave of Healthy Ireland, an interview-administered and nationally representative survey conducted between 2018 and 2019, was analysed. Secondary data analysis of self-reported data involved 7,223 participants aged ≥18 years, who were asked whether they have a medical diagnosis of the following cardiometabolic diseases: stroke, transient ischemic attack (TIA), atrial fibrillation (AFib), coronary heart disease (CHD), heart failure and diabetes. The overall prevalence by age and sex was estimated.

The prevalence of almost all cardiometabolic diseases was higher in males (n=3410) than in females (n=3813), namely for: stroke (1% vs. 0.8%), TIA (1.4% vs. 0.8%), AFib (2.4% vs. 1.7%), CHD (6.7% vs. 3.4%), and diabetes (7.3% vs. 4.6%). The prevalence of heart failure was the same (0.4%) in both sexes. The prevalence of cardiometabolic conditions increased with age.

In line with international evidence, a higher prevalence of cardiometabolic diseases is seen in males across all ages, and this disparity increases with age. Further investigation of sex differences in cardiometabolic conditions is recommended.

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Sex differences in cardiometabolic conditions: importance of a life course approach to prevention

Topic / Dept: Health Protection, Health Service Improvement

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Abstract

Cardiometabolic diseases, i.e. cardiovascular disease or diabetes, are the main cause of death worldwide. The aim of this study was to discuss sex differences in cardiometabolic conditions across the life course.

According to the HRB EPICC study (Evidence for Policies to Prevent Chronic Conditions), which utilized secondary data analysis of the 5th wave of the Healthy Ireland survey, males have a higher prevalence of most cardiovascular diseases (stroke, transient ischemic attack, atrial fibrillation, coronary heart disease and diabetes, excluding heart failure), with sex differences observed, to the disadvantage of males, increasing with age.

Sex differences in risk factors that predict and cause these conditions, begin early in the life course during childhood and adolescence before the onset of clinical disease. The HRB SCaRLeT study (Sex differences in Cardiovascular Risk across Life course Transitions), using data from the Avon Longitudinal Study of Parents and Children (ALSPAC) in the United Kingdom, has shown that substantial changes in molecular cardiometabolic traits that cause and predict cardiometabolic disease are observed from early childhood to early adulthood and these changes are mostly to the detriment of males. The study found that increases in low-density lipoprotein (LDL: 'bad cholesterol') and decreases in high-density lipoprotein (HDL: 'good cholesterol') traits between 7- and 25-year-olds were greater in males compared with females, which led to higher 'bad' and lower 'good' cholesterol levels in 25-year-old males. In a similar study it was shown that a large proportion of the higher systolic blood pressure (SBP) observed in males compared with females in early adulthood was accrued before puberty.

In conclusion, a higher prevalence of cardiometabolic conditions in males was found in Ireland. Risk factors that cause and predict cardiometabolic conditions start in childhood and adolescence, and

sex differences in these risk factors also emerge during this time. Renewed efforts targeting childhood and adolescence for the prevention of cardiometabolic disease and sex differences in cardiometabolic risk across the life course are required.

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Compliance with HIQA regulations as an independent factor predicting nursing home pandemic performance

Topic / Dept: Health Service Improvement

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Abstract

The COVID-19 pandemic has had a devastating impact globally, particularly on long-term care facilities (LTCF), who house elderly and vulnerable populations. In Ireland, LTCF residents were the worst affected in the first wave, accounting for 56% of the country's COVID-19 deaths despite only representing 5% of the total over-65 population. Continued investigation is crucial, and LTCFs' internal regulatory standards have been highlighted as a potential factor leading to poor performance.

In Ireland, the organisation that oversees LTCF compliance with specific regulations is the Health Information and Quality Authority (HIQA). HIQA investigates up to 32 regulatory standards for LTCF best practice around the country including staffing structures, administrative concerns, and infection control.

An ecological study was designed, comprised of 1130 publicly available online HIQA inspection reports for 580 LTCFs; combined with a separate data source on crude COVID-19 deaths per LTCF up to May 28th, 2020. HIQA regulatory standards were assessed and a bespoke novel individual scoring system for all LTCFs was calculated for 1. Compliance, 2. Non-Compliance, 3. Capacity and Capability and 4. Quality and Safety.

Average overall regulatory compliance was calculated to be statistically significant but have a weak correlation (spearman's rho = 0.098; p-value = 0.019). A limitation of this study is that HIQA changed their inspection criteria for 15 of 32 regulations, including infection control - which makes direct comparison of pre and post pandemic timeframes impossible. Further investigation of regulatory standards may provide new insights into why the LTCF sector was so badly affected during COVID-19.

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Response of Repeat positive SARS-CoV-2 infection cases reported in Ireland from March 2021 – August 2021: an observational retrospective analysis

Topic / Dept: Health Service Improvement, Health and Wellbeing

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Co Author: ASPHER Fellow Karl Conyard

Co Author: Mary Codd

Co Author: Patrick Wall

Co Author: Professor Eamonn Gormley

Abstract

Background and Objective

To gain a better understanding of repeat positive (RP) and reinfection cases in Ireland, we investigated the frequency of RP cases appearing on COVID-19 Care Tracker (CCT) of the national Contact Management Programme (CMP) from March 2021 to August 2021. We used an algorithm developed at UCD to evaluate the clinical significance of these new infections and to assess the potential infectiousness of cases.

Methods

Data collection was conducted by the specialised UCD contact tracing team, during the period of study. We recorded 637 PCR positive cases in the period above who had previous PCR-confirmed Covid-19 infection. Clinical experts developed an algorithm to rapidly assess the significance of these SARS-Cov-2 repeat positive cases. We classified the outcome of these repeat-positive test cases based on the evidence that identified either new- or previous – infections, or a continuing episode of infection.

Results

We identified 637 cases (median age 36 years) with positive PCR test results reported between 15 to 365 days after an initial positive test, with a median interval of 101 days between positive test results. Among these, 65% self-reported as symptomatic and 25% asymptomatic. Two deaths were reported following the repeat positive tests. Using the UCD algorithm, the decision time to determine a case as potentially infectious or non-infectious was < 48 hours. After careful clinical evaluation and examination of PCR cycle time threshold values, 53% (N=336) cases were classified as re-infections. Among these, 259 (41%) cases self-reported as symptomatic and 52 (8%) were asymptomatic.

Conclusion

In the absence of complete clinical information for repeat-test positive cases, the algorithm developed was an important tool to rapidly identify and assess if SARS-CoV-2 re-infected cases were potentially infectious.

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Epidemiological Transmission patterns and use of Whole genome sequencing in investigating campus based COVID-19 outbreaks during the second and third waves of SARS-CoV-2 infection

Topic / Dept: Health Service Improvement, Health and Wellbeing

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Abstract

Background

This study describes the investigation and management of multiple outbreaks of SARS-Cov2 during the second and third wave of the pandemic at University College Dublin, Ireland from September 2020 to September 2021.

Methods

Relevant data were gathered as part of the public health outbreak investigations led by the UCD Internal Covid Control Team (ICCT) in collaboration with the public health teams of the Health Service Executive (HSE). Results are presented for PCR (polymerase chain reaction) confirmed cases and their close contacts, reported to the UCD ICCT between September 2020 to September 2021.

Results

There were 189 cases notified to ICCT. Among these, 77 cases were in residence on-campus cases. Ten epidemiologically linked clusters identified, where the number of cases linked with each cluster varied between 2 to 12. Additional cases during this period had no obvious epidemiological link to the identified clusters. Of 843 close contacts with PCR test results, 26% (n=217) tested positive. 77% (n=145) self-reported with mild to moderately symptoms while 23% (n=44) self-reported as asymptomatic.

Retrospective Whole Genome Sequence (WGS) analysis was undertaken after the outbreaks had subsided. The test positive cases were grouped into 6 clusters and it was shown that many of the apparent sporadic cases were included in these clusters.

Conclusions

The proportion of close contacts testing positive varied significantly throughout the pandemic, with testing policy and type of exposure having the greatest impact. Whole genome sequencing can give a better understanding of webs of transmission to complement epidemiological investigations. It is now possible to undertake sequencing in real time where it can make a contribution to outbreak control and resolution. Public Health professionals should become familiar with WGS and bioinformatics as useful tools in their armoury for the control of all communicable diseases not only SARS-CoV-2.

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The role of genetic sequencing in the identification of clusters of COVID-19 and its public health implications

Topic / Dept: Health Protection

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Abstract

COVID-19 was the aetiology of a cluster of pneumonia cases in Wuhan province, China in late 2019, which turned in to a global pandemic shortly (Rockett, R. J. et al. 2020). Genomic sequencing has played a considerable role in management and surveillance of the pandemic caused by COVID-19. Epidemiological, genomic, and phylodynamic data could be applied for the identification of clusters. Genetic sequencing has identified the association of clusters with distinctive gatherings including, social gatherings, healthcare, and cruise ships. Genomic analysis has been effective in the detection of putative chains of transmission (Seemann, et al. 2020).

This study would be a retrospective observational study to depict how network analysis for COVID-19 could represent the association of genomics and epidemiological clusters. Another aim would be to find out how birth-death model could be predictive of the reproduction rate of COVID-19 (Re) (Seemann, et al. 2020).

All COVID-19 samples will be collected from the national viral laboratory repository available up to date. Genomic sequencing will be performed in the NVRL (Rockett, R. J. et al. 2020). Phylogenetic trees will be constructed accordingly. Epidemiological information will be used for further analogy of genomic clusters (Rockett, R. J. et al. 2020). The birth-death modelling would be applied to predict Re (Seemann, et al. 2020). Statistical analysis will be performed with the use of SPSS. Ethical approval will be granted from UCD research ethics committee.

References

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Characteristics and patterns of healthcare utilisation of Beneficiaries of Temporary Protection (BOTPs) arriving at different times in Mid-West Ireland following the outbreak of Russo-Ukrainian conflict: a retrospective cohort study.

Topic / Dept: Health Intelligence, Health Service Improvement

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Abstract

Characteristics and patterns of healthcare utilisation of Beneficiaries of Temporary Protection (BOTPs) arriving at different times in Mid-West Ireland following the outbreak of Russo-Ukrainian conflict: a retrospective cohort study.

Since the outbreak of war in Ukraine, almost 78,000 migrants have come to Ireland seeking protection. As one of a number of emergency work streams, Health Needs Assessments (HNA) were carried out nationally to understand their immediate health concerns, to capture demographics, and to identify additional service requirements for this group.

HNA forms were completed by BOTPs in congregated settings and collected by the regional Social Inclusion Team. Date of entry to Ireland was captured on 1820 of the HNA forms returned to Department of Public Health Mid-West Area E. Retrospective analysis was carried out on these HNAs to determine any changes in the demographics and health service utilisation patterns over the first year of conflict (2022) between the individuals who arrived in the first six months (24/02/22 – 20/09/22), Cohort 1 (n=1130) and the second six months (21/09/22 – 03/03/23), Cohort 2 (n=690).

We found that the proportion of male adults increased from 32% in Cohort 1 to 36% in Cohort 2 and the proportion of older adults (>65 years) increased by 50% in Cohort 2. The number of respondents that reported being pregnant increased from 0.8% of females (aged >14) in Cohort 1 (n=3) to 2.9% in

Cohort 2 (n=9). Cohort 2 reported lower uptake of COVID-19 vaccines, with 30% of the group self-reporting as doubly vaccinated, compared with 44% of Cohort 1. There were no differences in child immunisation rates with 77% of Cohort 2 (aged <18) reported as vaccinated as per the Ukrainian schedule versus 76% of Cohort 1. Chronic disease status in both cohorts was consistent, with some exceptions.

Differences in age and sex distributions between Cohort 1 and Cohort 2 will impact on the utilisation of health services locally. Higher rates of pregnancy may impact on primary care and maternity services. Lower rates of COVID-19 vaccination in Cohort 2 may lead to increased transmission in crowded settings. Analysing and predicting these patterns will help to address the health needs of BOTPs and to reorient health services to ensure this cohort can continue to shelter successfully in the Mid-West.

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Effectiveness of a meditation technique Sudarshan Kriya Yoga (SKY) on Depression and Anxiety: - A Systematic Review and Meta-Analysis

Topic / Dept: Health Service Improvement, Health and Wellbeing

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Abstract

Background

Sudarshan Kriya yoga (SKY) is one of the proposed breathing techniques, which has proven to be an effective intervention for depression and anxiety in small studies. This study set out to retrieve, appraise and summarize the existing literature to assess the effectiveness of SKY to improve health outcomes in patients with mild to moderate anxiety and depression.

Methods

A systematic review of the literature was conducted to identify randomized control studies assessing SKY versus pharmacological intervention or placebo in patients with either depression and/or anxiety published from 1998 to June 2020. The studies were identified through database searches. Assessment of the quality of evidence included risk of bias, heterogeneity, directness of the evidence, risk of publication bias and precision of effect estimates.

Results

The pooled Standardized Mean Difference (SMD) for the effect of SKY on depression was 0.02[-0.20, 0.24] in 6 studies with 388 participants. The pooled SMD for the effect of SKY on anxiety was -0.05 [-0.63, 0.52] based on five studies with 428 participants. The robustness of the results was assisted by a sensitivity analysis that revealed the effect of each study predominantly affected the overall SMD in each clinical outcome.

There was also high heterogeneity observed for depression (I^2=93%; $p < 0.001$) and for anxiety (I^2=97%; $p < 0.001$).

Conclusion

SKY in itself is diverse in nature and when it comes to its overall effectiveness it may be inferred that teaching has shown immense potential in treating depression & anxiety. Many small studies claimed the effects of SKY on a different range of outcomes. It has also shown to be effective among different segments of population with varying physical capabilities. However, future studies are needed to evaluate the short- and long-term impact of SKY on larger samples.

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Healthcare Assistant and Carers in Ireland: Battling for resources during SARS CoV-2, Wave 1: A Rapid-Response Survey

Topic / Dept: Health Protection, Health Service Improvement

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Abstract

The first wave of SARS-CoV-2 enveloped the world with uncertainty and fear. At-risk-populations including the elderly, those living with disabilities and those who were immuno-compromised relied heavily on frontline healthcare staff for much of their care. In Ireland, little is known of key workers at the helm of this effort, notably Healthcare Assistants and qualified carers (HCAs). This study highlights how HCAs managed in the most difficult period of the SARs-CoV-2 pandemic and the already delicate systems in which they function.

A mixed methods rapid-response survey was carried out by the HCA Research Group at University College Dublin in conjunction with HCA and Carers Ireland, a national social association for HCA and qualified carers which provided education and assistance for research activities for policy change. The rapid-response survey was made available online for a 24-hour period in April 2020. The information was gained in a confidential and anonymous manner.

Of 456 responses received within 24-hours, 56% worked in the private sector. Homecare was the most common healthcare environment (44%) followed by nursing homes (29%). At the time of the survey 31% had not received any training in infection prevention and control (IPC), 29% worked in different locations weekly; 38% did not have access to an adequate supply of personal professional equipment (PPE); 55% did not have appropriate PPE for their duties; 29% did not feel supported at work.

Fear of the unknown was a common concern early in the pandemic. SARs-CoV-2 was an emerging infection about which little was known and early information was conflicting. Lack of prior IPC training and inadequate supplies of appropriate PPE in residential care settings reflected failure to direct resources to these important preventative measures. HCAs and carers are a vital source of this important information.

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Communication, Advocacy, Public Health Literacy and Infodemiology in Public Health Curriculum: An Evolving European Perspective

Topic / Dept: Health Protection, Health Intelligence, Health Service Improvement, Health and Wellbeing

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Abstract

The COVID-19 pandemic emphasised the acute need for public health professionals to be skilled in communication and advocacy, to understand public health literacy challenges, and to understand the dynamics of infodemiology as the distribution of information in electronic media.

In updating ASPHER core competencies for Public Health professionals (5th Edition, 2018) a scoping exercise of subject areas delivered in academic public health programmes was conducted through a survey of member Schools and Institutes of Public Health in Europe. Respondents were invited to share indicative content of their curricula in areas of expertise.

A combined total of 28/54 (52%) member schools and institutes indicated expertise in aspects of communication, advocacy, public health literacy and/or infodemiology. Specifically, 19/54 (35%) indicated content in communication and advocacy; 16/54 (30%) in public health literacy, with just 17% (9/54) addressing infodemiology. Core curricular concept maps have been developed to profile specific themes and topics within the four areas outlined.

Recognising that not all programmes may be in a position to offer these important speciality areas, consideration should be given to collating existing training materials and tools, and sharing information and expertise through online platforms so that these subjects can be included in public health curricula. Throughout the COVID-19 pandemic, the widespread distribution of public health information and advice on social media platforms demonstrated both the benefits and threats of this modality of communication. Incorporating the skills of communication and advocacy with recognition of audience health literacy, means that public health professionals need to become conversant and comfortable with current and future methods of dissemination of public health messages and their content.

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The development of a mpox contact database – key learnings

Topic / Dept: Health Protection

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Abstract

On July 23rd 2022, the WHO declared the multi-country mpox outbreak a PHEIC. The first case in Ireland occurred in May 2022.

Public Health MDTs interviewed all mpox cases to identify and risk assess close contacts. Contacts who were eligible for post-exposure prophylaxis with Imvanex vaccination were referred to the PEP vaccination service. Electronic capture of contact tracing activity was required across Public Health Areas in order to gauge effectiveness and efficiency and to keep the national incident management team informed. In the absence of a case incident management system an Excel-based tool was developed, incorporating a contact database and vaccine referral form generator. This was tested and modified during July and used prospectively thereafter. Retrospective data entry was completed. Completed vaccination data were returned to Areas by the community vaccination teams and manually entered into the database. Anonymised data were extracted to a separate excel sheet via a Macro assigned click button and sent weekly to HPSC. These excel sheets were merged and analysed using R and a standardised report was generated.

As of Feb 21st 2023, there were 228 cases and 657 contacts with no cases in isolation. The median no. of contacts per case was 3 (range 1-14). 71.7% of contacts were identifiable and 93.2% of identified contacts were consistently reached. The peak time for contact tracing activity was mid-August 2022. 77% of contacts, where the address was known, resided in Co. Dublin. 10 contacts became cases due to their index exposure; all were sexual contacts. 3 of the 10 had been referred for PEP vaccination with no evidence of vaccination completion. Household contacts 39/256 (15%) were more likely to decline vaccination than sexual contacts 3/79 (3.8%). 259/657 (30%) were sexual contacts. 169(65.3%) of these were not identified. Of those identified (n=90), 40 (44%) were referred for vaccine i.e. 15% of sexual contacts, with evidence of completion in 27 (10%).

Contact tracing effort may be disproportionate to need and risk. Real time data are essential for an agile, effective response. In future similar outbreaks, different ways of identifying and reaching those at risk need to be considered.

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'THIS IS PUBLIC HEALTH (TIPH)': Application of the ECDC Self-Assessment Tool for Applied Infectious Disease Epidemiology in Master-level Public Health programmes in Ireland

Topic / Dept: Health Protection

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Abstract

The 'THIS IS PUBLIC HEALTH' campaign of the Association of Schools and Programs of Public Health (ASPPH) raises awareness about education and career options for students through partnerships, funded projects, student ambassadors and other activities. This study, supported by TIPH and ASPHER (Association of Schools of Public Health in the European Region), profiles a specific component of education in taught master-level public health programmes in Ireland using the Self-Assessment Tool (S-AT) for applied infectious disease epidemiology (AIDE) developed by the European Centre for Disease Prevention and Control (ECDC) in the wake of COVID-19.

The S-AT profiles levels of proficiency in 157 competencies organised into six subject areas developed by an international scientific committee in conjunction with ECDC to capture important developments in diagnostic methods, transmission dynamics, genomic analysis, disease modelling and vaccinology (ECDC, 2022).

For the purpose of this study the S-AT was redesigned with the same content but with flexibility to capture proficiency levels anonymously for all competencies individually, rather than by domain only. Directors of taught masters programmes in public health in six university-based schools or departments of public health in Ireland were invited to administer the S-AT to exiting masters students. Results are presented for the collective.

The value of this exercise is in identifying areas in which programmes perform well, and areas for which curricular content may need to be developed or enhanced. It also provides an opportunity to share good practice across schools with agreement of all parties. Implementing this across all schools in Ireland in which master-level public health programmes are offered provides a unique opportunity to impact favourably on harmonising education across the country in this aspect of public health.

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A Cost-Effectiveness Analysis and Budget Impact Analysis of Introducing Free Contraceptive Care for 17–45-Year-Olds in Ireland

Topic / Dept: Health Service Improvement

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Abstract

Removing the cost of contraception for the user has shown to increase uptake in long-acting reversible contraception (LARC) and decrease unintended pregnancy rates. Free contraceptive care for women aged 17-25 was introduced in Ireland in September 2022. In this study a cost-effectiveness analysis (CEA) and budget impact analysis (BIA) of introducing free contraceptive care to women aged 17-45 in Ireland was carried out to investigate the effectiveness and affordability of expanding the age of eligibility for this scheme.

A decision tree model was used to assess the cost-effectiveness of introducing this measure. The perspective was that of society. the model compared two scenarios. Scenario A represented contraceptive care as it was provided prior to September 2022, a two-tier system where the majority of users paid out-of pocket. Scenario B represented the estimated change in uptake if contraceptive care is provided free-of-charge to 17-45-year-olds. The outcome measurement was unintended pregnancies, represented by pregnancies that occurred while on contraception. Data for model input parameters were drawn from multiple sources, including PCRS data and previous studies in the field. A BIA from the perspective of the HSE was carried out to estimate the percentage of the healthcare budget that this programme would require.

This study found that the introduction of free contraceptive for 17-45 year olds is more cost-effective than the two-tier system in place before September '22. With an assumed uptake of 55% of LARC when care is free-of-charge, the relative probability of unintended pregnancies decreased by 35% and cost less than the comparison case. The model generated an Incremental Cost-Effectiveness Ratio of -3590. The incremental budget impact of this was estimated as €106million, <1% of the total annual expenditure on healthcare in 2021.

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Network Analysis of Mpox in Ireland

Topic / Dept: Health Protection

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Abstract

In May 2022, an upsurge in indigenous mpox cases was reported in Europe. Until then, detection outside of endemic regions was rare and limited to imported cases with a travel history to an endemic area, or zoonotic transmission from imported animals. As of 25 February 2023, 228 confirmed cases were reported in Ireland. Contact tracing to identify further cases and limit spread was a key component of the public health response. The purpose of this study was to determine if network analysis could aid in understanding transmission chains for mpox.

Notifications of confirmed cases of mpox are made via the Computerised Infectious Disease Reporting System (CIDR) in Ireland. Contact tracing was undertaken by Regional Health Areas (RHAs). A database of all mpox close contacts, managed within RHAs, was shared with the Health Protection Surveillance Centre (HPSC) for collation forming a national database. The two data sources were merged and network analysis was undertaken using bespoke R code and Cytoscape. The network was visualised by nature of contact, sex, international travel, RHA and unknown contacts.

As of 25 February 2023, there were 657 close contacts of which 471 had sufficient identifying details to be contacted by Public Health. The median number of contacts per case was three (IQR 1 – 4). Ten secondary cases were identified (case to case link) and one tertiary case (case to case to case link). All secondary or tertiary cases reported sexual contact. Three household links between cases were present which upon follow up were found not to be the source of infection.

Network analysis identified previously unreported links between cases and allowed for investigation with RHAs to check if the virus had spread along these routes. The tool is semi-automated allowing for network analysis to be rapidly completed for investigation of future possible outbreaks of mpox.

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VTEC NOTIFICATIONS IN THE MIDLANDS 2022: A REVIEW

Topic / Dept: Health Protection

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Abstract

Verocytotoxigenic E. coli (VTEC,) is a commensal organism in ruminant animals and may cause gastrointestinal illness in humans, including a severe form known as haemolytic uraemic syndrome (HUS) . This review aims to describe the case demographics and source exposures for VTEC notifications in the midlands.

The listing of all notifications to the Midlands Department of Public Health from 01/01/22 to 31/12/2022 was obtained from Computerised Infectious Disease Reporting (CIDR.) The investigation and control forms and case records were reviewed to extract demographic and source exposure details.

In 2023, there were 91 notifications of VTEC to the Midlands Department of Public Health. Two of these were presumptive, and subsequently deactivated. The mean age was 18.6 years and over half (50) were men. There was one case of HUS in a hospitalised child, serotype established as O26. Over a quarter of notifications (26,) were associated with a private well water supply in the home. The exposure was suspected be animal or environmental contact in 37% (33) of the cases, person to person spread in 17% (15) cases, foodborne in 10% (9) and 5% (4) were waterborne. The remaining 31% (28) had an unknown source.

The dominant transmission routes reported for VTEC in Ireland have been person-to-person spread and waterborne transmission associated with private water sources.1 It is probable that many of these cases with unknown source exposure could be related to waterborne transmission given over a quarter were linked to private wells. It is important to investigate the nature of VTEC transmission fully to determine same, in particular in light of private wells being exempted supplies under drinking water regulations, and the potential long adverse outcomes form HUS.

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An Audit of Tuberculosis Outcome Surveillance Data Completeness in North Dublin – 2018 to 2021

Topic / Dept: Health Service Improvement

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Abstract

Tuberculosis (TB) surveillance is critical to evaluating the effectiveness of TB control activities and informing TB strategy. As treatment of TB is central to preventing transmission, monitoring of treatment outcome is integral to surveillance. Identifying and measuring rates of HIV co-infection is required to assess outcomes in this high risk group. This audit set out to measure the completeness of treatment outcome and HIV status for TB cases in North Dublin notified between 2018 and 2021.

Confirmed cases of TB that were notified to the Department of Public Health in Community Health Organisation 9 (CHO9) between 01/01/2018 and 31/12/2021 were identified. The completeness of Treatment Outcome and HIV status variables for these cases on the Computerised Infectious Disease Reporting (CIDR) system was measured. Data on Treatment Outcome and HIV Status were also extracted from case notes and compared with the information captured on CIDR.

There were 174 confirmed cases of TB notified in CHO9 between 2018 and 2021, with 132 (75.9%) missing treatment outcome, 108 (62.1%) missing HIV status and 93 (53.4%) missing both variables. All cases notified from 01/01/2019 were missing at least one variable. The proportion of cases with no treatment outcome recorded increased from 43.9% of cases notified in 2018 to 100% of cases notified in 2021. All information recorded in individual case notes had been entered on CIDR.

There has been a notable decline in the completeness of critical TB surveillance measures in cases notified since 2019, suggesting that the COVID-19 pandemic may have adversely impacted TB surveillance. Engagement with stakeholders providing TB services is required to ensure that any changes in the effectiveness of treatment or rates of HIV co-infection are rapidly detected, particularly with the recent increase in migrants from high-incidence countries.