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Conference Theme: “A Problem Shared”

First evidence of pyrazinamide-susceptible *Mycobacterium bovis*, sub-lineage La1.1, in Ireland

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Background

Ireland (North and South) has a strong agricultural sector. In 2021, the dairy herd alone totalled 1.6 million. *Mycobacterium bovis* is a zoonotic infection that can affect cattle, but could potentially infect any animal, domestic or wild, already present or introduced into the country. In 2022/2023, over 5% of human isolates received at the Irish Mycobacteria Reference Laboratory (IMRL) were lineage Bovis.

Method

Here, we present the first evidence of pyrazinamide - susceptible (La1.1) *M. bovis* in the IMRL. It was isolated from a sputum sample from an elderly patient in the southwest. The patient had no documented occupational or travel history but had kept some exotic animals in a park at his home.

Results

Phenotypic drug susceptibility testing showed that the isolate was susceptible to first-line anti-TB drugs including PZA. Whole genome sequencing (WGS) was performed and the isolate was compared with other publicly-available global La1.1 strains. It was more closely related to strains from Malawi than those found in Uganda, suggesting the possibility of further delineating this sub-lineage.

Discussion

In light of the recent COVID-19 pandemic, cross-border surveillance for novel zoonotic infections should be top priority. It is truly 'a problem shared'. This case shows that surveillance should encompass all animals introduced to the country, not just cattle, deer and badger. WGS is a powerful tool in the surveillance of MDR-TB strains across Europe. This could be implemented across the island of Ireland under a shared One Health policy for *M. bovis* and positively impact Public Health surveillance.

Administering three vaccines in one visit (MenACWY, Tdap and HPV) to first years in secondary school 2023-2024: A National Immunisation Programme Service Evaluation.

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Background

In 2023, secondary schools' vaccination programme was changed to co-administer three vaccines (HPV, Men ACWY and Tdap) in one visit. The aim of the evaluation was to determine the effect on workload/degree of implementation by the School Immunisation Teams (SITs) of this change and to measure vaccine uptake before and after implementation of the change.

Methods

A survey was designed by the National Immunisation Office (NIO) and distributed to all clinical and administrative staff in the SITs nationally. A descriptive analysis of questionnaire responses was undertaken. School Immunisation System uptake data was source form HPSC data for academic years 2022-23 and 2023-24.

Results

The response rate was 23% (n=204). HPV vaccine uptake was 78% in 2022-23 and 76% in 2023-24. Uptake of Men ACWY was 80% in 2022-23 and 77% in 2023-24 and uptake of Tdap was 83% in 2022-23 and 79% in 2023-24. 39% of vaccination staff reported increased workload following the change, 28% reported decreased workload and 23% reported no change.

Discussion

The majority of SITs implemented this change in 2023-24 year. Administration of three vaccines in one visit in a school setting in 2023-24 coincided with a reduction in uptake of HPV, Men ACWY and Tdap vaccines. The impact on the workload for SITs varied. The majority of team implemented this change to three vaccines in one visit. Further evaluation is required to examine the impact of the change on vaccine uptake and workload and review other factors which may contribute to the reduction in uptake of all 3 vaccines.

Hepatitis C screening and detection in prison inmates

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Background

The World Health Organization (WHO) aims to eliminate hepatitis C virus (HCV) as a public health threat by 2030. Northern Ireland's 2021–2025 Hepatitis C Elimination Plan prioritizes high-risk groups, including people who are homeless, inject drugs, or are in prison. Early identification of HCV is critical; however, standard antibody testing can miss recent or repeat infections. HCV RNA testing is more effective at detecting active infection, particularly in vulnerable populations. This quality improvement project aimed to ensure that 90% of HCV screening samples referred from prison healthcare were tested for HCV RNA by June 2025.

Methods

Beginning in September 2024, the Model for Improvement framework guided efforts to increase RNA testing uptake in prisons. Weekly data from the Winpath Laboratory Information Management System was de-duplicated using Health and Care Numbers. The percentage of samples tested for HCV RNA was tracked, with changes introduced through Plan-Do-Study-Act (PDSA) cycles.

Results

Initial data revealed low, inconsistent RNA testing, suggesting an underperforming system. A sharp upward trend on 20 January followed the introduction of request form version 1, indicating a positive system shift. Version 2 of the form included pre-selected test options and guidance, further improving usability. By 24 February 2025, the 90% target had been consistently met or exceeded on ten occasions, reflecting a reliable and sustainable improvement.

Discussion

Systematic stakeholder engagement and process mapping enabled these practical changes. Direct frontline input helped identify barriers, and simple, targeted solutions supported accurate and timely HCV diagnosis in a high-risk population—advancing the wider elimination goal.

Using Citizen Science for Avian Influenza Surveillance in Wild Birds: The Story of the Avian Check App in Protecting Animal and Human Health

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Background

Highly pathogenic avian influenza (HPAI) in wild birds poses a major risk to poultry and is a zoonotic risk to humans. Wild birds, generally waterfowl, are the natural hosts of avian influenza. The Avian Check App is a platform created by the DAFM to facilitate the notification of sick or dead wild birds by members of the public. This study aimed to explore patterns in the data of reports submitted via the app.

Methods

An exploratory analysis was performed using 4 years' worth of data from the Avian Check App. Correlation between reports via the app and cases in wild birds/poultry was explored.

Results

A total of 3,519 reports were submitted via the Avian Check App between January 2021 and the end of March 2025. A peak of submissions was seen in September and October 2022, coinciding with an increased mortality in gannets attributed to avian flu. A strong correlation was found between Avian Check reports by the public and cases of HPAI in wild birds throughout the study period, while the correlation with poultry/captive HPAI outbreaks was weaker.

Discussion

Increasing engagement by the public has been observed since the launch of the platform. The consistent trends observed highlight its relevance serving as an early warning system and a tool for risk management in Ireland.

HPSC - National Notified Outbreaks Hub: customisable analyses of reported outbreaks in Ireland

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Background

In Ireland, infectious disease outbreaks are notifiable since 2004. Information on settings and transmission routes are vital in informing policy and response, particularly during multi-pathogen winters. Given the shared impact that outbreaks have on policymakers, regional public health colleagues, academic partners, and the public, we aimed to develop a dynamic, interactive, and user-oriented hub which can provide timely epidemiological analyses, from a single point of access, on all infectious disease outbreaks reported in Ireland over the last five years.

Methods

In consultation with public health staff in the NHPO, HPSC, and Regional Departments of Public Health, we developed this hub using disaggregate data extracted from CIDR, transformed into aggregate values in R, and uploaded to ARCGIS online, to create dynamic visualisations of notified outbreak data.

Results

The first section of the hub provides a detailed overview of outbreaks by week, featuring graphs that illustrate the distribution of outbreaks by disease, RHA, and settings. The second section provides multiple time series graphs which provide a 5-year analysis of trends including the number of outbreaks and number affected with comparisons to historic data from 2017-2019, and by settings, RHA, and transmission routes. Selections can be made to illustrate the combined effect of multiple diseases, for example in key settings like hospital and nursing homes.

Conclusion

The development of this hub will benefit a broad range of stakeholders by providing richer insights and timely data analysis accessible to every individual with an internet connection, placing Ireland at the forefront of public health data accessibility in Europe.

An Epidemiological Review of Human bovine Tuberculosis in Northern Ireland between 2009 and 2023

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Background

Since 2019, an apparent increase in human bovine Tuberculosis (bTB) notifications in Northern Ireland (NI) has been observed. This coincides with increasing bTB prevalence among cattle and growing concern within the agricultural sector.

Methods

Data published by the United Kingdom (UK) Health Security Agency were used to compare case counts, incidence rates and proportion of all TB across the UK between 2009 and 2023. Enhanced surveillance data were analysed to characterise the epidemiological profile of NI bTB cases and determine exposures.

Results

44 bTB cases were notified; an annual average of two cases prior to 2019 and five per year since. Incidence increased from 0.11 to 0.26 per 100,000 between 2018 and 2019 and has maintained a relatively stable higher rate. The proportion of all TB increased from an annual average of 3.1% prior to 2019 to 7.3% since. Overall, NI has the highest incidence and proportion of TB caused by bTB in the UK. Cases were predominantly male (58.1%), over 45 (67.4%), and UK-born. Exposures included occupation, unpasteurised milk, farm/farm animals and domestic pets.

Conclusion

The burden of bTB in NI is higher than the rest of the UK and appears to be increasing. Although the typical profile of cases aligns with expectations, there is evidence of cases without cattle risk factors. Further investigation, implementation of appropriate public health measures and collaboration with animal health partners are crucial in reducing human health risks.

The challenges and strategies in Multi-drug resistance Tuberculosis (MDR-TB) contact management in the Midlands counties of Dublin-Midlands region

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Background

Effective Tuberculosis (TB) contact management is vital in the control of TB. A targeted, patient-centred approach is needed to strengthen public health collaboration. We investigated a multi-drug resistance TB case in a Midlands county. Our seven household and workplace contacts, primarily semi-skilled workers, faced barriers to attending screening, including language, transportation, work schedules and clinic access. Goal/objective: To demonstrate how a flexible, person-centred approach through tailored communication, service integration, and one-stop clinics can successfully overcome barriers to TB contact among underserved populations.

Methods

We initiated contact tracing and screening, including quantiferon testing, chest X-rays and sputum sampling. Efforts to engage contacts included persistent and varied communication, flexible scheduling to accommodate their work patterns, help with transport, and collaboration with the respiratory and radiology teams at Regional Hospital Mullingar to offer a one-stop clinic.

Results

Despite the initial reluctance of the contacts, our strategies enabled participation and full screening. Tailored interventions addressing their unique barriers played a critical role in improving participation rates and ensuring timely assessment.

Conclusion

Our experience was valuable for future engagement with underserved populations. A flexible, person-centred approach, integrated TB services and expanded one-stop clinics across Midlands hospitals could enhance participation in TB screening, helping to overcome barriers like fragmented TB services, language difficulties, and accessibility.

Reducing the Impact of COVID-19 Outbreaks in Residential Care Facilities in Ireland

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Background

Residential care facilities (RCFs) are severely impacted by SARS-CoV-2 virus transmission and outbreaks, as residents in these congregate settings are typically susceptible to severe Coronavirus disease (COVID-19). This study evaluated the continued impact of COVID-19 outbreaks in Nursing Homes (NHs) and Residential Institutions (RIs) in the Republic of Ireland since the beginning of the pandemic and highlights the importance of integrated outbreak interventions, including vaccination, in these settings.

Methods

A longitudinal time-series analysis of mean duration, size, associated hospitalisations and fatalities for notified COVID-19 outbreaks and national vaccination uptake rates in RCFs over a four-year period, 2020-2025, was undertaken. Outbreaks without reported cases or dates were excluded.

Results

There were 3,720 outbreaks notified (2,041 NHs, 1,679 RIs), including both staff- and resident-associated cases. Outbreaks impacted NHs more severely. The longest and severest outbreaks occurred in 2021, with NHs averaging 25.7 days, 31.2 cases, 2.1 hospitalisations, and 4.2 deaths; and RIs averaging 13.9 days, 9.5 cases, 0.5 hospitalisations, and 0.3 deaths. Since extensive vaccine rollout during 2021, vaccine uptake has remained >70% amongst RCF residents. Outbreaks have declined in average duration (NHs: 16-6.6, RIs: 13.9-4.6 days) and severity (NHs: 25.4-8.2 cases, 1.5-0.1 hospitalisations, 1.7-0.0 deaths, RIs: 9.5-3.5 cases, 0.3-0.0 hospitalisations, 0.0 deaths) each year.

Conclusion

Combined with other infection prevention measures, maintaining high vaccine coverage reduces the impact of COVID-19 outbreaks in RCFs. HPSC continues to collaborate with regional and national stakeholders to improve RCF outbreak data acquisition and therefore information for further public health action and recommendations.

Inclusion of ethnic identifiers on enhanced surveillance forms in a regional public health department

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Background

The HSE National Social Inclusion Office recommends ethnic data collection in all health datasets to identify potential discrimination in service provision and monitor health service uptake across ethnic groups. The Public Sector Equality and Human Rights Duty further mandates consideration of equality in public sector functions. This audit evaluated the inclusion and completion rates of ethnic identifiers on Enhanced Surveillance Forms (ESFs) in our regional public health department.

Methods

A two-stage audit was conducted. Stage 1 reviewed all 68 diseases under surveillance to identify which ESFs contained ethnic identifier fields (ethnicity, country of birth, nationality). Stage 2 examined completion rates by reviewing up to 10 recent ESFs per disease from 2023-2025 cases for the 23 diseases that included ethnic identifiers.

Results

Stage 2 analysis reviewed 196 ESFs from 23 diseases with ethnic identifier fields. Overall, 88% of ESFs had at least one ethnic identifier completed. However, substantial variation existed between diseases, ranging from 20% completion for measles ethnicity fields to 100% for HIV, tuberculosis, and invasive meningococcal disease. Despite these positive results, few ESFs recorded “White Irish Traveller” ethnicity, suggesting systematic under-identification of this population despite policy requirements for Traveller health monitoring.

Conclusion

While overall completion rates for ethnic identifiers were encouraging at 88%, substantial variation between diseases suggests inconsistent data collection practices. Though generally consistent at asking about ethnicity when a case is from another country, staff are perhaps not as diligent about this when the country of birth is Ireland. The reasons for this should be further explored

Legionellosis in Northern Ireland: 2014 to 2024

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Background

Legionellosis refers to a spectrum of diseases caused by the Gram-negative bacteria, *Legionella* spp. In 2021, a notification rate of 2.4 cases per 100,000 population was observed in the EU/EEA; the highest annual rate of Legionnaires' disease recorded to date. Legionnaires' disease is notifiable in Northern Ireland. The objective of this study was to describe the epidemiology of legionellosis in Northern Ireland (NI) over a ten-year period from 2014 to 2024, identifying any changing trends in notifications.

Methods

Epidemiological data for the period 2014 to 2024 were obtained from the NI *Legionella* surveillance database. Rates per 100,000 population were calculated using the mid-year estimates of the NI population. The Poisson exact method was used to calculate 95% confidence intervals (CIs) for case rates.

Results

Seventy cases of confirmed and presumptive/probable legionellosis were notified. There were no cases during 2020, associated with the COVID-19 pandemic. Incidence subsequently increased. In 2023 and 2024, 12 and 13 cases of Legionnaires' disease were reported respectively, compared to a mean of 6 cases between 2014 and 2019.

Conclusion

Legionellosis is uncommon in NI, and half of all cases are known to be travel-related. The COVID-19 pandemic resulted in temporary suppression followed by an apparent rebound of legionellosis. Travel and climate change affecting environmental reservoirs may increase the risk of exposure to *Legionella* spp. The increasing age of the population and reducing in smoking prevalence may contribute to changing population susceptibility. Monitoring the epidemiology of legionellosis is important to support the design of control measures.

Promoting social inclusion by developing guidance on communicating in plain language

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Background

People with literacy needs are more likely to report poor health. Unclear communication from health and social care providers can further exacerbate health inequalities. 28% of adults in Ireland have limited health literacy and find it difficult to understand and act on health information. Furthermore, 21% have low literacy skills and 25% have low numeracy skills. To meet these needs, the Health Information and Quality Authority (HIQA) is updating its guidance for providers of health and social care services on communicating in plain language.

Methods

We first conducted a review of 71 international resources on good communication in health and social care; this assisted in interpreting themes and formats for consideration. We then convened a Working Group of key cross-sector stakeholders. The National Adult Literacy Agency, a subject matter expert, reviewed a draft which was then circulated to health and social care staff, and patient and service user representatives, with an online survey for feedback. This feedback was used to refine content and presentation to ensure accessibility and usability.

Results

The updated guidance emphasises the need for clear information for all people using services. It includes new material on numeracy, health literacy, digital literacy and intercultural communication. Accessibility will be enhanced by providing the guidance in multiple formats, including as a HTML page.

Conclusion

It is ethical and fair to give people the information they need in language they find easy to understand. This promotes social inclusion, reduces health inequalities and improves outcomes for everyone using services.

Developing capability to detect public health threats to Northern Ireland- the Health Protection Situational Awareness Report (HPSAR)

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Background

The Northern Ireland (NI) Chief Medical Officer (CMO) asked the NI Public Health Agency (PHA) to synthesise regional, national and international epidemic intelligence signals to support situational awareness. No pre-existing process existed for summarising infectious disease issues and trends to inform decision-makers and health protection (HP) practitioners in Northern Ireland. We aimed to establish a comprehensive, timely report on current and emerging infectious disease threats for decision-makers, policymakers and the public.

Methods

A task and finish group identified needs and designed processes to complete the weekly report. The UKHSA All Hazards Situational Awareness Report served as a useful model. Processes were standardised to identify surveillance signals, including use of a new exceedance detection tool. Systematic horizon scanning was embedded to identify threats beyond NI, including from the Republic of Ireland (ROI).

Results

Two weekly reports were developed; an internal version for PHA and Department of Health (DOH), and a public-facing summary for healthcare providers, media and public. The internal report summarises incidents managed by the HP team, surveillance evidence and Ireland, UK and global horizon scanning. The report is reviewed at a weekly meeting and shared internally with the HP team. The public-facing report summarises the internal version, linking to published NI surveillance reports and reports of international incidents.

Discussion

The reports provide timely information about regional, UK and international public health threats, facilitating early preparedness work. They support the work of the Director of Public Health, CMO and regional healthcare providers, and provide wider visibility of the PHA's surveillance and preparedness work.

Investigation into Hepatitis C Virus outbreak clusters in Northern Ireland 2020-2025 and their potential linkage to ROI.

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Background

UKHSA's accredited HCV whole genome sequencing assay was introduced into routine use in 2018, and since mid-2019, has performed combined HCV genotyping and resistance testing for all samples sourced in Northern Ireland (NI), giving high-density population coverage.

Methods

Routine QC analysis generates phylogenetic trees across multiple recent runs, and in early 2020 a 25-strong cluster was detected containing sequences solely from NI, and by June 2025, over 2,000 NI-sourced sequences from over 1,500 unique individuals were included in the analysis.

Results

Over 50% of sequences and individuals were found to be in one of 14 independent clusters (subtypes 1a, 1b, 2b and 3a), with two having over 100 members. Present or historic injecting drug use, homelessness/hostel residency, and incarceration were all strong predictors of cluster membership. Over 50 re-infections (approximately 20% of repeat tests) and 17 dual infections have been detected with clustering strains, demonstrating "bridging" between cluster demographics.

A number of samples have also been referred to UKHSA for HCV resistance testing from the ROI, with a total of 469 sequences generated from 405 individuals; however, the sampling density is lower than that of NI. Sequences from two individuals with NI links clustered with the NI sequences, and no ROI clusters were detected, suggesting the outbreak is largely confined to NI.

Discussion

These analyses show that near real-time molecular epidemiology can be a very useful adjunct to standard techniques in detecting transmission clusters and help in delivering targeted interventions aimed at reducing ongoing transmission.

Cross-Border Molecular Epidemiology of Human *Mycobacterium bovis* Isolates from the Island of Ireland using Whole Genome Sequencing

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Background

Mycobacterium bovis (*M. bovis*), a member of the *Mycobacterium tuberculosis* complex (MTBC), causes bovine tuberculosis (bTB) and is the most broadly host-adapted zoonotic MTBC pathogen. While cattle are the primary reservoir, *M. bovis* also infects wildlife, domestic animals, and humans. The island of Ireland—encompassing the Republic of Ireland (ROI) and Northern Ireland (NI)—has a large, interconnected agricultural sector, with 1.6 million dairy cattle in ROI alone (2021). Despite long-standing eradication programmes, bTB persists, affecting cattle and humans. Historically, control efforts have focused on the cattle–wildlife interface, with less attention paid to zoonotic risk or potential cross-border transmission affecting humans. In 2022/2023, over 5% of human MTBC isolates submitted to the IMRL were *M. bovis* lineage Bovis–La1.

Method

We present the first all-island genomic analysis of human *M. bovis* isolates, integrating anonymised whole-genome sequence data from IMRL (ROI) and NIMRL (NI).

Results

Preliminary analysis of 148 human *M. bovis* genome sequences using core-genome MLST with a distance threshold of 12 alleles identified 4 clusters containing sequences from both jurisdictions.

Discussion

Our hypothesis—that some closely related *M. bovis* strains infect humans on both sides of the Irish border—was supported, underscoring the interconnected nature of bTB ecology. Aligned with the conference theme “A Problem Shared...”, this work addresses a critical gap in cross-jurisdictional surveillance. It highlights the need for a coordinated One Health

approach to bTB control across the island, and that cross-border movement of domestic and wild animals complicates efforts to control *M. bovis* infection in animals and humans.

Effectiveness of Infection Prevention and Control (IPC) Interventions for Vaccine-Preventable Diseases in Congregate Migrant Settings in high-income countries, A Comparative Review

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2. National Health Protection Office.

Background

Migrant populations often have different immunisation profiles compared to native populations, which can increase their vulnerability to vaccine-preventable diseases. This risk is heightened in congregate settings, where overcrowding is common. In recent years, high-income countries have seen increasing outbreaks of diseases such as measles, diphtheria, and varicella within these settings. This review compares official public health guidelines with published outbreak reports to synthesise the operational challenges frequently faced when managing such outbreaks in migrant congregate environments.

Methods

A structured review was conducted comparing IPC guidelines from Ireland, the United Kingdom, Germany, and Switzerland. Areas of broad agreement were identified. Subsequently, outbreak reports were analysed to identify discrepancies between the consensus recommendations and the IPC measures implemented during actual outbreaks. This analysis also aimed to uncover the operational barriers encountered by public health teams in real-world settings.

Results

Several challenges were identified, some specific to individual infections and others common across all outbreaks. A consistent issue was inadequate information on the immune status of residents and staff in congregate settings, which often hindered effective outbreak management. In many instances, public health teams deviated from guideline recommendations such as contact tracing and ring vaccination, opting instead for mass vaccination within affected settings.

Conclusion

This review underscores the substantial operational challenges associated with implementing best practice IPC measures in congregate settings, and the need to strengthen the capacity of Public Health teams to respond to these types of outbreaks. Furthermore, it supports the case for improved systems to document vaccination status for residents and staff.

Improving equity in Immunisation Programmes – the role of the Social Inclusion Working Group of the HSE National Immunisation Oversight Committee (NIOC), 2022–2025

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3. Pavee Point Traveller and Roma Centre, representing National Traveller Health Network.
4. Technology & Transformation, HSE.
5. Health Protection Surveillance Centre, HSE.
6. ACET (migrant health).
7. National Immunisation Office, HSE.
8. Cairde, representing Roma Health Network.
9. Regional Social Inclusion, HSE.
10. Safetynet Primary Care.
11. National Child Health Public Health, HSE.

Background

The Social Inclusion Working Group (SI-WG) of the NIOC was established (January 2023) to address structural inequities in immunisation access and uptake among underserved populations in Ireland. Convened by HSE National Social Inclusion following recommendations from Pavee Point and others, it brought together stakeholders representing Travellers, Roma, people experiencing homelessness, refugees and protection applicants, alongside representatives from the HSE National Immunisation Office, Social Inclusion, Child Health Public Health, HPSC, PHN, GP and eHealth.

Goals of the work

- Provide strategic and operational guidance to NIOC to increase equity in the delivery of national immunisation programmes.
- Support roll-out of catch-up campaigns, advise on inclusive service adaptations, and promote ethnic data collection to enable monitoring of immunisation equity.

Methods

The intersectoral approach integrated community, clinical, and public health perspectives. Key actions included supporting community engagement in planning, and advocating for inclusive communication, staff training, and ethnic data collection.

Results

Notable achievements include: co-producing culturally and linguistically appropriate materials on PCIP vaccines, measles/MMR, pertussis, and RSV; creating webinars to address vaccine hesitancy; advocating for ethnicity fields on consent forms; and establishing a dedicated Traveller Sub-Group. This subgroup focused on identifying barriers to vaccination and developing tailored information and training resources, such as an autism information video.

Conclusion

The SI-WG exemplifies a collaborative, data-informed, and equity-driven model of governance strengthening the inclusiveness and responsiveness of Ireland's immunisation programme. To sustain and embed this progress, building on existing trust and relationships, it is vital that this work continues within new integrated immunisation governance structures and is mainstreamed across national immunisation planning and delivery.

Understand the views of people living in prison on vaccination and co-producing resources to promote uptake: NHS Greater Glasgow and Clyde experience.

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Background

Vaccination rates among Scottish prisoners are significantly lower than the general population. Reasons are multifactorial, but include lower engagement and inability to access vaccination information. Evidence shows co-produced resources can promote engagement with health campaigns among marginalised groups. We undertook research to inform creation of co-produced resources for prison settings, to encourage vaccination uptake.

Methods

Following an evidence review, focus groups with people living in three Glasgow custodial settings were undertaken to gather views on vaccination and preferred methods for receiving information. These were followed by interviews with prison healthcare and Scottish Prison Service staff.

Results

Focus group participants reported absence of accessible vaccination information meant they were reliant on peer messaging, often leading to misinformation. They wanted clear messages, delivered by health professionals and including peer voices. Key themes for inclusion were their right to vaccination to protect their health and that of others, and promoting awareness of eligibility and infectious disease risk in prison. We co-produced videos, radio clips and posters; for longevity and transferability these are generic rather than based on specific vaccination campaigns. Videos include interviews and voices of peers and prison healthcare staff, with animations.

Conclusion

Findings highlight the importance of filling information voids in prisons by providing co-produced readily accessible vaccination information. Resources will be launched ahead of the Winter Vaccination Programme, with plans to monitor impact. In line with evidence from the literature, we intend to accompany the resources with provision of regular opportunities for non-routine and seasonal vaccinations to promote uptake.

Counting the costs of a case of TB in a residential care worker in the North West of Ireland

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Background

Tuberculosis (TB) remains a significant public health concern, particularly in high-risk environments such as residential care settings. Prompt and effective contact tracing is essential to controlling transmission, yet limited data exist on the actual costs involved, especially at a granular level. This study presents a micro-costing analysis of the contact tracing activities associated with a case of pulmonary TB in a residential care worker in the North West of Ireland.

Methods

A retrospective micro-costing approach was employed to quantify the direct cost of contact tracing from the perspective of the public health system. The costs of two large contact tracing clinics were calculated, obtained directly from department records and HSE list prices where available, or estimated from academic sources where not available. Costs were categorized into staff costs, clinical and diagnostic costs and medication costs.

Results

The total cost of contact tracing for a single pulmonary TB case in a healthcare worker in residential care setting involved screening 91 close contacts and managing four cases of TB infection. The cost of the contact tracing was estimated at over €17,000 with staff costs representing the largest proportion (69.1%).

Conclusion

Contact tracing for pulmonary TB in residential care workers is resource-intensive and incurs substantial costs. Lack of unified approaches to pre-employment screening of healthcare workers in the public and private systems of residential care in Ireland risk further exposure of staff and residents to TB, and further costs to the HSE.

Deprivation and COVID-19 infection in pregnant women and women of childbearing age in Northern Ireland 2020-2022

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Aims

To describe the patterns of COVID-19 infection in pregnant women and women of childbearing age (WCBA) in Northern Ireland (NI) by deprivation status.

Methods

A population-based cross-sectional linkage study was undertaken. All pregnancies to resident mothers (aged 15-49 years) recorded in the NI Maternity System database (NIMATS) were linked to hospital and community COVID-19 tests performed from 1-3-2020 to 31-12-2022. COVID-19 tests for WCBA (aged 15-49 years) were also identified in the infections database. Deprivation status was measured using the NI Multiple Deprivation Index. Chi-square tests assessed the proportion of pregnancies and WCBA with a positive COVID-19 test each month by deprivation status.

Results

During the study period, 65,008 women had 74,111 pregnancies with 9,051 (12.2%) testing positive for COVID-19 infection, a monthly rate of 1.4%. Among 422,556 WCBA, 192,772 (45.6%) had infections recorded, a monthly rate of 1.3%. Pregnant women living in the most deprived areas had similar rates of COVID-19 infections (206, 1.4% per month) than those living in the least deprived areas (151, 1.3% per month, $p=0.87$). Among WCBA, rates were similar, with 1,124 (1.3%) infected per month in the most deprived areas and 1,039 (1.4%) infected per month in the least deprived areas ($p=0.81$).

Conclusion

While it is reassuring that the deprivation in the area in which a woman lives does not appear to be associated with COVID-19 infection in pregnant women and WCBA further exploration taking account of testing patterns is needed to rule out any impact of deprivation on risk of COVID-19 infection.

A Tale of Two Settings? Measles Control in a Socioeconomically Advantaged Community Highlights Wider Equity Challenges

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Background

In April 2025, a confirmed case of measles in a 15-month-old child attending a South Dublin crèche prompted an urgent public health response. There was significant exposure across household, childcare and healthcare settings. The incident occurred in a socioeconomically advantaged area with high baseline vaccine coverage (91% MMR uptake at 24 months, Q1 2025).

Methods

The response included case investigation, rapid contact tracing, risk assessment, exclusion of unvaccinated individuals, and post-exposure vaccination and human normal immunoglobulin (HNIG) where indicated. ED and crèche line lists identified 102 children, 29 staff, and 40 ED attendees as contacts. Public Health collaborated with a local GP and HSE community vaccination team to provide pop-up MMR clinics.

Results

High-risk contacts were identified and managed appropriately. HNIG was administered to one infant under six months, and early second dose of MMR was recommended to all eligible contacts. Twenty-six MMR doses were delivered through the clinic. No secondary cases arose.

Conclusions

This incident underscores how high immunisation uptake and rapid public health and primary care mobilisation can prevent measles outbreaks, even following extensive exposure. The response benefited significantly from the context – a very affluent area (according to Pobal HP index) with strong health infrastructure, good vaccine uptake, and highly educated population (LHO third level education rates of 54.1%). This prompts reflection on equity: would the outcome have been the same in a less advantaged setting? Without addressing structural inequalities in healthcare access, the protective benefits seen here may remain out of reach for more vulnerable populations.

Unlocking the public health potential of animal data; a case study in Q fever

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Background

Animal health data can provide critical insights for public health, especially in zoonotic disease, food safety, environmental hazards, and antimicrobial resistance. *Coxiella burnetii* is the causative agent of Q fever which is a notifiable zoonotic disease in both humans and animals, though widely underreported. Ruminants have been identified as the primary source of human infection. This study explores reported human cases of Q fever and evaluates herd-level prevalence data from Irish dairy cattle to demonstrate the value of animal health data in supporting public health medicine.

Methods

Aggregate data on notified human Q fever (2020 – 2025) were obtained from the Health Protection and Surveillance Centre. Bulk milk tank testing results from a 2022 herd health programme conducted by Irish dairy cooperative were analysed to determine the prevalence of *Coxiella Burnetti* antibodies.

Results

Between January 2020 and July 2025, nine human clinical cases of Q fever were notified across all six regional health areas. Of 2,691 dairy herds sampled, 61.7% were antibody-positive, with affected herds in every county tested.

Conclusion

This study identifies a marked discrepancy between animal-level exposure and reported human cases. Further research is needed into the human epidemiology of *Coxiella burnetii* in Ireland. The findings reinforce the importance of integrated animal and human health data and exemplify a One Health approach. Rich veterinary datasets can guide efficient, cross-sector public health responses and inform future surveillance efforts.

TB in a Limerick Prison: Considerations on contact tracing in a complex setting

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Background

Tuberculosis (TB) incidence in Ireland is approximately 5.6 cases per 100,000 population 1, making it a low TB burden country. However vulnerable groups such as prison populations remain at risk of TB infection.

Methods

In this paper we describe the management of a case of TB linked to Limerick prison and the subsequent contact tracing programme. Public Health Midwest (PHMW) led a regional incident management team with representation from prison management and prison infection prevention control.

Results

In total, 43 close contacts including 38 prisoners, and five prison officers were identified and were screened for Tuberculosis Infection (TBI). Eight prisoners screened positive, giving a positivity rate of 24.2% of contacts screened. No prison staff screened positive. Of note two further cases of active TB Disease were subsequently identified in prisoners recently released from Limerick prison.

Discussion

Challenges in this programme included the absence of a structured TB screening process on committal to prison, difficulties around maintaining treatment regimens when prisoners were released or moved prisons and the lack of awareness around TB amongst prisoners and prison staff. The Irish National TB strategy 2024-2030² identified improved screening in prisons as one of its ten strategic actions. It is key that such measures are enacted to support the management of TBI and TB Disease in such a vulnerable setting.

Impact of a National RSV Immunisation Programme Using Nirsevimab in Ireland, 2024/2025 Season

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Background

To reduce the burden of respiratory syncytial virus (RSV) in infants, Ireland implemented a national immunisation pathfinder programme in the 2024/2025 season. Infants born between 1 September 2024 and 28 February 2025 were offered nirsevimab, a long-acting monoclonal antibody. The aim is to estimate the impact of the immunisation programme on RSV-related morbidity among eligible infants in Ireland.

Methods

We conducted a retrospective, population-based ecological study including infants born during the programme period. RSV case distribution and clinical outcomes in 2024/2025 were described and compared with historical data. Immunisation uptake was monitored weekly. Using effectiveness estimates, uptake, and notification data, we estimated averted cases, disease prevented fractions (PF), and the number needed to immunise (NNI) to prevent one RSV-notified case, emergency department (ED) presentation, hospitalisation, and intensive care unit (ICU) admission using adapted Machado et al. formulas.

Results

In 2024/2025, 83% (22,444) of eligible infants received nirsevimab. There were 360 laboratory-confirmed RSV cases notified in infants born between September and February, compared to 1,142 in 2023/2024 (severe RSV season) and 997 in 2022/2023 (mild RSV season), indicating a 68% and 64% reduction, respectively. We estimated 1,055 (95% CI: 1,038–1,071) RSV cases, 459 (95% CI: 452–467) ED presentations (non-hospitalised), 437 (95% CI: 430–443) hospitalisations, and 76 (95% CI: 74–78) ICU admissions were averted. The PF was 74.5% (95% CI: 73.6–75.4). NNI was 22 (95% CI: 21–24) for RSV notifications, 51 (95% CI: 47–55) for ED presentations, 54 (95% CI: 50–58) for hospitalisations, and 309 (95% CI: 249–369) for ICU admissions.

Conclusion

Immunisation with nirsevimab significantly reduced RSV-related illness in Irish infants in 2024/2025, supporting its continued use and potential expansion to older infant groups.

Ireland's Measles Response: A National Collaboration in Action

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Background

In early 2024, Ireland faced a renewed threat from measles, driven by rising case numbers across Europe and suboptimal MMR vaccine uptake. In response, a multi-disciplinary National Measles Incident Management Team (IMT) was established.

Methods

The IMT brought together stakeholders from across the health service and beyond, including Public Health, Acute and Primary Care, AMRIC, Irish Prison Service and Northern Ireland colleagues to plan and coordinate the response. This collaborative structure facilitated rapid establishment of expert subgroups including: a vaccine subgroup that led development and implementation of a targeted MMR Catch-up Campaign; a logistics sub-group that addressed all components of pathways for measles testing and post-exposure immunoglobulin provision; a guideline development sub-group that developed comprehensive measles guidelines for Ireland and a communications subgroup that rolled out a public facing media campaign to support the MMR Catch-Up Campaign.

Results

As of 21/07/2025, 230 confirmed measles cases, the majority genotype D8, and 40 outbreaks have been notified in Ireland during 2024 and 2025. To raise awareness of measles and promote MMR vaccine among underserved populations, IMT members collaborated with non-government organisations to develop multilingual measles-related information, as well as developing custom ads for target cohorts. In addition, HSE vaccination teams engaged with college leadership, communities and local media to improve MMR vaccine uptake at vaccination clinics.

Conclusion

The IMT's work demonstrates the value of a 'whole of health service approach' to managing infectious disease threats. Shared ownership and collaboration resulted in rapid mobilisation of resources, effective community engagement, and consistent messaging from all stakeholders.

Developing a national database for recording Environmental Incidents of Public Health concern in Ireland.

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Background

Environmental Incidents of Public Health concern are reported to Regional Departments of Public Health in Ireland from a variety of sources but were not collated nationally. A review of 2023 regional data showed that datasets and inclusion criteria for logging incidents were not standardised. We aimed to create a national database for collection, monitoring and reporting of environmental incidents in Ireland, enabling us to better understand the threat of Environmental incidents on Public Health.

Methods

Between September 2024 and January 2025, consultation with regional colleagues took place to gain insight into environmental incident types and key variables required for surveillance.

Results

Agreement was reached to capture data on nine different environmental incident types: drinking water, bathing water, Legionella detections, other water incidents, extreme weather events, air quality, land/soil contamination, poisonings and other incidents. A core suite of surveillance variables was agreed including: key data on the incident recognition, health and health service impact of the incident, actions taken, and recommendations arising. A database was created in MS Excel and a decision tree algorithm designed for classification of incidents. Frequency of data collation and reporting was agreed as quarterly. Preliminary results show approximately over 100 incidents were reported in Q2 2025.

Conclusion

For the first time in Ireland, a national database has been created to collect environmental incident information. Standardising regional reporting, and collation at national level allows

us to describe the type, volume and impact of environmental incidents in Ireland, monitor progress on public health recommendations, and highlight gaps.

A problem shared

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Background

This improvement project, led by Mary Hanley in Q1 & Q2 2025, focused on reviewing and enhancing Health Protection (HP) processes within Public Health Mid-West. The primary aims were to streamline workflows, optimise staffing resources, and strengthen governance mechanisms to support more effective HP delivery and improved health outcomes for the population.

Methods

The project began with a current state analysis, identifying 20.69 Whole-Time Equivalent (WTE) staffing and fragmented meeting structures. Root-cause analysis revealed inefficiencies such as duplication of work, inconsistent communication channels and limited visibility of critical data. The key objectives were to internally optimise the HP function, externally promote the value of HP, and ensure excellent service delivery to patients and partners. Key interventions included rationalising meeting structures – resulting in a 40% reduction in meeting volume – and introducing a centralised surveillance mailbox to enhance data governance and responsiveness. The development of infectious disease checklists supported more efficient management of notifiable conditions. Regular debriefs were also embedded to share lessons learned and foster continuous service improvement.

Results

As a result, the staffing requirement reduced to 16.98 WTE, reflecting a significant gain in efficiency and better alignment with operational demands. Freed-up capacity was redeployed to other Public Health pillars such as Health Intelligence, Health Improvement and Health Service Improvement, supporting a more integrated and population-focused approach.

Conclusion

This initiative not only delivered tangible improvements in resource utilisation and workforce efficiency but also demonstrated the value of structured process reviews and stakeholder engagement in achieving sustainable quality improvements in Public Health.

How automated data processing can provide big wins to small surveillance teams: A case study from the 2024 pertussis outbreak in Northern Ireland

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Background

In 2024, Northern Ireland (NI) experienced a significant outbreak of pertussis, during which 3,612 cases were notified. Pertussis is a vaccine preventable disease (VPD) that follows a multi-year cycle, and the epidemic was overdue, likely as a result of the COVID-19 pandemic. The VPD surveillance team in the Public Health Agency is a small unit that had previously fully relied on manual extraction of data from a case management system to maintain enhanced line lists of notifications. It became clear the scale of the pertussis outbreak would overwhelm the team's manual data preparation capacity. Aim: To share how the VPD team rapidly implemented an automated data preparation workflow during the 2024 pertussis outbreak, ensuring surveillance continuity and ongoing programme support.

Methods

The system changes have been described from necessity of inception to implementation, and to current routine processes. This has been visualised with epidemiological charts and workflow schematics.

Results

The system was developed using R and a cloud-based analytics platform, and validated alongside manual data collection until June 2024. This enabled timely updates to support public health decision-making and provide essential information to both the public and policy-makers. The system was adapted to develop a monthly public-facing report as well as internal weekly validation outputs.

Conclusions

Automation can significantly reduce the burden of outbreak surveillance on small teams across the island. Future developments include plans to host reports on a publishing platform to enable scheduled updates and further reduce manual processes.

Evaluation of Ireland's RSV Immunisation Pathfinder Programme for Infants, 2024–2025

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Background

Respiratory syncytial virus (RSV) is a leading cause of lower respiratory tract infections and hospitalisations among infants. Ireland implemented an RSV Immunisation Pathfinder Programme (September 2024–February 2025), offering nirsevimab to all infants born during the RSV season and high-risk infants under 12 months. This evaluation aimed to assess the effectiveness and efficiency of the programme.

Methods

A mixed-methods evaluation was conducted. Quantitative data on immunisation uptake were collected from maternity hospitals, Children's Health Ireland and TCP Homecare. Impact was assessed using surveillance data for RSV-related outcomes (emergency department [ED] presentations, hospitalisations, ICU admissions) and statistical modelling, including estimation of averted outcomes. Qualitative data were obtained from parent and staff surveys, and focus groups to explore implementation experiences, barriers and facilitators.

Results

A total of 22,444 infants were immunised (uptake: 82.6%). There was a 60% reduction in ED presentations, 78% reduction in hospitalisations and 71% reduction in ICU admissions among infants born during September–February compared to the previous season. An estimated 433 hospitalisations (95%CI: 424–441), including 79 ICU admissions (95%CI: 77–82), were averted. Feedback highlighted strong parental and staff support, but noted concerns regarding communication and operational challenges, particularly staffing and data management.

Discussion

The RSV Immunisation Pathfinder Programme achieved good uptake and was associated with a substantial reduction in severe RSV outcomes. The findings support the importance and feasibility of RSV immunisation for newborn and high-risk infants in the Irish context. Addressing identified operational barriers and enhancing communication strategies will be critical for future RSV immunisation programmes.

The Impact of the COVID-19 Pandemic Period on Immunisation Uptake in Disadvantaged Educational Settings: A Multi-Year Analysis of a School Immunisation Programme.

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Background

In Ireland, MMR2 and DTaP/IPV (4-in-1) are administered to school children aged four to six within the schools immunisation programme (SIP). Immunisation inequity has been described previously within the SIP. This study aimed to determine if the COVID-19 pandemic period disproportionately affected MMR and 4-in-1 uptake in disadvantaged educational settings.

Methods

Data for MMR2 and 4-in-1 uptake were extracted from the Schools Immunisation System database (SIS) for academic years 2016-2017 to 2022-2023, and analysed at school-level. The mean uptake % was compared each year for disadvantaged and non-disadvantaged schools.

Results

In 2018/19 MMR2 and 4-in-1 mean uptake were 1.7% and 1.5% lower respectively in disadvantaged compared to non-disadvantaged schools. In 2020/21 this difference rose to 3.2 % and 3.4%, and by 2021/22 had risen to 6.1% and 6.3% respectively. In 2022/23 this gap persisted, but fell to 3.6% and 3.6%. Disadvantaged schools had a higher likelihood of MMR2 and 4-in-1 uptake below national target uptake (95%), RR 1.33 (95% CI 1.14-1.55, $p<0.001$) and 1.30 (95% CI 1.12-1.51, $p<0.01$) respectively, for academic year 2022/23.

Discussion

Uptake of MMR2 and 4-in-1 was disproportionately affected in disadvantaged schools during the pandemic period, with uptake yet to catch up to pre-pandemic rates. Targeted interventions will be required to address immunisation inequity within the SIP. Personal data such as ethnicity and socioeconomic status should be recorded within SIS, to allow for routine reporting of equity stratifiers for immunisation uptake. School immunisation teams will require adequate resourcing to close the disparity in MMR and 4-in-1 uptake amongst schoolchildren.

Development of the Mantoux medicines protocol to support the investigation and management of contacts of Tuberculosis cases

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Background

Effective TB control relies on early identification and management of exposed individuals. The Mantoux test, using purified protein derivative to gauge immune response is a key diagnostic tool. However, inconsistent protocols and insufficient nurse training hinder proper investigation and follow –ups. Accurate test administration, precise documentation and consistent follow-up are essential for reliable results and informed clinical decisions
Objective: To develop and implement a standardized Mantoux test protocol to support Health Protection Nurses (HPNs) in the systematic investigation and management of individuals exposed to TB, thereby enhancing early detection and reducing the risk of transmission.

Methods

A comprehensive protocol was designed, incorporating current national and international guidelines on the Mantoux test, with emphasis on contact tracing, administration, interpretation, documentation, and patient counselling. Training was conducted for nursing staff during clinics in various settings under the supervision of trained and experienced clinicians.

Results

Nurses reported increased confidence and knowledge related to TB contact investigation and follow-up care. The identification and management of positive TB contacts was significantly quicker. Challenges included initial resistance to change and the need for ongoing refresher training.

Conclusion

Standardizing the Mantoux test protocol and focused nurse training enhances the efficiency and accuracy of TB contact investigation and management. These findings support the adoption of such protocols broadly to strengthen TB control efforts, empower nursing staff, and ultimately reduce TB transmission in the community. Future plan: The protocol's effectiveness will be evaluated over six months through audits of documentation accuracy, timely management of positive cases, and feedback from participating nurses.

Implementing the MMR catch-up campaign in Northern Ireland

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Background

Measles cases increased across the UK and Europe in 2024 with the first case in Northern Ireland (NI) reported since 2017 (with 22 confirmed cases in 2024). MMR uptake has been declining in NI since 2017. Coverage of two doses of MMR in children aged five during 2023/24 was 85.6%.

Methods

To reduce the risk of outbreaks, the Public Health Agency (PHA) launched an MMR catch-up campaign between February and March 2024 for those up to age 25. The campaign delivery model was designed to provide flexible access options for vaccination. Those aged up to 6 years were recalled and vaccinated by their GP. Individuals aged 6-25 were invited to attend Trust clinics (easily accessed by walk-in or bookable online appointments). Uptake data at school and super-output area were used to plan outreach clinics to target populations who were under-vaccinated. Promotional activities were provided in alternative formats, including translations, to address misinformation and build trust. The Vaccine Management System (VMS) was updated to record adult vaccinations.

Results

It is estimated that an additional 1,092 MMR1 and 1,488 MMR2 vaccinations were administered during the campaign, outside of the routine schedule.

Discussion

Recommendations include addressing gaps in data returns to Child Health System (records were updated for 37% of children), outreach to communities and supporting GPs to address operational delays in vaccination outside of the recommended schedule. Promotion is the responsibility of all healthcare professionals engaging with patients to “make every contact count”. The offer of opportunistic vaccination protects against measles.

Management of a Tuberculosis Outbreak in an Irish Secondary School: A Public Health Response

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Background

Tuberculosis (TB) remains a leading global health challenge and significant cause of morbidity and mortality worldwide. Despite being a low-incidence country, Ireland's TB incidence increased in 2024 with case numbers exceeding those projected to achieve WHO End TB elimination targets. Additionally, 2024 saw a sharp increase in reported TB outbreaks, highlighting ongoing public health challenges and the need for enhanced surveillance and control measures. The aim of this report is to describe the investigation and management of a TB outbreak in a school in Ireland in 2024. The index case was a 15-year-old non-Irish national student diagnosed with pulmonary tuberculosis, with a second case of TB meningitis subsequently identified in a 17-year-old Irish student from the same school.

Methods

Contact tracing was conducted using the concentric circle approach with screening extended to the entire school due to high transmission rates. Screening utilized both Tuberculin Skin Test (TST) and Interferon Gamma Release Assay (IGRA).

Results

Whole genome sequencing (WGS) confirmed a direct epidemiological link between the cases. The index case generated 407 close contacts, of whom 365 (89.7%) were screened. Screening identified 40 cases of TB infection, corresponding to an overall TB infection attack rate of 11.2% among those screened.

Discussion

This outbreak presented several challenges, including the coordination of large-scale TB outreach clinics, overcoming communication barriers, mitigating stigma, and safeguarding of the index case. To enhance future response efforts, we recommend implementing systematic TB screening for migrants in Ireland, re-establishing a regional collaborative TB committee, and developing targeted strategies to reduce TB-related stigma.

Epidemiology of exclusion under the Public Health Act (Northern Ireland) 1967

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Background

Exclusion from work, education or other activities under the Public Health Act (Northern Ireland) 1967 can be required to control the spread of infectious diseases. Exclusion may have significant social and economic implications for individuals and their families. There is a lack of evidence about the epidemiology of being excluded for infectious diseases. We investigated the characteristics of people who were excluded under the Public Health Act, and their duration of exclusion.

Methods

We queried HPZone for all records added between 1/1/24 and 31/5/25, extracting key demographic, infection and exclusion fields. Descriptive statistics were calculated using R.

Results

There were 10490 cases, of which 158 (1.5%) were excluded under the Public Health Act. One hundred and twenty-eight (81%) exclusions were for Shiga toxin-producing *Escherichia coli* (STEC). Of those with STEC, 22% (128/584) were excluded. Of all exclusions, 87 (55.1%) were female and of exclusions for STEC, 77 (61%) were female. More females than males were excluded for STEC across all age bands. Of working-age cases (18-64 years) excluded for STEC, 21 (75%) were female. Cases aged 1-4 years account for 50% of all exclusions. The least deprived area-based deprivation quintile accounted for fewer exclusions (12, 7.6%) compared to other quintiles.

Conclusions

STEC poses a significant exclusion burden. Potential gender, age and deprivation inequalities were identified. Further work is needed on impacts of exclusion by ethnicity and for contacts of cases. Financial impacts should be quantified and social impacts could be further explored in future using qualitative methods.

Strengthening Surveillance: Addressing Health Inequities Through OCIMS in Deprived Populations

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Background

The Outbreak, Case and Incident Management and Surveillance (OCIMS) Programme is a cross-organisational HSE initiative replacing the end-of-life Computerised Infectious Disease Reporting system (CIDR) with an integrated, timely platform for 90 notifiable diseases. It introduces a standardised infectious disease core dataset to address fragmentation and improve surveillance, inclusive of underserved and vulnerable populations. By integrating Individual Health Identifier (IHI), OCIMS will enhance data linkage, reduce duplication, and enable population-level insights for more equitable public health responses and outcomes.

Methods

The development of the core dataset incorporated various frameworks, including the Health Information Bill, HSE's ethnic equality monitoring training, European topology on homelessness and housing, Progress Plus, HIQA standards on data management, and the HSE's Data Specification Management Process — all contributing to a comprehensive, standardised data collection.

Results

Implementation of a standardised national core dataset is a critical precursor to the development of OCIMS. This dataset will improve data quality, usability, and timeliness. Capture of PPSN will enhance matching of cases with IHI, facilitating person-level analysis by geographical and health-related status, supporting timely detection, targeted interventions, and more equitable outbreak responses for vulnerable populations.

Conclusion

OCIMS will unify case and outbreak management and surveillance into a single digital, pandemic-ready system, replacing fragmented legacy systems. A core dataset identifying individuals from underserved or vulnerable populations marks a significant advancement in Public Health data collection. This will deepen understanding of health disparities and guide targeted interventions and resource allocation. Prioritising those most at risk will improve outcomes and ensure public health strategies are equitable and effective.

Investigation of a Shiga toxin-producing *E. coli* (STEC) O157 outbreak in a nursery and children's entertainment venue in Northern Ireland, 2025

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Background

In May 2025, PHA Health Protection was notified of 2 STEC O157:H7 cases in siblings attending the same nursery in Belfast. Subsequent notifications of gastrointestinal illness in the nursery led to closure, with exclusion and screening of all children and staff.

Methods

Active case finding was conducted. Our aim was to describe confirmed cases with an onset on/after 1 May 2025 who attended the nursery and linked settings. Cases were identified through active case finding. Whole genome sequencing (WGS) data was used to investigate mode of transmission.

Results

There were 10 confirmed cases of STEC O157:H7; 7/10 males, 9/10 symptomatic, 8/10 required hospitalisation and 2/10 were treated for haemolytic uraemic syndrome. Six cases were linked to the nursery; 4 in one classroom and 2 household sibling cases also attending nursery. One nursery case and their sibling attended a leisure venue; 3 further cases were identified. A household member, related to 2 nursery cases, was also identified as a case. The index cases reported raw milk exposure in the Republic of Ireland (ROI); testing of milk supplied by the farm was negative for STEC. WGS revealed 6 cases clustered around 5-SNP address (4 identical); one distinct lineage was unique to the leisure venue.

Discussion

Findings suggest transmission occurred in one nursery room and sibling cases across multiple households. WGS results suggest active case finding detected coincidental community transmission, negating the link between nursery and leisure venue cases. Collaboration with ROI colleagues was vital particularly for raw milk testing, with transparent and coordinated communication throughout.

Introduction of an Outbreak Management Tool for use in Long Term Care Facilities (LTCFs) in assessing and notifying potential outbreaks to Public Health Dublin & North East (PHDNE).

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Background

A Q2 2024 audit by the PHDNE nursing team identified inconsistencies relating to outbreak reporting in LTCFs. In response, a Quality Improvement Plan was introduced, equipping LTCF staff with tools to recognise, assess, and report outbreaks promptly and accurately. The project aimed to streamline outbreak management and improve reporting and data collection. An Outbreak Management Tool was developed, featuring an algorithm and action cards to guide staff in identifying outbreaks, taking appropriate actions, and when to contact PHDNE. A standardised Excel reporting tool was introduced which replaced multiple phone calls and emails. LTCFs were informed of the new process and invited to MS Teams training in December 2024.

Methods

In May 2025 a retrospective documentation audit was conducted alongside an LTCF staff feedback survey.

Results

The introduction and implementation of the Excel- based line listing significantly contributed to improved data management. There was positive feedback from LTCF staff on the new process. Improved outbreak management via clear communication, consistent documentation, and guideline adherence enhances patient safety, limits infection, reduces harm, and supports resident wellbeing, and thus reducing health inequalities in this population.

Conclusion

Improved documentation and data management have simplified outbreak tracking for both PHDNE and LTCFs. This documentation project ensures equity in health care delivery and outbreak recognition regardless of the care environment. Ensuring all residents in LTCFs are safe and receive the highest standard of care based on best evidence available from Public Health. A re-audit is recommended to further improve and refine the process.

Toward a Stigma-Free Tuberculosis (TB) Response: Strengthening Ireland's Path to Elimination

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Background

Tuberculosis (TB) stigma continues to undermine global and national efforts to eliminate the disease, contributing to delayed diagnosis, poor treatment adherence, and psychological distress. In spite of a significant decline in TB burden in Ireland over recent decades, the incidence rate in 2024 was 5.6 per 100,000 population. With broad coverage of equity and health inequities, Ireland's Strategic approach to TB still lacks a focused response to TB-related stigma-an overlooked but critical barrier to success. The aim of this review is to highlight the critical gap in stigma-responsive services within Ireland and evaluate how stigma influences TB care outcomes and to identify effective interventions.

Methods

A comprehensive literature review of peer-reviewed articles, international guidelines, and public health reports was conducted using multiple databases and official health organization websites to evaluate how stigma influences TB care outcomes.

Results

Stigma delays care-seeking, reduces treatment completion, and exacerbates social isolation-particularly among vulnerable groups. Internationally, stigma-reduction strategies such as health worker training, peer-led support, and integrated psychosocial care have improved outcomes. However, Ireland's TB services remain primarily biomedical, with no formal integration of stigma-focused interventions or mental health support. This omission could undermine the goals of the 2024-2030 strategy amid rising TB notifications.

Conclusion

Eliminating TB in Ireland will require more than clinical care. Addressing stigma as a core element of the national strategy is essential to ensure timely diagnosis, a more holistic, patient-centred approach for sustained treatment, and equitable access-ultimately enabling progress toward a stigma-free and TB-free Ireland.

Identification and assessment of social stratifiers to monitor health inequities in Irish population

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Background

The published literature shows that vulnerable and marginalised people e.g. poorer people, those experiencing homelessness, vulnerable migrants, and those with substance use disorders, face significantly higher risks of infectious diseases, including tuberculosis, HIV, hepatitis C, and others. The Health Service Executive (HSE) Health Protection Strategy 2022-2027 outlines ten strategic to protect the population from health threats and to reduce health inequities. However, action on the latter objective is hampered by the lack of a dedicated national framework specifically designed to evaluate and address disparities in infectious disease outcomes.

Methods

To address this, the PROGRESS Plus framework was applied to assess the Irish infectious disease surveillance system's potential for supporting a dedicated national framework specifically designed to estimate and reduce health inequities in infectious disease outcomes. Based on the evaluation of the equity stratifiers currently collected on CIDR, we developed the Social Inclusion Population Identification Algorithm (which detects seven population groups using multiple equity stratifiers) and Vulnerability Scoring System (which pinpoints members of the of social inclusion groups).

Results

This combined approach has significantly improved the accuracy of identification of underserved patients.

Discussion

This methodology could be applied to generate more precise epidemiological data on socially excluded populations, thereby enabling more targeted public health interventions.

Building up a Resilient Health Protection Workforce

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Background

Pre-pandemic, the health protection nursing (HPN) workforce was limited in Ireland. The public health pandemic workforce-plan enabled recruitment of nurses building capacity. We describe an ongoing program of building workforce capability to deliver safe service. Objectives: 1. Explain the development of HP-workforce capability. 2. Discuss targeted competency development programmes for the nursing.

Methods

Delivered an in-house developed HP-Foundation (HPF) programme, regulator (NMBI) accredited. Commenced regular continuous professional development programme. Developed and administered managerial competency indicators, with assessment survey at baseline (March-2023), and programme completion (July-2024). The survey statements listed middle-level manager competencies: Planning and Organisation n=5, Staff development n=4, Operational / clinical expertise, Communication and Leadership n=6, Quality and Risk management n=3. Co-developed senior nurse manager competency programme with the National Clinical Learning Centre (NCLC).

Results

Over ninety percent (n=52) of HPNs completed the HPF Programme. All participants agreed that the learning content was relevant to their professional practice, and 97% avowed that the HPF met the learning objectives. Almost all mid-level nurse managers (n=20) participated in the pre and post course surveys. Remarkable advancement evident on achievement of all four mid managerial competencies, comparing scores of the anonymous surveys. All (n=6) senior nurse managers engaged with the NCLC managerial competency development programme.

Conclusion

Developing capability of the health protection workforce is indispensable to deliver safe, effective, equitable and timely service. The proactive and ambitious capability development programmes delivered to HPNs is expected to sustain stability and retention of the workforce along with safe and quality-driven health protection service.

Strategy to action, Development of TB Workforce

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Background

Striving-to-End-Tuberculosis-A-Strategy-for-Ireland 2024-2030 sets out the road map for Ireland to attain the WHO End TB goals. Six priorities identified to enable implementation of the national TB strategy, strengthening the multidisciplinary TB workforce a key priority. We describe an ongoing program of building up the capability of health protection (HP) nursing workforce employing the TB Nurse Network (TNN). TNN Objectives 1. To provide a forum for learning and professional development 2. Share evidence-based knowledge and experience on public health (PH) management of TB 3. Contribute to the implementation of National TB Strategy.

Methods

The TNN is composed of HP nurses from all six PH regions and national surveillance centre. Terms of reference developed, and action plan agreed. TB case and contact management groups established; focus on collating resources, tools and capturing current practice. Professional updates shared as well as international best practice. Participation at monthly TB case conferences encouraged. TB-CPD events organised. TB Nurse competency framework and a self-assessment tool developed, collating returns and establishing baseline training needs.

Results

The TNN forum and outputs are expected to converge on building up a resilient nursing workforce, as well as consistent implementation of evidence-based PH best practice on management of TB.

Conclusion

Developing TB workforce capability is necessary for implementation of national TB strategy. Building capacity and capability of nursing workforce along with peer-professional support is opportune to support national strategy implementation and attaining the WHO End TB goals.

Tracking the Spread; Implementing RPA for Efficient Disease Surveillance

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Aims

This paper examines the integration of Robotic Process Automation (RPA) into Ireland's Computerised Infectious Disease Reporting System (CIDR) to improve timeliness and accuracy of infectious disease notifications. It explores efficiency gains and human factors, including workload reduction and workforce adaptation.

Methods

The RPA solution queries CIDR to manage notifications for COVID-19, Influenza and RSV, operating six subprocesses 22 hours daily, 7 days per week. Virtual workers process data, flag exceptions and log errors. Outputs populate a Power BI dashboard for real-time monitoring of speed, failure rates and cost savings. Structured documentation supported integration of automation to human workflow.

Results

RPA increased processing capacity and accuracy. In December 2021, 115 robots processed 20,000 positive lab results daily, saving 218K manual hours. After the 2021 cyber-attack, robots processed 35k records per day, clearing a four-month backlog within two weeks. In a typical year, approximately 48k notifications are processed across 80 diseases. In 2023, the RPA solution processed 93K notifications, saving 9.2K manual hours, generating cost savings of €334.8K. Importantly, it allows public health professionals to redirect expertise to critical decision-making rather than administrative tasks.

Discussion

Beyond efficiency gains, RPA reduced cognitive load, enabling epidemiologists to focus on outbreak response and policy planning. Its scalability during surges demonstrates operational necessity. Research should focus on assessing workforce adaptation and potential resistance to automation.

**Integrated approach to Public Health (PH) and Infection Prevention and Control (IPC)
Winter Preparedness for Public and Private Residential Care Facilities (RCFs) HSE
Southwest (SW)**

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Background

The IPC team provides education, training, and guidance during outbreaks to HSE-operated residential services, including Older Persons, Mental Health, and Disability. The Department of Public Health (DPH) HSE SW is responsible for outbreak management across all RCFs throughout the region. The COVID-19 pandemic underscored disparities in access to IPC expertise, particularly in private RCFs. Objective: To foster a unified, service-wide strategy to enhance winter preparedness and outbreak response across SW region.

Methods

The Health Protection Nursing Team within the DPH, in collaboration with the IPC team, developed an integrated approach to support both public and private RCFs, by consolidating national and regional IPC and PH guidance into streamlined, accessible resources and templates for all RCFs.

Results

The development of a suite of standardised documentation for all RCFs in SW region including:

- Key Actions document and Frequently Asked Questions (FAQ) guide, both aligned with national guidelines, offering concise, practical information for managing respiratory outbreaks.
- An infographic to guide General Practitioners on the use of Tamiflu for treatment and prophylaxis during influenza outbreaks in RCFs.
- Customised line listing template in Excel format, adapted from national guidelines, featuring dropdown menus to improve data quality, accuracy and reduce administrative workload during outbreaks.
- Standardised PH Risk Assessment template to support consistent information sharing by RCFs and inform PH decision-making during outbreak management
- Education sessions to support implementation.

Conclusion

This integrated model promotes consistency, efficiency and equity in outbreak preparedness and response across all RCFs in the SW region and is easily transferable to other regions and notifiable infectious diseases.

PANDORA and the Shared Burden of Preparedness: A National Command Post Exercise

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Background

On 6 March 2025, the HSE National Health Protection Office, in collaboration with the National Office for Emergency Management, conducted Exercise PANDORA, a national command post exercise involving one national and six regional teams, to test the HSE Operational Pandemic Plan (OPP) during an escalating highly pathogenic avian influenza emergency. Senior leadership teams engaged in scenarios simulating pandemic progression, focusing on coordination, communication, and disease control.

Methods

Planning began in July 2024, with participation from the Chief Medical Officer and observers from Northern Ireland. Evaluation included Hot and Cold Debriefs. Key successes included effective communication, interagency collaboration, and use of existing structures. Challenges involved new regional structures, supporting staff wellbeing, infrastructure, technology, psychological impacts, and funding.

Results

Teams activated Crisis Management Teams, adhered to timelines, and made efficient decisions. National players focused on cross-agency coordination; regional teams prioritised operational readiness. Common themes were surge planning, workforce resilience, and vulnerable population support. The OPP was widely recognised for its phased escalation model, multidisciplinary approach, and guidance on resource allocation. Feedback highlighted misalignment with new regional structures, governance clarity, ICT gaps, and

psychological toll on staff. Recommendations were grouped into four categories: OPP development, regional preparedness, strategic policy, and future exercises.

Conclusion

Exercise PANDORA demonstrated the HSE's commitment to preparedness, offering insights to refine the OPP and strengthen national and regional pandemic response capabilities.

Mapping the timeline from entry to tuberculosis diagnosis among arrivals from high incidence countries in Northern Ireland

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Background

Tuberculosis (TB) remains a public health concern in Northern Ireland (NI). Although classified as a very low incidence country, TB notifications have shown a sustained upward trend since 2021, particularly among individuals from high-incidence countries. Active TB can develop shortly after infection or from reactivation of latent TB infection. This study aimed to examine the timeline from arrival to diagnosis among individuals from high-incidence countries.

Methods

Data were extracted from the National Tuberculosis Surveillance System (NTBS) from 2018 to 2024. The analysis focused on TB cases among individuals born in high-incidence countries, stratified by time from entry to diagnosis: <1 year, 1–2 years, 3–5 years, and >5 years. A sensitivity analysis was conducted for pulmonary TB cases due to the highly transmissible nature of this type of TB.

Results

The proportion of TB notifications among individuals from high-incidence countries within five years of entry increased from 52.9% in 2018 to 66.7% in 2024. Those diagnosed within two years rose from 17.6% to 52.1%. A similar trend was observed in pulmonary TB cases, with diagnoses within five years increasing from 50.0% to 69.6%, and within two years from 25.0% to 56.5%.

Conclusion

Findings underline a growing burden of TB among recent arrivals from high-incidence countries, particularly within the first two years post-entry, highlighting a critical window for intervention. Strengthening pre- and post-entry screening could lead to the development of targeted, timely public health responses and cross-border collaboration to reduce health inequalities affecting this vulnerable population.

First Suspected Case of Domestically Acquired Tularaemia in Ireland

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Background

There have been no domestically acquired cases of tularaemia in Ireland since it became a notifiable disease in 2012 with one imported case reported in 2023. Here we describe the first suspected case in Ireland and discuss its implications. In February 2025, Public Health HSE Mid-West were contacted by a tertiary paediatric team reporting a case of suspected tularaemia in a 7-year-old girl. The patient presented with recurrent lymphadenitis requiring multiple courses of antibiotics and repeated incision and drainage procedures. The patient lived on a farm but had limited contact with animals and denied any insect/animal bites or exposure to rodents/rabbits. Her only travel during the incubation period was to a UK urban area. She did have a history of swimming in a nearby lake.

Methods

The presence of *Francisella tularensis* IgG antibodies in a serum sample was confirmed by the UKHSA Rare and Imported Pathogens Laboratory who considered it diagnostic.

Results

This case represents the first possible case of tularaemia acquired in Ireland and may change Ireland's tularaemia-free status.

Conclusion

The presence of tularaemia in the Republic of Ireland may have a major impact on the work of health protection colleagues in Northern Ireland. Awareness of its clinical presentations and the requirement for testing is imperative in both regions.

A communication plan to increase uptake of PPV23 vaccine

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Background

From September 2023 to July 2024, the National Immunisation Office (NIO) implemented a communication campaign aimed at increasing PPV23 vaccine uptake in those aged 65+ years and those aged 2-64 years in risk groups.

Methods

The campaign included a letter circulated to GPs at the beginning of the influenza season, an NIO bulletin article, and display leaflets sent to 1,200 GP practices. In January 2024, the NIO ran one national PPV23 advertisement targeted to 50-65 years and 5 geo targeted advertisements to those aged 65+ years on Facebook and Instagram over 4 weeks in 5 counties with low PPV23 uptake and a letter was sent to stakeholders with a PPV23 partner pack to share on their networks. In February 2024, the NIO hosted a PPV23 vaccine webinar.

Results

We described social media engagement metrics (impressions, click rate), and we extracted PPV23 uptake from the PPV23 dashboard.

Conclusion

Social media metrics indicated successful online engagement. This campaign coincided with the start of chronic disease management in GP practices in late 2023. Further study is needed to see if communication efforts increase vaccine uptake.