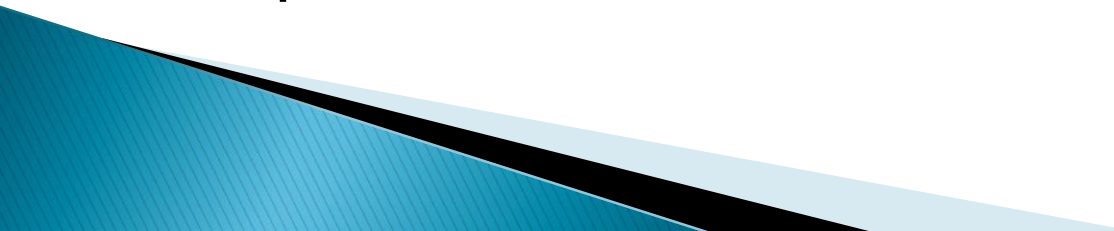


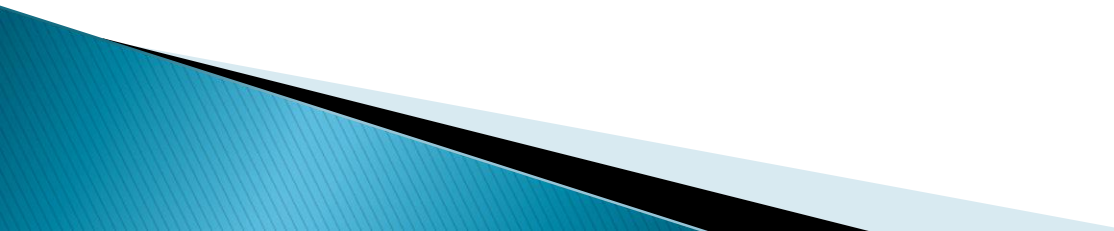
Respiratory Outbreak Notifications in Care Homes in Northern Ireland, 2011–15

Christopher Nugent

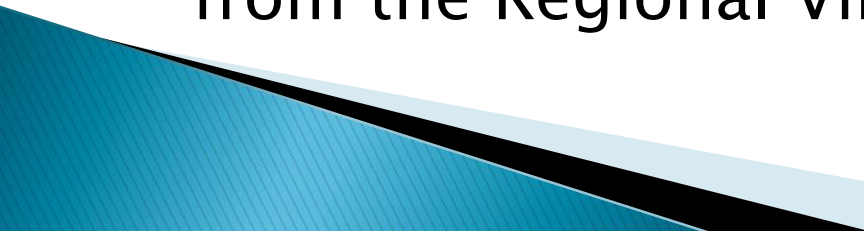
Background

- ▶ Respiratory infections cause significant morbidity and mortality in elderly populations
 - ▶ Care homes are; staffed facilities providing housing, meals, and support to individuals with particular needs
 - ▶ Care home outbreaks cause substantial workload for PHA, care home and primary care staff
 - ▶ Prompt investigation and implementation of outbreak control measures is essential to limit impact
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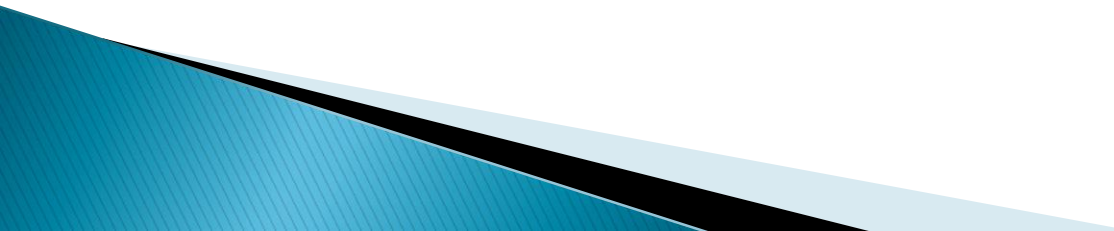
Aims

1. To describe the epidemiology, virology and clinical characteristics of respiratory outbreaks in care homes during 4 flu seasons
 2. To identify factors that could be used at time of notification to predict which outbreaks are more likely to be caused by influenza
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Methods

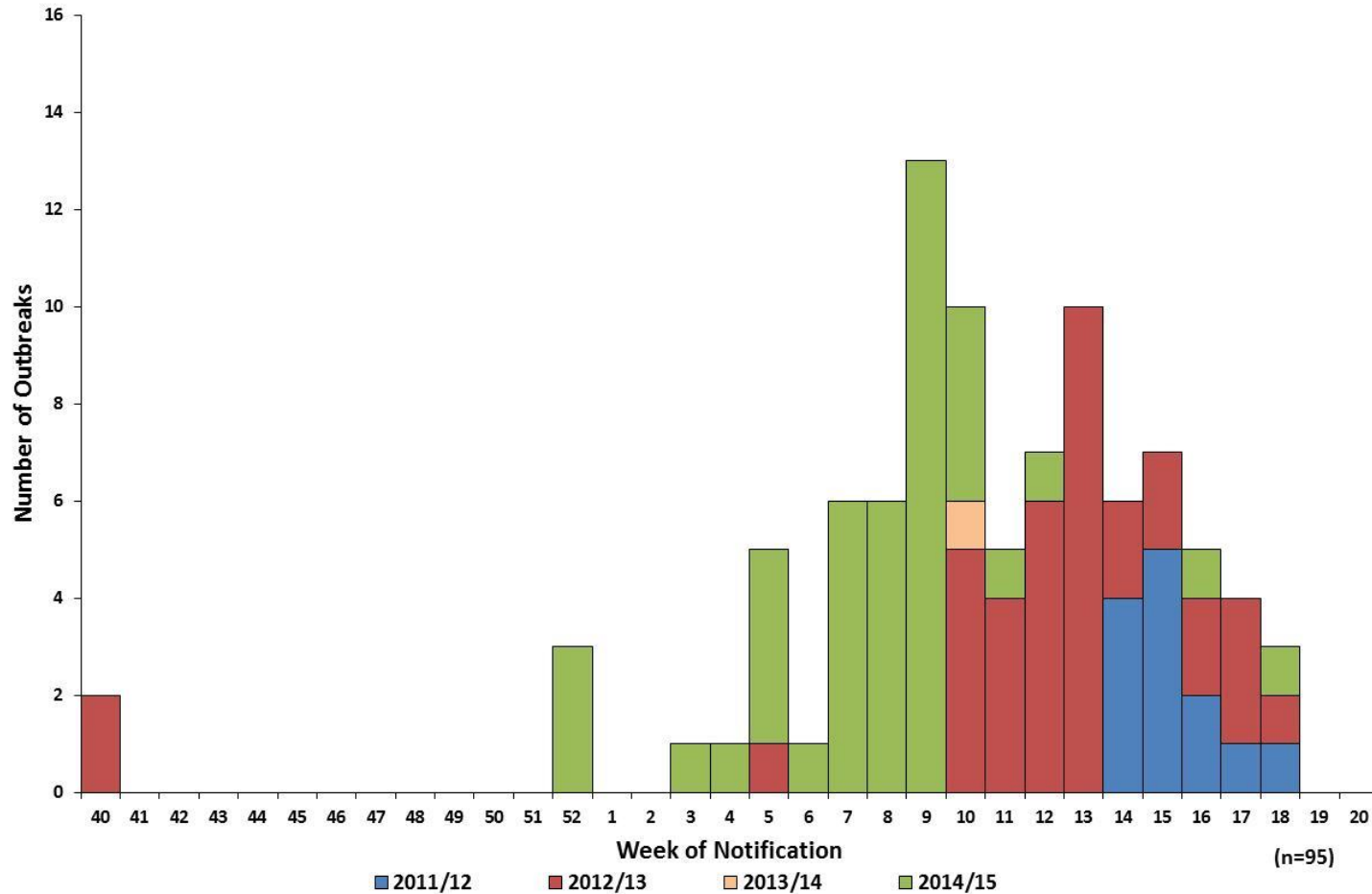
- ▶ Retrospective, descriptive study covering 4 influenza seasons (October 2011 – May 2015)
 - ▶ Data collected routinely throughout the influenza season (October–May)
 - ▶ Data extracted from HP Zone (clinical management database) and a local routine respiratory outbreak surveillance database
 - ▶ Virological information routinely reported to PHA from the Regional Virology Lab
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Data Analysis

- ▶ Epidemiological, virological and clinical characteristics were described
 - ▶ Influenza Positive v Negative outbreaks compared to ascertain potential predictors of influenza positivity (t-tests and chi-squared tests)
 - ▶ All data analysed using STATA v11
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Results

Weekly trend of number of respiratory-related outbreaks, Week 40 2011 – Week 20 2015

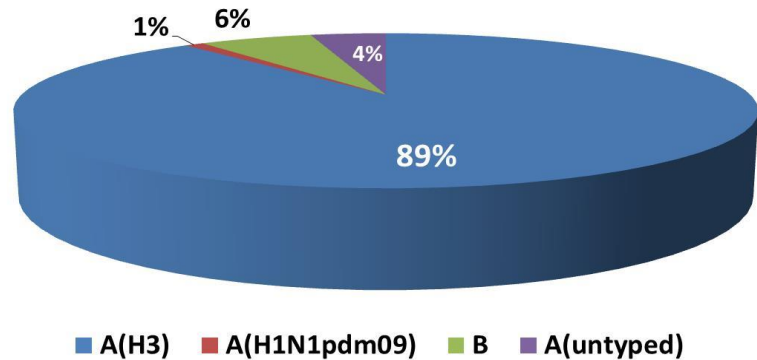
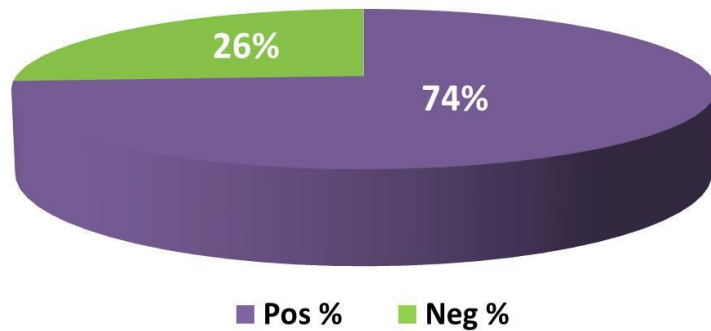


Results– Clinical Characteristics

Clinical Characteristics		2011/12 – 2014/15	
No. outbreaks with information on case numbers	84	(88%)	
Mean no. ill at notification	8.9	(2-23)	
Mean no. ill overall	11.3	(3-27)	
Mean Attack Rate	29%	(7-82%)	
No. outbreaks with information on hospitalised & deaths	83	(87%)	
Mean no. hospitalisations	1.6	(0-6)	
Mean Hospitalisation Rate	17%	(0-75%)	
Mean no. deaths	0.3	(0-3)	
Mean Case Fatality Rate (CFR)	2%	(0-25%)	

Flu Vaccine Uptake		2011/12 - 2014/15	
No. reporting Residents Vaccinated		74/95	
No. reporting Staff Vaccinated		12/95	
Residents Vaccine Uptake		86%	
Staff Vaccine Uptake		14%	

Results– Virology

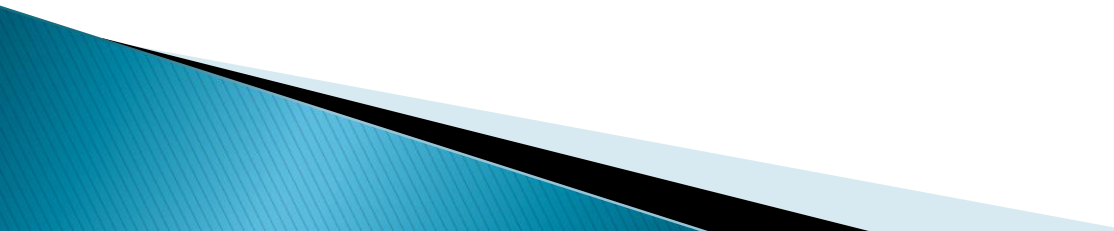


- Half of those testing negative for flu A or B (11 / 22) were positive for another organism eg: Rhinovirus, RSV, Metapneumovirus

Results– Predicting Flu Positivity

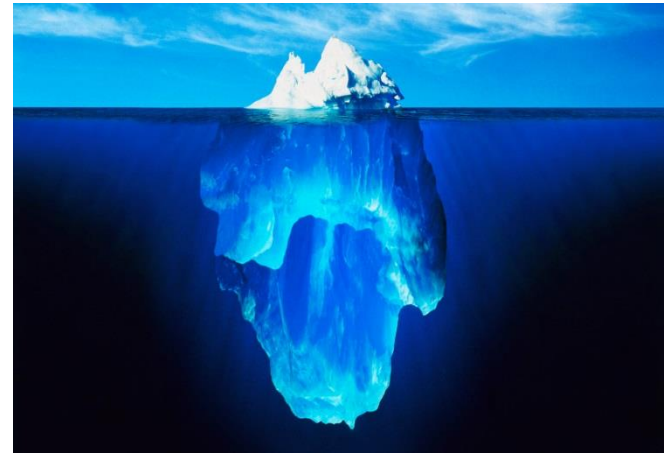
Outbreak Characteristics	Test Result		P-value
	Flu Positive	Flu Negative	
No. with information available	67	22	
Mean no. Cases	9.3	8.6	0.57
Mean Hospitalised Rate	11%	10%	0.77
Mean Case Fatality Rate	7%	5%	0.61
% of outbreaks that have any case with pyrexia	94% (34/36)	71% (5/7)	0.06
% occurring where other outbreaks in LCG area in 7 days previous (n=92)	41% (29/70)	36% (8/22)	0.56
Mean time (days) between onset of first case and notification	5.4	7.0	0.15
% occurring during flu activity season (n=92)	89% (62/70)	73% (16/22)	0.07
Mean % residents receiving seasonal vaccination (n=74)	86% (0-100%)	88% (52-100%)	0.78

Key Findings


- ▶ Respiratory outbreaks in Care homes are responsible for a significant burden of morbidity and mortality
 - ▶ Average of 11.3 cases notified, 1.6 cases hospitalised and 0.3 cases deceased per outbreak
 - ▶ Average number of cases at time of notification to PHA is higher than the recommended guidance (of 2 cases within 72 hours)
 - ▶ Difficult to predict influenza outbreaks with just outbreak and clinical characteristics alone
 - ▶ Influenza vaccination for both residents and staff should continue to be encouraged as an effective preventative measure for influenza
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Cost Implications for HSCNI

- ▶ Cost of hospitalisations
- ▶ Cost of public health action
- ▶ Cost to primary care
- ▶ Cost to care home



So what can we do?

- ▶ Education of care home staff in recognising, reporting and managing respiratory outbreaks
 - ▶ Encourage staff uptake of flu vaccine to ensure total protection in care homes
 - ▶ Prompt lab testing of samples to ascertain flu positivity
 - ▶ Timely control measures, eg; prescription of antivirals, closure of home to visitors and terminal cleaning
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Thank you for Listening



Acknowledgements

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