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Season's Greetings from the TARRANT Team!

We hope that all of our sentinels are having a great winter and the flu season hasn't been overwhelming so far! As the influenza season kicks into full swing, we want to thank everyone for their continued participation and support in the Vaccine Effectiveness (VE) and TARRANT weekly ILI surveillance program. The work we do would not be possible without you.

This fall has shown an early onset Influenza season with higher than average Influenza activity compared to previous seasons. As Influenza activity continues to increase within all zones in Alberta, the emerging picture is of an Influenza A (H3N2) predominant season. However, it could be superseded by an H1N1 wave: we await with interest.

We wish all of our sentinels, study partners and stakeholders a wonderful holiday season filled with health, wealth and happiness. All the best to you, your staff & your families.

Jim Dickinson, Kim Le, Dylan Kendrick and Manish Ranpara

Sentinel Compensation

We are in the payment process for the influenza reporting and vaccine effectiveness programs to all of our sentinels for the period covering April 1st, 2017– December 31st, 2017. Please note that we aim to issue payment by January 2018. We process payments twice per year, however there is no date by which these payouts are promised. Payouts depend on our workload and the processing time of the accounting department. Invoices are provided for your own records but you do not need to send signed copies back. If you notice a discrepancy in your invoice please contact us. New sentinels need to provide personal or professional information (whichever is being elected for payment) for successful payment. Existing sentinels are encouraged to contact us as soon as possible should they wish to update their information. Sentinels who are employees of the University of Calgary will need to provide their UCID to receive payment through payroll.

As a reminder, we pay you $5.00 per TARRANT Weekly Incident Report (WIR) received on time (Tuesdays by 2:00pm) and $10.00 for each VE submission that is completed correctly.
Please note we do not compensate for late WIRs or VE study submissions completed incorrectly that have to be excluded from the study. Exclusions occur when:

* Specimens were submitted on an old form or with no consent
* Patient does not meet ILI case definition
* >2 weeks between ILI symptom onset date and sample collection date
* Vaccine history left blank

Update:
We have compiled a list of 'common mistakes' which we hope will help guide our sentinels and avoid specimen processing issues in the future. Please take a moment to view this list on page 3 of this newsletter.
Any other information regarding our study can be found at our website, with news and articles added regularly at www.calgaryfamilymedicine.ca/tarrant

Risk factors and effectiveness of preventive measures against influenza in the community

The Influenza virus is transmitted in the community by infected people with or without symptoms, mostly by aerosol, but also by hand contact. This Spanish study conducted a multicenter case-control study to evaluate risk factors and preventive measures of Influenza in the community. Their findings suggested an increased risk of Influenza diagnosis for healthcare workers and homes with a higher number of cohabitants. Interestingly, the use of metropolitan public transport was associated with a lower frequency of Influenza diagnosis, but the use of taxis or long-distance transport was not. This may be explained by the development of protective antibodies against Influenza due to repeated exposure in public transport users. Hand washing or the use of alcohol-based sanitizers was not shown to have a significant effect on the frequency of Influenza diagnosis. However, previous studies have shown habitual handwashing to be preventative in the transmission of Influenza, so the study's findings may be explained by a low power and the lack of evaluation of hand cleansing methodology. Alcohol-based hand sanitizers have also proven to prevent the transmission of infections, but their additive effect in adults who habitually wash their hands may be marginal at best. As in previous studies, Influenza vaccination was the most effective preventive measure against Influenza, echoing the current recommendation for annual Influenza vaccination.

Reference:

Castilla J, et al. Risk factors and effectiveness of preventive measures against influenza in the community. Influenza and Other Respiratory Viruses 2013; 7: 177–183.

Do Oseltamivir and Zanamivir cause neuropsychiatric symptoms?

A news article published in the British Medical Journal in November 2017 reported that Japanese authorities have recommended precautionary measures to avoid accidental injury among people with Influenza this winter. The Ministry of Health, Labour, and Welfare in Japan reported 'abnormal behavior' among people taking antivirals last season. Of the 54 cases reported, 2 young people who had committed suicide were consuming Zanamivir (Relenza) and 38 had been consuming Oseltamivir (Tamiflu). The ministry did not blame the antiviral drugs for the incidents as causality has not been established.

The safety profile of these drugs have been in question since 2007 when Japan warned against prescribing Oseltamivir in people aged 10-19, citing more than 100 cases of abnormal behavior in mostly young individuals who consumed the drug. The US Food and Drug Administration ordered that stronger warnings be placed on these medications the same year. Roche, which manufactures Oseltamivir and GlaxoSmithKline, which manufactures Zanamivir objected on the premises of causality.

A Cochrane review published in 2014 demonstrated a link between Oseltamivir and neuropsychiatric symptoms. The review found that symptoms of nervousness, aggression, hallucinations, psychosis, suicide ideation, and paranoia were significantly more frequent in the intervention arm.

Reference:

Hawkes N. Japan's government warns against abnormal behavior in people taking antivirals for flu. News. BMJ. 2017;359:j5529.

Chasing Seasonal Influenza — The Need for a Universal Influenza Vaccine

An insightful perspective published in the New England Journal of Medicine in November this year discussed the need for a universal Influenza vaccine given the current epidemiological trends and shortcomings of the annual vaccine.

To date, Australia has reported record-high numbers of laboratory-confirmed Influenza cases – 215,280 by mid-October vs. the 59,022 reported in the H1N1 2009 pandemic season. Current estimates place the vaccine effectiveness in Australia at 10%. These findings are significant because the vaccine composition this year in the Northern hemisphere mirrors that of the Southern hemisphere, so it is possible that North America could face a severe Influenza season. Since Influenza viruses are subject to continual antigenic drift, the WHO recommends vaccine updates each February for the Northern hemisphere. This guidance relies on global surveillance data from the previous 5 to 8 months and occurs 6 to 9 months before vaccine deployment, hence experts must combine antigenic and genetic characterization and modeling to predict which strains are likely to predominate in the coming season. Given the complexity of surveillance, lag time of data and abundance of viral mutations, it comes as no surprise that vaccine mismatches have occurred in the past, Even in years when influenza vaccines are well matched to circulating viruses, the estimate of vaccine effectiveness is about 50%. This could be explained by a multitude of factors including blunting of the immune response to serial vaccinations, host factors such as age and comorbidities affecting vaccine response, and egg adaptation by the virus during vaccine manufacturing process. A universal Influenza vaccine manufactured without the limitations of egg-based technology may be more durable than annual vaccinations, and protect more effectively against seasonal influenza drift variants and potential pandemic strains.

The article highlights that even though the current vaccination regimen is imperfect, it is our gold standard artillery against Influenza. So until we have better ammunition in our arsenal, the annual vaccination continues to be recommended.

Reference:

Paules CI, Sullivan SG, Subbarao K and Fauci AS. Chasing Seasonal Influenza — The Need for a Universal Influenza Vaccine. N Engl J Med. 2017 Nov 29.

TOP 5 COMMON MISTAKES

I. Missing patient identification

Requisition forms without adequate patient identifiers automatically get rejected by Provlab, and TARRANT is unable to process such forms. A missing result or a failed investigation can result in patient dissatisfaction and distress. Please ensure that all requisition forms have patient identifiers on them.

II. Patient identifier stickers covering sentinel details

When patient identifier stickers cover sentinel details we are unable to identify the sentinel who has requested the investigation. This can delay processing by the laboratory and the payment processes form TARRANT as we search for your details.

III. Using an old requisition form

Please use the BLUE 2017-18 requisition form only when collecting specimens. Older requisition forms such as the PINK 2016-17 form will not be processed by TARRANT. If you do not have the correct forms, please get in touch with us and we will send them.

IV. Completing a requisition form without patient consent

For legal and ethical reasons, we are unable to process requisition forms when patient consent has not been obtained. Please ensure patient consent is obtained before completing a requisition form and do not leave this field blank.

V. Improper specimen handling

We have received some of notifications from Provlab that specimens could not be processed as they were leaking and/or inadequate and/or in the wrong container. Please remain vigilant handling specimens to avoid specimen rejection by the laboratory.

Some poetry while you enjoy the Eggnog…

Influenza

Manish Ranpara

Fatigue, a fever and a cough,
My patient has been feeling very rough,
Joint aches, body aches and a sore throat,
He really wants an antidote!

I suspect he may have the Flu,
His symptoms have provided the clue.
Should I prescribe any medication?
Aha! The answer is in the last TARRANT communication.

Perhaps I should obtain a swab,
In order to do a good job,
It will most likely be H3N2,
My patient better have tissue!

As we continue to monitor Influenza trends,
We should inform family and friends,
Young, old or teen,
They should get the vaccine.

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