



Health
South Eastern Sydney
Local Health District

Public Health Unit

Research Report, 2019-2020

South Eastern Sydney Local Health District

October 2020

1 Foreword

The Public Health Unit is responsible for monitoring, preventing and otherwise minimising public health risks in the community. These risks might be infectious diseases acquired from other people, from animate vectors, such as mosquitoes, or from sources in the built environment, legionellosis being a good example. Other risks might be caused by exposure to toxic chemicals, whether present in tobacco smoke, or a result of contamination of the air, soil or water by industrial processes.

To undertake this work, the Public Health Unit comprises a multidisciplinary professional team of registered nurses and surveillance officers, medical personnel, environmental health officers and epidemiologists, supported by able administrative staff. Staff work closely within the District with population health staff and clinicians in all hospitals and in the community, with Health Protection NSW and with other agencies to respond to and minimize public health risks.

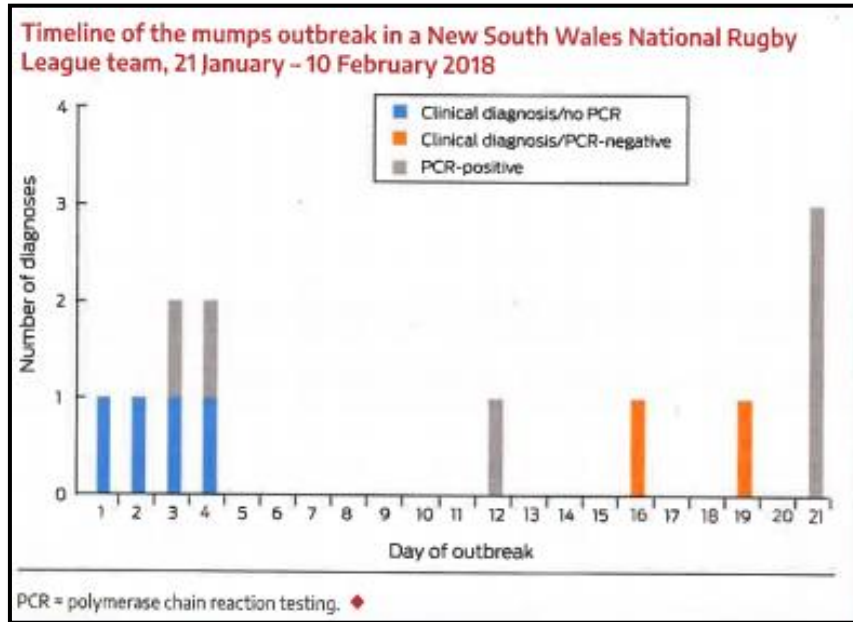


All teams are committed to fitting research where possible around their core activities and have been successful in using opportunities for operational research. Whilst the first half of the 2019/20 year which is the subject of this report could be considered a 'normal' period in the light of subsequent events, during the second six months all teams were almost completely committed to the public health response to novel coronavirus. Despite this, teams continued to work on previous projects and research papers; and because of it, they were enthusiastic about documenting evidence and analyses of the new disease and its public health impact.

This *Research report* showcases research published or accepted for publication or presentation over the last year, and also summarises some new projects – in infectious diseases and cancer epidemiology and causation, environmental health risks and regulation including tobacco control, and the impact of COVID-19 on our workforce – and we hope this work will have an impact on the future public health.

2 Scientific publications

Chee K, Workman C, Irvine S, Ferson MJ. Mumps outbreak in members of a rugby league team despite pre-existing immunity. *Medical Journal of Australia* 2020; (in press).



Source: *Medical Journal of Australia*, 7 September 2020

Gadsden T, Bateman-Steel C, Chaverot S, Ressler K-A, Chee K, Redwood L, Ferson MJ. Using a computerised database (REDCap) to monitor influenza vaccination coverage of healthcare workers and staff in South Eastern Sydney Local Health District. *Australian Health Review* 2020; (in press)

Gidding HF, Flack LK, Sheridan S, Liu B, Fathima P, **Sheppard V** et. al. Infant, maternal and demographic predictors of delayed vaccination: A population-based cohort study. *Vaccine* 2020; 38: 6057-6064.

3 Presentations at conferences

Hansen S. Colonic Lavage Compliance Survey, Environmental Health Australia, NSW State Conference – 19-23 August 2019, Manly



Sinead Hansen presenting at NSW state conference on 23 August 2019

4 Books, chapters, published reports

Baan RA, **Stewart BW**, Straif K. *Tumour site concordance and mechanisms of carcinogenesis*. Scientific Publication No 165. International Agency for Research on Cancer, Lyon, 2019.

Stewart BW. Mechanisms of carcinogenesis: from initiation and promotion to the hallmarks. In: *Tumour site concordance and mechanisms of carcinogenesis*. Eds Baan RA, **Stewart BW** and Straif K. IARC Scientific Publication No 165. International Agency for Research on Cancer, Lyon, 2019; pp 93-106.

Stewart BW, Zheng A, Sumithra S, Vyas A, Broome R, Truman G, Merritt T, Noonan H, Walton R, Lee G, Gregory C, McAnulty J. *Responding to cancer clusters in New South Wales*. NSW Ministry of Health, Sydney, 2020.

Wild CP, Weiderpass E, **Stewart BW**. *World Cancer Report: Cancer research for cancer prevention*. International Agency for Research on Cancer, Lyon, 2020.



Professor Mark Ferson with the Member of NSW Parliament, Dr Marjorie O'Neil who came to meet with, speak to and thank Public Health Unit staff.

5 Research in progress

Demographics of tobacco retailers that sold tobacco to minors.

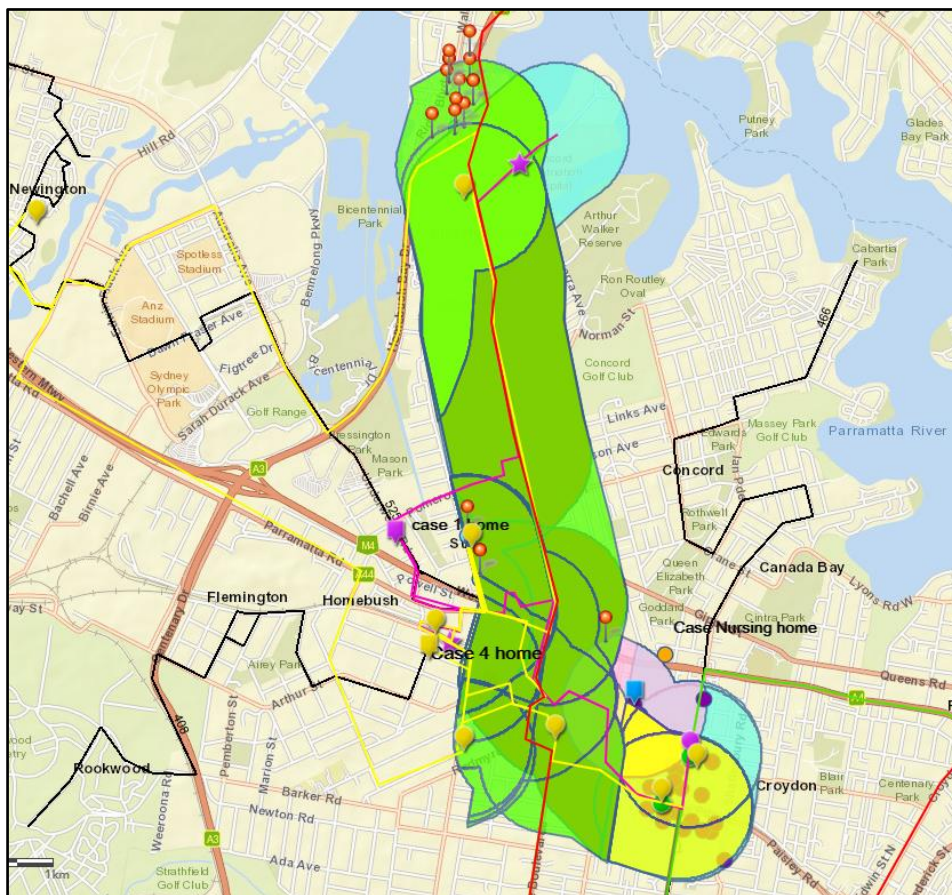
Kiss A, Cains T, Karalasingham R, Ferson MJ

Under the Public Health (Tobacco) Act it is illegal to sell tobacco products to people under the age of 18. The NSW Sales to Minors program randomly selects retail outlets with recruited minors to test if they sell tobacco. Tobacco retailers who sell to minors as part of the compliance check are prosecuted. Data from prosecutions for selling tobacco to minors is available for the past five years and this research will provide information on the demographics of those sellers including age, gender, ethnicity, type of retail outlet. It is understood this is a current data gap in knowledge and should assist with targeting the programs into the future.

***Legionella pneumophila* serogroup 1 case associated with the use of an apartment spa pool, February 2018.**

Cains T, Shalak H, Kiss A, Jeffrey R, Smith A, Timms V, Sintchenko V, Ferson MJ

In February 2018 a notification was received for a case of *Legionella pneumophila* serogroup 1. The case identified using a communal spa pool in the apartment complex he was living in. *L pneumophila* serogroup 1 was found in a water sample from the spa pool. The organism was recovered from the case's sputum and the environmental and human isolates were subjected to whole genome sequencing which provided unexpected findings.



Geographic information systems operational exercise: Exercise Winged PHLITES, Dec 2019.

Survey of colonic lavage centres in South Eastern Sydney Local Health District

Hansen S, Cains T, Ferson MJ

Since 2000 colonic lavage has been defined as a skin penetration procedure for the purposes of regulation under the Public Health Regulation. Health risks associated with colonic lavage include infection due to unsterile equipment, trauma to the colon, a reduced capacity to control bowel movements and the removal of normal intestinal flora. A search found 11 centres operating in SESLHD and using a standardised questionnaire all centres were surveyed. Additionally microbial water samples were taken from water storage tanks for analysis. To the authors knowledge this is the first survey of colonic lavage premises since its inclusion in the Regulation. Findings include the number of types of equipment being used, a stronger need for plumbing guidance, a need for operators to wear suitable personal protective wear, liaison with TGA about approval for equipment and a legislated requirement for infection control training of operators (data analysis stage).

Cremation and the medical referee

Cains T, Johnson R, Ferson MJ

This paper reviews the history of cremation and its regulation in Britain and New South Wales from the mid-nineteenth century to the modern day. It focuses on the development of the medical referee as the final approver of cremations, and explores its regulatory counterparts in other Australian jurisdictions. The authors also conducted a quality assurance survey of a sample of NSW medical referees to explore what support may be needed for medical practitioners who have assumed this role in the community.

Public Health Unit workforce evaluation project

Hildenbrand H, Papa T, Bateman-Steel C

This project aims to review workforce development and support in the PHU during a time of unprecedented rapid surge under extreme clinical pressure. It considers how SESLHD managed the first stage of the public health response to the Covid-19 pandemic and add to the evidence base of public health emergency preparedness by documenting lessons learned and recommendations for how local PHUs can prepare for the next emergency.

A multiple site community outbreak of COVID-19 in Sydney, Australia

Capon A, Ousta D, Ferson MJ, Ingleton A, Sheppard V

Objective: To investigate an outbreak of COVID-19 in Sydney, Australia.

Methods: Epidemiological linking and analysis of cases of COVID-19 across multiple outbreak sites.

Results: Fifteen cases of COVID-19 and 41 contacts were identified and linked in a cluster that included one workplace and five households. The mean incubation period in the cases ranged from 4.6 – 6.4 days, while the median incubation period was shorter ranging from 3 – 5 days. The overall range of incubation periods was 2 to 12 days. Differential attack rates were found within household (86% adults v 9% children) and workplace (32%) settings.

Conclusions and implications for public health: Our investigation links cases between multiple households and a workplace. Exploring these links using a rapid workplace assessment, real-time cluster data along with objective measurements of exposure, such as with the Australian Government COVID safe app, may have allowed these links to be identified more readily and potentially reduced further spread of COVID-19. We found age as a factor for infection, children being less likely to both acquire SARS-CoV-2 infection and to develop symptoms. This finding aids in

our understanding of how the virus affects children and cautiously supports face to face classroom teaching.

A Summary of healthcare worker COVID-19 infections in South Eastern Sydney between January and May 2020

Ellwood L and Ellis A

Research aim: To provide a descriptive analysis of COVID-19 infections in healthcare workers in south eastern Sydney, Australia between January 1 2020 and 1 May 2020 to enhance understanding of the source of COVID-19 infection in HCWs.

Method: Obtained data from the NSW state-wide notifiable conditions information system (NCIMS) regarding confirmed COVID-19 cases who were diagnosed between the period of 1 January and 1 May 2020, who lived in the South Eastern Sydney local health district and identified as healthcare workers.



Public Health Unit's environmental health workers keeping us safe from COVID-19

Help to stop the spread of COVID-19. Keep your family and loved ones safe.



If you're unwell stay in. Get tested. Isolate.



Wash your hands regularly. Take hand sanitiser with you when you go out.



Keep your distance. Leave 1.5 metres between yourself and others.



Wear a mask in situations where you cannot physically distance.



To find a testing clinic near you, visit
[www.health.nsw.gov.au/Infectious/covid-19/
Pages/clinics.aspx](http://www.health.nsw.gov.au/Infectious/covid-19/Pages/clinics.aspx)