Increasing vaccination uptake to keep mums and babies Healthy

Monash University implemented a package of innovative interventions in six maternity services to encourage more mothers to get flu vaccinations, helping to protect them and their babies against preventable illness and further hospitalisation.

## Background

Mothers infected with influenza (flu) while pregnant can experience severe illness and are at increased risk of hospitalisation and death. It can also affect their babies, with infection associated with premature birth and negative infant health outcomes.

Maternal vaccination is the most effective way to protect both mother and child from being infected with diseases such as the flu and pertussis (whopping cough). However, despite national recommendations, a funded vaccination program, and evidence showing they are safe and effective, the uptake of flu vaccinations among pregnant Victorian women is low. In 2017–18, only 53.7 per cent of pregnant women had been vaccinated for the flu compared with 77.5 per cent who had been vaccinated for whooping cough in the same year.

Reasons why mothers may not receive a maternal vaccination include lack of knowledge about the disease, not believing they are at risk, concerns the vaccine is not safe, lack of a recommendation from their healthcare provider, and/or lack of access to the vaccine at the point when it is recommended.

To ‘close the gap’ between maternal flu and whooping cough immunisations, Monash University implemented innovations across six participating maternity services that were designed to increase the uptake of flu vaccination by 20 per cent.

The project also aimed to improve access to maternal vaccinations and increase healthcare provider and consumer knowledge about the benefits of maternal flu vaccination.

Closing the gap on maternal immunisation

**Lead** Monash University

**Partners** Nebula Health, Aspex Consulting, Healthsmart Pharmacy

**Duration** August 2018 – March 2020

**Key outcomes**

* Increased maternal flu vaccinations by between 50 and 196 per cent across all participating maternity services
* Made it easier and more convenient for women to receive maternal vaccinations
* Developed informative and helpful educational resources on flu vaccination for maternity patients
* Boosted health service staff job satisfaction by empowering them to provide access to maternal immunisation
* Achieved costs savings of between $9 and $71 per immunisation for all services through more efficient vaccine delivery

## Key activity

Six maternity services of differing sizes across both regional and metropolitan Melbourne were invited to participate in the project.

Monash University met with the stakeholders involved in delivering antenatal care at each service to assess their current vaccine delivery model and identify potential barriers to vaccine uptake.

Based on this assessment, Monash University implemented one or more of the following three innovations at each service:

* **vaccination ‘stat’ orders for midwives –** after a pregnant patient had been seen by the doctor and consented to vaccination, the doctor would write a ‘stat’ order that would enable a nurse or midwife to administer the immunisation at any subsequent time during the patient’s pregnancy
* **pharmacist-led immunisation –** this system allowed pregnant patients to be referred to a pharmacist co-located with the maternity service to receive a vaccination after their antenatal appointment
* **healthcare provider-initiated video –** designed in collaboration with Nebula Health, this innovation involved using text messaging technology to send pregnant patients a video featuring healthcare providers from their local maternity service discussing the benefits of flu vaccination. The video was filmed at the relevant service and focused on key messages including how the flu can harm mothers and babies, the safety and efficacy of the vaccine, and how women can access the vaccine at their maternity service.

In addition to the innovations, all health services were offered additional support and resources, including nurse immuniser training, education sessions for health service staff, information booklets for pregnant women, information sheets for clinicians, and posters for waiting areas.

## Outcomes

* The project far exceeded the target of increasing maternal flu vaccinations by 20 per cent, with flu immunisations increasing by between 50 and 196 per cent across all participating maternity services (see Table 1).
* Over the evaluation period, the services provided 4,486 maternal flu and whooping cough immunisations, representing an increase of 3,685 immunisations and 2,426 occasions of service compared to the 2017 baseline period.

Table 1. Flu vaccine coverage at baseline (2017) compared to after innovation implementation (2019)

|  |  |  |  |
| --- | --- | --- | --- |
| Maternity service | 2017 coverage (%) | 2019 coverage (%)  | Percentage increase (%) |
| The Royal Women’s Hospital | 46 | 69 | 50 |
| Bendigo Health | 47 | 82 | 74 |
| Northeast Health (Wangaratta) | 56 | 88 | 57 |
| South West Healthcare (Warrnambool) | 34 | 73 | 115 |
| Djerriwarrh Health Service | 28 | 79 | 182 |
| Portland District Hospital | 27 | 80 | 196 |

* Each maternity service achieved cost savings of between $9 and $71 per immunisation due to vaccinations being delivered more efficiently through project activities.
* Informal feedback indicated the project made it easier and more convenient for patients to receive their maternal vaccinations. Many women were able to receive their flu vaccine at the point of antenatal care instead of having to make other arrangements such as visiting their general practitioner (GP), which could mean more time off work and further costs. The project also enabled them to get their flu and whooping cough vaccination at the same time.
* Of the women surveyed in relation to the healthcare provider-initiated video innovation, 77 per cent agreed the video was relevant and 84 per cent said it was easy to understand. Almost all women found it convenient (92 per cent) and helpful (84 per cent) to receive health information via text message.
* Of the patients surveyed in relation to the information booklet, 64 per cent said they learned from the booklet, 52 per cent said it prompted them to get the vaccine, and 71 per cent said they would recommend the booklet to other women.
* All health service staff who attended an education session found the experience satisfactory, with 97 per cent saying it was valuable and 93 per cent saying they would recommend it to others.
* The project had a positive impact on professional development and job satisfaction for health service staff, with many reporting that being able to facilitate the vaccine’s administration instead of just recommending it was empowering.
* Bringing key stakeholders together to discuss the project created opportunities for closer working relationships within health services. For example, the Director of Infection Control at Djerriwarrh Health Service became involved in ensuring adequate flu vaccine stock for maternity patients after the project brought together the health service’s infection control and maternity services teams.

## Key learnings

* **Recommending vaccination while providing access is key to improving coverage –** The project team found that a recommendation from any maternity provider combined with simultaneous access to the vaccine was more important in influencing flu vaccination coverage than the type of provider (e.g. GP, midwife, obstetrician or pharmacist).
* **There is no ‘one size fits all’ model to improve flu vaccine coverage –** Key to the project’s success was assessing the opportunities for each individual maternity service, involving local stakeholders in the process and listening to their solutions rather than imposing an outsider view. Similarly, ensuring the innovations were flexible enough to allow for local adaptation increased the likelihood they could be sustained.
* **Site visits are important to accurately assess a vaccine delivery model –** To understand the local landscape, Monash University not only held detailed discussions and workshops with stakeholders at each service but simulated ‘walk-throughs’ of the process of vaccine recommendation and delivery. This was extremely valuable as information provided by stakeholders often did not reflect what was actually happening on the ground.
* **Having a local vaccine champion is valuable –** Allmaternity services were encouraged to appoint a key stakeholder to lead project implementation, ideally an obstetrician or midwife in a leadership position who worked within the antenatal setting. This vaccine champion provided encouragement and support, answered questions from colleagues, and helped to solve any challenges that came up.
* **Data is essential –** The problem that led to this project was only identified because it is mandatory to report vaccinations as part of statewide perinatal data collection. Data also enabled monitoring of project interventions. Making data completion mandatory and reportable ensures completeness and accuracy while also allowing gaps to be identified and improvements to be recognised.
* **Interim evaluation can improve interventions –**Few women viewed the first round of healthcare provider-initiated videos, so the project team modified the text message content to more clearly identify the hospital and connect directly to the video, which played automatically.

Engagement increased with the next round of text messages, with views increasing from 0.8 per cent to 48 per cent at Northeast Health Wangaratta, and from 1.5 per cent to 42 per cent at Bendigo Health.

This innovation could potentially have greater impact if maternity care providers inform patients that they will be sent important health-related text messages during their pregnancy and if the text messages are sent prior to flu season (many women who received them in the project had already been vaccinated).