

Adolescent immunisation in young people with disabilities in Australia

More research is needed to understand the barriers to optimal adolescent immunisation for students with disabilities

The benefits of immunisation in preventing or reducing the severity of vaccine-preventable diseases and eliminating or reducing the risk of associated complications have been well documented. Importantly, immunisation is also a powerful means by which the inequity of poor health can be reduced, particularly in vulnerable groups that have a high burden of infectious diseases. This has been illustrated in immunisation research in refugees and other migrants, as well as in Aboriginal and Torres Strait Islander Australians, and in low income or resource poor settings.¹⁻⁵ However, there is a paucity of research about immunisation for people with disabilities, another medically at-risk and socially marginalised group.

Primary health care is less than optimal for people with disabilities, with identified barriers to health care including transportation issues, communication, lack of confidence and lack of knowledge about the health care system.⁶ Adults with intellectual disability in Australia are more likely to be overweight or obese, smoke, or have cardiac disease or diabetes.⁶ Barriers to breast screening and cervical screening in women with disabilities are well described; however, very little is known about other preventive health care interventions in this population, such as immunisations.⁷ In particular, adolescent immunisation in young people with disabilities has largely been overlooked.

The potential consequences of vaccine-preventable diseases in those with disabilities are evident. A prospective audit in the United Kingdom and Ireland traced notified cases of complicated varicella admitted to hospital.⁸ Of 112 cases, 13% had congenital anomalies, Down syndrome or cerebral palsy — significantly higher than the birth prevalence of anomalies of 2–3% across England and Europe.^{9,10} Of the six deaths, four had pre-existing medical conditions, including three with physical disabilities.⁸ Similarly, in a review of paediatric deaths in the UK from the 2009–2010 influenza A (H1N1) pandemic, 54% of those who died had chronic neurological disease, with cerebral palsy and epilepsy being the most common diagnoses.¹¹ These studies illustrate that people with disability are disproportionately likely to experience the most severe sequelae from vaccine-preventable disease, affirming the particular importance of optimising immunisation coverage in this population.

School-based immunisation for adolescents in Australia

The National Partnership on Essential Vaccines outlines the agreement between the Commonwealth



and state and territory governments for the administration of the National Immunisation Program in Australia. Under this partnership agreement, the states and territories have the responsibility for ensuring access to and delivering vaccinations.¹² Currently, there are three government-funded immunisations recommended for all adolescents, which are offered to secondary school students through a school-based immunisation program: a booster dose of the diphtheria, tetanus and acellular pertussis (dTpa) vaccine; two doses of the human papillomavirus (HPV) vaccine; and the conjugated meningococcal ACWY vaccine from April 2019.¹³ In February 2019, South Australia also introduced a state-funded meningococcal B vaccine through the school program for Year 10 and 11 students.¹⁴

Although delivery mechanisms vary in different jurisdictions, school-based immunisations are managed, coordinated and delivered by local teams of trained providers from local governments, primary care units or non-government organisations. The role of schools is to distribute and collect parental consent cards and provide support, appropriate space in the school timetable and the facilities in which the students can be immunised. The program therefore encompasses a unique intersection between the health and education sectors.

Immunisation uptake in adolescents with disabilities

In Australia, almost 290 000 (7%) of children under the age of 14 years have a disability, broadly defined as a limitation or restriction of core activity lasting more than 6 months.¹⁵ There are only two Australian studies on immunisation uptake in adolescents with disabilities, both from Victoria.^{16,17} One is a small audit of HPV vaccination status of 72 adolescents

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with a variety of developmental disabilities recruited through a tertiary centre.¹⁶ This study found only 44% of females and 39% of males, aged 15 years, with disabilities, had received the three doses of HPV vaccine required as a complete course at the time. This was significantly lower than the corresponding aggregate Australian figures from the National HPV Vaccination Program Register in 2015, with 77% of females and 66% of males completing the HPV course.¹⁶ The importance of HPV immunisation for this population should not be dismissed. People with disabilities have a young age of sexual debut, are more likely to experience unwanted sexual activity and are less likely to utilise health care services than their typically developing peers.^{18–20} Young people with disabilities are therefore at higher risk of both HPV disease transmission and progression than young people without disabilities.

The second published study, which is from our research group, explores both dTPa and HPV immunisation uptake through the school-based immunisation program across 28 non-mainstream schools catering for students with physical and/or intellectual disability in Victoria.¹⁷ Just over 43 000 (15%) of the students with disabilities in Australia attend the 472 non-mainstream schools that cater for the education and wellbeing needs of students with significant intellectual, physical, behavioural or emotional learning needs. While there are no national enrolment criteria for non-mainstream schools, eligibility to enrol in the non-mainstream schools that cater for disability is most commonly based on a diagnosis of intellectual disability defined by an intelligence quotient two or more standard deviations below average. However, different enrolment criteria apply for other types of non-mainstream schools, such as autism-specific schools, schools for hearing- or vision-impaired students, or schools for students with severe physical disability or significant chronic illness requiring paramedical support. Eligibility to attend non-mainstream settings therefore varies by individual school.

While most children with disabilities in Australia attend mainstream schools, the subset attending specialist schools reflects a highly vulnerable, more severely disabled group of adolescents. Although small, it is an important and often overlooked group with respect to public health interventions. Our study¹⁷ found that 63% of participating students from specialist schools received the dTPa vaccine (compared with 89% in mainstream schools) and only 41% completed the full three doses of HPV vaccine required in 2017 (compared with 76% of males and 80%

of females in mainstream schools). These are the first data in Victoria for adolescent vaccination coverage for students in non-mainstream settings.

Although immunisation coverage is collected by immunisation providers and aggregate numbers of students vaccinated are reported to the relevant state or territory health department, this does not include non-mainstream settings in Victoria. For mainstream schools, uptake is determined as the number of vaccinations given with the year level enrolment as the denominator. However, no such data are collected or readily available for students in many non-mainstream schools, as classes in schools for children with disability are often ungraded and a year level cohort is not identifiable. This reflects the invisibility of young people with disabilities in Victoria, and is likely to be similar in other localities in Australia.

Conclusion

The two Victorian studies indicate that young people with disabilities in Australia are missing their adolescent vaccinations.^{16,17} While the second study provides broad reasons for missed immunisations, citing absence from school, lack of consent and student anxiety as the major issues,¹⁷ what is needed now is in-depth exploration of the barriers to immunisation in this population. This will enable the development of effective interventions. The voices of immunisation nurses and managers, teachers in non-mainstream schools, parents of young people with disability, and those young people themselves, are crucial in understanding the issues that affect adolescent immunisation in this population. While uptake figures highlight the scope and significance of the issue, alone they do not explain the reasons for the discrepancy in coverage.

Qualitative research is needed to fully appreciate the barriers to and facilitators of immunisation in this vulnerable group, at the policy, systems, community, family and individual levels. It is only with such qualitative information, combined with accurate documentation of uptake figures for all schools, including ungraded schools, and a recognition that young people with disabilities are vulnerable to under-immunisation, that we can ensure adolescent immunisation coverage is optimised.

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