

# Evolution of the UK School-Age Vaccination Programme

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## Abstract

Routine vaccination remains the single most effective way to protect against infectious diseases,<sup>1</sup> promote social good, and protect the vulnerable through herd immunity.<sup>2</sup> Herein we provide an overview of the history of the school-age (4 to 16 years) vaccination programme in the UK, examples of how the schedule has changed in this cohort and how the programme could adopt the learnings from COVID-19 mass vaccination campaigns in future iterations.

## When and why was the programme started?

The Vaccination Act of 1853 made for compulsory vaccines for those under three months old; signed GP vaccination certificates were issued, and negligent parents could be fined or imprisoned.<sup>3</sup> The 1898 Act that followed allowed one to legally abstain after campaigning by the Anti-Vaccination League argued compulsory vaccination was an infringement of personal choice.<sup>4</sup>

In the 1940s, vaccines were developed, and mass vaccination programmes became established. This coincided with the birth of the NHS in 1948.<sup>5</sup> The immunisation campaigns of the 1940s turned the focus to public responsibility for protecting their families and the wider communities against preventable diseases. Central and local government authorities played a key part in promoting vaccination.

By the 1970s, routine childhood vaccinations were a well established and accepted means to protect public health.<sup>5</sup>

## How has the programme evolved over the years?

Routine vaccination of adolescents in school began in 1953 with the Bacillus Calmette-Guérin (BCG) vaccination against tuberculosis (TB).<sup>6</sup> This ended in 2005 and was replaced by a targeted service for babies and those deemed high risk TB.

Live oral polio vaccination began in 1962, targeting everyone under 40.<sup>7</sup> Diphtheria and tetanus boosters for teenagers began in 1994 and were replaced by the combined diphtheria, tetanus, and inactivated poliovirus vaccine (Td/IPV) in 2004, once polio was no longer prevalent in the UK. The measles, mumps, rubella (MMR) vaccine was introduced in 1988 and 2008 saw nationwide catch-up programmes for under 18s yet to have two doses.<sup>8</sup>

Human papilloma virus (HPV) vaccination for adolescent girls began in 2008 and was extended to boys in 2019.<sup>9</sup> Vaccination of adolescents against Meningococcal meningitis C began in 2013 and was replaced in 2015 with Meningococcal meningitis ACWY vaccine, as these strains were found to be more prevalent in under 25s.<sup>10</sup>

Since 2013, NHS England has been responsible for commissioning the school-age immunisation service.<sup>11</sup> This enabled the move from school-based delivery to school-age vaccination programmes, which include home-schooled children. NHS England also commission the childhood flu vaccination programme, which in 2021, covers all children in school from reception (age 4-5 years of age) up to and including year 11 (15-16 years of age).<sup>12</sup>

## Local best practice examples

The introduction of skill-mix modelling (Figure 1) within immunisation teams has facilitated robustness within immunisation services in areas where there are recruitment challenges for a qualified work force. Skill-mix modelling has also underpinned the success of the COVID-19 immunisation programme and looks set to significantly support the rapid mobilisation of the COVID-19 vaccination programme for healthy 12-15-year-olds.<sup>13</sup>

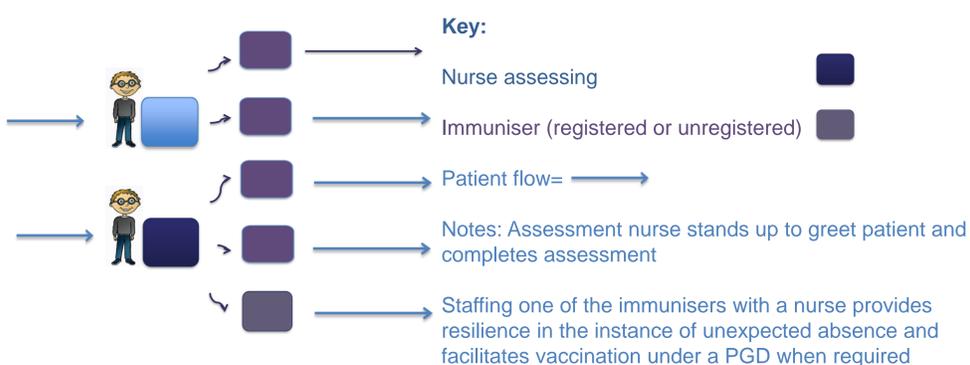


Figure 1. Skill-mix modelling flow

It takes time to commit, establish and maintain a good working relationship between school and healthcare services and to be flexible with the school's own requirements. The competence, skill and experience of the nurse is key in maintaining these relationships, but also the relationship between the nurse, student / parent and their ability to care for those hard-to-reach young people.

## Learnings from the COVID-19 mass vaccination programme

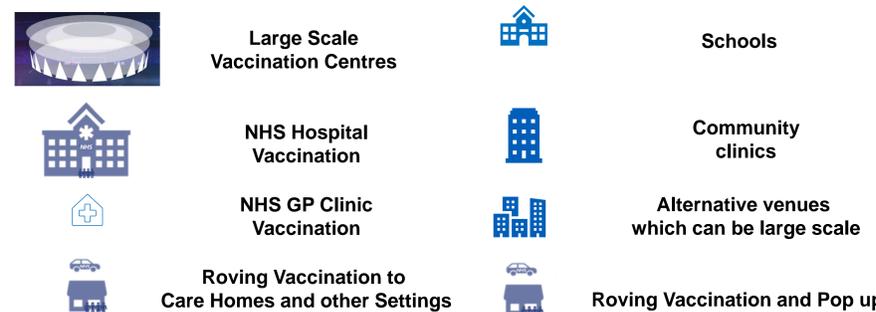


Figure 2. Mass vaccination locations used in the COVID-19 mass vaccination that could be applied to the school-age setting

The COVID-19 pandemic led to numerous lockdowns in the UK, leading to many children being home-schooled and the school vaccination programmes being temporarily halted. As lockdowns eased and public spaces began to reopen further to the COVID-19 mass vaccination programme, the applications of this mass vaccination have been considered in the context of the school-age catch-ups and future of the programme.

A multi-faceted approach for COVID-19 mass vaccination was undertaken from the outset; involving local Clinical Commissioning Groups, primary care managers, doctors, nurses, pharmacists, retired professionals, armed forces and volunteers all working together to provide an efficient timely service<sup>24</sup>. Community hubs such as sports grounds, churches/mosques and mobile sites were used to increase accessibility,<sup>14</sup> as shown in Figure 2.

Clear decision making: the COVID-19 vaccine rollout itself was the responsibility of the health department, working with NHS England, PHE and NHS improvement whereas vaccine purchasing fell under R&D and the Vaccine Task Force.<sup>15</sup> Clear decision-making also extended to looking at local delivery, storage, distribution, training of staff and commitment alongside existing programmes e.g. winter flu.<sup>16</sup> The need for service integration is evident as well as clear communication from the government to the public.

In same way, the schools briefing was a joint directive from Education and PHE, outlining the responsibilities of each sector to provide the immunisation service. For example, borough councils having a legal obligation to provide class / school lists to support digital immunisation, schools providing suitable venues and adequate staffing on the day, and nurses ensuring sessions run efficiently with minimal disruption to the school day. This is essential as school populations are increasing, effecting space available, time spent within schools, and staff required.

## Conclusions

Routine school-age vaccination programmes in the UK have evolved over the years to ensure those most vulnerable are protected against infectious diseases through herd immunity. To ensure the success of these programmes, healthcare professionals must be able to constructively respond to vaccine myths as they arise and provide relevant education to support and encourage vaccination. Post-COVID-19 pandemic vaccine awareness should be utilised to increase understanding and address (mis)information spread particularly through social media.

## Acknowledgements

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