Measles and rubella elimination strategy in UK

INTRODUCTION

Measles vaccination was first introduced in the UK over 50 years ago. The live attenuated measles vaccine is highly effective, yielding seroconversion rates of 95% or more in persons over 12 months old. Monovalent vaccine was replaced with MMR in 1988 and a second dose was introduced from 1996. As a consequence of successful measles immunisation the UK interrupted endemic measles transmission from 2014 and achieved measles elimination status in 2016. Eliminating measles and rubella is a core goal of the European Vaccine Action Plan 2015–2020 and an important part of global efforts to improve health and reduce inequalities (from the United Nations Sustainable Development Goals 3 and 10).

WHO criteria for elimination

- Vaccine (MMR): 95% coverage annually for both MMR1 and MMR2 in all districts and at national level
- Incidence: less than 1 measles or rubella case per million total population

Surveillance performance indicators and targets:

- Timeliness and completeness of reporting
- Origin of infection identified
- Rate of lab investigation: at least 80% of suspected cases
- Rate of discarded cases: at least 0/100,000 population

Table 1. WHO criteria for elimination and surveillance indicators

CHALLENGES IN ACHIEVING ELIMINATION

1. Recording of vaccination status

- Data quality issues following the NHS re-organisation;
- Unvaccinated individuals are dispersed throughout the country and are not congregated in specific regions or “pockets”;
- Vaccination status on GP records is not always kept up to date or accurate, particularly in areas with high population mobility.

2. Pool of susceptible population from early 2000s

- A fall in public confidence in the MMR vaccine in the late 1990s;
- A consequence - a pool of people, mainly teenagers and young adults, who are unvaccinated or inadequately vaccinated against measles.

3. Accessibility and limitations of surveillance systems

- Differences in real-time access to records of clinical notifications for measles and rubella by the Devolved administrations;
- Ability to link laboratory data to cases data for reconciliation.

5. Undervaccinated and high risk groups/communities

- Charedi community - Immunisation uptake within the community is consistently lower which has led to recurrent outbreaks of vaccine preventable diseases with measles outbreaks occurring in the borough of Hackney in 2007 and 2013.
- Traveller communities - The low immunisation coverage rates are reflected in an increased disease burden and frequent outbreaks of vaccine preventable diseases in this community.
- Anthroposophic communities - Whilst there is no official Steiner-Waldorf position on immunisation, the schools linked to these communities do not generally promote immunisation or facilitate school-based programmes.
- Migrants - Newly arrived migrants have lower rates of vaccine coverage than the host population.
- Healthcare workers - The fact that they are in close contact with patients means that they are at increased risk of catching measles and spreading it to patients.

MEASLES AND RUBELLA ELIMINATION STRATEGY

To achieve sustained measles and rubella elimination, the UK prepared the joint Measles and Rubella Elimination Strategy to re-affirm political commitment from the Department of Health and Social care toward the elimination goals, identify barriers to elimination and potential solutions, harmonise the surveillance processes, handling and analysis of cases across the devolved administrations, communicate key messages effectively to stakeholders and allow allocation of resources based on need in order to achieve the greatest impact.

To develop the strategy experts across the UK from the National Health Service and Public Health came together to create the strategy to sustain long term elimination of measles and rubella in UK.

RECENT DEVELOPMENTS

Based on measles cases in 2018, the WHO has concluded that the transmission of measles virus has been re-established in the UK. Losing ‘measles-free’ status in UK is a stark reminder of the importance of vaccination. Elimination can only be sustained by maintaining and improving coverage of the MMR vaccine and this emphasises the need to successfully implement the recommendations of the Measles and Rubella Elimination Strategy.

IMPLEMENTATION OF THE ELIMINATION STRATEGY

The strategy outlines 4 key areas for achieving and maintaining measles and rubella elimination (Figure 2). A multiagency project board has been charged with implementing the recommendations of the strategy at a national level. 12 workstreams have been adopted to support this implementation.

1. Training

- Ensuring appropriate training material is available to immunisers and that quality assurance systems are in place to monitor training.

2. NHS providers

- Supporting NHS providers in delivering and promoting MMR vaccination – including funding to support catch-up vaccination. Encouraging vaccination status to be checked at patient registration with GP, by midwives and by health visitors.

3. Supporting local implementation

- Supporting local teams in developing their own measles and rubella elimination plans and identifying additional areas of support that are needed.

4. Inequalities

- Supporting local teams in identifying and targeting undervaccinated groups to reduce inequalities in vaccine coverage.

5. Workforce planning

- Addressing gaps in workforce planning to ensure delivery of MMR vaccine is not impacted.

6. Coverage and susceptibility surveillance

- Ensuring that published vaccine coverage data enables the monitoring of progress towards measles and rubella elimination, including generating susceptibility estimates for different age cohorts.

7. Disease surveillance

- Improving surveillance of disease and patient outcomes to support measles and rubella elimination.

8. Guidance

- Update and publish high quality guidance to improve case and contact management and improve vaccine uptake.

9. Commissioning and contracts

- Ensure contracts for the commissioning of services support measles and rubella elimination.

10. Diagnosis of cases

- Improve testing of suspected cases, including improved returns of oral fluid tests.

11. Communications

- Monitoring public attitudes to immunisation and develop appropriate materials to maintain public confidence in immunisation and provide information about the MMR programme.

12. Occupational protection

- Support NHS providers in ensuring their staff are immune to measles and rubella.

ACKNOWLEDGEMENTS

Measles and Rubella Elimination group (MMREG)

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