

Immunisation Uptake in Ireland, 2005

Key Points

- Immunisation uptake rates at both 12 and 24 months improved in 2005
- Uptake of D₃, T₃, P₃, Hib₃, Polio₃ and MenC₃ at 12 months was 85%
- Uptake of D₃, T₃, P₃, Hib₃ and Polio₃ at 24 months was 90%
- Uptake of MenC₃ at 24 months was 89%
- Where data were available uptake of MMR₁ at 24 months was 84%

Introduction

Vaccination is a simple, safe and effective way of protecting people against harmful infectious diseases that can cause serious complications and sometimes death. In addition, vaccination helps reduce the possibility of passing on vaccine-preventable infections to others in the community. To effectively control vaccine-preventable diseases and prevent outbreaks it is recommended that at least 95% of children complete the childhood immunisation schedule.

The current Irish childhood immunisation schedule recommends that babies receive one dose of vaccine against tuberculosis (BCG vaccine) at birth or by one month of age and three doses of vaccines against diphtheria, pertussis, tetanus, *Haemophilus influenzae* type b, poliomyelitis and meningococcal group C at two, four and six months of age. Between 12 and 15 months of age children should receive the first dose of MMR. A booster dose of diphtheria, pertussis, poliomyelitis and tetanus and the second dose of MMR should be given at four to five years of age.

Immunisation uptake statistics for 2005 are presented in this report. These statistics relate to children registered in the immunisation databases in the HSE Areas. The proportion of these children who completed the recommended immunisation schedule by 12 or 24 months of age in 2005 is reported.

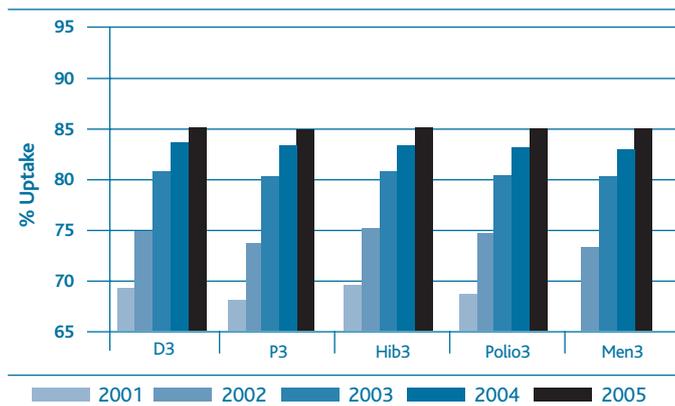


Figure 1. Annual immunisation uptake rates at 12 months in Ireland, 2001-2005
 Note scale ranges from 65-95%
 T₃ uptake identical to D₃ uptake, therefore T₃ uptake not presented in this chart

Materials and Methods

Each HSE Area maintains a childhood immunisation register. In 2005, each HSE Area provided HPSC with immunisation uptake data on a quarterly basis. These uptake data related to all children on the HSE Area databases who reached their first or second birthday (uptake at 12 and 24 months, respectively) in that quarter and who had received three doses of vaccine against diphtheria (D₃), pertussis (P₃), tetanus (T₃), *H. influenzae* type b (Hib₃), poliomyelitis (Polio₃) and meningococcal group C (MenC₃) and one dose of BCG vaccine (uptake at 12 months only) and one dose of vaccine against measles, mumps and rubella (MMR₁; uptake at 24 months only). Data on the number of children eligible for immunisation in each cohort, the number immunised and the percentage immunised were provided.

HPSC collated and analysed these data in Microsoft Excel and quarterly reports were produced which are available on the HPSC website.¹ Annual immunisation uptake rates presented in this report were calculated by collating the quarterly data provided by the HSE Areas. These statistics, therefore, relate to children who were 12 and 24 months of age in 2005 i.e. birth cohorts born between 01/01/2004 & 31/12/2004 and 01/01/2003 & 31/12/2003 and who completed the immunisation schedule outlined above.

Table 1. Immunisation uptake rates in children 12 months of age in 2005

% Uptake at 12 months								
Cohort born between 01/01/2004 – 31/12/2004								
HSE Area	No. in cohort	D ₃	P ₃	T ₃	Hib ₃	Polio ₃	MenC ₃	BCG
HSE-E	22,728	81	81	81	81	81	80	na*
HSE-M	3,963	91	91	91	91	91	91	89
HSE-MW	5,098	87	87	87	87	87	87	93
HSE-NE	6,315	90	90	90	90	90	89	na*
HSE-NW	3,167	90	90	90	90	90	89	90
HSE-SE	6,790	87	87	87	87	87	87	97
HSE-S†	8,631	85	85	85	85	85	85	90‡
HSE-W	5,700	87	87	87	87	87	85	na*
Ireland	62,392§	85	85	85	85	85	85	93

* Data not available at this time

† As the denominator/number in cohort varied according to vaccine, most commonly used number is presented here. The number in cohort eligible for BCG vaccine was 1,810

‡ HSE-S: part coverage of neonatal BCG, Kerry only

§ Number in cohort eligible for BCG vaccine was 20,592

Results

Immunisation uptake rates at 12 months

In 2005, national immunisation uptake rates at 12 months were 85% for D₃, P₃, T₃, Hib₃, Polio₃ and MenC₃. This was an improvement of two percent when compared to 2004 (figure 1). Immunisation uptake rates in Ireland have been steadily rising each year since 2001, when uptake of vaccines was between 68 and 70% (figure 1). In 2005, uptake of the above vaccines ranged from 80-81% in the HSE-E to 91% in the HSE-M (table 1). In 2005, BCG uptake rates were available for the second time for an entire year. Five of the eight HSE Areas were in a position to provide figures (representing a third of the national birth cohort), and uptake was 93%. BCG uptake ranged from 89% in the HSE-M to 97% in the HSE-SE (table 1).

Quarterly immunisation uptake rates for D₃, P₃, T₃, Hib₃, Polio₃ and MenC₃ rose in 2005 from 83-84% in Q1-2005 to 87% by Q4-2005 (figure 2). The highest uptake rate at 12 months since the collation of these data commenced in Q3-2000 was reported in Q4-2005 (87%). This is in contrast to the low that was seen in Q2-2001 when uptake rates were 65 to 67% (figure 2).

Immunisation uptake rates at 24 months

In 2005, a slight improvement in immunisation uptake rates at 24 months was seen. National uptake for D₃, P₃, T₃, Hib₃ and Polio₃ was 90% and 89% for MenC₃ (figure 3). Compared

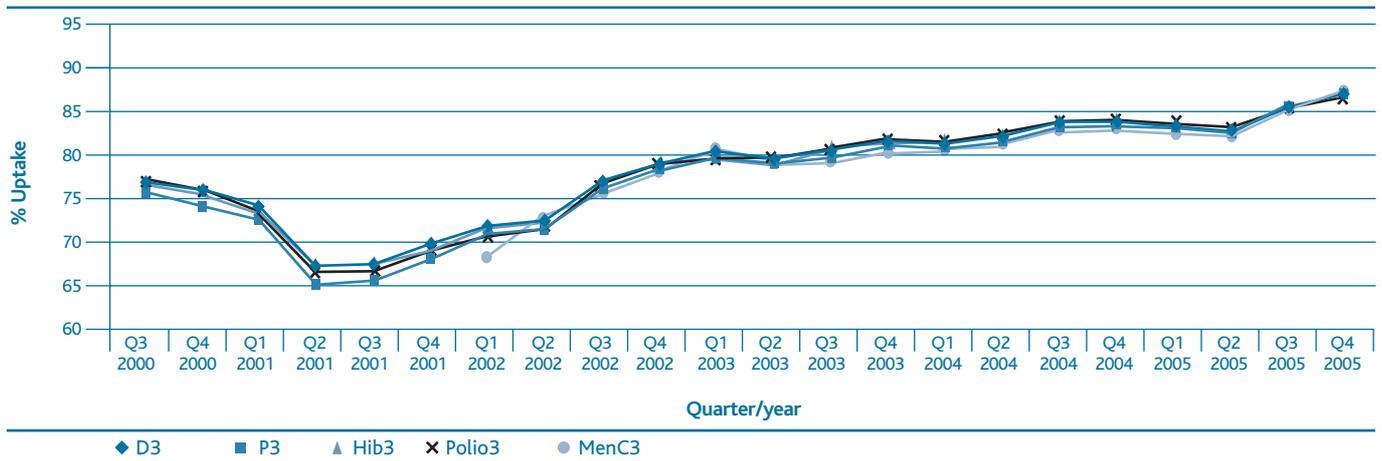


Figure 2. Quarterly immunisation uptake rates at 12 months in Ireland, Q3 2000-Q4 2005
 Note scale ranges from 60-95%
 T₃ uptake identical to D₃ uptake, therefore T₃ uptake not presented in this chart

with 2004, uptake of these vaccines improved by one percent (figure 3). Uptake of D₃, P₃, T₃, Hib₃, Polio₃ and MenC₃ ranged from 86-88% in the HSE-E to 96% in the HSE-M (table 2). Six of the eight HSE Areas had 90% or greater uptake for all these vaccines. The target uptake of 95% was reached for D₃, P₃, T₃, Hib₃, Polio₃ and MenC₃ in the HSE-M during Q1-2005 to Q4-2005 and for D₃, P₃, T₃, Hib₃ and Polio₃ in the HSE-NW during Q3-2005.

During 2005 MMR₁ uptake was 84% nationally, however, this figure is incomplete as MMR₁ data in Q4-2005 was only available for seven of the eight HSE Areas. In Q4-2005 MMR₁ uptake was 95% in the HSE-M.

Discussion

Childhood vaccinations have made a major contribution to reducing the incidence of infectious disease in Ireland and in eliminating diseases such as polio and smallpox. Monitoring immunisation uptake is necessary to identify under vaccinated populations and to evaluate the effectiveness of efforts to increase uptake. Uptake of 95% is recommended to control and prevent outbreaks of disease such as measles.

National immunisation uptake rates for D₃, P₃, T₃, Hib₃, Polio₃ and MenC₃ at 12 and 24 months increased by two and one percent, respectively, in 2005 compared to 2004. The 2005 uptake figures for D₃, P₃, T₃, Hib₃, Polio₃ and MenC₃ at both 12 months (85%) and 24 months (89-90%) are the highest

reported since collation of these data commenced in 2000 and 1999, respectively. For all vaccines, with the exception of MMR₁, uptake rates at 24 months were 90% or greater in six of the eight HSE Areas. In the HSE-M the target uptake rate of 95% was reached for MMR₁ during Q4-2005. This is the first time any HSE Area reached the target uptake of 95% for MMR₁ since the collation of these statistics commenced in 1999. The target uptake of 95% was also reached at 24 months for D₃, P₃, T₃, Hib₃, Polio₃ and MenC₃ in the HSE-M during Q1-2005 to Q4-2005, for D₃, P₃, T₃, Hib₃ and Polio₃ in the HSE-NW during Q3-2005 and at 12 months for BCG in the HSE-SE during Q1-2005 to Q4-2005. These continued improvements in uptake rates are encouraging. However, further improvements are necessary so that the 95% target rate is achieved nationally for all vaccines. In 2005, national uptake rates at 24 months for D₃, P₃, T₃, Hib₃, Polio₃ and MenC₃ were five to six percent below the target rate while MMR₁ was 11% below the target rate.

Table 2. Immunisation uptake rates in children 24 months of age in 2005

% Uptake at 24 months								
Cohort born between 01/01/2003 – 31/12/2003								
HSE Area	No. in cohort	D ₃	P ₃	T ₃	Hib ₃	Polio ₃	MenC ₃	MMR ₁
HSE-E	22,224*	88	87	88	87	87	86	78*
HSE-M†	3,837	96	96	96	96	96	96	93
HSE-MW	5,105	90	90	90	90	90	90	86
HSE-NE	6,003	93	92	93	93	93	92	89
HSE-NW	3,233	94	93	94	93	94	92	89
HSE-SE	6,862	91	91	91	91	91	90	86
HSE-S†	8,383	91	91	91	91	91	90	85
HSE-W	5,504	92	91	92	92	92	89	83
Ireland	61,151	90	90	90	90	90	89	84*

*The national MMR₁ figure is incomplete, as Q-4 2005 MMR₁ data was not available for the HSE-E. HSE-E MMR₁ figure is based on data from Q1-2005 to Q3-2005. The numbers in the HSE-E and Ireland cohorts eligible for MMR₁ vaccine were 16,766 and 55,778, respectively.
 † As the denominator/number in cohort varied according to vaccine, most commonly used number is presented here.

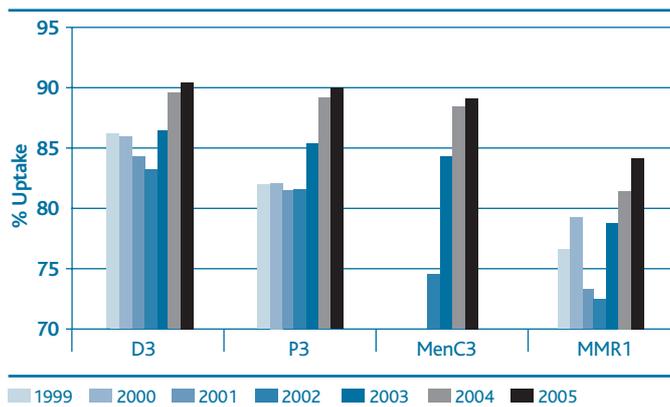


Figure 3. Annual immunisation uptake rates at 24 months in Ireland, 1999-2005
 Note scale ranges from 70-95%

Since T₃, Hib₃ and Polio₃ uptake identical/almost identical to D₃ uptake, only D₃ uptake figures presented

Footnote: MMR₁ 2005 uptake figure is not complete as one HSE area was unable to provide MMR₁ data for quarter 4 2005

Acknowledgements

HPSC would like to thank the HSE Areas for providing these data. Particular thanks to the Immunisation Co-ordinators, Specialists in Public Health, Surveillance Scientists and System Analysts for their help.

References

1. Quarterly immunisation uptake reports. Available at <http://www.hpsc.ie>