The National Immunisation Schedule
Update and Current issues

Dr Brenda Corcoran
National Immunisation Office

Objectives

- To outline immunisation schedules in Ireland
  - Primary childhood schedule
  - Vaccine uptake rates
  - School immunisation programme
  - Flu vaccination programme
- To highlight development of new vaccines

Dates vaccines introduced into the Irish immunisation schedule

1937 - 1999	
Vaccine	**Date introduced**
1. BCG	1937
2. DT	1930s
3. DTP	1952
4. Oral Polio Vaccine (OPV)	1957
5. Rubella	1971
6. Measles	1985
7. MMR	1988
8. MMR2	1992
9. Hib	1992

2000 - 2015	
Vaccine	**Date introduced**
1. Men C	2000
2. DTaP-Hib-IPV (5 in1)	2001
3. Inactivated Polio (IPV)	2001
4. Hib Booster	2006
5. Hepatitis B (as part of 6 in 1)	2008
6. PCV7	2008
7. HPV	2010
8. PCV13	2010
9. Tdap	2012
10. Men C (adolescent booster)	2014

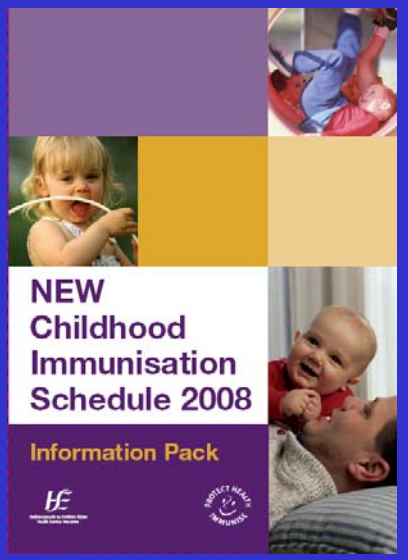
Primary Childhood Immunisation (PCI) Schedule

- Birth BCG

- 2 months 6 in 1 + PCV*
- 4 months 6 in 1 + Men C
- 6 months 6 in 1 + PCV (+MenC*)

- 12 months MMR + PCV
- 13 months Men C + Hib

* if born before July 1st 2015



www.immunisation.ie

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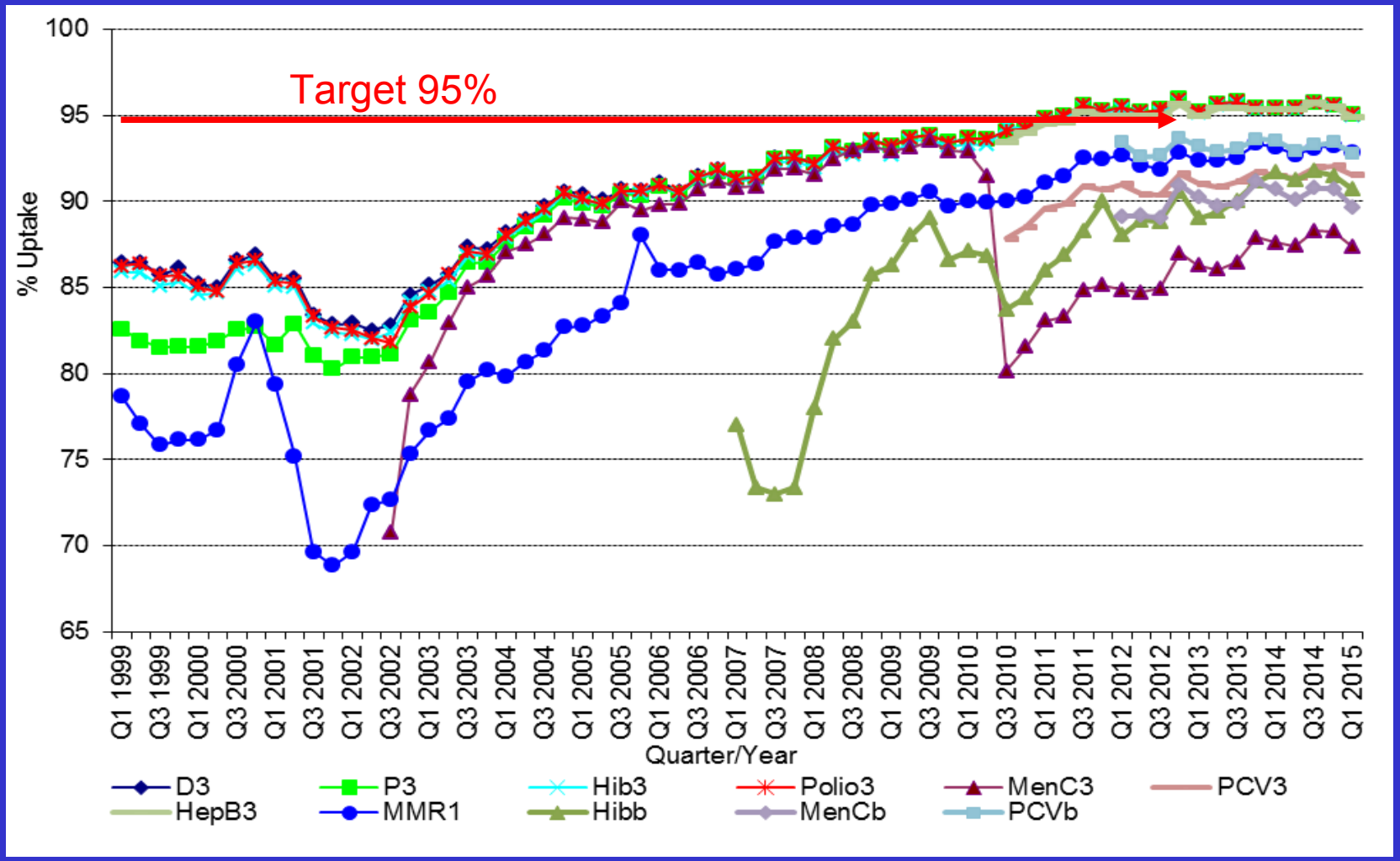
Vaccine uptake rate at 24 months 1999-2015



Source: HPSC

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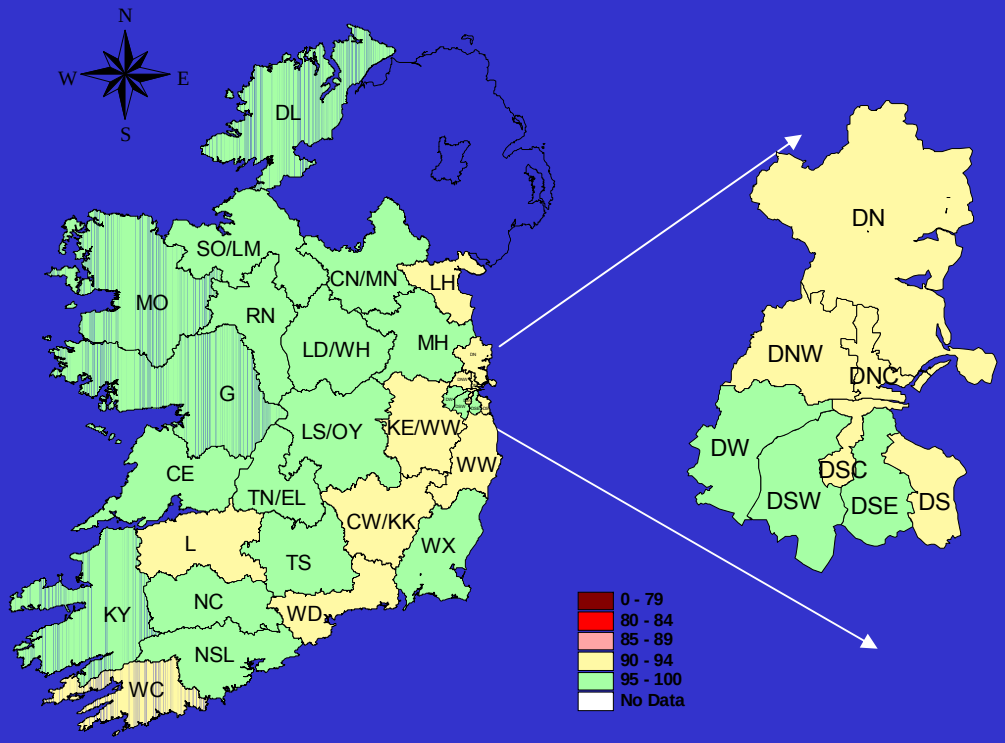
Quarter 1 2015 D3 immunisation uptake rates (%) by LHO, in those 24 months of age in Ireland and Dublin
(source HPSC)



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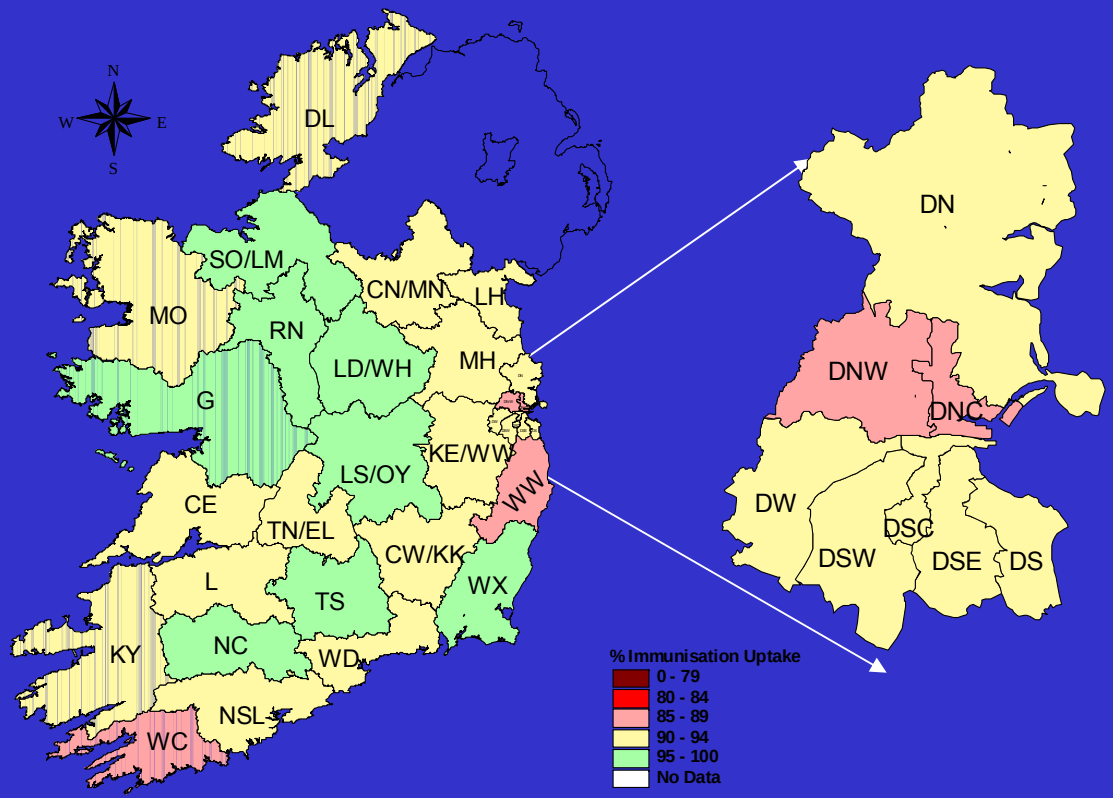
Quarter 1 2015 MMR immunisation uptake rates (%) by LHO, in those 24 months of age in Ireland and Dublin
(source HPSC)



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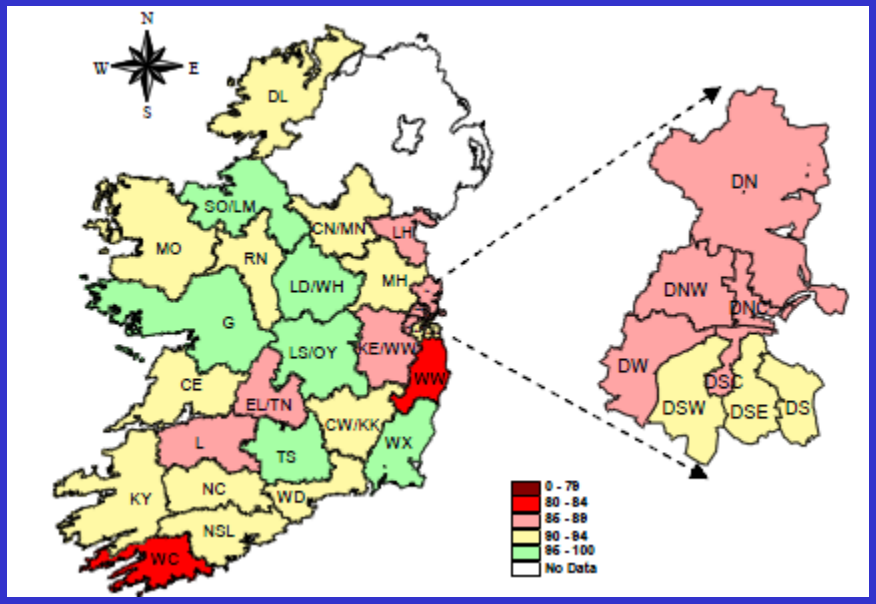
Decline in vaccine uptakes

	Q1 2010	Q3 2010	Q1 2015
Men C_3	93%	80%	87%
PCV_3	-	88%	92%
Hib_b (booster dose)	89%	84%	91%

Hib_b booster dose by LHO in those reaching 24 months Q1 2015



Source: HPSC

Decline in vaccine uptakes

Actions

- Highlight 5 visits at every opportunity
- Give an appointment for next visit
- Send a text reminder before appointment
- Follow up defaulters as soon as possible
- Send vaccine returns on time
- Defaulters need appropriate vaccines even if they are over the recommended age

NIAC recommendations

	Recommendation	Implementation
MenC* (Aug 2014)	Schedule change from 4, 6 and 13 months to 4,13 months	July 1st 2015
	Introduction of adolescent dose at 12- 13 years	2014/2015
Rotavirus (2013)	Oral vaccine recommended 2 -3 doses at 2, 4 and 6 months	?? 2016
MenB (Jan 2015)	Introduction to PCI schedule	?? 2016

* MenC

- Evidence 1 dose is sufficient in infants
- Same schedule introduced in the UK in 2013

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Primary Childhood Immunisation (PCI) Schedule

	CURRENT SCHEDULE		**NEW SCHEDULE**	
Date of birth	Babies born up to 30th June 2015		**Babies born on or after 1st July 2015**	
Age	Immunisations	Comment	Immunisations	Comment
2 months	6 in 1 + PCV	2 injections	6 in 1 + PCV	2 injections
4 months	6 in 1 + MenC	2 injections	6 in 1 + MenC	2 injections
6 months	6 in 1 + PCV + MenC	3 injections	**6 in 1 + PCV**	**2 injections**
12 months	MMR + PCV	2 injections	MMR + PCV	2 injections
13 months	MenC + Hib	2 injections	MenC + Hib	2 injections

6 in 1 Diphtheria, Tetanus, Pertussis, Polio, Hepatitis B, Haemophilus influenzae B
PCV Pneumococcal conjugate vaccine
MenC Meningococcal C vaccine
MMR Measles, Mumps Rubella
Hib Haemophilus influenzae B

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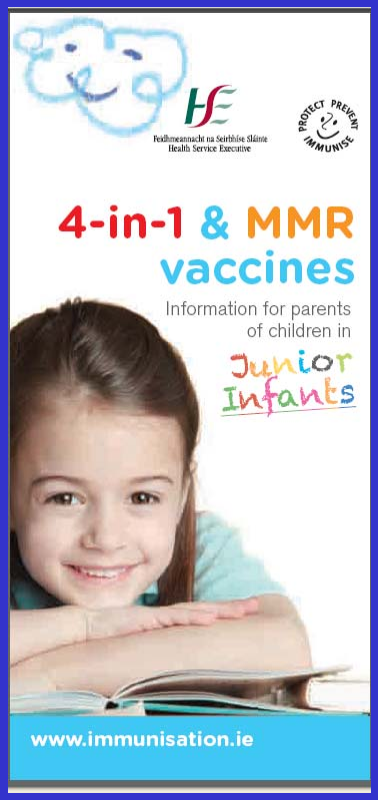
Primary school immunisation schedule 2015/2016

Age (years)	Vaccine
4 -5	4 in 1 MMR

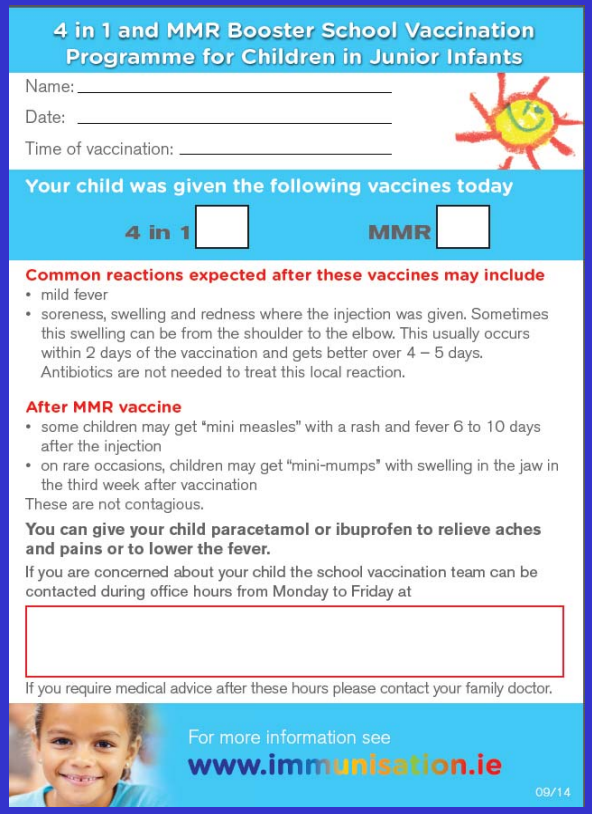
4 in1	Diphtheria Tetanus Pertussis Polio
MMR	Measles, mumps and rubella



4 in 1 adverse events

- More reactogenic
  - hot, swollen, red and tender arms from the shoulder to elbow
  - large, localised swelling (diameter > 50 mm) occurring around the injection site
  - Begin within 48 hours of vaccination
  - Resolve spontaneously
- Antibiotic treatment or anti-inflammatory not indicated
- Not usually associated with significant pain or limitation of movement

- Inform parents in advance



4 in 1 and MMR Booster School Vaccination Programme for Children in Junior Infants

Name: _____

Date: _____

Time of vaccination: _____

Your child was given the following vaccines today

4 in 1 ☐ MMR ☐

Common reactions expected after these vaccines may include

- mild fever
- soreness, swelling and redness where the injection was given. Sometimes this swelling can be from the shoulder to the elbow. This usually occurs within 2 days of the vaccination and gets better over 4 – 5 days. Antibiotics are not needed to treat this local reaction.

After MMR vaccine

- some children may get "mini measles" with a rash and fever 6 to 10 days after the injection
- on rare occasions, children may get "mini-mumps" with swelling in the jaw in the third week after vaccination

These are not contagious.

You can give your child paracetamol or ibuprofen to relieve aches and pains or to lower the fever.

If you are concerned about your child the school vaccination team can be contacted during office hours from Monday to Friday at

If you require medical advice after these hours please contact your family doctor.

For more information see
www.immunisation.ie
09/14

Primary school immunisation uptake (Target 95%)

	4 in 1	MMR
Kerry	92.4%	92.4%
North Cork	93.0%	92.9%
North /South Lee	93.1%	93.1%
West Cork	91.4%	91.4%
Limerick	87.2%	87.0%
Clare	92.1%	91.9%
Ireland	**91.5%**	**91.3%**

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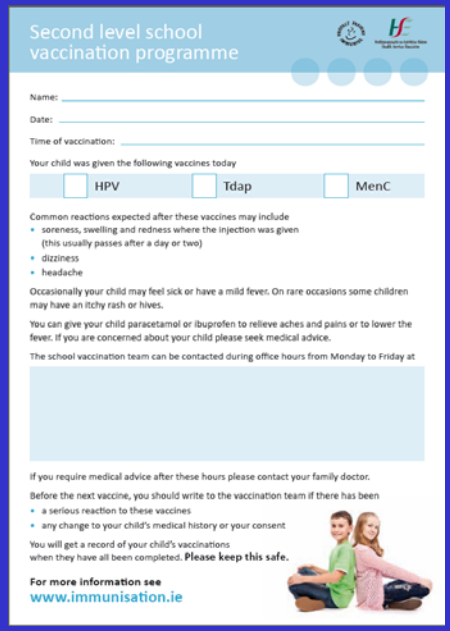
Second level school immunisation schedule 2015/2016

Age (years)	Vaccine
12-13	Tdap MenC*
12 – 13 (girls only)	HPV (2 dose schedule)

Tdap	Tetanus, low dose diphtheria & pertussis
MenC	Meningococcal C vaccine
HPV	Human papillomavirus



Adolescent MenC booster vaccine

- Peak rates in under 5 years and 15-19 years
- Concerns about waning immunity in adolescents
- Recent study
  - those vaccinated at <1 year, vaccine effectiveness decreased by 50% after 10 years
  - those vaccinated with one dose at 12–19 years showed no changes
  - vaccination at ≥12 years related to a low number of vaccine failures and a higher and longer protection over time
- MenACWY in UK since 2015/2016

Second level school immunisation uptake (Target 95%)

	Tdap
Kerry	85.5%
North Cork	80.9%
North Lee	84.7%
South Lee	85.6%
West Cork	86.8%
Limerick	69.2%
Clare	85.3%
Ireland	**83.7%**

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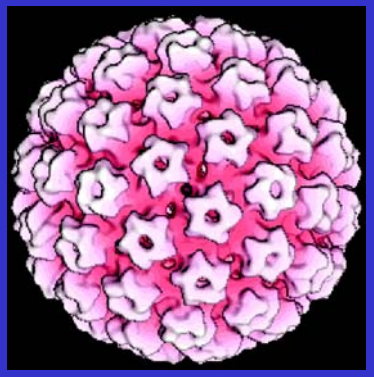
HPV vaccination programme

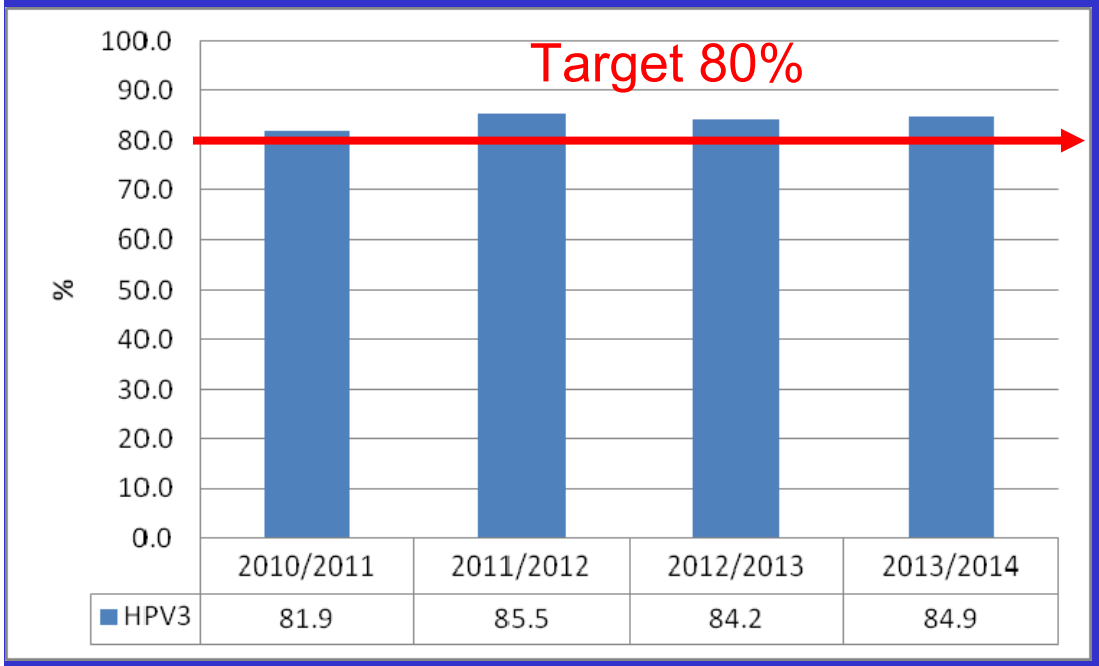
Gardasil (Sanofi Pasteur)

- protects against
  - HPV 16 and 18
    (causes 70% cervical cancers)
    and
  - HPV 6 and 11
    (causes 90% anogenital warts)



Computerised image of the human papillomavirus
Courtesy of Dept of Pathology, University of Cambridge

HPV vaccine uptake 2010/2011 - 2013/2014
Routine programme First years



Kerry	82.4%
North Cork	83.0%
North Lee	85.7%
South Lee	87.0%
West Cork	76.4%
Limerick	83.0%
Clare	87.7%

Over 80% (84.4%) uptake achieved for 3 dose schedule
Excellent cohort retention
>95% girls who started dose 1 completed dose 3

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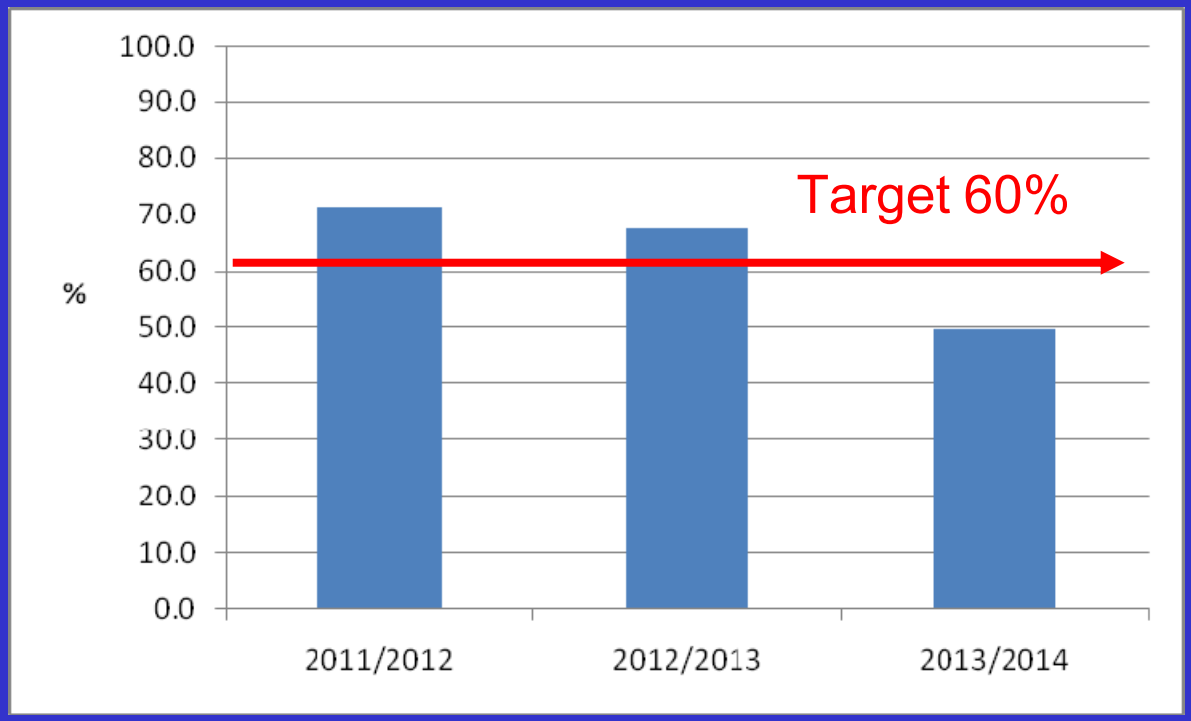
HPV vaccine uptake 2011/12 - 2013/14
Catch up programme Sixth years



Kerry	82.4%
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Clare	87.7%

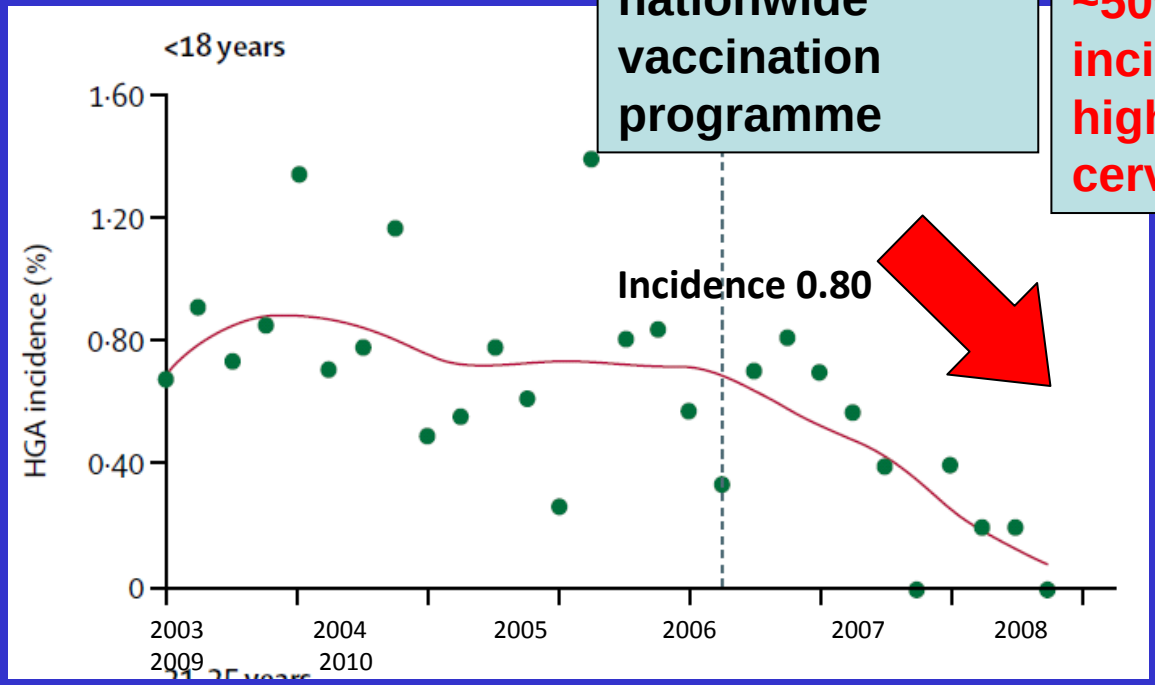
- Excellent cohort retention
- >93% girls who started dose 1 completed dose 3

Vaccine Impact in Australia

High Grade Cervical Lesions <18 years

2007: Start of nationwide vaccination programme

~50% decline in incidence of high grade cervical lesions



Evidence of

- cross protection
- herd immunity

Gardasil vaccine safety

- 178 million doses distributed globally
- WHO, EMA, CDC review safety data – no serious adverse events
- EMA review July 2015
  - 2 rare conditions
    - complex regional pain syndrome (CRPS)
    - postural orthostatic tachycardia syndrome (POTS)
  - causal link not established
  - both can occur in non-vaccinated individuals
  - does not question the benefits of HPV vaccines
  - no change in recommendations for the use of the vaccine

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Seasonal influenza vaccination programme

2015/2016 Annual campaign

NEW

- Chronic obstructive pulmonary disease
- Acute coronary syndrome
  - previous history of MI
  - unstable angina

- Pregnant women
- Health care workers
- Season continues until end of April

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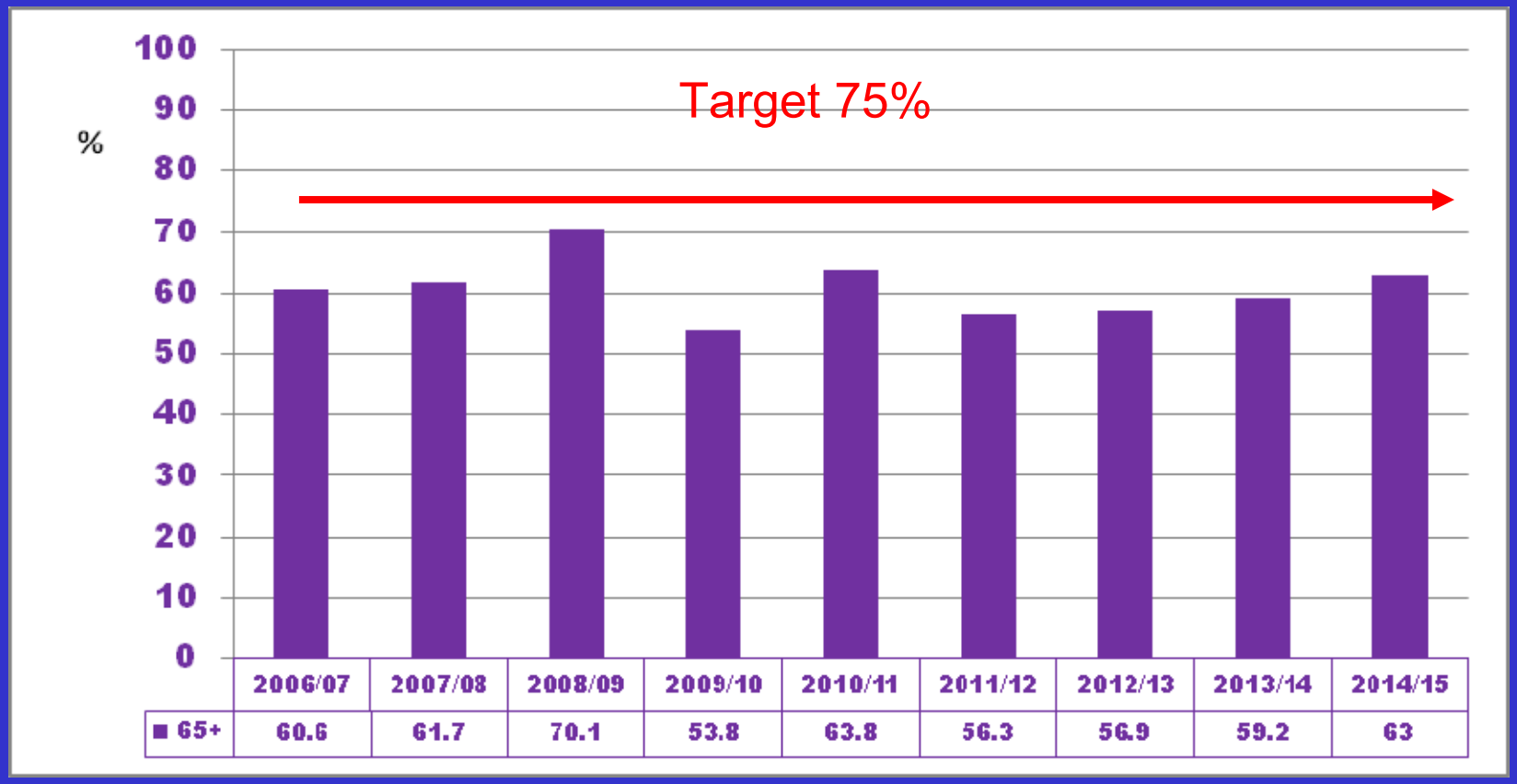
Seasonal influenza vaccination programme

Vaccine uptake for 65+ years with GMS or doctor only card
Source: HPSC



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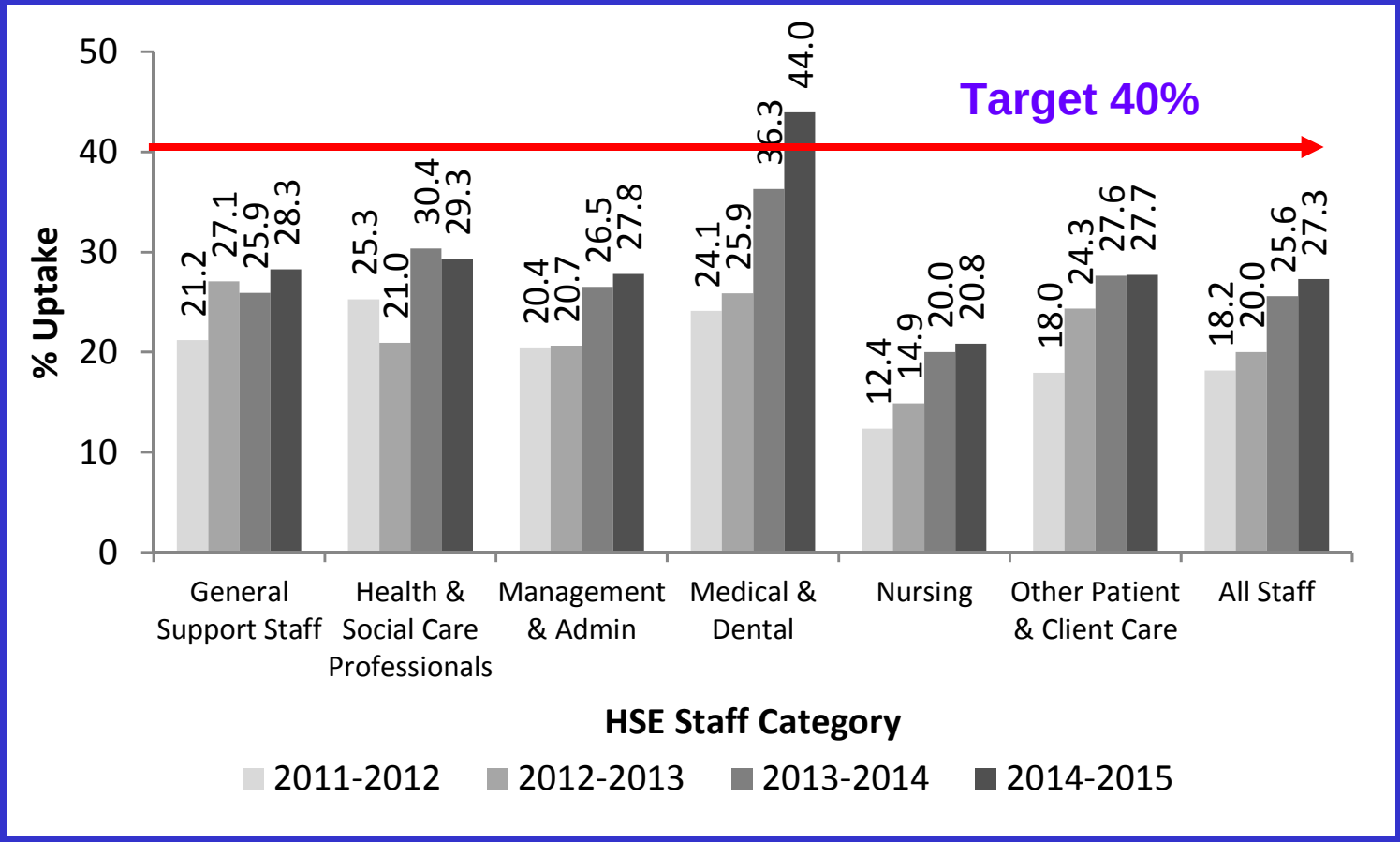
Seasonal influenza vaccination programme
% vaccine uptake in health care workers



http://www.hpsc.ie/hpsc/A-Z/Respiratory/Influenza/SeasonalInfluenza/InfluenzaandHealthcareWorkers/

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Why should health care workers be vaccinated?

- >20% HCWs get flu every year
- may only have mild symptoms and continue to work
- highly transmissible 1 day before & 5-7 days after symptoms
- healthy people can get seriously ill from flu
- vaccine contains killed viruses so cannot cause flu

Http://www.immunisation.ie/en/HealthcareProfessionals/Influenza

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Pneumococcal polysaccharide vaccine (PPV23)

Recommended for

- Those aged 65 and older
- Those aged 2- <65 years in specific at risk groups
  - Asplenia or hyposplenism (splenectomy, sickle cell disease, haemoglobinopathies, coeliac syndrome)
  - Children < 5 years with a history of IPD
  - Chronic heart, respiratory , liver, renal disease or nephrotic syndrome
  - CSF leaks congenital or complicating skull fracture or neurosurgery
  - Diabetes mellitus
  - HIV infection
  - Immunosuppression due to disease or treatment
  - Individuals who have received, or are about to receive, cochlear implants
  - Post haematopoietic stem cell transplant, solid organ transplant

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Pneumococcal polysaccharide vaccine (PPV23)

Revaccination

Aged 65 years and older

- Had one dose of PPV23
  - **no further dose regardless of immune status**
- Had PPV23 more than 5 years before and less than 65 years of age
  - give a once only booster vaccination 5 years later

Less than 65 years of age

- if antibody levels are likely to decline rapidly
  - asplenia & hyposplenism
  - immunosuppression
  - chronic renal disease or renal transplant
- booster vaccination 5 years after the first vaccination
- one further PPV booster at or after 65 years of age - 5 years after 2nd dose.

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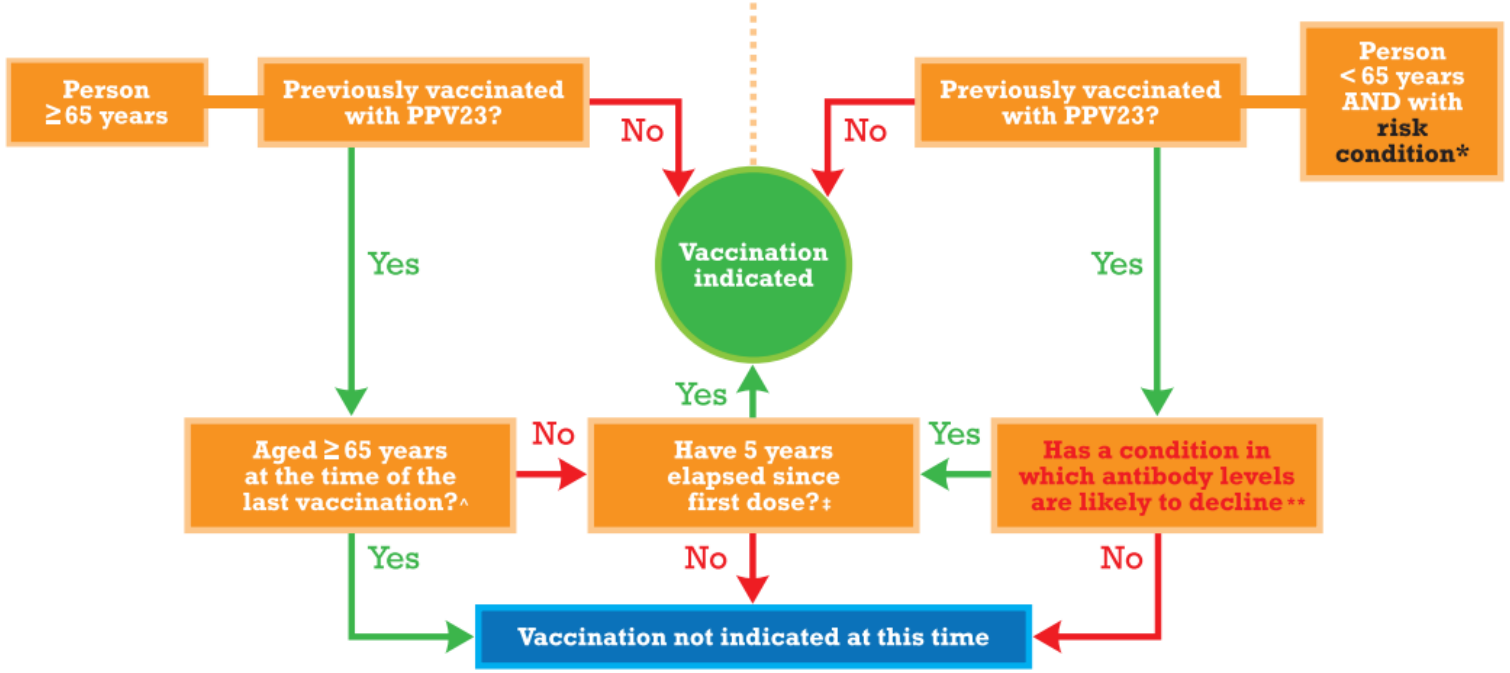
Pneumococcal Polysaccharide Vaccine (PPV23) Algorithm for Vaccination



* Asplenia or splenic dysfunction (splenectomy, sickle cell disease, coeliac syndrome); chronic renal, heart, lung, liver disease, diabetes mellitus, complement deficiency, immunosuppressive conditions; CSF leak, cochlear implant recipients or candidates for implants; children < 5 years with history of invasive disease.

^ Revaccination not indicated for any person who has received a dose of PPV23 at age ≥65 years.

‡ If vaccination has been given during chemotherapy or radiotherapy revaccination 3 months after treatment is indicated.

** Those with no spleen, with splenic dysfunction, immunosuppression including HIV infection, nephrotic syndrome, renal transplant or chronic renal disease.

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http://www.hse.ie/eng/health/immunisation/hcpinfo/fluinfo/algorithmppv.pdf

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New vaccines

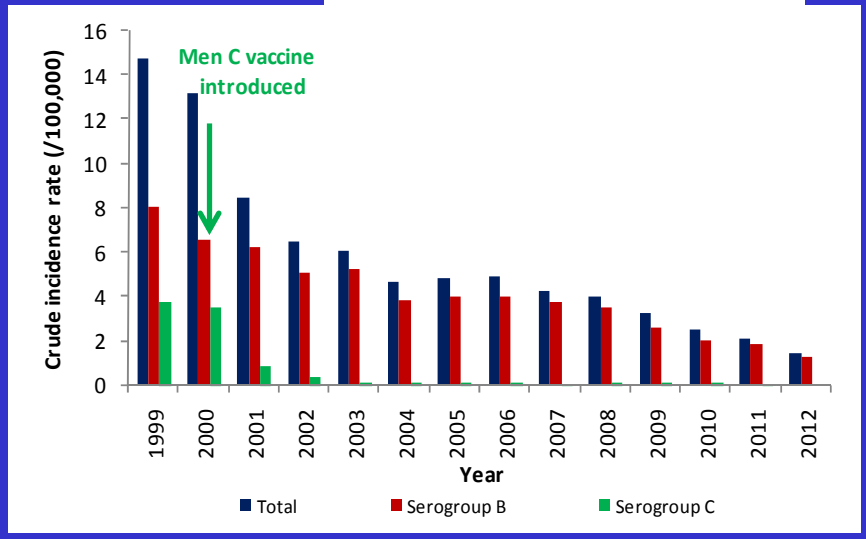
- Meningococcal Group B
  - licensed
  - recommended for contacts

    and

    at risk groups
  - NIAC recommendation for universal vaccination

    ?? date for implementation

TD calls for brain bug vaccine deal



Call for meningitis vaccine

By **Kevin Keane**

HEALTH campaigners have called on the Department of Health to follow the lead of authorities in Britain and the North by making a new vaccine

mendation was for the introduction of the vaccine if a cost-effective agreement can be reached with the manufacturer.

Dependent on deal with drug's maker

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New vaccines

- Meningococcal Group B
  - can be given to healthy children
  - dosage schedule and further details in Immunisation Guidelines

    http://www.hse.ie/eng/health/immunisation/hcpinfo/guidelines/chapter13.pdf
  - can be given at same time as DTaP, IPV, Hib, HepB, PCV, MenACWY, MMR and varicella.
  - give in different limb
  - consider prophylactic paracetamol at the time or shortly after vaccine for children under 2 years

Vaccine supply and more details from Allphar 01 4688456

New vaccines

2 New Ebola Vaccines Pass Important Early Test, Researchers Say

By DENISE GRADY APRIL 8, 2015

Email

Two new Ebola vaccines have passed an important test, protecting monkeys against the strain of the virus responsible for the current deadly outbreak, researchers reported on Wednesday. Only one dose was needed

The New York Times

Countries

- ~ 30 new or improved vaccines anticipated in next 10 years

CNN

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60 years after a vaccine, new technology may finally eradicate polio

By Ashley Strickland, CNN and Liz Landau

Updated 1604 GMT (2304 HKT) April 10, 2015

New vaccine technology is almost needle-less 01:24

Interviews

www.immunisation.ie

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More information

online only

National Immunisation News

The newsletter of the HSE National Immunisation Office

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Flu Campaign 2015/2016

The World Health Organization has recommended that the seasonal influenza vaccines for the 2015/2016 season (Northern Hemisphere winter) contain:

- an A/California/7/2009 (H1N1)pdm09-like virus;
- an A/Switzerland/9715293/2013 (H3N2)-like virus;
- an B/Phuket/3073/2013-like virus

The flu vaccine for 2015/2016 is **Inactivated Influenza vaccine (Split Virion) BP** manufactured by **Sanofi Pasteur.**

The vaccine is delivered in packs of ten prefilled syringes with attached needles.

Seasonal influenza vaccine is strongly recommended for

- Persons aged 65 and older
- Those aged 6 months and older with a long-term health condition including
  - **acute coronary syndrome (new for 2015/2016)**
  - **chronic obstructive pulmonary disease (new for 2015/2016)**
- **Pregnant women (vaccine can be given at any stage of pregnancy)**
- **Healthcare workers including both hospital and GP practice staff**
- Residents of nursing homes and other long stay institutions
- Carers
- People with regular contact with pigs, poultry or water fowl.

People in the at risk groups should be vaccinated in September/October but can be vaccinated up until the end of April 2016.

Further information about the influenza vaccination campaign including a frequently asked questions section and a full list of the at risk groups is available www.immunisation.ie

Additional details can be found in the NEW Influenza chapter of the Immunisation Guidelines for Ireland which is available at http://www.hse.ie/eng/health/immunisation/hcpinfo/guidelines/chapter11.pdf

To order additional information materials please visit www.healthpromotion.ie and set up an account if you do not have one already to order larger quantities of leaflets and posters.

Delivery dates can be checked on your calendar. Please order fortnightly online (deliveries started on Monday 14th September).

http://www.immunisation.ie/en/HealthcareProfessionals/ImmunisationGuidelines/

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Why Immunise?

- Immunisation has saved more lives than any other public health intervention apart from the provision of clean water

- Immunisation is one of the most cost effective and safest of all health interventions

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